Portrayal of Women in Indian Mass Media: An Investigation

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Abstract

Media's role towards women is becoming the growing concern of the feminist writers, basically regarding participation, performance and portrayal of women. Because different circumstances relating to the media's role towards portraying the fair sex have opened a new angle by leaps and bounds to think precisely about it. There are various criticisms raised by the feminists. According to the different feminists writers such as Simon de Beauvoir, Shulamith Firestone, Kate Millet, Gallagher, Bretty Friedman, media are reinforcing stereotype images of women as they are inferior, subordinate and submissive and only are the house wives devoid of all qualities of decision making. India also there are various feminist writers such as Ritu Menon, Kamala vasin, Kiran Prasad who have criticised the role of print and visual media towards women and portraying them. They focus on the point that as Indian society is male dominated and this dominance can be seen everywhere and unfortunately media is not the exeption to that.

1. Introduction

Women's participation, performance and portrayal in media are the three important dimensions of study for the social science researchers of modern time, especially for the feminists. Because for the empowerment and development of the women section, it is very important to give them proper environment where they can raise their voices against the inequalities and the gender-gap they are experiencing in our male dominated or patriarchal societies. Improving the status of women, in every aspect, is regarded as the only way to eradicate this gender gap and achieving a better quality of life for the women. For this, communication can be regarded as vital way and mass media can play a significant role in shaping social values, attitudes, norms, perception and behaviour. It has been widely recognised that media can play substantial role in promoting and disseminating information among the masses and are regarded as the key players in the social, political and economic development of women. Media can focus all the problems faced by women, these can give a space for women to talk about their rights or freedoms and most importantly media can provide a democratic environment where women can participate, represent their womanhood and in which they will be portrayed positively. A positive portray of women in media is necessary to maintain the real dignity and status of women which will minimise the gap and inequalities between men and women. But if media also become male dominated or play the role as a mere agent to forward this tradition then the whole situation will be against the women where their development and empowerment will not be possible.

The term media is widely used as a short hand for 'Mass Media'. The word media is the plural form of medium. Conceptually, the media are those technological agencies which are engaged in the creation, selection, processing and distribution of messages among the people. As a logical connotation, the mass media deal with the day to day problems of the nation and especially of the general people. It contributes towards the emergence of mass society and mass culture.

Mass Media in India, like every modern and advanced country, comprises of the Print media and Electronic media which are composed of the Radio, the Television, the Film, the Press, Publication and Advertising. Among these media, the television, films, Advertisements, photography, animation, paintings etc. are regarded as the visual media.

Statement of the Problem

The mass media have long been welcomed as the watch dog of society and this tradition bestows upon them the social responsibility to mirror and guide the process of social change. But in contemporary India, mass media under various pressures have become the commercial channels only and failed to reflect the social problems or aspirations of the entire population, especially the problems faced by women in particular. So, the portrayal of women in Indian media, be it films, television programmes, visual advertisements or newspaper and magazines is becoming an area of great concern to the people having interest in social research and studies. There is an on-going trend in today's media, both electronic and print, to portray women as commodity, sex objects and sometimes as victims. It is known to everybody that Indian society is a patriarchal society; patriarchy is established in everywhere and every aspects of life, and unfortunately media is not exception to that. Media as the modern corporate organisations are still dominated by the male and in all the higher posts men are employed and they by controlling the whole system of media try to depict the picture of women as weak and inferior in front of the whole world.

Review of Related Literature

Jha, Rama, (1992). *Women and the Indian Print media*, New Delhi, Northern Book centre

In this book the writer Rama Jha describes about the performance and portrayal of women in media. Firstly, she talks about the women journalists who deal with the women's problems, and also mentions that there are some male journalists who turn the problems viewed by the female journalists in to jokes. The male journalists are dominating the whole field of media in such a way that the female journalists can not be concerned about the real problems of women and so their issues do not get proper limelight to be focussed of. The writer also mentions some problems faced by Indian women such as rape, burning of women by their in-laws, beating by husbands, witch burning, illiteracy and portrayal of women in print media. But those problems never got proper importance because of the negative role played by the male journalists. So, the portrayal of women sometime will not positive. According to Jha, to portray women properly importance should be given on to publish the realistic problems faced by them, without which some wrong pictures of women will be portrayed.

So, the writer urges to the whole Indian women to become concerned about their main problems relating to society, economy, culture and politics otherwise their male counterpart will portray wrong pictures of women in front of the whole world.

Sharma K., Dr.Sanjeev, (2005), "Depiction of women in Indian media-A case of introspection for media planners" *Samaj bigyan shodh Patrica*, Amroha, Vol.1, no.1 April-Sept. pp.32-36,

In this article Dr.Sanjeev Kumar Sharma criticises the ways how Indian media both print and electronic are portraying women in the era of globalisation. The issues relating to women's are not discussed in media; rather women are used as a commodity relating to women's are not discussed in media; rather women are used as a commodity and sex object. Newspapers give no place to rape, crime, politics, scandals, serious debates and discussions on issues related to women. Most of the newspapers publish only the gossips about the TV serials or film actresses.

The writer also states that magazines as well as newspapers have sections for females where the reared if left only with the option of reading some personal gynaecological problems of married women or personal love hick-ups of young girls.

In Television also there are various serials where women are shown involved in conspiracy, premarital, extra-marital affairs, wearing costly, heavy golden and diamond jewellery, little care about anything else than the individual matters, and at all not even a word about the outside world. He also mentions about the advertisements where women are used to show their body. In most of the advertisements even a word about the outside world. In most of the advertisements in India be it newspapers or television or magazines, the main ingredient is women and these depict the picture of women as vulgar and cheap.

Roy, S.S., (2012) "Portrayal of women in Indian Media-In the era of neo-liberal economy", *Global Media journal*, June, Vol.3, No.1.

In this article the writer S.S.Roy states that today globalisation has left deep impact upon the Indian nation. With the passing of time with globalisation there occurred profound changes in economic, cultural, social and political arena. In economic system public sector has been ignored and private sector has been glorified. Open market system and privatisation have become the mantras behind the development of a particular country like India. The writer focuses that the state relegates vast power on the hand of the private players. Of this, competition is going to be a usual thing among the producers of different markets. Every one is trying to sale their products as soon as possible. So, they are busy with various manipulating activities to sale their products. That's why they are taking the help of advertisements.

According to the writer the companies busy with competition are using the faces and bodies of beautiful women to popularise their products. These producers always producing lots of products everyday and there is competition everywhere to become the best seller. For this they are using women in a cheap manner whether necessary or not. For example, they are using women in the advertisements of cigarette, man, s underwear, man's shaving cream etc. They are portraying women wrongly for their own purpose.

Schaffer, Sharada J., (2006) *Privileging the Privileged-Gender in Indian Advertising*, Promila & co. New Delhi.

In this book, the writer attacks not only the stereotyping but also the unethical and offensive representation of women in advertisement that work to their detriment and perpetuates an undesirable gender hierarchy.

The author places her detailed analysis of individual ads--- a whopping 2,000--- against the backdrop of Indian societal, cultural and religious norms that reinforce patriarchy and the inherent violence in Indian society against women, be it through bride burning, rape, or a number of other ways.

The author has reviewed ads over a 12-year period from 1994 to 2005, but she admits that the majority of the ads are from the 1990s, and her critical analysis raises some crucial questions that have troubled not only women but also social scientists cutting across gender. Unsparing in her observations, the author asks: "Does a woman need to be always tall and slim, young and light-skinned with silken skin and mop of gloriously shining hair?

In the concluding chapter, the author presents a new code of ethics, challenging advertisers to re-examine their notions of gender in order to uphold women's inviolable right to be treated with respect and dignity.

Sudarsanam, Jawhari, (2005), *Representation of Women in Media: The* Legal *Debate* in Kiran Prasad (ed.) Women and media-Challenging feminist discourse, The women's Press, New Delhi.

In the article the writer discusses about the important points raised at the Being Conference (1995) regarding the role of mass media to curb the evil of depicting women in a derogatory manner. According to him women should be empowered by enhancing their skills, knowledge and access to information technology. This ensures to curb the negative portrayal of women internationally and to challenge instances of abuse of power in an increasingly important industry, the mass media.

The Beijing Platform of Action further suggests that the self regulatory mechanisms for the media need to be created and strengthen and approaches developed to eliminate gender-biased programming. There is a need to develop, by the media and advertising organizations, professional guidelines and codes of conduct and other forms of self regulation to promote the presentation of non-stereotyped images of women. Therefore, there is a need to establish, consistent with freedom of expression, professional guidelines and codes of conduct that address violent, degrading or pornographic materials concerning women in the media, including advertising. The national governments and the international organisations have to play a role here. They should encourage the media to refrain from presenting women as inferior beings and exploiting them as sexual objects and present them as creative human beings.

Haripriya, M. (2005). *Women in Advertisement on Television* in Kiran Prasad (ed.) Women and media-challenging feminist discourse, The women's press, New Delhi.

Here the writer states that liberalisation and privatisation have definitely invaded the today's consumer market in India. Our urban India is slowly transforming into a western society. The concept of global village and information revolution has led the markets to target the world with one message. The writer also says that in this process, western culture is being imbibed into our veins. The advertisers have not succeeded in the just and true portrayal of women. There is surely a renaissance going on for the Indian women. But this renaissance is not being captured correctly by the advertisers. There is a need to voice out for a change in advertising content.

Jha, Jyotsna & Nigam Divya (2007), *Women in Advertising: Changing Perception* by NigamICFAI Uni press

In the book the writers have analysed the women's presentation in media in present perspective.Women have been exploited by the advertisers for decades. They have frequently been stereotyped in the traditional roles oh home maker, or have been projected as 'visual prop' to enhance the appeal of an advertisement. However, since the early 2000s, the frequency and the number of such demeaning and exploitative advertisements in the print and the electronic media have reduced.

Das, Mallika (2000). 'Men and Women in Indian Magazines Advertising' '*Sex Roles*', Vol.43, Mt.SaintVincent Uni, Springer US pp.699-717.

Mallika Das in her study examined the portrayal of women and men in Indian magazines ads. Over 1,100 magazine ads from a wide range of magazines in 1987, 1990 and 1994 were examined. Results indicate that although the portrayals of women and men in Indian magazine ads have changed the period, they are still portrayed in stereotypical ways.

Punwani, J. (1988). *Portrayal of women in Television*, published in an edited book 'Women in Indian society: A Reader' by R.Gadhially, pp.225-232, New Delhi, Sage Pb.

In this book the writer has accused the TV programmes being portraying women in derogatory manner, which has minimise the respect and dignity of women.He found that even though women were present in most of the TV programmes in significant numbers, their portrayals did not reflect the complexities of Indian women.

Pandey, M. (1991). *The Subject is Women,* New Delhi, Sanchar Publishing House.

Here the writer writes that since the advertising agencies in India are male dominated, the tendency to portray women in traditional roles, or in superhuman roles where they manage the home and the job, has been inherent in the content of Indian advertising.

Shelat, M. (1994).'Gender portrayals in Indian advertising', Seminar paper presented to the Gender and communication Section, International Association for Mass Communication Research Seoul, Korea.

In this seminar paper the writer describes how after the gain of independence in 1947, advertising in India was restricted mainly to the print media since television reached the country only in the late 1960s.According to her study, the print advertisements of the 1950s and 1960s portrayed men as breadwinners of the family, decision makers and professionals while women were portrayed as being inordinately concerned with their physical appearance and cooking meals to please their men and families.

Tefft, S. (1987). *India's bill could jail advertisers*. Advertising Age.

In this book the writer S.Tefft states that along with the recent boom in advertising, there has been a growing concern among several Indian women's group that too many advertisers are portraying women as sex objects or as stereotypical happy housewives.

Justice G.N.Ray, (2008) addressing the Press council of India at the inauguration session of National Press Day on Nov, 16, at Vigyan Bhavan, New Delhi.

Addressing the Press council of India at the inauguration session of National Press Day, Justice G.N.Ray says that the most significant movement will be the movement for the emancipation of women. There should be respect for the women section in all fields; they should be given equal pay for equal work, there should be no gender gap between man and woman. According to him the most important medium through which the problems can be focused is the media. Both the print and electronic media should focus the gender inequalities, violences against women. These should not give importance on focussing women as sex objects or commodities.

Choudhury, Maitrayee (2000). "Feminism in print media" *Indian Journal of Gender Studies,*; sage pb.New Delhi.

In this article M.Choudhury has stated the issue of feminism in the institutional context of the print media. Discussing the modern issue of feminism the writer has opened a new angle to think about the equality, freedoms or liberties for the women. She showed a great concern for the women's movement for the restoration of the feminine needs and necessities in the era of liberal economy.

Prasad, Kiran, (2005). *Women, Media and Society: Recasting Communication Policy,* in the edited book by herself "Women and media-challenging feminist discourse", The women's press.

Kiran Prasad in her article, 'Women, media and society: Recasting communication policy' which is included in an edited book by herself 'Women and media-challenging feminist discourse, writes that without the welfare of the women the development of the society is not possible. Women should be given the democratic space where she can talk about her problems. For this the media can be regarded as the best way through which they can transmit their voices and ideas to the mass. So, media should play a significant role to develop as well as empower the women by focussing their problems and most importantly they should portray women as strong and superior not like the inferior and less respected. Because distance between the media and women not only derives the women of their right to information but keeps them in the dark.

Tomar, Ranu in her seminar paper (2011). "Gender and Media: Status of women journalist in Hindi Print Media in India" presented at University of Work, 19- '22 sept.

In her seminar paper Ranu Tomar attempts to explore the struggle for transformation and bridging gap between social identities of women and men. The relationship between media and women has a certain structure where women are trapped as an object. She also states that the role of women in media decision making is reflected in the poor representation of women issues and concerns.

Research Methodology

Aim

The research is made for making an investigation about the portrayals of women in the Indian print and visual media through feminist perspective.

Objectives

The objectives of the study are:

1. To analyse the feminist understanding of media.
2. To critically analyse the media's role in constructing the images of women.

Research Design

In order to fulfil the objectives of the study the researcher will employ the Analytical Method. An analytical method is that where a researcher has to use facts or information which are already available and analyse these to make a critical evaluation of the material. In the present study the available data on Indian print and visual media will be critically analysed.

Research Questions

The research questions of the present study are:

1. What is the feminist stand on media?
2. How media play role in constructing images of women?

Data Collection

Data for this study collected from the secondary sources of data. The secondary data includes books, magazines, journals, periodicals and different websites.

Analysis

During the past decade, advances in information technology have facilitated a global communications network that transcends national boundaries and has an impact on public policy, private attitudes and behaviour, especially of children and young adults. Everywhere the potential exists for the media to make a far greater contribution to the advancement of women. More women are involved in careers in the communications sector, but few have attained positions at the decision-making level or serve on governing boards and bodies that influence media policy. The lack of gender sensitivity in the media is evidenced by the failure to eliminate the gender-based stereotyping that can be found in public and private local, national and international media organizations. The continued projection of negative and degrading images of women in media communications -electronic, print, visual and audio - must be changed. Print and electronic media in most countries do not provide a balanced picture of women's diverse lives and contributions to society in a changing world. In addition, violent and degrading or pornographic media products are also negatively affecting women and their participation in society. Programming that reinforces women's traditional roles can be equally limiting.

The world- wide trend towards consumerism has created a climate in which advertisements and commercial messages often portray women primarily as consumers and target girls and women of all ages inappropriately. Women should be empowered by enhancing their skills, knowledge and access to information technology. This will strengthen their ability to combat negative portrayals of women internationally and to challenge instances of abuse of the power of an increasingly important industry. Self-regulatory mechanisms for the media need to be created and strengthened and approaches developed to eliminate gender-based programming. Most women, especially in developing countries, are not able to access effectively the expanding electronic information highways and therefore cannot establish networks that will provide them with alternative sources of information. Women therefore need to be involved in decision-making regarding the development of the new technologies in order to participate fully in their growth and impact. In addressing the issue of the mobilization of the media, Governments and other actors should promote an active and visible policy of mainstreaming a gender perspective in policies and programmes.

In this regard, some studies have found that social issues related to women(equality of status and opportunity) got less than 9% while sensational stories relating to women which were invariably crime stories got between 52% and 63% of items in newspaper. Besides the print media, electronic media is also depicting women as scrupulous, religiously intolerant, craving only for their family, politically naive, socially inevitable and culturally ultra modern. In recent time, sex and sensation are becoming the primary motivations behind any reportage, where women are used as commodity; some time in advertising some products or some time as sexy babes neglecting the real status of the whole women section.

It is a fact that the Indian society generally considers women as weak and inferior. As a result, a woman undergoes tremendous traumas from birth to death. Many girl children are annihilated even before they see the light of the day, many girls are raped on roads or at homes, many wives are beaten by their husbands and in-laws, many girls have to give up their education to help their parents to earn money. But media are not focussing those problems. They are only busy with to publish the gossips of the actors and actresses, the love stories between them. This negative attitude towards women in real life is very much reflected in the way media represents them as well. Media representations of Indian women reveal that they are less accepted and respected as persons and more looked upon as objects. She has three projected roles--- biological, domestic and decorative. Media are hardly challenging the gender attitudes promoted and perpetuated by the society. Watching a BBC documentary on Indian cinema a British youngster commented, "Indians must be very poor, and they seem to have very little respect for women". He had after all seen a few clippings of films inserted in the documentary. What if he were to watch at length, more of our kitsch movies and worse still sexually suggestive, dehumanising song sequences.

Now a day, as a visual media, advertisements play important role in promoting different products. Everyday we are exposed to a number of advertisements through various media vehicles like newspapers, magazines, radio, television, internet and various outdoor media. But there has been much criticisms against advertisements as these are portraying women as sex objects. Women's physical attraction has been used as a whole, or in parts, to market everything from brassiers, male under garments to automobiles. These ubiquitous images encourage people to think of sex and women as commodity, and these may contribute to violence against women. For example, there is an advertisement of a premium whisky that shows one man is taking first sip of that particular whisky and the lady sitting in front of him appears to be loosing some inches of her dress, after every drink the process is going on up three drinks. After three sips of the drink he finds that the breasts of the previously over clad lady have become quick visible and half clad and his own shirt has slipped from his shoulders. And the voice smurs kuchh bhi ho sakta hain (Anything can happen). The depiction of women in this and other advertisements is actually insult to the women in general which are destroying the real status and dignity of women. According to a United Nations Research Report (1975) on Advertising and the Portrayal of Women, advertisements have been held responsible for projecting women in a derogatory light, and as inferior class of beings (National Advertising Review Board, 1975).Shrivastava's research on the Indian media has shown that the dominant negative stereotypes in connection to the portrayal of women are:

1. A woman's place is in the home.
2. The most important and valuable asset of a women is physical beauty.
3. A woman's energies and intellect must be directed toward finding the right man.
4. Women are dependent coy and submissive; they are masochistic in their response to indignities humiliations, and even to physical violence inflicted upon them.

5. The good woman is the traditional house wife long suffering, pious and submissive; the modern woman who asserts herself and her independence is undesirable and can never bring happiness to anybody nor find happiness for herself.
6. Women are women's worst enemies.
7. The working woman is the undesirable exception who must be brought in to the marriage fold and made to conform to traditional social norms.

The 1974 Report of the Committee on the Status of Women (Joshi Committee Report) found that 'women are represented as wives and mothers in most TV and other media programmes. Although 36% of them are agricultural workers, women are predominantly projected as non-producers, with a decorative function, being marginal to national growth and development. Plural nature of Indian culture and the diverse roles women play is neither acknowledged nor communicated. These results in stereotyped images and role specifications of women in unidimensional projection of their reality'.

Besides the advertisements, Cinema is also one of the most important and cheapest visual medium of entertainment in contemporary India. Unfortunately, the commercial film industry, which is a purely profit based industry, cares little about the image of women they portray to the public. Commercial films have followed a set pattern of female image portrayals wherein women are projected as sacrificing themselves for the family and reaffirming values of self-effacement and devotion to the male head of the family. Women who opt for a less traditional life are portrayed in a negative light. Furthermore, these films vividly portray physical violence against women and hardly ever show women as being capable of thinking for them in a logical and rational manner.

Gokul Singh and Dissanayake (2004) quoting Richards (1995) mention three categories of sexual objectification of women in Indian cinema, the tribal costume which is used for cabaret dances, through which women's body particularly pelvic region and the other parts are shown, the wet sari and the behind the bush scene. In the film Hum Apke Hain Koun (1995), the leading female actress wore a deep cut blouse, indicating the scopophilic nature of the camera. In an another popular Indian cinema Dilwale Dulhania Le Jayenge(1995) actress Kajol enacting the modern version of the wet sari sequence, wearing not the sari but a more revealing white costume. In this film the female character comes from such a conservative Indian family that she fears to tell her father that she has fallen in love with some one. Given that conservative context, it seems unlikely that such a character would be dancing a rain dance.

In their study of the mistreatment of women in commercial Hindi films, Dasgupta and Hegde examined a sample of 30 movies. After examining the movies the researchers concluded that the mistreatment of women in Hindi films is a mechanism which reinforces and perpetuates the patriarchal order of Indian society.

Television is also one of the most popular electronic media in India. In the television programmes women are basically seen as performing the decorative functions and as being marginal to national growth and development. Another important aspect of television programming is that large chunks of the entertainment programmes are drown from commercial film content. A crucial implication of this phenomenon is that as in commercial films, women on television entertainment programmes are projected as non-thinking, sacrificing and suffering beings while educated and motivated women are seen as the scourge of the patriarchal order of society.

TV serials are depicting women and young females as involved in conspiracy, pre-marital, extra-marital, post illicit affairs, wearing costly, heavy golden, and diamond jewellery, perpetuating their religious fundamentalism, spending time in family feuds, suicidal love affairs, mega parties, palatial houses, luxury cars, sleek mobiles, elegant make-ups, little care about anything else than the individual matters, and at all mob even a word about the outside world.

As in the case of television, Desai and Patel state that the majority of the radio entertainment programmes in India are borrowed from commercial films. As far as typical women's programmes on radio are concerned, on an average, 60% of programme time is devoted to entertainment only. Twenty percent is given for educational programmes, and 20% is used for imparting information. Women are portrayed as gossip-mongers, and they are given advices on how to become a good wife, a good mother and improve their physical appearance. They are also given elaborate instructions on how to cook, sew knit etc.

The print media in India (when compared to electronic media) have limited impact on the vast and mainly illiterate population of the country. The majority of the population has depended on the oral tradition of cultural transmission for over two hundred years.

It has been seen in the newspapers that these give place to the news related to rape, crime, politics, scandals, sports and economics; serious debates and discussions on issues related to women are completely missing. In vernacular press the depiction of women gets a share only in coloured pages where there is a lot of gossip about actress of TV serials and film stars along with some hot pick-ups.The English press also dwells upon providing snaps of the hot babes and erotic photo gallery of party mania in multistar hotels.

Magazines as well as newspapers have sections for females where the readers are left only with the option of reading some personal gynaecological problems of married women or personal love hick-ups of young girls, otherwise special features on knitting, fashion, sales etc.are the routine one.

As a result, most of the feminist writers have come forward to study about the present status of women in media. And the necessity of feminist approach to the media is being acknowledged everywhere today. The world wide feminist movement has pointed out that the portrayal and employment of women in media are in a most derogatory position. In the middle of the twentieth century, Simone de Beauvoir's book 'The Second Sex' was published and she clearly established that the problems and the poor image of women arose from the affirmation of the past and a gross neglect of the growth, development, the talents and opportunities of women in specific societies. Her work is a classical expose and a foundation for an intellectual defence of women and their rights to a different experience (Busby; 1975, 107-131). Betty Frieden's research about the construction of the American cultural ideal of "the happy housewife heroine" in women's magazines and advertisements is a typical example of feminist academic venture related to media. Her book 'The Feminine Mystique' (1963) was a best seller and gave rise to a revival of women's movement which had been dormant since the successful struggle for women's suffrage. Betty Frieden also headed one of the first 'second wave' feminist groups 'National Organisation of Women' which declared the media to be one of the major fields of struggle for women's rights. The group demanded better placement of women in media, child care centre and journals by women. A research project was launched in entire US to monitor TV networks and local stations for sexist content.

Feminist media studies can be classified into three broad categories—

Liberal Feminist media analysis, Radical Feminist media analysis and socialist feminism.

In Liberal Feminist media analysis sex role stereotypes, prescription of sex appropriate behaviours, appearance, interest, skills and self perceptions are the core topics of analysis. According to this group of feminists women are depicted in mass media as wives, mothers, and daughters,girlfriends;as working in traditionally female fobs like secretary, nurse and or sex objects. It is considered that media perpetuate sex role stereotypes because they reflect dominant social values and also because male media producers are influenced by these stereotypes.

In Radical Feminist discourse, there is a social system 'patriarchy' in which all men are supposed to dominate all women. Issues formerly considered as private like sexual violence, wife battering, incest, pornography; sex tourism and trafficking have exposed by radical feminists. According to radical feminist media assumption mass media are in the hands of male owners and producers, so they will operate to the benefit of a patriarchal society.
In Socialist Feminism women's position is not determined exclusively by gender rather it considers the analysis of class and economic condition of women. The reproduction of labour and the economic value of domestic labour are the concepts central to socialist feminism. Recently socialist feminism has attempted to incorporate other social aspects along the lines of ethnicity, sexual preference, age and physical ability (Gallagher; 1979).

In India also there are several writers who have criticised the role played by media towards women. A Feminist group in Delhi formed by Ritu Menon and Kamala Bhasin called ' The Committee of portrayal of women in the Media' rightly claims that it is not only the physical exposure of women that is derogatory but also the reinforcement of their stereotypes that are more damaging to image and the dignity of womanhood. Television ads go on harping about good mothers who feed their children with health drinks and instant noodles, ideal wives who care about their husband's shirts and cholesterols, mothers who wash their babies with soft soap to ensure soft bottoms and little girls who say they choose certain soap so that it makes them as beautiful as their mother. These are damaging, insulting and humiliating to the woman-image and takes all talks of women's progress, education, political participation, and several steps backwards, going back to where we began.

Geeta Seshu describes the latest media's image of women in the following words, "Short skirts and noodle-strap tops, see-through shirts with shorts that barely cover her derriere, hard drinking and hard partying. Impossibly slim and dizzyingly tall, a go-getter career girl with snazzy mobile phones to match every outfit".

Shabana Azmi, renowned actress and activist said, "A matter of grave concern is that, when it comes to films, women are shown to be completely dormant, totally subservient persons. It reinforces the notion that Indian women are supposed to be that. I think the only way in which we can counter these images is to portray a woman not just as a body but also an intelligent being".

According to Raja Rao one of the biggest obstacles to women's access, participation and control of the media is the patriarchal structure of societies where men continue to see women as subordinate to them. Patriarchal attitudes of governments and media are manifest in their being predominantly male institutions which tend to view women as an undifferentiated mass of low status of society. Gender biases and gender-based discriminations therefore result in stereotyped attitudes, sexual harassment, pay inequities, discriminatory treatment in assignments and promotions, traditional gender hierarchies, including a premium on family responsibilities, lack of support mechanisms for working women and low education that deter women from joining the media or assume decision-making positions.

Thus, it can be said that there is an on-going trend in Indian Media to portray women as busy and concerned with beautifying herself, choosing make-up, new fashions, jewellery, cosmatics, constantly watching her weight, worried about good figure and skin colour, proud of advertising and selling latest products. She is hardly portrayed as having social commitments, capable of intelligent decision making, or as capable leaders and policy makers. Usually she is shown to accompany her husband like a shadow or as a decorative piece. Manu's dictum that 'a woman is protected by her father in childhood, husband in adulthood and son in old age' is perpetuated in all media representation. In most representations she is tactfully domesticated, and her place is 'home and hearth' by unwritten codes of society. Every thing around her is arranged in such a way that she can't let herself loose. Women who break this unwritten code and re-arrange their day are considered feminists or rebels. And media is playing their role perfectly to preserve the societal concepts. As a result, most of the mediated women are "weak, passive, needy and subservient, or vain, irrational and hot-headed. But the question is how to turn the media into an effective tool for promoting constructive change and faithfully representing the multiple roles of the women today---as achiever both at home and in the labour force.

Conclusion

The worse part of the whole episode is that there is no revulsion, no change to biased projections and no regrets from any part of the society. We have somehow taken the whole gamut of dialogues, stories and picturazition of women as way of our life or as if of no consequences. It has never been realized that if womanhood is come when the coming generation of the present children will have absolutely no respect for their sisters, wives and mothers. Hence the major objectives of media must be to perform the programmes relating to improvement of women's status that they are free to assert themselves as human beings, co-equal socially, morally and politically with men. There should be positive portrayal of women taking note of their role in all facets of life.

Thus it can be concluded that overall effect of the portrayal of women in media is to reinforce rather than reduce prejudices and stereo types. The mass media is to reinforce rather than reduce prejudices and stereotypes. The mass media in India has not made adequate efforts to discuss serious issues concerning women and prepare the women to play their rightful and equal role in society. To change this condition, it is necessary to monitor the media and point out the merits and demerits continuously.

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MEDIA AND ITS ROLE TOWARDS WOMEN: A FEMINIST PERSPECTIVE

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"There is no chance of the welfare of the world unless the condition of women is improved. It is not possible for a bird to fly on one wing." – Swami Vivekananda

ABSTRACT:

In this modern era, everybody is intimate with the word Media. It is a technically fashionable word. The term is widely used as a short hand for 'Mass Media'. Media is comprised of Print and Electronic which are composed of the Radio, Television, Films, Internet, Newspaper, Magazines, journals and books etc. Conceptually, the mass media are the technological agencies and corporate organizations which are engaged in the creation, selection, processing and distribution of messages among the people. As a logical connotation, the mass media deal with the day to day problems and effect the human in general and a nation in particular. It contributes towards the emergence of mass society and mass culture.

Key words*: femininity, masculinity, feminism, gender, sex.*

Women's are the prime assets for the development of a country, especially in the context of India where nearly 50% of total population comprises of women. The time has gone when women were generally considered as an object and their role in family and society was very limited. The women of 21st century are achieving several mile stones and they are becoming source of inspiration for many. However, we cannot say it confidently that the image of women in Indian society has completely transformed, there are many evidences which proves the existence of systematic discrimination and neglect of women's in India. It may be in terms of inadequate nutrition, denial or limited access to education, health and property rights, child labor and domestic violence (Purnima, 2010). Media has always been a significant pillar of social transformation and social change. To bring a social change the instrumental role of media can-not be denied. It doesn't just have the power to build public opinion by reaching to far, wide and diversified audience but also mobilize people and mould the public opinion. This puts the media in a powerful position in a democracy. Popular mass media such as news papers, television, and radio represent a symbolic power of social control. Now days there are other interactive forms of communication have emerged out such as internet, blogs, social networking sites, text messaging, wikis, virtual world and many more. They are generally termed as new Media and becoming increasingly powerful mechanisms for mobilizing popular support. The characteristics of this new media are collect, collaborate, create and interact (Arif Moin & Ehtesham Ahmad Khan 2013). They effectively solicit public support and participation for the well being of the society. The structure of ownership and participation are new in new media and directly challenge the monopoly on mass communication possessed by traditional media producer. Women have crucial role to play in every sphere of life whether it is household, economic contribution child rearing or improving the quality of life. To play these role women should be conscious of their potential and it can only be possible when they will not be deliberately marginalized by male domination. In this context, media has an important role to play to create awakening in women to achieve their potential as the prime movers of change in society. (ibid)

The content of media reflects the pattern of value in any society. The prevailing attitude of the society gets revealed through the way subjects dealing with women are treated by the media

(Arpita Sharma, 2012). Media can act as both a perpetrator and as a protagonist – it can either reinforce the gender based discrimination by portraying stereotypical sensational images of women or it can provide balanced coverage that empowers women while exposing acts of gender bias (Amrita Ray and Mr. Ritwajit Das). Recognizing the role of media in women empowerment, the National commission for women and other organizations are striving hard to improve the status of Indian women different forms of communication for the mass.

Media play a significant role in society in that they inform and instruct their audiences about current issues and happenings around them or affecting them. The media are therefore a central part in human relations and an essential tool in communication as they play a critical role in educating the masses. In addition, societies and cultures are greatly influenced and transformed through the media. Cole and Daniel (2005) noted that "media convey messages that potentially inform and influence attitudes and behaviors" (p. xii). Many people pay close attention to what is written or presented by the media and thus base their thought patterns and belief systems around them. It is therefore important to consider what is being presented to the general public.

Feminist media studies have emerged as one of the richest and most challenging intellectual projects within the field of media and cultural studies over the past twenty-five years. The range, complexity and trans-disciplinarity of feminist media studies today bear little resemblance to the fledgling body of work that began to appear in the 1970s.The world wide feminist movement has pointed out three basic important dimensions regarding women's participation, performance and portrayal in media. Reviewing the world scene the Mc Bride commission said that in general that the media paid inadequate attention to specific issues of women's importance, to the activities of the women's movement and the social contribution made by independent and gifted women. Women appear in news papers or magazines or films as self deprecating and dependent, irrational, superstitious and over emotional. In both the media vis. Print and visual women are shown either as the house wives whose interests are limited to domestic needs, or in sexually allowing background which by its associations with consumer goods make them attractive. A numbers of studies indicate over-effects of portrayal of women's images. There are some fundamental aspects which have not received as much publicity as question of glamorization of women as sex objects by the media in a developing society like India. Traditionally, the media world has been male-dominated globally as well as nationally. Men design and define media policies, priorities, and agendas, including how women are portrayed and presented. Most often, it is men who make decisions about hiring staff. The ratio of male-female workers in the media is heavily imbalanced in favour of men. It is no wonder then that the media is biased against women in many areas. This bias affects images of women in the media, and, in turn, has a negative effect on women's development in a society. In India, cricket news occupies nearly 20% more space than women's issues. Female presence is more through advertisements, news of crime, and social events. Women's representation has moved beyond female images of the family and home to personal care, as dictated by the market agenda in a predominant patriarchy. The subtle stereotyping is more insidious as it is relatively more invisible but, nonetheless, demeaning and patronising.

The mass media function in the larger system of patriarchy and capitalism that controls media structures and organisations and represents women as subordinates. The recent debate of mass media vis-a-vis gender produces much more complex understandings of the cultural dimensions of power and equality, and more specifically feminist analyses of the media, culture and society (Gallagher 1992). With the proliferation of 'women's genres' -- soap operas, melodramas, women's magazines and so on -- women have emerged as important consumers of mass entertainment. The mass media also set the agenda for public opinion by selecting themes, items and points of views that tend to reinforce the patriarchal culture. But, the media simply does not reflect the social reality and conditions our values, attitudes and behaviours. They constitute only one side of the construction of women's marginality in culture.

Media has a role to play in the struggle for gender transformation and bridging gap between social identities of women and men. While communication studies, even of the radical critical tendency, have long seemed to be largely gender-blind'(perhaps more a matter of unwillingness to see), one can now justifiably, speak of a cultural feminist media studies project' (Van Zoonen 1991; 1994; Gallagher 2003). The relationship between Media and women has a certain structure where woman is trapped as an object. The role of women in media-decision making is reflected in the poor representation of women issues and concerns. The drastically changing media (print) can be seen through years or especially in post-liberalization period, media has become market-oriented. Media-market on one hand has expanded opportunities for women but the kind of beats' or job' are assigned to women journalists is to keep them confined to soft-beats (Tomar Ranu 2009) like handling feature writing or shallow writings. The relationship between the media and reality is, however, dialectical. Culture is not a static system, but an ever evolving process that constantly changes to accommodate emergent alternative and oppositional meanings, values and practices (Williams 1977). The mass media, particularly print and broadcasting media (television and radio), also provide some space for construction of new meanings and images. Although the progressive discourse is often co-opted in the mass media and re-constructed again to establish the hegemony of dominant social classes and reproduce gender relations, women's groups and media professionals continue to challenge them in the context of a larger system of patriarchy and capitalism that controls the mass media and subordinate women.

The reconstruction and representation of Gender issues is dealt within patriarchal discourse of the media. The question of gender touches almost every aspect of the media-culture relationship. Van Zoonen (1991) writes that the meaning of gender _is never given but varies according to specific cultural and historical settings…is subject to ongoing discursive struggle and negotiation' (p45). Here important issue is professional inequality which is embedded in media and is strongly based on social differences between man and woman.

The exclusion and oppression of women by transnational corporations is translated into media representation and employment. To address these issues UNESCO commissioned major review of the literature worldwide related to women and Media (Gallagher 1981).

Gallagher (1981) notes that her reviews present a picture remarkable only for its overall consistency when compared from one country to another. The report offers considerable evidence in support of conclusion that is:

"Representation of women can best be described as narrow. On film, press and the broadcast media, women's activities and interests typically go no further than the confines of home and family. Characterized as essentially dependent and romantic, women are rarely portrayed as rational, active or decisive. Both as characters in fictional media material and as newsmakers in the press and broadcasting, women are numerically under representation- an absence which underlines their marginal and inferior status in many spheres of social, economic and cultural life. Prevalent news values define most women and most women' problems as unnewsworthy, admitting women to coverage primarily as wives, mothers or daughters of men in the news: in their own right, they make the headlines usually only as fashionable or entertainment figures."

It was indeed a political impetus that first shaped the academic agenda of feminist media analysis. One starting point for Western feminists was Betty Friedan's The Feminine Mystique (1963), with its searing critique of the mass media. At a global level the United Nations International Decade for Women (1975–85) was a catalyst for debate about the many sites of women's subordination, while the media's role as a specific source of oppression was documented in reviews initiated by UNESCO (Ceulemans and Fauconnier, 1979; Gallagher, 1981). These early analyses found the media to be deeply implicated in the patterns of discrimination operating against women in society – patterns which, through the absence, trivialization or condemnation of women in media content amounted to their "symbolic annihilation" (Tuchman, 1978). That general critique quickly came to be positioned around two central axes: an analysis of the structures of

power in which women are systematically subordinated; and a focus on the politics of representation and the production of knowledge in which women are objects rather than active subjects. These two concerns were addressed in many studies of the late 1970s and early 1980s as problems of "women in the profession" and "images of women in the media." But they have gradually come together to produce a complex analysis of the structure and process of representation, the cultural and economic formations that support these, the social relations that produce gendered discourse, and the nature of gendered identity.

At global level major study was done known as Global Media Monitoring Project2 in 2005. This study was co-coordinated by World Association for Christian Communication (WACC) an international NGO that promotes communication for social change. This study was conducted in 76 countries across the globe.

This study found that:-

i) There has been a steady increase in the percentage of news items reported by women from 28% in 1995, to 31% in 2000, reaching 37% in 2005. Female reporters have gained more ground in radio and television than in newspapers. The press lags far behind the electronic media, with only 29% of stories written by female reporters in 2005.

ii) As news presenters, women are more likely to be found in television than radio. With 57% of television items presented by women in 2005, this is the only area in which female outnumber males. In radio 49% of items were presented by women.

iii) The on-screen presence of women decreases with age. Up to the age of 34 women are in the majority as both news presenters and reporters on television. By the age of 50, only 17% of reporters and 7% of presenters are female. For women in the profession, a youthful appearance is more highly valued than experience. Male presenters and reporters continue to appear on-screen well into their 50s and even 60s.

iv) In most news organizations, local news is deemed less prestigious than national or international news. Female reporters are more likely to work on local stories (44%) than on national (34%) or international stories (32%).

v) Female reporters predominate in only two topics weather reports on television and radio (52%) and stories on poverty, housing and welfare (51%). There is a 50-50 gender balance among reporters in celebrity news, and in stories on consumer issues. In all other topics, male reporters are in the majority. Sports news is the least likely to be reported by women, with just 21% of female reporters.

vi) Overall, male journalists report at the so-called 'hard' end of the news spectrum such as politics and government (where women report only 32% of stories). Females are more likely to work on the so-called 'soft' stories such as social and legal issues (40% reported by women). Although many 'soft' news stories are important, they are not always perceived as such in the hierarchy of new values. As a result, the work of female journalists is sometimes under-valued, and women reporters are frequently assigned to stories that are downright trivial–celebrity news (50% reported by women), or arts and entertainment (48%).

vii) There are more female news subjects in stories reported by female journalists (25%) than in stories reported by male journalists (20%).

This Global Media Monitoring project concludes that women have made great strides in the news media over the past decade. But they still struggle to achieve equal treatment. Older female professionals are rarely seen on television: for women appearance is valued more highly than experience. Female reporters frequently work in local news beats and on stories at the 'soft' end of the news spectrum. This could be one of the reasons why there are more female news subjects in

stories reported by female journalists. But, irrespective of who reports the news, the fundamental question is: why do so few women make the news at all. The Global Media Monitoring Project 2005 concludes, the world we see in the news is a world in which women are virtually invisible (Gallagher 2005).

Further Gallagher (2005) describes that the use of stereotypes reflects a mental block not only in terms of what society may expect from women, but also more seriously in terms of what women may expect from themselves. The structures of many societies have been based on assumptions of sex-biased roles, which are entrenched in the use of language. When gender-biased language is used in a story (for instance, craftsman, businessman, fireman, and policeman), journalists support a destructive bias that suggests women are excluded or incapable of playing their roles. True gender equality should liberate both men and women from the limitations of such narrow thinking.

—It is not impossible to produce news stories that are gender sensitive. It just means thinking more creatively about the topic at hand—whom it concerns, who should be included in its coverage, in what way and for what purpose. says Margaret Gallagher, author of the GMMP(2005).

It has been a global view of the contribution of women work force in media. In context of India, a study on Status of Women Journalist in Print Media was conducted in 2002 by Press Institute of India commissioned by National Commission for Women. A two pages questionnaire was distributed in three languages to journalists across the country, from Punjab and Shillong in North and North East to Kanyakumari in the South and from Calcutta in the East to Kotach in West.

This study reveals that women in regional-vernacular press are lagging far behind their colleagues in the English language press. There is vast difference in the wages earned by those in English national newspapers and those in regional media. This report says that in regional press men and women are hired like contract labor on daily wages. They are extremely insecure and invariably it is the women that are the first to be axed.

The level of awareness of basic working conditions is very low on some key issues:

i. 31 per cent were not aware if any equal employment policy existed in their Organization.
ii. 29 per cent did not know if women were targeted.
iii. 19.5 per cent did not know whether formal appeal procedures or mechanisms for handling grievances existed in their organization while 50.7 per cent were sure of no such facility.
iv. 10 percent are not aware of any formal training program in their organization while 42.3 said that no such facility was provided.
v. 87.6 percent are not aware of any superannuation scheme or believe that it does not apply to them.

It's known that the Indian social system is an amalgamation of diverse cultures that are reflected in various gender relations ranging from patriarchal forms to matrilineal. The portrayal of this complex range of gender subjectivity can provide an appearance of media's simultaneous sensitivity and bias on gender issues. The prevalence of gender discourse has ensured that the impact of gender differentiating structures in terms of atrocities such as sati, rape, female feticide, denial to access to facilities and resources (credit, health care, property) and poor quality of participation in availed avenues is well reported. In the absence of defined and institutionalized policies, procedures and mechanism guided by gender just concerns, the messages conveyed fall in the realm of individual attribution o meaning and representation of gender issues in combination with the dominant socio-political norms. Thus gender representation in media is open to the

influence of competing tendencies, be it the market, cultural capital, communalism, electoral politics or women's empowerment articulation (Dagar, 2004).

The role of women is widely recognized as vitally important to international development issues. This often means a focus on equality prevailed between men and women, ensuring participation, but includes an understanding of the different roles and expectation of the genders within the community. Bornstein suggests that, there are two contrasting ideas regarding the definition of gender and the intersection of both of them as defined, "Gender is the result of socially constructed ideas about how the behaviour, actions, and roles a particular sex performs. The beliefs, values and attitude taken up and exhibited by them are as per the agreeable norms of the society and the personal opinions of the person are not taken into the primary consideration of assignment of gender and imposition of gender roles as per the assigned gender." (Wikipedia)

The women are unique creation of the world and constitute half of the population of the country. No society can socially, economically, politically and culturally progress without the active participation of women as stated by the great philosopher and emancipator of indian women, Swami Vivekananda " there is no chance of the welfare of the world unless the condition of women is improved. It is not possible for a bird to fly on one wing". Inspite of the fact, women are the most deprived and socially discriminated in the society in the name of gender and treated as sex objects and commodity. Such approaches and perceptions prevailed in the society are shown in the media from time to time. The concept of 'cultural transmission' shows how culture, and in particular expectations of the genders, can be transmitted from one generation to the next. Thus, the role of media as a factor for socio-cultural transformation shaping the attitudes and behaviours of the genders towards the better development of the society, upliftment and equal recognization of the women in the society is recognized in a developing country like India. But at the same time, the negative projection of the image of women, their poor participation in the media and also an insignificant role in the women issues, related to gender bias, sex objects are common feature of the media industry. It helps not only in nourishing these differences but also showing the ideology of male supremacy.

Women and media

The women and media has been subject of study for researchers all over the world. When we talk of women and media the first question that strikes us is why women is the subject of media and why not men? Why media and gender becomes the issue if discussion? The media's portrayal of women and gender inequality has been a matter of concern among media analyst and researchers across the globe. Over the years, the media industry has developed extensive communication infrastructure.

Media in its various forms, the print, electronic or new media has a constant presence in our everyday life. It plays a vital role in setting opinions, influences our behavior, attitudes, social interactions through the presentation of image. The mass media have played a decisive role in perpetuating gender stereotypes through the media messages and images across the globe. In the past few years the form and content of mass media have changed with new dimensions but even the modern media plays a significant role in the production and transmission of patriarchal structure of the society.

The women's movement of the 60s and 70s in the west had its impact in India also. The main-stream press then known as the 'Nationalist Press' in British India which was covering the colonial rule did not lack behind covering the various women's movement. The movement in the west questioned dominance of patriarchy and advocated for equality. The mass media influences the cultural domain by constructing social messages and people draw conclusion from the constructed reality. The exposure to mass media was considered as an important tool of modernity.

Earlier communication research argued on the representation of men and women in media. The media represents a constructed reality of media's selective interpretation of social reality and

such messages shape our perception of reality. The influence of the patriarchy in the media structures and media organization frames the image women as subordinate to male. Various studies carried on mass media and gender produces a complex understanding of the relationship of culture dimension of power and equality and the feminist perspectives of media, culture and society (Gallagher, 1992). With the incorporation of 'women's genre' in the various forms of media, women became durable commodity for the consumers of mass entertainment. Media organizations set agenda for public opinion and views that tend to reinforce the patriarchal dominion. Instead of neutral reporting the news reports showed women as trivialized, polarized, caricaturized, mischaracterized, depicted them in poor light and were represented as stereotypes. This kind of media coverage's effected women's development process and questioned the dignity of women in a patriarchal society.

The kind of relationship between media and reality is dialectic in nature. Culture is a dynamic form of social system, subjecting to the ever evolving process that constantly changes to accommodate the emergent alternative and oppositional meanings, values and practices (Williams,1977). Both the electronic and print mess advocated the construction of new meaning and image and allocated space for it. As a matter of fact the progressive discourse if often co-opted in mass media and is re-constructed which again reflects the hegemony of dominant social group and gender relation. The various women's group, women's organization and media professionals poses a challenge in the light of the larger context of patriarchy and capitalism for subordinating women in mass media. The feminist activists and media analyst critically analyzed the negative and stereotype representation of women in media.

The UNESCO conducted workshop (1975) stated that- " Recognized the tendency of the media to project stereotyped image of women, reinforcing traditional concepts of the roles of women, prejudicial to aspirations for improved status, rights and participation in society". The projection of the images of women by the media is one of the blockades in removing to the discrimination against women in society and one of the main factors in developing the sexist attitude towards the female.

In another UNESCO symposium (1975) stated to the participants at the symposium to "denounce the existing sexiest images of women in the mass media, and appeal to women all over the world to carefully examine and analyze these images and to realize that they are literally living in the world of manmade images which do not resemble real women, or deal fairly with the realities of the women's experience".

Studies show that the blatant portrayal o sexism in the media shows more subtle distortions of women which are basically outcome of biasness and media construction of images. Larry Gross states that—representation is the "mediated reality" of our mass culture. By examining the images of women and the types of messages transmitted by the various media it would be worthwhile to analyze the specificity of media in reinforcing the existing gender ideology.

The print media plays a vital role in shaping public opinion in a democracy. The women's movement of the 1970s drew the researcher's attention to the representation of women and women's issues in the news media. With the growth of contemporary women's movement in India, there was sporadic growth of women's group who helped to give women's issues more prominence in media. The accepted norm in media is that events rather than processes makes news. The relationship between press and women's movement in India was not very smoother but still as compared to the west, the women's groups of our country have greater access to media.

Media, regarded as the mirror of society reflects the happenings of the society. The news reportage is institutional methods of making information reach the audience or readers; it is gathered by media professionals. The news reflects the form of society, indeed referred as a "mirror reality" (Tauchman.1978). the news media renders information to the audience or readers who have no empirical reference of the event, no concept, ideas shaped or attitude formed and even in case of definite attitudes event is constituted within the existing paradigm. The media "suddenly

and dramatically" deliver such information (Young, 1981). The events presented in news media as Sherisen (1978) elaborates about the crime reportage as "crime is an event with periodicity…. (it involves) the predictability of crime as a repeating event but with a newness everyday". Studies shows that women are underrepresented and even when they appear in news they are shown as victims or passive reactors of the events in the news media (Bailey, 1994 and Ross, 1994). According to Joseph and Sharma, the importance of women's issues in the news media is, "women's issues are usually not the stuff of which headlines made. Not are gender related concerns considered good copies. When such questions draw the attention of the media, they are often sensationalized, trivialized or otherwise distorted. In a nutshell, their coverage can be summed up as a series of hits and misses" (Joseph and Sharma, 1994).

The relationship between gender and media bear strong dependency as the representation is central to media itself. Studies show that there exists certain biasness in the context of gender representation in the new media. Consequently, this leads to under coverage of gender issues and stereotyping is essentially an organizational practice. The coverage of special concern to omen's issue gives more weightage in the traditional concept of 'news'. The dominant elite section of the society influence media organizations and the policy makers and this in turn gives more coverage to the male centric news. Tuchman defines such under representation or absence of women from the news as "symbolic annihilation"—together constitutes a combination 'condemnation, trivialization and erasure'.

Margaret Gallagher (1978 and 1979) noted that overall media treatment of women can best be described as narrow…women are rarely portrayed as rational active or decisive…Underlying practically all media images is a dichotomous motif which defines women as either perfectly good wholly evil , mother or whore, virgin or call girl, even tradition or modern. Kunchenhoff (1975) noted "women primarily appear on T.V in a narrow social context of interpersonal relationship." "Women are negatively portrayed in mass media" Adnan (1987). Fernandez (1992) contends that the media generally subvert women's positions and act to preserve the dominant values of society. Women are underrepresented in television about 3:1. "Male were the most frequently identified recipients of aggression and the second most frequently identified initiators of aggression .Female were infrequently identified as recipients of aggression and were slightly more likely to be identified as initiator of aggression" Kalis and Neueddorf (1989).Copeland {1989} noted "men were framed a closer perspective than were women." Busby (1975) and Durkin (1985) noted that Males are more violent, Females are more often victims ontelevision.(Aslam Parvez & Robina Roshan, 2010)

Press in India do not completely ignore the women's issues but such coverage is unable to explore the roots of problems instead it is presented in a relatively arbitrary and rather superficial form. Though women are comparatively less represented yet women's group in India could project the problems fairly effectively through the press. The other aspect of press or news media is reflective of the kind of women's issues that attracts the media attention. Studies show that the presentation of crime against women in news media led to multi-dimensional misrepresentation. The current media trend shows that there is increase or over representation of crime in the news media (March, 1991).

The issues that centers around the practical realities like the developmental issues, health, social status of women in society, family problems, prejudices against women in work place or gender biases gets less coverage whereas the other events and issues that constitute news worthiness for coverage of women's issues encapsulate politics, crime and entertainment. The Indian press is basically known for its large coverage of political news, gossip and sensationalism (Goswami, 1994, Nandy, 1994a, 1994b; Karlekar 1994). A newspaper review revealed that issues of special concern that attract media's attention are rape, dowry, atrocities and violence against women but it is not always the reflection of the real world. The representation of the gender related issues must be superficially presented and must encourage the means for understanding

the facts and realities of crime or other event or happening of society. Research suggests that women constitute more than half of the world's population. But do we them or hear their voices frequently in the news media? News acts as a mirror of the world, but the question arises are we presented the clear unambiguous reality or the distorted reality? It distorts reality, flattering the importance of certain groups, while pushing others to the margin (Gallagher 2005).

The relationship between media and women is based on certain structure where woman is used as an 'object'. The post liberalization made media market-oriented and the media-market has expanded opportunities for women but the problem rises in the representation of women. The media, an important form of discourse, that structurally frames, shapes and reflect public's opinion on various societal issues. "The media are important social institutions and are crucial presenters of culture, politics, and social life, shaping as well as reflecting how these are formed an expressed. Media 'discourse' is important both for what it reveals about a society and for what it contribute to the character of the society (Bell, 1995). Journalist need to understand the limitation of the media output and play the role in the constructing the reality by informing, educating and entertaining and transmitting culture. Though the journalists operate under professional and institutional constraints yet they can exercise their choice on the selection of angles or frames or images of story which have an influence on the coverage and portrayal of women in media. Since, they have a role in shaping public opinion, Sheikh (1999) asserts , " journalists have a special responsibility in shaping the image of women in media due to their role as conveyers f message that contribute to shape people's opinions and feeling." The study is narrowed to news media and the women's issues print media. The study is designed to explore the pattern and frequency of the coverage's of women's issues and evaluates the representation of women in print media. The main focus of the study is to analyze the nature and kind of women's issues given due importance in the mass media.

The Gender Stereotype

By 'Gender' we mean the roles and responsibilities that have been constructed by the society, in a given culture or location. These roles have political, cultural environmental, economic, social, and religious factors influencing them. Custom, law, class, ethnicity, and individual or institutional bias also influence 'gender stereotype'. Within the above framework, Gender attitudes and behaviors can be learned and can also be changed.

According to Gender stereotypical perceptions women are supposed to be dependent, weak, incompetent, emotional, fearful, flexible, passive, modest, soft-spoken, gentle, care takers while men are powerful, competent, important, logical, decision-makers, aggressive, focused, strong and assertive. Gender stereotype and gender inequality is so deeply engraved in the long history of social consciousness that it is now believed that only the media with its tremendous reach and power would be the ideal tool in bringing about gender equality. In literature there are many stereotypically female and male characters and feminists argue that these roles reproduce and maintain patriarchy.

According to Elizabeth Langland, there are common stereotypes such as the mother, the wife. The stereotype the "submissive wife" is portrayed as an "obedient, passive, unassuming" woman. Moreover, Gamble mentions that the submissive women are commonly portrayed as "nurturant wife, mother or muse". Traditionally, the wife's role was to stay at home and take care of the children, while her husband worked and brought money to the household (McElroy 102). Gale A. Yee claims that the role of the submissive housewife is partly a product of the wife's lack of financial independence. Thus, by following norms and values in society, reinforced by ideology and religion, the traditional wife reflects the stereotypical role of the submissive wife. In contradiction, Louis Blackwell discusses sexuality as a part of the stereotypical submissive wife. She argues that women are described as subordinating themselves to dominant men because of a fulfilling sex life. According to this stereotype, these particular women also have a tendency to endure their men's violent behaviour and abuse.

In India where a patriarchal society flourishes, 'son preference' is an age-old gender bias, in which the male of the family bears the responsibility of 'carrying forward' the family's name. He is supposed to support his parents in old age and also perform their last rites when they die. The fact that daughters are generally regarded as 'Parayadhan' or 'somebody else's wealth' and the giving away as dowry to the groom ensure that daughters are often seen as an 'economic liability'.

A United Nations statistics shows Gender inequality very starkly: Women perform two-third of the world's work but earn only one-tenth of the world's income. They comprise two-third of the world's illiterates and own less than one–hundredth of the world's property. A gross discrimination stands out.

Stereotyped "Feminine" traits

- **Physically Weak** - When a person is unsuccessful using bodily strength, for example incapable of opening a jar or carrying a big box, or similar actions.
- **Submissive** - When someone is obeying someone else without questioning their authority.
- **Emotional** - When someone is showing his/her feelings, both positive and negative.
- **Dependant** - Someone that depends on someone else, for example a home, food and money or other things.
- **Nurturing, Helpful** - Someone that takes care of or supports someone else physically or mentally.
- **Afraid, fearful** – When someone is nervous or afraid to get hurt or that something bad will happen.
- **Troublesome** – Someone who causes trouble or pain to others.
- **Follower** – A person that supports and admires another person or set of ideas. A person who is very interested in a particular activity and follows all the current news about it.
- **Victim:** Someone that needs to be saved because he/she is being hurt or tortured by someone.
- **Described as physically attractive** - The character is described as beautiful/attractive by another character.
- **Asks for or accepts advice** - The character asks for help or assistance or in other ways and shows that he/she need help.
- **Ashamed** – Someone feels shame or embarrassment due to something he/she has done. (England et al. 2011, p. 561 table 2 & 3 the oxford advanced learners dictionary.).

Stereotyped "Masculine" traits

- **Physically Strong** – Something shows that the character is strong, by example moving heavy objects, hitting something etc.
- **Assertive** – Someone that strongly expresses their opinions so that others will notice declaring or positively stating something.
- **Unemotional** – The opposite of emotional, a character that does not show emotions.
- **Independent** - Someone who is self-sufficient and does not depend on other people for home, food and money etc.
- **Selfish/Self-serving** – People who only care about themselves and not about others. People who are only interested in gaining advantages for themselves.
- **Hero, Brave, inspires fear** – A person that is admired for doing something good or brave, for example saving someone or doing something that is dangerous. Someone who inspires fear by making someone else be afraid of him/her.
- **Problem solver** – A person that finds ways to solve problems.
- **Leader** – A person that in some way leads a group of people.
- **Perpetrator –** A person that commits a crime or does something that is wrong/evil/mean.

- **Described as having a higher economic/career status and being intellectual** – A person that is described as having a profession in which the character earns a lot of money. Also this person is reading or doing similar intellectual activities.
- **Gives advice** – Someone who gives other people advice on how to act etc.
- **Proud** – Feeling satisfied with something that has never been achieved. (England et al. 2011, p. 561 table 2 & 3 the oxford advanced learners dictionary.).

An Ideal that is not "Real"

The objectification of women in mass media has a long sorted history. Critics, however, argue is that such an analysis is an exaggeration, which they dismiss along with most feminist critiques of society. This paper argues that the image of an "ideal" woman (as presented by the media) is harmful. The representation of women in the media has always been exploitative. It has, throughout the years, reduced women to being nothing more than objects to be won, prizes to be shown off, and playthings to be abused. It has also created a definition of beauty that women compare to them. Also, men compare the women in their lives to what they see on television screens, in magazines, and on billboards. Both the self and society has suffered because of the objectification, sexism, exploitation and assessment.

In 2010, following a set of three studies that "examined the associations among sexist beliefs, objectification of others, media exposure and three distinct beauty ideals and practices," researcher Viren Swami and collegues, found that sexism exists where beauty ideals and practices are rigidly consumed and followed, (Swami et al. 2010:367).

In patriarchal societies, the roles and privileges accorded to women are inferior to those assigned to men, and as such, sexism plays a central role in the continuing oppression of women. Moreover, and as predicted by the "beauty ideals are oppressive (BIO) hypothesis (Forbes et al., 2007), the existence of patriarchal structures and attitudes should result in significant relationships between sexist attitudes and the endorsement of beauty ideals and practices, (Swami et al., 2010:366).

Gender differences seen in some situations

Social situations: The social roles demand that the head of the family is always a male. He is also the main bread-winner while the woman is usually seen as a house-maker, a nurturer and care-giver.

Political situations: Power sharing between men and women is biased. Men are seen mostly at higher level of political field – the national, while women are expected to be at the local level.

Educational situations: There is a definite gender bias in educational opportunities and expectations. It is the boy in the family who gets the resources for higher education. Girls are usually expected to go to less-challenging academic fields.

Economic situations: There is a wide gap between access to lucrative careers and finance between men and women. Credit and loans; land ownership policies etc are more biased towards women.

Women and Media

Representation in the Media:

It has long been recognized by Feminists all over the world that there is a significant and long lasting influence of the media in either challenging or perpetrating existing constructions of gender. In a broad-ranging analysis, *Feminist Media Studies*, Liesbet van Zoonen explores the ways in which feminist theory and research contribute to the fuller understanding of the multiple roles of the media in gender construction in contemporary societies. The book analyses media

representations through content analysis and semiotics. Media as a tool for gender sensitization can only be utilized when the full influence of media of media on gender construction is understood.

The Fourth Global Media Monitoring Project (GMMP 20092010), which is the most extensive research on gender bias and subsequent initiatives in the news media, shows women representation in the media. The GMMP, after gathering insights and information through media monitoring aims to promote a balanced gender representation in and through the news media. It involves voluntary participation of women from grassroots communities to university students and researchers to media practitioners.

It was astonishing, as the report shows that less than one fourth (24 percent) of the people made visible or heard or read about on Television and print news worldwide is female. That means that for every three males we see or read about in the media, we get to see or hear or read about only one female. This represents just a seven percent increase in fifteen years. In so called the 'News subjects' which rank higher n the media agenda, the visibility of women was even less. Women were represented only in four percent of 'politics and government' stories and just one percent in 'economy' stories.

Further highlighting the gender bias the three percent increase in women in the news between 2005 and 2010 mostly portrayed women as commentators on general opinion and not as experts in specialized fields. Women were generally placed in the 'ordinary interviewees' categories while men are mostly seen in 'expert' categories. While almost equal number of men and women reflected the general view of ordinary citizens in news stories, (47 percent female, 53 percent male), only 19 per cent of those providing expert comments on specialist knowledge or experience were women. Women spokespersons speaking on behalf of organisations were only 18 percent. The comparision was stark: Less than one out of every five authoritative sources interviewed by news media is female. The GMMP report added, the news presents a world in which men outnumber women in almost all occupational categories. In real life, women's participation in all spectrum of profession is much higher. The media has managed to provide a lop-sided picture in which women in positions of authority or responsibility are almost absent outside the domain of their homes. It was further pointed out that general visibility of women was desirable, infact it was even more crucial that the news reflected women's presence in every sphere. Only then a more realistic picture of the world would be presented by the media. Stereotypical roles were being strengthened by the media in which women were portrayed in their roles in a family five times more than men. The priorities being considered while agenda setting the distribution of stories, suggests the need for a radical transformation towards more gender-awareness and gender responsiveness. The status of 52 % of the population has to be given a second thought and has to be elevated from a subordinate post to that of equality.

Gender-based violence against women and girls

According to the 1993 UN General Assembly, violence of gender against women is defined as 'any act of gender-based violence that results in physical, sexual or psychological harm or suffering to women, including threats of such acts, coercion or arbitrary deprivation of liberty, whether occurring in public or private life' (UN, 1994). Violence against women has its origins in the patriarchal structure that oppresses women (Amorós, 1990). It is the manifestation of the historically unequal power relations between men and women which have resulted in the domination and discrimination of women in society. As an institutional response, global, regional and national organisations have taken significant steps towards state action to eliminate violence against women.

The Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW), adopted in 1979 by the UN General Assembly, is the international bill of rights for women. This is the first international instrument to define violence against women and to set an agenda for national action to end such discrimination. The Inter-American Convention to Prevent,

Punish and Eradicate Violence against Women, Belem do Parà, was founded in 1994 by the Organization of American States (OAS). This regional body recognises all kinds of violence against women as a violation of women's human rights. These instruments have impacted favourably on the improvement of laws, regulations and policies to stop violence against women and girls in several countries, including Brazil, Spain, the USA, India, Mexico, Italy and the Philippines.

The definitions of violence of gender used by these instruments are based on the theoretical framework of feminist scholars. This issue became increasingly prominent in the literature in the 1960s, coinciding with the emergence of the second wave of feminism. In their analysis and conceptualisation of patriarchy, feminists first launched in the 1960s and 1970s the debate about sexual violence, as an attempt to define violence against women as a political problem, linked to their gender condition. In the 1980s scholars moved to the concept of domestic violence to emphasise gender inequality between women and men in the domestic sphere as the place where violence of gender is institutionalised. The most important development of feminist theory was to move towards a holistic perspective that unites all forms of violence against women and looks at the specific contexts in which gender-based violence is perpetrated. This advancement is reflected in the definition of both types –physical, sexual, psychological, economic, feminicide– and modalities –institutional, community, work, school– of violence against women and girls. At this point, we would say that scholarly developments have made a key contribution to the advancement of women's human rights, evidenced by the political dimension of feminist theory.

Media and violence against women and girls: a feminist scholar agenda

Both the CEDAW and Belem Do Parà call to the responsibility of the media in the elimination of violence against women and girls. In 1995 the Beijing Platform for Action (BPfA) called explicitly on governments to 'take effective measures or institute such measures (emphasis mine), including appropriate legislation against pornography and the project of violence against women and children in the media' (UN, 1995). The BPfA called on both the media and advertising industries to:

• Establish, consistent with freedom of expression, professional guidelines and codes of conduct that address violent, degrading or pornographic materials concerning women in the media, including advertising.

• Disseminate information aimed at eliminating spousal and child abuse and all forms of violence against women, including domestic violence .At the national level, laws regarding violence against women and girls in countries such as Mexico, Brazil, Argentina, Spain and India list specific actions related to media industries. However, while the BPfA listed the actions which would achieve gender equality and stop gender-based violence, there is no single formal policy on gender and communication in most countries in the world.

All these mandates have been followed by extensive research developed by feminist scholars regarding media's role in the reproduction of violence against women. This is why gender-based violence in media content has become one of the core issues of the research agenda. The representation of sexual violence in media content was one of the first issues taken up by feminist communication studies. Feminist critics showed how through the commodification of women's bodies, media content –news, films, magazines– contributed to the 'normalisation' of sexual assault, rape and other forms of sexual violence and how they reinforced gender inequalities.

This first stage was followed by analysis of other specific forms of violence against women. Coverage of domestic violence in the news media attracted special attention as its rise was alarming. Based on a holistic perspective, current research includes the analysis of different forms and modalities of gender-based violence in media discourse (Vega Montiel, 2010). Findings from numerous studies have demonstrated the ways in which media content reinforces violence against women and girls (Benedict, 1992; Cuklanz, 2000; Laguna, 2004; Diez, 2002; Vega Montiel, 2007).

These studies show that:

• Media content reproduces sexist stereotypes that associate male identity with violence, domination, independence, aggression and power, while women are depicted as emotional, vulnerable and sensitive,and dependent upon male actions (Elasmar,Hasegawa and Brain,1999;McGhee and Frueh,1980;Thompson and Zerbinos,1995).

• Women are usually stereotyped as sexual objects or even as mere body parts. Some examples show that: female nudity in magazine advertisements increased significantly around the world between 1983 and 1993 (Reicht et al., 1999); teen female TV characters used to be hyper-gendered (Holdden, 2012). In consequence, female sexuality is represented not as the sexual liberation of women but as the availability of women for male consumption.

• Only 24% of news subjects are women, 76% are men. Representation of gender in news is associated with relations of domination and subordination: whereas men are represented as sportsmen, politicians and businessmen, women are represented as vox populi –that is to say, they use to be associated to the lack of status and power (WACC, 2010).

• News reports of violence of gender tend to represent women as victims –associated to their lack of power– or, conversely, as those responsible for the violence of which they are victims. Usually, aggressors are not part of news reports (Diez, 2002; Vega Montiel,2007).

• Popular music is a powerful vehicle for the reproduction of violence of gender. That is the case with rock and pop music, country, rap and, most recently, reggaeton. Feminist research has also shown how the Internet and ICTs are now part of the gender-based violence environment.

A central problem associated with digital communication is the growing circulation of pornography. Statistics show that there are 4.2 million web pages that offer pornography – 12% of the total number of websites in the world; 100,000 of them offer child pornography. The online pornography industry makes 97.06 billion dollars per year, a much higher profit than Microsoft, Google, Yahoo, Amazon, Netflix and Apple combined (Feminist Peace Network, 2006). Video games are now part of the digital gender-based environment. Some of the most popular ones show assaults on women, rape, prostitution and murder. Some examples are Grand Theft Auto and Benki Kuosuko (Maltzahn, 2006). Linked to pornography is the sexual trafficking of women, girls and boys that has been enhanced through the Internet. What some scholars call 'virtual traffic' refers to the implications of the Internet and other ICTs on sex trafficking (Maltzahn, 2006). Sex trafficking operates mainly in countries with a lack of Internet regulation and policy and a high percentage of poor women (UN, 2005).

At this point, we would say that 'reducing women to sexual objects and making them available for consumption through communication and information technologies seems to be one of the most dramatic expressions of the digital age' (Vega Montiel,2013,p.21).

A final but no less important dimension of the gender-based violence and media relationship is the increase in violence against women journalists. Forms include sexual, physical, psychological, economic and feminicide. This occurs in conflict and post-conflict countries where the human rights of female journalists have become more vulnerable. This happens with the consent of states and in an environment in which news media do not ensure secure conditions for women journalists to develop their work. For this reason, just this year UNESCO and the International News Safety Institute (INSI) launched the Global Survey on Violence against Female Journalists. This effort goes together with other INSI actions, such as publications and training programmes aimed at female media workers.

In this context, we must also mention violence against women working in community media. Community media are crucial to ensuring women's human right to communicate. In particular, community radio is a vehicle for the empowerment of women and the expansion of notions and debates on women's human rights in rural communities. However, for decades most women in developing countries have been forced to operate their radio stations under conditions of scarcity as there has not been any official regulation of community media. This circumstance goes together with a context of violence of gender that prevails in rural communities, putting these

women in a vulnerable position. As in other areas, feminist communication scholars have been involved, together with activists, feminist advocates and women media workers, in important projects that have impacted at the global, regional and national levels. Examples are: the Who Makes the News? Global Media Monitoring Project, promoted by the World Association for Christian Communication (WACC) and coordinated by scholars such as Margaret Gallagher; the Global Report on the Status of Women in the News Media from the International Women's Media Foundation, led by Carolyn Byerly; and Advancing Gender Equality in Decision-making in Media Organizations from the European Institute of Gender Equality (EIGE), coordinated by Karen Ross, Claudia Padovani and Erzsébet Barát.

Establishing gender inequality as a determinant for violence against women

It has been acknowledged that there is a lack of information about causal factors for violence against women at the societal level of the ecological model compared to the individual and community levels (Krug, Dahlberg, Mercy, Zwi, & Lozano, 2002; WHO, 2010). Indeed, the lack of research data about societal risk factors makes comparison between settings within countries or between countries difficult to explore.

Cross-cultural studies provide important clues to understanding the ways in which social norms in different cultures affect levels of gendered violence. The work that has been done in this area finds a correlation between cultural social roles and levels of violence (Archer, 2006).

However, establishing the underlying causes of violence against women has been the subject of varying theories. The most prominent of these was the feminist model of causation that came out of the feminist movement of the 1970s. This held that patriarchy and men's indisputable power and oppression of women were the underlying causes (WHO, 2010). More recently, extended models of explanation have been incorporated to develop the theory of gender inequality further and to explore the effects of social roles, attitudes and other cultural factors. The one currently most in use is the ecological model. Heise (1998) advocated for a conceptualization in an ecological model that could take feminist theory further, incorporating other societal and community factors influencing individual perpetrator behaviour and explaining why some but not all men perpetrate violence.

The work of feminist activists in raising the profile of intimate partner violence and other violence against women enabled the issue to be seen as a significant public health problem. This has facilitated an approach that aims for prevention of the problem. However, one of the key factors in public health prevention is identifying the societal factors of the problem at hand Gender equality and violence against women and working to change these. This is more difficult where the problem is not just physical or biological but has a social dimension as well, as is the case with violence against women. This requires investigation of social elements at various levels of the ecological model.

The role of social norms and gendered expectations

An important aspect of thinking about gender inequality in this societal sense is to understand the role of social norms and social organization in situating groups into a hierarchical structure based on certain features such as gender, race or class (Ridgeway, 2014).

Such structures result in social status being conferred upon those with the most advantageous position. In terms of power and access to resources, these structures sort groups into a perpetuating pattern of inequality as the higher status groups retain their hold on power and resources. Ridgeway observed that social status or status in relation to other groups is therefore a central consideration in entrenched inequality. Entrenched differences in status lead to "status beliefs" and expectations about the social difference, for example that males are more competent, that then become autonomous beliefs which continue to reproduce the differences by perpetuating patterns of inequality (Ridgeway, 2014). This conceptualization of status explains the widely shared cultural status beliefs at the societal level that impact on ordinary social relations at the

community, organizational and individual levels, and work to legitimate the inequality of the social structure (Ridgeway, 2014). An important aspect of viewing inequality as a relational aspect between social group classifications is that it can bring in additional components of social inequality such as race, disability and class.

Summarising the evidence around gender inequality as a determinant for violence against women, one of the key features of sexual and family violence is the reality that such violence is disproportionately experienced by women as victims and perpetrated by men (WHO, 2005).

Socio-cultural theories about causes of violence are based on the consideration of power and its relation to social structures such as institutions, political and economic systems as well as shared beliefs and attitudes that may be influenced by these structures. Such shared attitudes and behaviours can be considered to be cultural factors that underlie behaviour in a particular group (Nayak, Byrne, Martin, & Abraham, 2003). In assessing causation of violence against women, interventions that address these specific factors to achieve attitudinal and behaviour change will be most relevant. It is therefore important to look at specific differences cross-culturally and take into account influences such as religion, history and political factors in assessing differences (Nayak et al., 2003). By examining the attitudes across diverse countries and cultures, it is more likely that themes relating to causation of violence against women can be gleaned. It has already been established by research that gender is important in relation to attitudes, for example gender differences in attitudes towards sexual assault and domestic violence have been noted between men and women, with men more likely to endorse violence against women (Fanslow, Robinson, Crengle, & Perese, 2010; Nayak et al., 2003; Victorian Health Promotion Foundation et al., 2006).

1.3.2 REPRESENTATION OF WOMEN IN MEDIA THROUGH FEMINIST PERSPECTIVE

The women's movement of the west played a significant role in shaping the ground for the feminist in communication research. The feminist cultural politics focused on the media content and the construction of gender in media. In the developing countries the communication research on women started since 1980's. the united nations international decade for women (1975-85) initiated the communication research to study the negative portrayal of women in mass media. A very less study is carried on women's issues in the developing country where women have remained fragmentary and descriptive. Hence, research on women in the third world countries depends on the feminist paradigm. The three strands of feminist research on media are the content, the images and the representation on women (Gallagher, 1992) documented the invisibility of women in media effect of the negative documented the invisibility of women in media and the effect of the negative portrayal in the society. Such juxtaposition of 'positive' and 'negative' image of men and women posed problem in the interpretation media content by the audience thereby limiting the approach. To understand the representation of women in media the feminist critics carried out research to understand the depth underlying the construction or distortion of reality. This approach was criticized as it neglected the dialectical relation between media, and culture which culminated in the construction of 'women' in media. The challenge before the feminist in the third world in context of new communication is evolve conceptual framework adopted by the mass media in changing the political-economic forces keeping in mind the feminist agenda of the third world women in given cultural system.

The representation paradigm in the media is generally male centered because of the prevalent patriarchal system of society. Men tend to dominate the decision making position, and hold the top position in almost all fields. The enduring misogynistic representation of women in media led the feminist leaders set up their own media house. The male hegemony in media and the lack of women media professionals led to the underrepresentation of women in all media outlets. The United Nations decade for women (1976-1985) worked for the increase in the global news infrastructure and inclusion of women news from the progressive women's perspective. But the question lies has such international forum brought about any radical change in the representation

of women? The answer is no. this pinpoints that media follows the trend, which is male dominated. It fails to apprehend that media can enact on different viewpoints and ideas rendered by women to produce an enormous range of vision to bring the fundamental positive changes. But the fact lies that even the female journalists abide by the trend that men is apt in dealing issues like government, politics, policy making and many others. Women has achieved significant strides in the field of journalism yet the recognition was slow and has not sufficiently search out the terrain to prove the capacity of women in new roles. The press played a significant role in the women's liberation movement through critical writing on the role of women in society and their contributions, the gender difference, the hierarchical frameworks of patriarchal society, positioning muscularity in the top order, polarization evoked the outbreak of equality and liberty. Media took up feminine agenda and constructed the image of women which was influenced by the social and cultural consensus. It served as a platform to voice the need of women in the changing global context of the fast growing commercialized media.

The chronicles of historical evidences shows that the development of feminist started as 'movements' considered as historical process encompassing multifaceted ideas and thoughts, common issues and particularly the fight or women's rights. It may be mentioned that Mary Wollstonecraft's (1792) a pioneering feminist writer advocated for higher education for women, economic independency for women and also attacked the patriarchy supremacy in the society. These movements were structurally divided into three parts. The early feminist movement (first wave) was concerned with the equal status of women in the society and the right to suffrage and used the slogan "The Personal is political'. The different feminist activity focused on the complete emancipation of women both in the public and private life. The androcentric and patriarchal hegemony prevalent in the society was easily elucidated. "The Feminine Mystique" by Betty Friedan (1963) marked the awakening of the awareness pervasive societal system which depicted woman as pitied object of decoration and ornamentation in the media. The legacy of feminist movement that started during the colonial period continued and demanded the attention of media to carry their ideas and views on women's issues all over the world and focused on enacting various reforms to bring the equality of status and protection of rights. The feminist leaders and activists advocated the incorporation of women's issues related to gender discrimination, work place discrimination and the right to vote (Bradly, 2005). From the sociological point of view the feminist perspectives were categorized into four stages, first it points the underlying absence of women in the cognitive structure of the discipline. Second focuses on the gender inequalities prevalent in the society. The third stage is seen as one moving towards the conceptualization of gender as a social structure while the fourth stage is seen as one of the intrinsic linkages between gender and other matrices of structural inequalities (Rege 2003).

The national organization for women (NOW) is the largest feminist organization in United States demands equal status of women in all the society and encompassing all spheres of life and employment. The feminist agenda drew the attention of the media in the "Forth World Confederation on Women" held in Beijing in 1995. The conference promoted the importance of equality between both gender and how this equality can be promoted by media. The "Beijing Platform for Action" routed a plan and formulated strategies to use the mass media to propagate the empowerment and development of women across the world. The negative portrayal of women was criticized by various organizations since it degraded the image of women. The various women's organization began to raise their concern against such negative portrayal like the codification and objectification of women in media. The Beijing conference provided greater impetus to the women's movement for the positive portrayal of women. Positive image of women in media can be brought about either by increasing the women ratio in media organizations or depicting them in the light of empowerment and outreach the public through the mainstream and the alternative media. The multidimensional and the holistic feminist framework help to raise the voice of the marginalized women, strengthen to fight their cause against gender bias, address gender based violence and

spread the seeds of equality right from the grass root level to the highest strata of society. The Isis, an international feminist school carried out research project called "people's communication for development" in South Asian countries including India. The result showed that the women's group in different section of the society responded to media. The coverage of different media like traditional and new media and communication technologies through a programmatic approach helped in developing and sharing information in gender, media and communication. The participation and position of women in media to large extend influences the impact of development process by making their views heard and the accurately representing the complexities of their lives. These images of women are deeply rooted in traditional social practices and interpretation that help the media in constructing female images. Women's representation has moved beyond female images of the family and home to personal care, as dictated by the market agenda in predominant patriarchy.

With increased voices and protests from active women's groups, some of media's negative portrayal and representation of women have become quite subtle in the last few years. However, it is still rare that the media presents women as contributors to the development process or as professionals in their own field. The lack of a true gender-sensitive appreciation and analysis of women's issues in media has allowed exploitative and derogatory images of women in media.

The economic liberalization made a shift in the portrayal of women from the stereotypical form to new genre career women in the Indian popular media and caters the distinct target audiences on market needs. Economic liberalization empowered the women with financial independence and dependency on the male members has considerably lessened (Chaudhury, 2000). There is a change in the media scenario in the post modern society; media highlighted the popular post feminism concept stating the paradox that women are dissatisfied even after complete emancipation. The media framed feminist rhetoric and ideology stating the vices of feminism which advocates the destruction of womanhood. The 'post feminism' constructs women by media as superwomen who desires to conquer the world which is not the real life patriarchal society and media plays an important role in the building of such image (Faludi,1991).

1.3 Review of literature

The study of relevant literature is a critical step to get apparent idea of what has been done, with regard to the problem under current study. Such reviews bring about a deep and clear perspective of the by and large field. The review of literature and previous studies carried out in relation to the field of women and media will be done in two levels. The first part will explore theoretical frameworks that govern or guide social norms and understanding of gender roles in society. This is important in creating a background and understanding how people interpret and relate to media representations and the significance that these frameworks play. It will also help mirror ideologies or myths that exist in society which may be observed in media presentations. The second part will focus on similar studies that have been carried out on the issues of women representation by the media. This will help guide understanding and give justification to the research goals and objectives.

Cultural Myths

Cultural myths can be found in every society and may be viewed as the backbone to every social structure. These may be defined as a system of beliefs that exists and pertain to specific cultural contexts. Rivers (1993) explained that cultural myths do not die easily since they are rooted in years, and even centuries, of belief, tradition, and fear, and that they have been largely created by men. She wrote that there has long been a general cultural assumption that women are not the natural protagonists of stories or histories, but that humanity's story is essentially that of

men. This illustrates how media perceptions and coverage of women by the print media may be subject to pre-existing cultural myths and social thought patterns that may be dominant in society.

Rivers (1996) pointed out that there are two major myths on women existent in society: "The Myth of Female Weakness and The Myth of Female Strength" (p.17). She noted that media coverage of women often tend to bounce from one myth to the other. This has its own effects especially in the interpretation of the representations. Rivers observed that women's strength rarely becomes the focus of media attention, except in distorted ways, such as when women are seen as too strong. Rivers (2006) illustrated the negative representation of working women by media based on myths existent in society in her writing:

"*Hardly a month goes by without some major publication offering a dire portent for working women: they are going to start having heart attacks, they are never going to get husbands, they'll send their kids running to shrink's couches, they'll be such bundles of nerves that they need a mommy track to keep working at all". (p.61)*

Patriarchy

Patriarchy in society and cultural myths also point out and explain thought patterns that exist in society. Paulson (2005), in her study on popular culture and the myth of women's nature, argued that whether television or print media, popular culture serves to reveal, reinforce and shape cultural beliefs, values and myths held about the real world. She based her argument on the premise that popular images as may be seen by or represented by the media support patriarchal mythologies by the portrayal of women's kinder nature. Furthermore, she illustrates that many of the images serve as reminders of the supreme social order of patriarchy. This in turn may be expounded to elaborate on the existence and forming of stereotypes as well as biases on gender roles in societies. This myth and belief system may as well be the lens through which media reports and magnifies the concept of working women as well as other roles and occupations as practiced by women.

Cultivation Theory

Cultivation analysis theory provides an understanding of the influence and effect of one's exposure to media. Gerbner, Gross, Morgan and Signorielli (1993) stated that what is most popular tends to reflect and cultivate dominant cultural ideologies. In their research and study on the effect of prolonged exposure to television, they found that long-term exposure has certain effects on the overall thought pattern and assumptions made by individuals. This in turn is what develops into stereotypes and biases. This is illustrated in one of their case studies:

We have found that long-term exposure to television, in which frequent violence is virtually inescapable, tends to cultivate the image of a relatively mean and dangerous world. Responses of heavier compared to matching groups of lighter viewers suggest that the conception of reality in which greater protection is needed, most people 'cannot be trusted,' and most people are 'just looking out for themselves'. (p. 30)

In the analysis of their study in support of cultivation theory, Gerbner et al. (1993) revealed that the television, for example, has become a primary common source of socialization and everyday information, mostly in the form of entertainment, which in turn has become part of a shared national culture. To this effect, they emphasize that "the exposure to the total pattern rather than only to specific genres or programs is what accounts for the historically new and distinct consequences of living with television: the cultivation of shared conceptions of reality among otherwise diverse publics" (p. 18). This illustrates the process and development of the cultivation theory.

Newspapers just like TV are a media source and thus equally play a similar role of informing and influencing its audience's attitudes and thought patterns, especially those who are regularly

exposed to it. For example, it is not uncommon to find certain biases existent in society and specific to certain individuals which may be different from those not exposed to a particular form of media. Examples include political biases, sports news, educational information etc. which may be of interest to newspaper readers and thus are more likely to have certain attitudes and biases due to exposure to certain information in newspapers. This begins to explain how newspapers may play a part in Gerbner's cultivation theory.

Florian Arendt (2010) carried out a study aimed at investigating the existence of cultivation effects arising from exposure to newspapers in the reader's social perceptions and attitudes, based on Gerbner's cultivation theory. He justified the study by revealing several other studies that have used the theory before in newspaper analysis:

Although the original formulation of the cultivation hypothesis and much of the subsequent research focused on television, several studies have investigated the cultivation effect of newspapers (Arendt, 2008, 2009; Bauer, 2005; Grabe & Drew, 2007; Guo, Zhu, & Chen, 2001; Hicks & Lee, 2004; Nisbet & Wang, 2004; Reber & Chang, 2000; Reimer & Rosengren, 1990; Stroman & Seltzer, 1985; Vergeer, Lubbers, & Scheepers, 2000). (p.147)

He asserts that the focus on television is due to the general assumption that the television is the main media in use in America (Arendt, 2010, p. 147). This justifies the analysis of Gerbner's cultivation theory in newspaper studies. Arendt (2010) carried out a study which set out to investigate the cultivation effects of a newspaper on reality estimates and explicit and implicit attitudes among newspaper readers. He carried out a four month content analysis of news coverage by a certain newspaper which had the tendency to over represent foreigners as offenders as well as carry a negative view of the EU. In the study, Arendt (2010) found that those who read the particular newspaper chosen for the study were more likely to overestimate the frequency of foreigners as offenders and they also were inclined to have negative implicit attitudes toward the EU than those who did not (Arendt, 2010, p. 156).

Research Studies

The topic of media coverage and representation of women has been an ongoing issue that has been the interest of journalists, researchers, feminists, and scholars alike. Miller (1993) traced this aspect to previous happenings in history. For example, she recalled the social upheaval and newsroom battles of the 1970's when women activists and journalists demanded the same career and life options as men and the same news coverage and treatment of their activities. She explained, "Women bustled at 'women's sections' as both career and coverage ghettos" (p.169).

A recent movement that has sparked interest in various states regarding the representation of women by the media is "*Miss Representation*", a film that was produced in 2011 by Miss Representation, a non-profit social action campaign and media organization based in California. The film centers on how women are represented by the media and has become a major movement in various states campaigning for the fair representation of women by the media. The organization has also developed a curriculum that is being circulated to schools interested in educating the youth on the importance of positive representation and aims to encourage girls to look beyond what is being shown by the media.

The film was written and directed by Jennifer Siebel Newsom, an established film producer, speaker and advocate for girls and women issues. The film features various stories from teenage girls, interviews with politicians, entertainers and academics including Condoleezza Rice, Nancy Pelosi, Rachael Maddow, Rosario Dawson, etc. According to the website:

The film exposes how mainstream media contribute to the under-representation of women in positions of power and influence in America. The film challenges the media's limited and often disparaging portrayals of women and girls, which make it difficult for women to achieve leadership

positions and for the average woman to feel powerful herself. (http://www.missrepresentation.org)

The organization further reiterates that the media plays a critical role in shaping cultural norms and is a persuasive medium in society and thus the message that the media portrays plays a significant role in how others view their world, and in the context of this study, how a woman views herself in the world, in terms of her capacity and gender.

Ross and Carter (2011) carried out a content analysis, which revealed that male coverage in news items tend to appear more often and hence favored in comparison to female news coverage. Ross and Carter's (2011) study on the representation of women in media was based in Britain and Ireland, and was part of the Global Media Monitoring project 2010. Their findings revealed a bias in the representation of women in the media:

Few women appeared as celebrities (9% newspapers; 5% radio and 0% across TV) and they were much more likely to be framed as victims (26% newspapers, 28% radio and 24% TV) of various crimes and events, including domestic violence (19%), war (16%) and discrimination (16%). Across broadcast news, three-quarters of male victims were described as victims of war, which corresponds with the number of war-related stories featured during the monitoring day. Women's victim status was associated with a greater range of problems, including accidents, and women were more than twice as likely to be described as victims of non-domestic crime such as robbery than men, which is entirely contradictory to the statistical incidence of robbery in Britain. (p. 1155)

In addition, their findings revealed women were three times more likely than men to be described in terms of their family status (e.g. mother, wife, daughter), either as part of their personal biographical detail as primary or secondary subject, or else they were invited to speak precisely because of their relationship to the main (male) news subject (Ross and Carter 2011). This reveals how women are often displayed as minor or dependent subjects in many cases which demonstrates how women are misrepresented in the media as well.

Media plays a significant role in supporting and reinforcing societal norms. Sanchez Huckles, Hudgins, and Gamble (2005) held the view that the media have played an active role in reflecting and distorting the lives of people of color. They carried out a study to demonstrate how magazine advertisements in particular stereotype and distort women of color in ways that can be negative to how these women are perceived by themselves and others. They highlighted the aspect that media sources have the potential to offer effective and positive portrayals of the diverse individuals that comprise society in their role as potential socializing mechanisms. They stated that:

Ads can influence perceptions and create self-fulfilling prophesies by contributing to stereotypes, prejudices, and societal inequities. Specifically, advertisements have been identified as one of the most significant factors impacting society. It has been estimated that more than 184 billion ads are shown daily in newspapers and 6 billion ads appear in monthly magazines. (Sanchez-Huckles, Hudgins& Gamble 2005, p. 186)

It is in this same context that advertisements also act as a medium for the representation of women including those in entrepreneurial practice. In Sanchez- Huckles, Hudgins and Gamble's (2005) study, a content analysis approach was used to study the advertisements. Six female or family oriented magazines were analyzed through sampling and the results interpreted through sample coding. The results revealed underrepresentation in the majority of the magazines and stereotypical portrayal of women. While the feminist movement has played a significant role in empowering more women to engage in the career world and work outside the home, biases in society still exist.

Christine Adams (2003) carried out a research study to investigate the representation of women by the media with emphasis on print media. That study was based on Representative Deleta Williams of Missouri. The study was based on two major research questions:

1. Does sexism still exist in the media?

2. Does the language that is used in the media promote sexist beliefs about women particularly women politicians?

In exploring the research questions, Adams (2003) brought out the co-relationships of language and media in the representation of women and included other researchers' opinions on the same to back up her research questions.

Her research was based on three major theories, including Feminist theory, Muted Group theory, and Patriarchal Universe of Discourse theory, which provided a conceptual framework for studying and understanding the research concept. Feminist theory, for example, is further categorized into five segments with the underlying concept of women's rights and improving women's conditions in the world. The methodology used was a content analysis. Adams (2003 carried out her research by examining and analyzing newspaper texts and excerpts from the *Warrensburg Daily Star Journal* (1993-2002) obtained from Representative Deleta Williams' collection. This was a favorable choice of medium as it provided a reasonable scope for the research since it is also a newspaper serving a small town, Warrensburg, Missouri. The process involved cutting newspaper clippings and categorizing them. Out of a total of 80 clippings, Adams (2003) eliminated 37 as irrelevant and carried out intensive analysis of the rest based on the classes of sexism, giving detailed examples in her outline. In conclusion, her research supports assertions presented by previous studies done on sexism in the print media. Newspapers emphasize stereotypes of women and the language used reveal sexism as well. There was also a lack of sufficient coverage for women and the articles about them received smaller headlines and were shorter in nature.

The journal article by Covert (2003) examined the representation and portrayal of working women in magazine articles and the topics in articles written about or for working women. The research findings were obtained through content analysis. A sample of five popular women's magazines were chosen and examined, with two issues of each sample magazine chosen randomly from the months of January to December 2002. Analyses were carried out in two levels, one focusing on the individual woman and the other on the article. For the individual level, codes were employed in noting attributes and characteristics related to stereotypical implications about the women. At the article level, the topics discussed were coded and analyzed. Both levels involved a comprehensive critical, qualitative analysis in the translation of the text, in the coding process, and in the interpretation of the findings.

According to the results, 65% of women presented in magazines were reported as working women taking up roles as musicians, artists, professional, and management careers. Both hypotheses were favored by the results and thus turned out positive indicating the use of stereotypical feminine attributes in descriptions of working women. One of the magazines, however, did not feature anything on working women. An in-depth analysis of the results from each sample magazine was outlined revealing the similarities and differences between magazines and their presentation styles. Varied aspects were thus noted. For example, *Cosmopolitan* featured articles on celebrity working women while *Good Housekeeping* had close to none. The use of language and choice of words stands out as key factors in the critical analysis of the samples and reveals underlying attitudes and messages.

Covert (2003) discussed several issues arising from the study in relation to the hypotheses tested. She concluded that the study supports both hypotheses presented. The study also reveals evidence of subtyping and stereotyping, e.g. by favoring celebrity working women evident in some magazines like *Cosmopolitan*. She noted that mainstream women's magazines reach many women and these play a role in influencing their attitudes on various issues including work and thus the presence of stereotypes may affect readers' views on working women.

Lazerfield and Merton(1960) identify three social functions which the media serve and call for sustained research into three aspects:

- The media confer status on public issues, persons, organizations, and social movements. It bestows and enhances the authority of individuals and groups by legitimizing their status. This status conferral function thus enters into organized social action by legitimizing select policies, persons, and groups which receive the support of mass media.
- Media serves to re-affirm social norms by exposing deviations from these norms to public view. Media publicity closes the gap between 'private attitudes' and 'public morality'.
- Mass media has lifted the level of information of large population, apart from intent, increasing dosages of mass communication do sometimes inadvertently transform the energies of men from active participation.

McQuail (1972) suggests the following five general conditions which bear upon the effects of media:

- The greater the monopoly of the communication sources over the recipient, the greater the change or effect in favour over the sources of the recipient.
- Communication effects are greater where the message is in line with the existing opinion, beliefs and dispositions of the receiver.
- Communication can produce the most effective shifts unfamiliar, lightly felt, peripheral issues, which do not lie at the center of the recipients value system.
- Communication is more likely to be effective where the source is believed to have expertise, high status, objectivity, or likeability, but particularly where the source has power and can be identified with.
- The social context group or reference group will mediate the communication and influence whether or not it is accepted.

Women in media have been subject of study for media researchers worldwide. Basically, there are two aspects of research study in context to women in media. One is representation (portrayal and coverage of women issues) and the other is women working in the media organizations. The present study is on the portrayal of women in Assamese media in both the print and visual media in context to different parameters like--- the various issues covered in these media, the space given to them in the news items or stories, the way of portrayals etc. Substantial work has been carried out in topics like women in electronic media but the study of portrayal of women from feminist perspective in both the media viz. print and visual is relatively less.

Gallagher (2005) research suggested that women constitute more than half of the world's population. The researcher questioned on the visibility of women that 'But do we see them or hear their voices frequently in the news media? News acts as a mirror of the world, but the question arises that whether we are presented with the clear unambiguous reality or the distorted reality?' The study suggested the targeted intervention of certain groups, while pushing others to the margin.

Sudeep paul (2011) points that in the world of media in which the women reporters are subjected to danger and difficulties. His book is a collection of articles from eminent writers and gives detail report on national seminar on the said topic. The primary focus includes a) representation of women in media and b) portrayal of women and coverage of issues/events concerning women. It highlights issues on the women's access to media how they are related to the media, their right to information and communication, analysis and how they disseminate their perception through the knowledge, opinion and perspectives through the organization. Finally, the laws and policies e.g. (The Broadcast Bill, content code) in relation to media and communications give least important to women issues even the age of ICTs or the media and even in macro level media developments (e.g. media globalization) the coverage women's issues is still far less.

The result of the 2010 GMPP project shows that women constituted only 24% of the news subjects in the world news, people who were heard or read about in the news. The figure for India

was 22%. The global media forum monitoring project (GMPP) is the world's longest running and most research on gender in the news media. India was among the 100 plus countries across the world where groups of volunteers participated in the Fourth Global Media Monitoring Project (GMPP), monitoring a cross-section of news media on a single, predetermined day: 10 November, 2009. The Network of women in media, India (NWMI), a professional association linking women Journalists and other women working in or on the media across the country coordinated the GMPP 2010 process in India. Women constituted less than a quarter (22%) of the people heard or read about in the news (i.e., as news subjects) across all topic categories. The corresponding global figure for news subjects—people who are interviewed or whom the news is about—was 24%. Across Asia the corresponding figure was 20 %(GMPP 2010).

In 2000 the Association of Women Journalist (AFJ) studied news coverage of women and women's issues in 70 countries. It reported that only 18% of stories quote women, and that the number of women-related stories came to barely 10% of total news coverage.

"Women in the Indian Print Portrayal and Performance" is an excellent book by Rama Jha(1992). In this book Jha analyses women professionals in journalism and the changing portrayal of women in the print media. Jha claims that women activists were largely responsible for enhanced media coverage of women's issues. She writes, " the continuing male bias that conditions news content and news analysis and also the presenting of the news in the paper.

She recommended that a broad national policy should be chalked out which can provide enough media norms. She writes, "Not that one is asking for any code of conduct within newspaper network. Self restraint is a must, particularly on women's issues. Otherwise there is a danger to sensationalizing reports on atrocities. Atrocities are atrocious enough. What is recorded should be a cool, objective, factual, hard look so that the subversion of women's interests that goes on in the male dominated press does not occur".

Venkataraman (2002) conducted a study entitled: Women in Print—the change over the last half century in reporting on women and gender issues by Indian newspapers. The study was conducted on a random selection of 84 national and region-specific newspapers over three time periods; the early fifties, the mid-seventies and 2000-2001. Both news material and features were included in the study. The result shows that women make page one news mostly as victims, for example when murder or rape is committed. Women politicians are the second largest category. The findings of the study also show that women get rare coverage on business and edit pages. The study shows that out of the stories appeared on the front page in 2001-2002, only 6.9% mentioned women. He writes, "Page one in Indian newspapers s still a male preserve. Women make front page news mostly as victims".

Dasgupta (1976) in her study of women's issues in four English dailies published in New Delhi in 1975, observed that women's issues received no attention in the six subject categories: social, economic, political, art and culture, biographical and other issues. However the study did not elaborate the methodology adopted for the study.

Although women occupy nearly half of the total population of the world yet every nation whether developed or underdeveloped has subjected women as marginalized section of the society. It becomes clear from the magnitude of visibility that women are seen more as object of entertainment but held less news worthiness. Gaye Tuchman (1978) in her book 'Health and Home: Image of women in mass media' says about the stereotyping of images of women within the media and the absence of omen from the news pages and Tuchman terms it as 'symbolic annihilation-a combination of condemnation, trivialization and erasure'.

The portrayal of women in media as sexiest form and the absence of the women from news media have disproportionately affected the image of women in the society. The UNESCO symposium was held and there was unanimous agreement upon the fact that the images of women projected by the media itself constituted the main obstacle in eliminating discrimination against women throughout the world and the main factor is the preserving o sexiest attitude towards

women and be replaced by factual and realistic representation of women. Below are discussed the UNESCO sponsored meetings—

i) Media workshop for Journalist and Broadcasters, Mexico city (July,1975): this workshop conducted raised the question about the tendency of the media organization to project stereotype image of women, reinforcing traditional concepts of degrading women, enforce prejudices and negative attitudes towards them. It called for the various international organizations and various media organizations to extent their active co-operation in the task of upliftment of the status of women in society.

ii) In the National meeting of mass communication researcher, in Caracas, Venezuela, in May 1975 where Marta Colombia de Rivera, critically compared the images of two section women under the backdrop of real and virtual. The real ones are the images of middle and lower middle class women but the virtual images are the one represented by the media. The real women are exploited, underestimated, sad, confined to the domestic chores and rearing children and if employed work under pathetic condition where as women constructed by media are rich and flaunting, contented and beautiful which enhances her status. The poor women even in films and television cater to the needs of her man which serves as universal panacea which solves all her problems be it economic or emotional.

iii) In another UNESCO symposium for women in cinema, held in St Vincent, Italy (July 1975) vehemently opposed the projection of sexiest images in the media. In the symposium, appeal was made to women worldwide to examine and analyze meticulously these images which reflect that women are living in a world which consists of images made through the eyes of man rather man-made world for women where real women's and the realities experienced by women do not have any space.

Women's Feature Service (1993) throws light to the emerging trend in the portrayal of women in mainstream print media. The study was conducted in two parts-one that carried traditional women's page in popular magazine and women's magazine in terms of beauty, fashion, lifestyle, interiors, etc. Sometimes some serious articles on the status of women/women's issues were covered but the space rendered was less. More emphasis was given to advertisements and 'light articles' to grab the attention of readers. On the other hand, women are seen in articles on film celebrity when professionals or as high profile successful women highlighting the minority. The women's magazine through covered jokes, stories with trivial

Role of media in social change

A paper published by Centre for good governance (2006) on "The Right to Information Act, 2005-A Guide for media states that media being the firth pillar of a democracy really has the potential to bring in social change. Empowerment, social awareness and good governance are the three key areas where in media can prove beneficial and help in the upliftment of the people.

Mc Quail(1994) in his paper on "Mass Communication Theory: An Introduction" explains that social change can also be brought when there is a medium for flow of information in both directions. Media can provide that model in a community through interaction between the government and public, thereby generating greater participation and awareness. Thus participation and interaction are key concepts which can be achieved through media.

Enzenberger (1976) in his article on "Constitutions of a Theory of the Media, and in "In Raids and Reconstructions: Essays on politics, crime and culture" has proposed a politically emancipator use of media that is characterized by –1) interactivity between audiences and creators, 2) collective production and 3) a concern with everyday life and ordinary needs of people.

Mernit (2009) in his paper on —Using social media for social change‖ describes that this is a digital age where social media has made a well established network of audience. There are social

networking sites which effectively follow issues in society and generate people's opinion. Net-enabled social tools have enabled new models for grassroots activism and community building, and they have changed how we function in society — how we communicate globally and locally, how we form ties and how we organize and connect. These web based tools have actually given voice to people to share, create, rate, and search for information.

A concept working paper by UNESCO on "World Press Freedom Day 2011, 21st Century Media: New Frontiers", New Barriers says that the growing popularity of social media poses challenges for news media across the developed world.

A statement made by UNESCO in a conference at Windhoek, Namibia for World Press Freedom Day, two decades later, clearly narrates the present scenario of press. The arrival of the digital revolution – the evolution of the Internet, the emergence of new forms of media, and the rise of online social networks – has reshaped the media landscape and made ―the press‖ of 2011 something that those gathered in Windhoek in 1991 could not have imagined'.

Downie and Shudson (2009) in their article on "The Reconstruction of American Journalism" explains that newspapers, the country's chief source of independent reporting, are shrinking – literally', with fewer journalists reporting less news in fewer pages'. The situation and prospects of broadcast television, which still commands a big audience across the world and remains the world's premier advertising medium, do not seem much brighter.

Ram (2011) in his paper on ―The Changing Role of the News Media in Contemporary India ― says that there is a shift in the preference of audience towards the web, mobile, and newer interactive digital platforms. As a result now days newspapers, TV channels and Radio channels and other forms of media have excellent websites offering rich, many-sided, multi-media content, including long-form features, investigative articles, and thoughtful analysis.

Parceiro (1999) in his article on "The Role Of Media in Democracy: A Strategic Approach" explains that informing the citizens about the developments in the society and helping them to make informed choices, media make democracy to function in its true spirit. It also keeps the elected representatives accountable to those who elected them by highlighting whether they have fulfilled their wishes for which they were elected and `whether they have stuck to their oaths of office. Media to operate in an ideal democratic framework needs to be free from governmental and private control. It needs to have complete editorial independence to pursue public interests. There is also the necessity to create platforms for diverse mediums and credible voices for democracy to thrive.

Barnett (2004) in the book named ―Media, democracy and representation: Disembodying the public‖ in the article on "Spaces of Democracy: geographical perspectives on citizenship, participation and representation" says that It has already been discussed that media has been regarded as the fourth estate in democracy. Democracy provides the space for alternative ideas to debate and arrive at conclusions for the betterment of society. The publicly agreed norms are weighed over that of actions on the part of economic organizations and political institutions (Barnett, 2004).

Tsekeris (2008) in his research article on ―The Public Sphere in the Context of Media Freedom and Regulation*. Humanity & Social Sciences*― describes that this is close in essence to the concept of public sphere where rational public debate and discourse is given importance. Individuals can freely discuss issues of common concern.

Panikkar (2004) in his article on ―Opinion: Media and the public sphere‖ explains that media plays one of the crucial roles behind the formation of public sphere. However, Barnett is of the opinion that in modern times the true sense of public sphere is getting eroded with the media of public debate getting transformed to mediums for expressing particular interests rather than general interests which are universally accepted. This signifies that public sphere which is essential for a vibrant democracy can actually be channelized to serve vested interests rather than public good.

Ways in which media can bring social change

Since today we have better platforms to showcase our opinions, all these forms of Medias put together can help in generating positive interaction and by being agents of social change.

According to an article published by the Centre for good governance (2006) on — "The Right to Information Act, 2005 - A Guide for Media" states that, media can make a real difference to the lives of poor and disadvantaged people in the following ways:

- Making people more aware of their rights and entitlements
- Enabling people to have access to government programmes, schemes and benefits;
- Making people more aware of political issues and options and helping to stimulate debate;
- Educating the public on social, economic and environmental issues;
- Drawing attention to institutional failings – corruption, fraud, waste, inefficiency, cronyism, nepotism, abuse of power and the like;
- Fostering exchange of best practices, knowledge resources, access to better technology, and to better choices
- Creating pressure for improved government performance, accountability and quality, for example in service delivery; and
- Providing a discursive space for citizens to dialogue with other actors in the governance process.

Khamis (2009) in the research article —New Media and Social Change in Rural Egypt: Transformations, Paradoxes and Challenges‖ reveals that Media opens the doors to the outside world. In one such study done in a village in Egypt it was found out that there was a shift from national to international television channels and from collectivist to more individualistic patterns of television viewership, which enabled challenges to hegemonic, monolithic governmental ideologies and to authoritarian family figures and women's interference simultaneously.

1.3.1 Feminism and Media

The chronicle of historical evidences shows the origin and development of feminism. It is related to the 'movements' a historical process encompassing the multifaceted ideas and thoughts, common issues and particularly the fight for women's rights. It may be mentioned that Mary Wollstonecraft's "Vindication of the rights of women" (1792) a pioneering text argued for higher education for women, economic independency for women and also attacked the patriarchy supremacy in the society.

The subordination of women in various fields got attention for the various women's movement. Feminist writer Simone de Beauvoir in her book, The Second Sex (1949), asserts women as a biological creature and implicit expression of feminity is socially constructed. The root of the feminist movement started from the right to suffrage. The study pointed that feminist movement drew the feminist theory which started critical writing on the role of women in society and their contribution. The book mentioned about the constructed images of women in media which was influenced by the social and cultural consensus. The other aspect of the book was gender difference, the hierarchical frameworks, patriarchal society, positioning patriarchy in the top order; polarization evoked the outbreak of equality and liberty. It is the response to the particular problems faced by the women which gets affected the third world countries. Implications for incorporation of women's issues were recommended.

Rege (2013) states that from the sociological point of view the feminist perspectives were categorized into four stages, first is seen as one of the underlying absence of women in the cognitive structure of the discipline. Second stage focuses on the gender inequalities prevalent in the society. The third stage is seen as one moving towards the conceptualization of gender as a social structure

while the fourth stage is as the time realization of the intrinsic linkages between gender and other matrices of structural inequalities. The feminist critiques categorized these changes into different genre rather than cumulative assumptions. The different disciplines of categorizations were— inclusion, separatism and re-conceptualization. While the first is the inclusion of women in various cognitive structures leaving the mainstream unchallenged. The second kind of response from women's standpoint is that there are marginalization, exploitation and deprivation in a patriarchal society. The third position of reconceptualisation leads to inclusion of women in dichotomies like public vs. private but are with the attitude of taken for granted. Thus it is concluded from the study that the structural inequality in women's representation is the outcome of patriarchal society.

Jaggar (1983) said in a variety ways, they break into silence in predecessor theories, especially those which do not specify women's and men's relative positions in society and they reveal distortions in what has been said. The study revealed that the feminist scholars agree that the difference in gender is socially constructed and fundamentally used to differentiate categorically the analysis of social life.

Susan Faludi (1991) gives a methodically researched work which challenged the equality of status of American women of the 20th century. Her book starts by stating that the myths regarding the status of women and the press reports stating career women are more subject to depression than other women, that professional women quit jobs under pressure to stay back home, over thirty years women have little chance of getting married. Faludi pinpoints that these myths are not true instead they reflect the backlash against women in the society and what they gained in the recent years. Faludi further mentions that what has elevated a women's position in the society has actually led to their downfall. The writer reflected on the issue of Western media's support to 'trend journalism' which states that despite liberation, the women are still unhappy. She concludes that in post modern society the post modern feminists suggest those women's movements are the cause of women's unhappiness.

Gallagher (1992) on the feminist media research and criticism focused on the understanding of the cultural dimensions of power and equality. She pointed that the current media feminist trend focuses on the micro level ignoring the broader spectrum of power and politics. She argued from the feminist point of view the importance of micro level work within the political and economic context of media development and examines the macro-level forces impinging on media to formulate relevant policies and strategic judgments.

Urvashi Buthalia, (1993), says that, At the national level today, it is no longer possible to ignore women, whether it is with regard to planning documents, policy decisions, electoral policies and so forth, the question of specific needs of women has to be addressed'. Her study indicated that in today's contemporary society with growing awareness it is not possible to overlook the women's issues totally.

Martha A. Fineman and Martha Mc Clusky in their book entitled 'Feminism, Media and the Law (1997) discussed how media power influences the popular opinion. Deborah L. Rhodes puts up a significant analysis of the feminism and feminist issues' in the second chapter of the said book. The analysis begins with the absence or less women in media, their under representation in the important decision making body, how the press coverage caricatures, polarizes, sensationalize the various feminist movements and struggle. The writer further says that realities of the feminist objectives could be better apprehended by understanding how media construct and constrain the issues. The press coverage have undergone dramatic change in the coverage as many gender related topic, including the domestic and the sexual violence against women are covered. These movements elevated the feminist perspectives which gave a new dimension to the gender related issues. It heightened the awareness on the burning issues and how press reflects or refracts the feminist issues/feminism.

Maîtryee Choudhury (2000) "Feminism in print media' laid emphasis on two important aspects of the social process in Indian popular media and feminism which augmented women's

movement and the process of economic liberalization and how the economic liberalization effects the media. The writer analysed some magazine like Femina, Savvy, Cosmopolitan and came to the conclusion that liberalization increased media market and also the various market needs, distinct target audiences. The scenario in the Indian context is different from the backlash of US or UK. In India, the women's movement has emerged as strength and also possesses a vocal opposition. The writer is under the notion that economic liberalization bears a direct impact on the coverage of print media as it interwines popular media and feminism. The writer criticized that the intellectual paradigm has replaced the traditional system of identifying the middle class and this shift has also introduced the policies of representation.

Baseline studies

Studies carried on the change of representation of women in the Indian media since 1988 (Balasubramonyam 1988, Prasad, 1992, Joseph and Sharma, 1991). The study focused on the increase of space rendered to women's issues. The study of space in the English newspapers indicate that such space for women's issues was the impact of the various urban women's movement and liberal reformist stance of the English newspapers (Joseph and Sharma,1991). The hierarchy of news and news values and serious articles on women are still covered less compared to the entire coverage. Media emphasizes on even oriented stories rather than processes. The conclusion is that newspaper give selective coverage to the women's issues and often presents distorted feminist views (Balasubramonyam 1988).

Sonia Bathla (1998) study showed that women's issues are predominantly event oriented in print media. Moreover a major percentage of the news stories focused on violence/crime. The study implied that such stories are not carried because of any sensitivity towards women; rather they fit nearly into the media's routunisation as it is easy to obtain from regular sources. The researcher further stated that the implication of violence /crime stories serve two purposes i) add to the social consensus and ii) help to keep women in subordinate place. The study further provided an insight into the relationship between media and social movements. The study concluded that the government support patriarchy but live up to rhetoric of being liberal and accessible and that women's movements are used by the government as instrumental in political constituency. It stressed that media plays a crucial role in constructing the image of the women's movement either in positive or negative light.

Rashmi Luthra (1987) studied the gender portrayal of women's issues in the print media. The critical analysis of the women's issues with prior tone and treatment revealed that the crime issues were covered the most. The study observed that stories related to an event or an issue was considered newsworthy. It pointed on the tactics adopted by the reporters to present the women's news/stories with feminist perspective to gain prominence. The study concluded that the patriarchal system of society is responsible for less visibility of the women's issues or movements and attributes it to the 'symbolic annihilation' of women in news.

Rukshnanda Pervez (2009) studied the representation of women in print media. The methodology adopted was content analysis of English and Urdu newspapers. The study inferred that top women's issues were fully covered in the daily newspaper like crime, politics, education, health, fashion, advertisements and pictorial representation of women. Studies showed that sports, literature, environment, law and religion are area which got less coverage. News report on sport and religion was more of photographic representation with single line description. Analysis showed that Urdu newspapers are dominated by sensational stories of glamour, crime (rape, domestic violence), political issues and religion where as the English newspapers highlighted on fashion, Art and craft, health and literature.

Nautiyal and Dabral (2012) study focused on the coverage of women's issues in two newspapers with largest circulation in Uttarakhand 'Amar Ujala', and 'Dainik Jagran'. The analysis was made on the items like equality, health, education, sexual harassment, violence, police

attorocities and crime against women covered by the newspaper as articles, news stories, analysis, editorials, letters to the editor, column. Results show that newspapers render little space for women issues, less than one percent (1%). The findings show that news items are covered by both the newspapers while women's issue was given less attention in Analysis, Editorials, Columns and Articles. The researcher also finds that women's issue got least preference in the editorial selection. The data shows that newspapers do not project a balanced picture of women's lives in real world. The researcher recommended more studies regarding the "participation, portrayal and access of women to the media and its impact on and use as an instrument for the advancement and empowerment of women should be carried out.

Ankur (2008) a freelance journalist carried out a study with Urdu, Hindi and English newspapers from Patna for a period of one month. Study shows that the space allotted by the Urdu newspapers on women and children is more than Hindi and English. The Urdu daily newspaper Rozana Rastriya Sahara gave 20% of the news space to the coverage of women and children issues. It is followed by the Hindi daily Hindustan. Quami Tanzum, a Urdu newspaper gave 9% of the space to the issue. The Hindi newspaper like Rashtriya Sahara allotted 13%, Dainik Jagran allotted 9%, Prabhat Khabar 8%, Aaj 8% and the lowest coverage is in next 6%. Regarding the coverage of English dailies The Times of India covered 9% and Hindustan Times 7%. Ankur tallied his numbers and the figures were found after monitoring various newspapers for a month that women's and children's issues are less covered.

Ozean (2009) study analyses the male and female visual representation in six Turkish newspapers. The study was made to explore the richness of visuals in the newspapers without which serious shortcomings occur in the results. The study aims to obscure the similarities between religion, secularism and visual depiction of women. Content analyses of the newspapers were carried out and qualitative iconological and semiological analyses were employed to study the visuals. The analysis of visualization of gender there is low representation of women compared to men.

Greenwald (1990) analyzed the coverage of women in the business section of two metropolitan newspapers. She found that women were the main subjection in only 5 of 180 stories.

Bhatnagar's study (1966) women's issues in four English dailies publishes in New Delhi in 1987 showed that only 280 (1%) items in the sample pointed on the problems and welfare activities about women. Important items like women's education, right and wage rates of women workers lacked adequate coverage in any newspapers undertaken for study.

Dasgupta (1976), in her study of women's issues in four English dailies published in New Delhi in 1975, observed that women's issues received no attention in the six subject categories social, economic, political, art and culture, biographical and other issues. However, the study did not elaborate the methodology adopted for the study.

Hasan and Sharma (2011), in their study on utilization of print media by women homemakers found that the heterogeneous female with different socio-economic background use media for entertainment. While a majority of them read magazine and newspaper for information, news and entertainment. They concluded that print media like magazine and newspapers are important tools for homemakers to gather information. However, the study did not elaborate the methodology adopted for the study.

Sharma (2005) in his article on the women in Indian media studies the case of introspection for media planners. Sharma mentions the study made by Bahuguna which shows that studies related development got less than 9% while the sensational stories related to crime got between 52% and 63% of items in newspaper (Nitin Jugran Bahuguna). A study of four English dailies in India showed that women's issues accounted to nearly 2% (Bahuguna).

A study carried out by Mohammed (2009) included both the print media and electronic media. Analysis of over 2000 newspapers from June 2007 to Sep 2009 was coded for the study and news channels like, NCN, Capital News, VCT Evening News and prime news. Results show that

Guyanese women and children together accounted for 2.9% of the total coverage. That woman's issues were covered five times more in newspapers and 3.5 times more on television compared to children. Newspapers like the Guyana time more women's issue followed by Starbrock News and The Chronicle in 2008.

Avasthi and Shrivastava (2001) mentions how feminist try to provide gender equilibrium under the perspective of gender universality through various media. This study shows that empowering women in diversified field helps in the manifestation and redistribution of power in the patriarchal ideology.

Sullivan (2009) studied about the constructed image of women in media. When women are linked with violence, the 'durable news commodity' and that the violent story and the stereotypical representation of women together determine the coverage of the story. Critical discourse analysis of fourteen newspaper stories from the Australian and Courier- mail from 04/03/08 to 30/03/08 were carried out and the analysis indicated that such coverage of the traumatic nature of event become spectacle of sympathetic and moral panic and the agenda of media and the government's key role develops the story wherein the 'virgin' victim is victimized to defend her credibility in the highly gendered racial coverage.

A study by Paromita Borah employs three methods to understand media content. Initial part of the study examines the 'peak periods' to ascertain the pattern of coverage. Second, 4058 articles were used for the study to examine the prominent frames employed by newspapers. Third, the interview of the journalist from the same newspaper to study the factors that influence the way these frames were created in the first place. Results show that, in general, the motive of this coverage is marketability of the stories. This inference is implied by the overall coverage as well as the responses of journalists.

Women being victim of domestic violence or crime is not considered unusual but a woman killing a man makes big news. According to the social constructionist perspectives 'deviant behavior' is associated with psychological illness. This study on battered women also kill abusive male partners was conducted by analyzing 250 newspapers articles published between the years 1978 to 2002. The study was supported by using four typifying models, to understand the criminalized behavior that were tagged 'mad' and then 'bad' by the newspapers. The social construction of image of 'battered woman who kills' and promote feminist narrative in the media. Findings suggest that feminism explanations are necessary to deter the factor influencing the dominance of media—simplicity, sensationalism and conventionally (Noh, Lee and Feltey, 2010).

Another study on the crime done by women, Berns (2004) examines the coverage on women's magazines, Glamour and Good Housekeeping shows that such magazines carry stories on empowered women but actually throws light on the underlying message that women is responsible for the private troubles by her actions, decisions and ignores the behavior of the abusive men.

Davis (1951) in his study on 'Crime News in Colorado Newspapers' found that the crime coverage in Colorado newspapers bore no relationship to changes in state crime rates.

This study examines the reporting of crime as epidemic and put forward suggestions for enhancing the values of the press in crime reporting. The discourse analysis shows the pattern of crime reporting and the creation of fear reportage by print media which shapes public perception of risk-factor in criminality, crimes, infuse public awareness and impact on the justice system. The study unveils the major lapse during the crime reporting. Results suggest that standard pattern are deficient, implementation of proper guidelines for crime reporting and refraining from trivializing women related crime issues (Jimoh et al, 2007)

The abuse on women is on the rise. Women opt for legal assistance only after the violence has escalated. This paper aware us about the assistance available to the women undergoing abuse. It presents the discourse on public health and gender and how the public health system helps in the implementation of anti-domestic violence intervention programmes (Deosthali et al., 2012).

Rupsayar Das (2012) study on the comparative analysis aims at investigating print news discourse a on violence subjected to women in India. The incident provoked a nationwide non-violent protest, known as 'The Pink chaddi' campaign 2009, after the attack on girls in a pub. Sample selected for the study by the researcher are the top English national dailies and local daily newspaper (on line edition) for the analysis.

Content analysis using advance computer assisted qualitative data analysis software (CAQDAS) called Leximancer v3.5. both the national and local newspapers and the electronic media covered the whole episode. The researcher further states that for a globalised socio-media reform has to work both implicitly and explicitly. Most global media organizations are under the male domain. There is less scope for female to run such organizations. In the patriarchal form prevalent the society the feminist perspective should also be given serious considerations. The researcher adds, 'Harnessing strong public opinion, governmental and public policies towards VAW and 'femicide' are paramount: a task should be carried out by the media'.

Meera Kosambi (1993) presents comparative reports from India and republic of Korea on violence against women. The UNESCO carried out a major programme on peace. Human right and the Elimination of all forms of discrimination, studies on violence against girls and women were carried out during 1990-1991. The main aim of the study was to find the cross-cultured findings on equality between men and women. And the strategies employed to curb the violence perpetuated against girls and women. In the Indian context study reviewed the regional and national newspapers, case study of the victims. The Korean study focused on the reports related to sexual violence from 1985-1990 a comparison carried in diachronic frame. In the countries, mass media coverage or specifically newspaper reporting of the cases of violence against women have shown an increase in the past few years. This reflects that there is an increase in the incidence of crime against women and media's interest vests to earn revenues.

Metekaire (2003) conducted an analysis of the coverage of women politician by the print media. Four newspapers were selected for the study and the analysis showed that media began to recognize women politicians and their contribution in decision making and representatives of their communities. She also stated that there should not be polarization of women stories by the media houses instead unbiased report on women politicians and women's issues should be covered.

Another study on the issue of print media coverage on representation of women electoral candidates in general elections was carried out by Golder (2009) found women receive less representation in media and are more identified with social welfare and the feminine traits. And that under representation or stereotype or discriminatory and unfavourable media projection deter the political venture of women. She presented the universal statement 'male dominance in the formal political sphere is universal'. Further the study pointed the subordination of women stems put of the socio cultural values and practices that firmly entrenched in systems and structures of society. The study concluded that women are less represented in politics and media concentrates more on the physical traits of appearance.

A study of editorials of three national dailies—The Hindu, The Times of India and The Hindustan Times by Srinivasan (1985) showed that 27.3%, 27.8% and 46.3% respectively were rendered for political story. The study also analysed the treatment given to the issues in the editorials on a three point scale- favourable, unfavourable and neutral and noted that favorable editorials were more in all the three papers.

In the Indian democracy the political groups are categorized by gender, ethnicity, region, socioeconomic status, age, or education that represent the functioning in the policymaking process. The feminist theorist opines that with the presence of women in the government and administration helps to convey different perspectives on political issues because they are just not 'standing as women but also acting for women as group' (Phillips, 1995, 1998; Mansbridge, 1999).

Pavyar (2004) study was to examine the coverage of Gender, Environment and Development (GED) issues in the Indian-language newspapers. She draws the focus to the main

hypothesis is that the high rate of gender discrimination in India contributes to a gender bias in the coverage of GED stories. Frequency analysis was used to examine the newsworthiness of GED. The parameters used in the study of gender and media were gender typifications and gender stereotypes. The results of the frequency analysis were assessed in connection to evaluations and assessments made by newspapers' editorial staff, gender scholars, international and Indian NGOs, and Indian government representatives. The result show that the press does not highlight the actual and real needs of the people in India instead there is biasness in the coverage of the GED issues. It concludes that the NGOs, gender scholars and press watch organizations observed and inferred that the coverage of GED is weak.

The united nations fourth world conference on women (1995), brings to light the increase of career women in communication sector but few could reach the decision making body or the governing body. There needs to be gender sensitizing to eliminate the gender based stereotyping found in local, national and international media houses.

The study explores the changing media (print) pattern especially in the post liberalization period with media becoming market-oriented. The focus of the study is on Hindi press coverage over the construction and representation of gender issues in patriarchal society (Tomar, 2009).

Bano (2003) mentions that the word 'woman' being replaced by 'gender' and the biological difference is considered to be the root of the socio-economic inequality. She mentions Joan Scott, who emphasized that the socially constructed gender connotation be exposed and deconstructed to abolish the gender inequality.

Mehta and Eape (2012) shows a gendered analysis of the twelfth five-year plan suggests that women is an important factor in India's political economy and that gendering of public policy must be of macro-economic nature. The study shows the 'inclusion' list lacks specificity for measuring and monitoring the inclusiveness of women in the plan. It also mentions that the policies should universalize education, health and social security.

Slatton (1971) conducted a study of sports magazine and portrayal of women in it. The study was conducted on 5 major magazines from 1900 to 1968 on role of women in sports. Slatton came up with the conclusion that "advertisements portraying women in sports show only a recreational interest with little acceptance of sports competitive aspects".

Theberge (1991) carried out content analysis to study the print media coverage of gender, women and physical activity. The study was made in two sections, first six month coverage of four Canadian newspapers and secondly, ten years six month study of a Canadian women magazine, Chatelaine. Results indicate that the media shows little response to women's physical activity. Moreover, the newspapers were largely conservative in response to women's fitness activity and accounts to masculine hegemony in the sports and physical activity. Analysis of Chatelaine showed that there was coverage health which highlighted fitness, diet and weight control but presented limited views on physical activity.

Norman Fairclough (1995) emphasizes the multi-semiotic character of texts in his book 'Media Discourses' and visual images and sound using the example of television language, as other semiotic forms which may be simultaneously present in texts. In his study, Bazerman's (2004) perspective on intertexuality is employed as the point of departure to analyse the intertextual practices of each sample text. For the purposes of analysis, these levels of intertexuality can be recognized through certain techniques that represent the words andutterances of others. These techniques start with the most explicit 'direct quotation' and 'indirect quotation': to 'mentioning of a person, document, or statesments' and 'comment or evaluation on a statement, text, or otherwise invoked voice'; to more implicit 'using recognizable phrasing, terminology associated with specific peope or groups of peole or particular document' and 'using language and forms that seem to echo certain ways of communicating, discussions among other people, types of documents'(Bazerman, 2004).

The interface between the media and politics has long been a focus of communication research. However, the gendered implication of political communication and the manner in which the news media cover issues of relevance to women and how depict the women is a more recent concern. Women, Democracy, and the Media: Cultural and political Representations in the Indian press (Bathla 1998) have focused on the functioning of what she calls the 'Brahmanical Hegemony'- the deeply rooted cultural orientation of the Indian urban elite. Her study was based on empirical data derived from an analysis of news and interviews with Indian journalists and women activists. This has led to women's issues being defined as belonging to the private sphere and thus not relevant to public debates about democracy. Bathla has stressed the need to confront this mind-set in order for debates of women issues in India to progress.

In this regard, some studies have found that social issues related to women(equality of status and opportunity) got less than 9% while sensational stories relating to women which were invariably crime stories got between 52% and 63% of items in newspaper. Besides the print media, electronic media is also depicting women as scrupulous, religiously intolerant, craving only for their family, politically naive, socially inevitable and culturally ultra modern. In recent time, sex and sensation are becoming the primary motivations behind any reportage, where women are used as commodity; some time in advertising some products or some time as sexy babes neglecting the real status of the whole women section.

It is a fact that the Indian society generally considers women as weak and inferior. As a result, a woman undergoes tremendous traumas from birth to death. Many girl children are annihilated even before they see the light of the day, many girls are raped on roads or at homes, many wives are beaten by their husbands and in-laws, many girls have to give up their education to help their parents to earn money. But media are not focusing those problems. They are only busy with to publish the gossips of the actors and actresses, the love stories between them. This negative attitude towards women in real life is very much reflected in the way media represents them as well. Media representations of Indian women reveal that they are less accepted and respected as persons and more looked upon as objects. She has three projected roles--- biological, domestic and decorative. Media are hardly challenging the gender attitudes promoted and perpetuated by the society. Watching a BBC documentary on Indian cinema a British youngster commented, "Indians must be very poor, and they seem to have very little respect for women". He had after all seen a few clippings of films inserted in the documentary. What if he were to watch at length, more of our kitsch movies and worse still sexually suggestive, dehumanising song sequences.

Media monitoring as a tool for change was officially recognised by the United Nations in 1995, in Section 'J' of the Beijing Platform for Action {(Global Media Monitoring Projects, 2005 report) better known GMMP.} The idea of GMMP one-day study of the representation and portrayal of women in the media worldwide has been conceived in 1994 at the 'women Empowering Communication' conference in Bangkok organised by the World Association for Christian Communication' (WACC), Isis International-Manila and International Women's Tribune Centre (IWTC). The GMMP has grown to be the largest, longest-running study on gender and media and remains an important source of data on the status of gender on media across the world.

The nineteenth issue of Media and Gender Monitor attempts to capture key discussions on Gender and media at WACC's Congress held in October (2008) in Cape town. The congress experience re-affirmed the importance of continued engagement with a thematic area the despite its significance for gender equity and women's struggles, has been overshadowed by other, equality crucial thematic areas of concern. The network of gender and communication groups has however not wavered in understanding the importance of media as a source of cultural production, as a site through which material gender inequalities and injustices are reinforced and reproduced. The unshaken commitment is visible through the case studies feature in the current issue of MGM.

The World Association for Christian Commission (WACC) project (2007) implemented by the Women's Media Centre (WMC) in Combodia was spurred by concerns about negative

stereotyping and degrading depiction of women in Print Media. It is indispensible that mainstream media worldwide shows little concern for gender balancing reporting, as evidenced by the results of the Global Media Monitoring (GMMP) in 2005. Perhaps the most impressive outcome of this multi-strategy project was the act by ordinary Cambodian women to directly challenge media on negative portrayal of women, in their record over 100 'letters to the editor', 44 of which were selected for publication in Raksmey Newspaper.

The Fourth World Conference on Women (FWCW) held in Beijing in 1995 recognised 'communication' as a significant tool to women's empowerment. Since then women's networks have been developed at the local, national and international level. The efforts of these women's organizations largely remain focused on the promulgation of global information, monitoring governmental and intergovernmental organizations and organizing educational and awareness programmes for the promotion of social, political and economic empowerment (McLaughlin, 2004). In this context McLaughlin (2004) emphasizes the significance of transnational feminist networks as public spaces; as sites for promoting unanimity, sharing and exchanging experiences and strategies. It is well documented that the notion of public/private debate was reinforced by the First Wavers with the aim, in part, of "dissolving the distinction between a private woman's sphere and a public, male arena" (Peet, 1998: 248). Feminists since this time have challenged the notion of a dichotomy between these overlapping spheres (Fraser, 1989; MacKinnon, 1989; McDowell, 2006; Rose, 1993; Walby, 1990). They have also recognized the many ways in which space is always gendered (McDowell, 1983; Rose, 1993; 1996; Pain, 1991; Valentine, 1989). Straddling the intersection of private/public spaces are those spaces of transcendence, production, politics and power that are frequently regarded as a male domain. By contrast, 'home' as a space of reproduction has frequently been regarded as a private and quiet space for women to perform unpaid labour (Okin, 1989; Pateman 1988, Rose, 1993; Walby, 1990). This research recognizes that private and public spaces are the 'practiced places' (de Certeau, 1984: 117) intimately connected to the hierarchy of private and public spheres. Private space, in this research, includes those spaces used by the young middle class career-minded Assamese women of my sample to practice every day the discourses connected to femininity and modernity especially within the household. For examples, the expectations associated with marriage and motherhood; 'the double burden', especially for majority of the married women in the sample (who have paid work) with respect to housework and childcare; their position within the family as a daughter and daughter-in-law; and to highlight the role of the

Gallagher Margaret (2001) in Gender Setting: New Agendas for Media Monitoring and Advocacy raised questions such as an age of global information structures, what scope exists for independent citizen action in media and cultural policy formation? How can audiences effectively voice critiques of media content? In an increasingly market-centred and consumer-oriented media world, what is the potential for monitoring, lobbying and advocacy? This book focuses on media portrayals of gender, more particularly the media's role of in reproducing and reinforcing patterns of discrimination against women in society. The book further aims to unify the hitherto disparate strands of academic research and feminist activism in the form of gender media monitoring aimed at policy critique and practical change. Research findings and monitoring experiences from both North and South are together to demonstrate how, with varying levels of resources and expertise. Women's groups have developed monitoring models that can be effective in widely different media contexts. Drawn from countries as diverse as Canada, India, Spain, Jamaica, Austria and South Africa, these approaches will have lessons for everyone concerned about media democracy and diversity in the new information age.

The conferences and deliberations have failed to bring about greater awareness among women folk in regard to their rights, privileges, roles and responsibilities. We find the articulation of the women's point of view through conferences, rallies and other events. At the end both the girl child and the women themselves inextricably located in mesh of values and aspirations that have

little meaning outside the context of value and culture. Women are not thoroughly organised in our country.

The relevance of Mass Communication comes mainly from the meaning of multiple or mass production and the large size of the audience which can be reached by mass media. Wilbur Schramm states that mass media can help to create a 'climate for development' by introducing new values, attitudes and modes of locomotion. In reality, mass media can function as of community integration, participation and action for development process. According to Deniel M.Learner, mass media act as 'mobility multipliers', spreading favourable attitude for social change. Mass media are capable of changing attitudes and behavioural patterns of the people.

Women constitute the largest number among the illiterates, knowledge have-nots and under-privileged class of Indian society. Women are, indeed, the backbone of national development. It is in this context that the importance of mass media for extending the educational and developmental support to women assumes a national dimension for national development. The UNESCO Report on women and mass media states," The perspective of women reflected the messages disseminated by the mass media expresses male concepts of women. The commercial media produce message systems and symbols which create or structure prevailing images of social reality which in our step-up show women as housewives, consumers and sex objects. Women in advertising or other media are always young and attractive, they are frequently depicted as sexual objects, as in the home, and they are seldom shown as intelligent people. The mass media's role is primarily to reinforce definitions and identities set in the framework constructed for and by men". It is clear that mass media are not only dominated by the men, who run it, but also, in large part, by men who read or see or hear it.

Our experience reveals that mass media in India are male-centred, male-dominated and male-biased. When it comes to projecting the image of women, all types of mass media are guilty of portraying negative images. There has been a failure in identifying the problems of women and there is a continued projection of women through men's eyes. In the process, their needs have been overlooked and they have been discriminated against. An exploration of this material reveals this bitter reality in India. The findings have been evolved in three fronts, namely, 1) Participation of women, 2) Portrayal of women, 3) Discrimination against women in mass media in India.

Women are not seen as important constituents in decision making positions in government, the media, academia or traditional development agencies. The role that women play in the media, their professional status in them (media) and the images of women projected by the media are inextricably linked.

According to Klapper (1960), the mass media play a vital role in disseminating information, conducting propaganda, educating and enlightening people, strengthening national integration and accelerating social development. The communication media are potent instruments of social change, contributing substantially to national development. When we talk of national development, we mean of women and men, and we talk of women development and the media role in their development, we have to identify the two dimensions of the term "development". Firstly, it is the development of women and the role of the mass media in this process. Secondly, it is the development of the society and the nation through the development of its women.

The role of the media in development of women is twofold—

a) Development through exposure to media by way of programmes and printed material. This is a consumer-oriented function, and by the consumer, we mean women.
b) Development through the active the participation of women in the production of media messages by participating in the decision-making process regarding programme content, policies and the projection of a balanced image of women.

A preliminary examination of the literature concerning the image, role and social condition of women in mass media showed that any study of the image of women in the mass media and

women's association in the production of messages will have to be viewed in the socio-economic, political and cultural context.

In the ultimate analysis, the presentation of women in the mass media depends on the interplay of forces that shape social reality and one of these forces is the media itself. " The communication media produce messages and symbols which create on structure prevailing image of social reality, thus affecting the process of social change".

In *Women and the Indian Print media* (Jha, Rama, 1992) Rama Jha describes about the performance and portrayal of women in media. Firstly, she talks about the women journalists who deal with the women's problems, and also mentions that there are some male journalists who turn the problems viewed by the female journalists in to jokes. The male journalists are dominating the whole field of media in such a way that the female journalists cannot be concerned about the real problems of women and so their issues do not get proper limelight to be focussed of. The writer also mentions some problems faced by Indian women such as rape, burning of women by their in-laws, beating by husbands, witch burning, illiteracy and portrayal of women in print media. But those problems never got proper importance because of the negative role played by the male journalists. So, the portrayal of women sometime will not positive. According to Jha, to portray women properly importance should be given on to publish the realistic problems faced by them, without which some wrong pictures of women will be portrayed.

So, the writer urges to the whole Indian women to become concerned about their main problems relating to society, economy, culture and politics otherwise their male counterpart will portray wrong pictures of women in front of the whole world.

In his article **"Depiction of women in Indian media-A case of introspection for media planners"** Dr.Sanjeev Kumar Sharma criticises the ways how Indian media both print and electronic are portraying women in the era of globalisation. The issues relating to women's are not discussed in media; rather women are used as a commodity relating to women's are not discussed in media; rather women are used as a commodity and sex object. Newspapers give no place to rape, crime, politics, scandals, serious debates and discussions on issues related to women. Most of the newspapers publish only the gossips about the TV serials or film actresses.

The writer also states that magazines as well as newspapers have sections for females where the reared if left only with the option of reading some personal gynaecological problems of married women or personal love hick-ups of young girls. In Television also there are various serials where women are shown involved in conspiracy, premarital, extra-marital affairs, wearing costly, heavy golden and diamond jewellery, little care about anything else than the individual matters, and at all not even a word about the outside world. He also mentions about the advertisements where women are used to show their body. In most of the advertisements even a word about the outside world. In most of the advertisements in India be it newspapers or television or magazines, the main ingredient is women and these depict the picture of women as vulgar and cheap.

Now a day, as a visual media, advertisements play important role in promoting different products. Every day we are exposed to a number of advertisements through various media vehicles like newspapers, magazines, radio, television, internet and various outdoor media. But there has been much criticisms against advertisements as these are portraying women as sex objects. Women's physical attraction has been used as a whole, or in parts, to market everything from brassieres, male under garments to automobiles. These ubiquitous images encourage people to think of sex and women as commodity, and these may contribute to violence against women. For example, there is an advertisement of a premium whisky that shows one man is taking first sip of that particular whisky and the lady sitting in front of him appears to be losing some inches of her dress, after every drink the process is going on up three drinks. After three sips of the drink he finds that the breasts of the previously over clad lady have become quick visible and half clad and his own shirt has slipped from his shoulders. And the voice smurs kuchh bhi ho sakta hain (Anything

can happen). The depiction of women in this and other advertisements is actually insult to the women in general which are destroying the real status and dignity of women. According to a United Nations Research Report (1975) on Advertising and the Portrayal of Women, advertisements have been held responsible for projecting women in a derogatory light, and as inferior class of beings (National Advertising Review Board, 1975). Shrivastava's (1992:7) research on the Indian media has shown that the dominant negative stereotypes in connection to the portrayal of women are:

1. A woman's place is in the home.
2. The most important and valuable asset of a women is physical beauty.
3. A woman's energies and intellect must be directed toward finding the right man.
4. Women are dependent coy and submissive; they are masochistic in their response to indignities humiliations, and even to physical violence inflicted upon them.
5. The good woman is the traditional house wife long suffering, pious and submissive; the modern woman who asserts herself and her independence is undesirable and can never bring happiness to anybody nor find happiness for herself.
6. Women are women's worst enemies.
7. The working woman is the undesirable exception who must be brought in to the marriage fold and made to conform to traditional social norms.

S.S.Roy (2012) states that today globalisation has left deep impact upon the Indian nation. With the passing of time with globalisation there occurred profound changes in economic, cultural, social and political arena. In economic system public sector has been ignored and private sector has been glorified. Open market system and privatisation have become the mantras behind the development of a particular country like India. The writer focuses that the state relegates vast power on the hand of the private players. Of this, competition is going to be a usual thing among the producers of different markets. Everyone is trying to sale their products as soon as possible. So, they are busy with various manipulating activities to sale their products. That's why they are taking the help of advertisements.

According to the writer the companies busy with competition are using the faces and bodies of beautiful women to popularise their products. These producers always producing lots of products everyday and there is competition everywhere to become the best seller. For this they are using women in a cheap manner whether necessary or not. For example, they are using women in the advertisements of cigarette, man, s underwear, man's shaving cream etc. They are portraying women wrongly for their own purpose.

The 1974 Report of the Committee on the Status of Women (Joshi Committee Report) found that 'women are represented as wives and mothers in most TV and other media programmes. Although 36% of them are agricultural workers, women are predominantly projected as non-producers, with a decorative function, being marginal to national growth and development. Plural nature of Indian culture and the diverse roles women play is neither acknowledged nor communicated. These results in stereotyped images and role specifications of women in unidimensional projection of their reality'.

Schaffer, Sharada J. (2006) attacks not only the stereotyping but also the unethical and offensive representation of women in advertisement that work to their detriment and perpetuates an undesirable gender hierarchy.

The author places her detailed analysis of individual ads--- a whopping 2,000--- against the backdrop of Indian societal, cultural and religious norms that reinforce patriarchy and the inherent violence in Indian society against women, be it through bride burning, rape, or a number of other ways.

The author has reviewed ads over a 12-year period from 1994 to 2005, but she admits that the majority of the ads are from the 1990s, and her critical analysis raises some crucial questions that have troubled not only women but also social scientists cutting across gender. Unsparing in her

observations, the author asks: "Does a woman need to be always tall and slim, young and light-skinned with silken skin and mop of gloriously shining hair?

In the concluding chapter, the author presents a new code of ethics, challenging advertisers to re-examine their notions of gender in order to uphold women's inviolable right to be treated with respect and dignity.

Sudarsanam, Jawhari, (2005), *in Representation of Women in Media: The* Legal *Debate* discusses about the important points raised at the Being Conference (1995) regarding the role of mass media to curb the evil of depicting women in a derogatory manner. According to him women should be empowered by enhancing their skills, knowledge and access to information technology. This ensures to curb the negative portrayal of women internationally and to challenge instances of abuse of power in an increasingly important industry, the mass media.

The Beijing Platform of Action further suggests that the self regulatory mechanisms for the media need to be created and strengthen and approaches developed to eliminate gender-biased programming. There is a need to develop, by the media and advertising organizations, professional guidelines and codes of conduct and other forms of self regulation to promote the presentation of non-stereotyped images of women. Therefore, there is a need to establish, consistent with freedom of expression, professional guidelines and codes of conduct that address violent, degrading or pornographic materials concerning women in the media, including advertising. The national governments and the international organisations have to play a role here. They should encourage the media to refrain from presenting women as inferior beings and exploiting them as sexual objects and present them as creative human beings.

Haripriya,M. (2005) states that liberalisation and privatisation have definitely invaded the today's consumer market in India. Our urban India is slowly transforming into a western society. The concept of global village and information revolution has led the markets to target the world with one message. The writer also says that in this process, western culture is being imbibed into our veins. The advertisers have not succeeded in the just and true portrayal of women. There is surely a renaissance going on for the Indian women. But this renaissance is not being captured correctly by the advertisers. There is a need to voice out for a change in advertising content.

Women have been exploited by the advertisers for decades. They have frequently been stereotyped in the traditional roles or home maker, or have been projected as 'visual prop' to enhance the appeal of an advertisement. However, since the early 2000s, the frequency and the number of such demeaning and exploitative advertisements in the print and the electronic media have reduced (Jha, Jyotsna & Nigam Divya:2007). Here the writer writes that since the advertising agencies in India are male dominated, the tendency to portray women in traditional roles, or in superhuman roles where they manage the home and the job, has been inherent in the content of Indian advertising.

In her seminar paper Shellat. M (1994) describes how after the gain of independence in 1947, advertising in India was restricted mainly to the print media since television reached the country only in the late 1960s.According to her study, the print advertisements of the 1950s and 1960s portrayed men as breadwinners of the family, decision makers and professionals while women were portrayed as being inordinately concerned with their physical appearance and cooking meals to please their men and families.

Mallika Das (2002) in her study examined the portrayal of women and men in Indian magazines ads. Over 1,100 magazine ads from a wide range of magazines in 1987, 1990 and 1994 were examined. Results indicate that although the portrayals of women and men in Indian magazine ads have changed the period, they are still portrayed in stereotypical ways.

In this book the writer has accused the TV programmes being portraying women in derogatory manner, which has minimise the respect and dignity of women. He found that even though women were present in most of the TV programmes in significant numbers, their portrayals did not reflect the complexities of Indian women.

Addressing the Press council of India at the inauguration session of National Press Day, Justice G.N.Ray says that the most significant movement will be the movement for the emancipation of women. There should be respect for the women section in all fields; they should be given equal pay for equal work, there should be no gender gap between man and woman. According to him the most important medium through which the problems can be focused is the media. Both the print and electronic media should focus the gender inequalities, violence against women. These should not give importance on focussing women as sex objects or commodities.

Women should be given the democratic space where she can talk about her problems. For this the media can be regarded as the best way through which they can transmit their voices and ideas to the mass. So, media should play a significant role to develop as well as empower the women by focussing their problems and most importantly they should portray women as strong and superior not like the inferior and less respected. Because distance between the media and women not only derive the women of their right to information but keeps them in the dark (Prasad K.:2005). Discussing the modern issue of feminism the writer has opened a new angle to think about the equality, freedoms or liberties for the women. She showed a great concern for the women's movement for the restoration of the feminine needs and necessities in the era of liberal economy.

In her seminar paper Ranu Tomar attempted to explore the struggle for transformation and bridging gap between social identities of women and men. The relationship between media and women has a certain structure where women are trapped as an object. She also states that the role of women in media decision making is reflected in the poor representation of women issues and concerns.

Besides the advertisements, Cinema is also one of the most important and cheapest visual medium of entertainment in contemporary India. Unfortunately, the commercial film industry, which is a purely profit based industry, cares little about the image of women they portray to the public. Commercial films have followed a set pattern of female image portrayals wherein women are projected as sacrificing themselves for the family and reaffirming values of self-effacement and devotion to the male head of the family. Women who opt for a less traditional life are portrayed in a negative light. Furthermore, these films vividly portray physical violence against women and hardly ever show women as being capable of thinking for them in a logical and rational manner.

Gokul Singh and Dissanayake (2004) quoting Richards (1995) mention three categories of sexual objectification of women in Indian cinema, the tribal costume which is used for cabaret dances, through which women's body particularly pelvic region and the other parts are shown, the wet sari and the behind the bush scene. In the film Hum Apke Hain Koun (1995), the leading female actress wore a deep cut blouse, indicating the scopophilic nature of the camera. In an another popular Indian cinema Dilwale Dulhania Le Jayenge(1995) actress Kajol enacting the modern version of the wet sari sequence, wearing not the sari but a more revealing white costume. In this film the female character comes from such a conservative Indian family that she fears to tell her father that she has fallen in love with someone. Given that conservative context, it seems unlikely that such a character would be dancing a rain dance.

In their study of the mistreatment of women in commercial Hindi films, Dasgupta and Hegde examined a sample of 30 movies. After examining the movies the researchers concluded that the mistreatment of women in Hindi films is a mechanism which reinforces and perpetuates the patriarchal order of Indian society.

Television is also one of the most popular electronic media in India. In the television programmes women are basically seen as performing the decorative functions and as being marginal to national growth and development. Another important aspect of television programming is that large chunks of the entertainment programmes are drown from commercial film content. A crucial implication of this phenomenon is that as in commercial films, women on television entertainment programmes are projected as non-thinking, sacrificing and suffering

beings while educated and motivated women are seen as the scourge of the patriarchal order of society.

TV serials are depicting women and young females as involved in conspiracy, pre-marital, extra-marital, post illicit affairs, wearing costly, heavy golden, and diamond jewellery, perpetuating their religious fundamentalism, spending time in family feuds, suicidal love affairs, mega parties, palatial houses, luxury cars, sleek mobiles, elegant make-ups, little care about anything else than the individual matters, and at all mob even a word about the outside world.

As in the case of television, Desai and Patel state that the majority of the radio entertainment programmes in India are borrowed from commercial films. As far as typical women's programmes on radio are concerned, on an average, 60% of programme time is devoted to entertainment only. Twenty percent is given for educational programmes, and 20% is used for imparting information. Women are portrayed as gossip-mongers, and they are given advices on how to become a good wife, a good mother and improve their physical appearance. They are also given elaborate instructions on how to cook, sew knit etc.

The print media in India (when compared to electronic media) have limited impact on the vast and mainly illiterate population of the country. The majority of the population has depended on the oral tradition of cultural transmission for over two hundred years. It has been seen in the newspapers that these give place to the news related to rape, crime, politics, scandals, sports and economics; serious debates and discussions on issues related to women are completely missing. In vernacular press the depiction of women gets a share only in coloured pages where there is a lot of gossip about actress of TV serials and film stars along with some hot pick-ups. The English press also dwells upon providing snaps of the hot babes and erotic photo gallery of party mania in multistar hotels.

Magazines as well as newspapers have sections for females where the readers are left only with the option of reading some personal gynaecological problems of married women or personal love hick-ups of young girls, otherwise special features on knitting, fashion, sales etc. are the routine one.

As a result, most of the feminist writers have come forward to study about the present status of women in media. And the necessity of feminist approach to the media is being acknowledged everywhere today. The world wide feminist movement has pointed out that the portrayal and employment of women in media are in a most derogatory position. In the middle of the twentieth century, Simone de Beauvoir's book 'The Second Sex' was published and she clearly established that the problems and the poor image of women arose from the affirmation of the past and a gross neglect of the growth, development, the talents and opportunities of women in specific societies. Her work is a classical expose and a foundation for an intellectual defence of women and their rights to a different experience (Busby; 1975, 107-131). Betty Frieden's research about the construction of the American cultural ideal of "the happy housewife heroine" in women's magazines and advertisements is a typical example of feminist academic venture related to media. Her book 'The Feminine Mystique' (1963) was a best seller and gave rise to a revival of women's movement which had been dormant since the successful struggle for women's suffrage. Betty Frieden also headed one of the first 'second wave' feminist groups 'National Organisation of Women' which declared the media to be one of the major fields of struggle for women's rights. The group demanded better placement of women in media, child care centre and journals by women. A research project was launched in entire US to monitor TV networks and local stations for sexist content.

According to Raja Rao one of the biggest obstacles to women's access, participation and control of the media is the patriarchal structure of societies where men continue to see women as subordinate to them. Patriarchal attitudes of governments and media are manifest in their being predominantly male institutions which tend to view women as an undifferentiated mass of low status of society. Gender biases and gender-based discriminations therefore result in stereotyped

attitudes, sexual harassment, pay inequities, discriminatory treatment in assignments and promotions, traditional gender hierarchies, including a premium on family responsibilities, lack of support mechanisms for working women and low education that deter women from joining the media or assume decision-making positions.

Thus, it can be said that there is an on-going trend in Indian Media to portray women as busy and concerned with beautifying herself, choosing make-up, new fashions, jewellery, cosmatics, constantly watching her weight, worried about good figure and skin colour, proud of advertising and selling latest products. She is hardly portrayed as having social commitments, capable of intelligent decision making, or as capable leaders and policy makers. Usually she is shown to accompany her husband like a shadow or as a decorative piece. Manu's dictum that 'a woman is protected by her father in childhood, husband in adulthood and son in old age' is perpetuated in all media representation. In most representations she is tactfully domesticated, and her place is 'home and hearth' by unwritten codes of society. Everything around her is arranged in such a way that she can't let herself loose. Women who break this unwritten code and re-arrange their day are considered feminists or rebels. And media is playing their role perfectly to preserve the societal concepts. As a result, most of the mediated women are "weak, passive, needy and subservient, or vain, irrational and hot-headed. But the question is how to turn the media into an effective tool for promoting constructive change and faithfully representing the multiple roles of the women today---as achiever both at home and in the labour force.

MEDIA PORTRYAL OF WOMEN AND SOCIAL CHANGE:

In exploring the relationship between media and society, pertinent questions include whether media are molders or reflectors of social structures, and whether media are agents of social change or reinforcers of the status quo (Rosengren, 1981; Glasser, 1997).

The mirror approach employs the metaphor of the mirror to describe the role of media in society (Curran, Gurevitch & Woollacott, 1982). It assumes that the media provide a truthful and objective portrait of social reality. The null effects approach also suggests that media content reflects reality with little or no distortion, but sees this reality as the result of compromises between those who sell information to the media and those who buy it (Shoemaker & Reese, 1991). Studies show that the "pictures" we get from the media differ from the world outside (e.g., Giltlin, 1980; Lang & Lang, 1971). Media content does not simply reflect the world, but represents it by highlighting certain elements over others (Devereaux, 2003). Traditional Marxists believe that the images and definitions provided by the media are "distorted or 'false' accounts of an objective reality" which are molded by the ruling political and economic groups (Curran, Gurevitch & Woollacott, 1982, p. 22).

Many feminist studies on media and society focus on the relationship between media portrayals of women and social reality. Much attention has been given to the gender-role messages in television programs (e.g., Ferri & Keller, 1986; Matelski, 1985), newspaper and magazine content (e.g., List, 1986; Silver, 1986), and advertising (e.g., Lysonski, 1985; Whipple & Courtney, 1980). These studies found that women are often underrepresented or stereotypically portrayed as playing passive, submissive and dependent roles. The media are hypothesized to fulfill the structural needs of a patriarchal and capitalist society by reinforcing gender differences andinequalities (Van Zoonen, 1996).

The female images constructed by the media are not fixed entities and have changed over time in response to both the feminist movement and the broader socioeconomic changes (Rhode, 1995). One obvious improvement might be the shift from firmly locating women in the domestic sphere to one that emphasizes an independent career in the world of paid employment, but the gulf between the media representations and reality still exists (kiran Prasad, 2003).

1.3.1 Trends in Mass Communication

In developing countries feminist communication research on media content, images and representation has grown since the early 1980s. it was the United Nations International Decade for Women (1975-85) that provided political impetus worldwide to initiate research and action for changing women's portrayal and participation in the mass media. In comparison to the Western feminist scholarship in the field of communication, however, communication research on Third world women has remained fragmentary and descriptive. Despite proliferation of women-in-development literature in the last two decades, gender in the field of mass communication has remained a marginal area of inquiry among feminist scholars (Steeves 1993). Hence, empirical and theoretical work in the area of women and mass media in developing countries is limited and uneven across regions. As a result, media research on women in developing countries has relied heavily on the feminist paradigm for communication research, developed in the west.

Gallagher (1992: 4- 7) highlights three strands in feminist research on media content, images and representation. The focus of feminist scholarship in the 1970s, conducted mostly in North America and Asia (Japan, Korea and the Philippines), was on quantitative content analyses of "sex-roles and media stereotypes". This research documented invisibility of women in various media forms and highlighted how media images reinforce negative portrayal of women in terms of behaviours, aspirations, psychological traits and so on. Gallagher argues that such juxtaposition of "positive" and "negative" media images of men and women is problematic. There is a tendency in such an approach to define "positive" images of women in "masculine" terms. For example, showing women as authoritative, autonomous, self-fulfilled and successful, etc. while ignoring the ways in which the audience read and reinterpret media content. Despite limitations of this approach, it condemned and drew our attention to sexism in media and provided impetus to feminist research on media content.

In the 1980s, feminist film criticism, based on qualitative European perspectives and methodology which use psychoanalytical, semiotic, and post-structural frameworks n analysis, contributed to broadening our understanding of how the media construct definitions of feminity and masculinity, and how images of women reflect or distort reality. The focus of this approach is on understanding "representation" of women through the study of text and textual mechanisms. Criticism of this approach is directed towards the neglect of a dialectical relationship between media and culture which construct the notion of "women". The question is not merely to examine whether the media reflect or distort images of women, but to explore how images and meaning of feminity and masculinity in media are socially constructed within the context of patriarchal social relations.

Furthermore, recent feminist media criticism that has drawn from cultural studies shifts our attention from the text to the context of reception in which the audience plays an active role in producing and negotiating textual meanings. Construction of textual meanings is an integral part of social and power relations in society, which are constantly contested and negotiated by the audience. Gallagher argues that in the recent years feminist media criticism, heavily influenced by post-structuralist and post modern theory, places far more emphasis on autonomy of audience reading of the text and validating audience "pleasures" and ignores the fact that women as audience are positioned within a cultural system which reproduces particular representation of "femininity".

Gallagher concluded with saying that recent feminist media research and criticism gives us useful insights in understanding cultural dimensions of power and equality. However, she expresses caution against the apolitical trend in current feminist media studies that focuses on the micro-level while ignoring the issue of power and broader political and economic concerns.

Mass Communication researches primarily concentrate on the study of its effects on the society. The role of mass media in development activity was very clearly implied in the dominant paradigm of development. The media is instrumental in defining what we think who we are and

what one's place in the society. It has impact on how issues are interpreted and evaluated. Klapper (1960) suggested that people exposed themselves to messages selectively. There was a tendency of individuals to expose themselves relatively more to those items of communication that set with their beliefs, ideas, values, etc. Regardless of exposure to communication, an individual's perception of a certain event, issue, person, or place could be influenced by his/her latent beliefs, attitudes, wants, need or other factors. Thus, two individuals exposed to the same message could go away with diametrically different perceptions about it. Research showed that even recall of information was influenced by factors such as an individual's needs, wants, moods, perceptions and so on.

The diffusion of innovations theory has important theoretical links with communication effects research. The emphasis was on communication effects: the ability of media messages and opinion leaders to create knowledge of new practices and ideas and persuade the target to adopt the exogenously introduced innovations. There was disagreement on the question of whether ideas were independently developed in different cultures, or whether an idea was invented in one culture and borrowed by or diffused into one another. Evidence indicated that in most cultures there was prominence of borrowed or diffused elements over those that developed from within a particular culture (Linton: 1936, Kroeber: 1944). The diffusion of innovations research established the importance of communication in the modernisation process at the local level. In the dominant paradigm, communication was visualised as the important link through which exogenous ideas entered the local communities.

Lerner (1958) in "The Passing of the Traditional society" points out that the mass media were both index and agent of modernisation. In Lerner's model, there was close reciprocal relationship between literacy and mass media exposure. The literate developed the media which in turn accelerated the spread of money.

S.C Dube (1958) studied the importance of communication in community development programme in India. Wilbur Schramm (1964) emphasised on the role of communication in the process of social change by saying that the development of mass media is one of the requisites for and signs of a modernising society. He noticed change in social, cultural, religious and personal attitudes which subsequently have helped change and shape a society completely different.

The society has by and large reacted almost in an identical manner. This has been established by some well-known studies conducted by Indian mass communication scholars such as Rao (1956) and several others. These researchers have proved that mass media have immensely aided and assisted the rate and score of development and the pace of people in absorbing the new media which has completely revolutionised the style of people.

Lakshmana Rao's (1966) monographic study of two Indian villages is based on the anthropological approach. He has not administered any systematic technique for collecting data except depending on observation. His two villages of South India—Kothuru (a new village) and Pathuru (an old village) were found at contrasting stage of development. One was becoming industrialised, where as the other still clung to the agrarian economy. He has tried to study the role that communication plays in the economic, social and political development of a community. The findings reveal the impact of communication on economic, social and political spheres of community. Communication helps a person to find alternative ways of making a living, helps him to raise a family's social and economic status creates demand for goods, motivates local initiative to meet the rising demands, raises the literacy rate, shifts the influence from the age old and traditional status to knowledge and ability helps him in the process of power change from heredity to achievement, motivates the traditional leaders to defend their power by raising their information level, increases awareness about government plans and programmes and helps the community or the nation to power through unity.

C.R Prasad Rao and K. Ranga Rao (1976) have studied the village communication channels in three villages of Andhra Pradesh. Their study examines the determination of the communication

channel usage in a sample of 209 farmers. Causal relationship between the channel usage and audience attributes are sought to be identified through path analysis. The farmers, all under 50 year of age, each cultivating over 2.5 acres, were interviewed with the help of a structured schedule. The farmers' willingness to change was determined by their secular orientation, credit orientation and risk orientation; their resource based abilities were determined by applying four status dimensions, viz. Caste, education, the scale of farming and operation and the level of living. Three channels of communication were considered to be dependent variable --urban contact, contact with extension agencies and exposure to mass media. High caste, high ses and wealthy farmers were found to benefit most from the form extension activity, which was not significantly influenced by education. Urban contact was found to promote extension contact which, in true, directly contributed to exposure to mass media. One of the important findings is that the knowledge imparted through broadcasting was significantly retained by the respondents even 30 days after the broadcast. The effectiveness of communication could be enhanced by using a mix of the following mutually reinforcing channel, for the effectiveness of the subject matter of the broadcast, 1) the subject matter should be related to the felt needs, 2) the dialogue should be able to create a mental picture in the mind of the listener regarding the subject matter, 3) clear summaries should be given at the end of the radio talk. Two further suggestions are made to improve the modes of presentation, viz.,(1) at the time of broadcast, the key ideas should be tactfully stressed so that they may be easily detected by the listeners and (2) the programme should be carefully rehearsed and timed. The commercialisation of radio and television in India has brought the whole world of advertising to his door steps. As the messages about the new goods and products reach the rural homes and if the messages relate to people's interests, consistent with their attitudes, congruent with their beliefs and supportive to their values, as De Fleur and Rokeach (1976) point out, these are quickly acted upon and hotly pursued. This is a fact that majority of people are not gaining or are not able to benefit too much from the media messages. Since there are individual differences in personality characteristic among such members, it is natural to assume that there will variations in effect which correspond to these individual differences.

S.C Dube (1964) conducted a survey on the perception of emergency after Chinese attack. He observed that 83.3% of the respondents were aware of the Chinese aggression. The information reaching the elite through the mass media is relayed to the common village people through the traditional channel. Lakshmana Rao (1966) studied the role played by the communication in economic, social and political development of a community. Damle (1966) enquired into the diffusion of modern ideas and kinds of knowledge in seven villages. The study elicited information regarding the awareness of people about national political scene, world political structure, modern ideas regarding caste and religion and the impact of new ideas of recreation, movie, radio, sports, newspapers lectures, political propaganda, etc. C.R Prasad Rao and K. Ranga Rao (1976) who have studied the human communication channel in three villages of Andhra.

Since the establishment of the Indian institute of mass communication (IIMC) in New Delhi in 1965 by the Government of India, various types of Researches have been undertaken on various dimensions of communication. Since August 1, 1975 through the Satellite Instructional Television (SITE) development programmes were shown in 2,379 villages of six states. A team of social scientists were employed by SITE to test the efficiency of television on and in improving agricultural practices and population control in promoting National integration, in upgrading and expanding education and in promoting better health and hygiene for a better life in rural areas (Gupta:1985).

In fact, very little work has been done in the field of social communication prior to 1990's. Since 1990's onwards the trend have been shifted to National Television Network i.e. Doordarshan and more specifically to successful launch of the Polar Satellite Launch Vehicle (PSLV D2) on October 15,1994 makes an important mile stone in India's space programmes. Mahajan (1988) in a study of patterns of television viewing among girls in Meerut city found that television viewing

increased knowledge about other countries and promotes the general feeling universal brotherhood.

Modi (1985) studied the inter-relation between leisure, mass media and social structure in an empirical situation of Rajasthan. He provided of comprehensive description of traditional forms, folk motifs and cultural roots of leisure and the new challenges from the electronic revolution of the mass media and its encroachment on leisure, culture and social structure. His work was based on empirical study of a village Garhi Maamur in Alwar district of Rajasthan and the urban community in Jaipur of Rajasthan. His major finding was that there exists a clear con-commitance between the social structure and the structure of leisure of a society and change in either of the two influences each other. Thus, Modi establishes that social structure influence the nature and form of leisure and the leisure itself helps in generating newer structure, social norms and culture.

Brown (1986) found that in any society, feminine personality comes to define in relation and connection to other people more than the masculine personality does. In an analysis of several Japanese films, researcher Yasuko (1977) found that the predominance of the perception of women is ether wife or whore—the dichotomy already found in media portrayals. Studies on television programmes have also shown that media present an extremely narrow range of female image—a young in traditional feminine occupations- if employed at all, seeking identity through love or marriage, deliberately home oriented, self sacrificing and dependable. Television copes with and helps to produce a crucial categorisation of its viewers into masculine and feminist subjects. A Mellencamp (1985) trace this back to the 1950's where she finds the origin of the 'gender base' of television, with sport and news shows for men, cooking and fashion shows for women.

According to Bhagat (1992) improved technologies for rural women are established to be the heart of development and innovativeness was thought to be best single indicator of the multifaceted dimension called modernisation. Rogers (1976) suggested a new definition of development as a widely participatory process of social change in a society intended to bring about social and material advancement (including greater equality, freedom and other valued qualities) for the majority of the people through gaining control over their environment. The predominant role of communication has been: 1) to transfer technological innovations from development agencies to the client and; 2) to create an appetite for change through raising a climate for modernisation among members of the public.

Subhanarayan (1991) emphasised that light viewer can remain so he attend to his work and make a decent living provided; he does not fall for the glamour and glitter as provided by television. He watches TV for a few specific hours a day and remains so as a light viewer and restricting his choice to programmes like news, documentaries etc. Thus, he leaves out the entertainment as presented by TV and shuns away from commercially oriented serials and music and anything of the kind. He becomes an abnormal person when he starts watching serials and other entertainment oriented programmes. TV is like a magic box and it mesmerise the audience completely. To run away from TV it needs a strong will power and education to cure him of negative effects of television.

K.B Mathur (1994) in his study on communication for development and socio change, viewed traditional folk media as culture and community based media. He observed that traditional folk media existed even before the advent of the modern mass media. It was through the utilisation of these media that some of the dynamic religious movements spread for the wide (Mathur 1994:20).

Nevertheless, mass media can play an important role in generating the awareness and shaping the public opinion in the case of the developed societies as well as in the case of a developing society like India. In case of vulnerable disease like AIDS/HIV mass media can played a vital role.

Sardana (1995) depicted that Panchayati Raj personnel should be taken into trust and confidence at decision making level. They are not investigative journalists. They are the spaces of

the enterprises charged with the responsibility of projecting the correct image of the organisation to various publics. They can perform their role in an atmosphere of understanding, appreciation, direction and support from the top management.

Suriakanthi (1995) depicted that government's effort to provide community radio sets in the villages did not succeed as real beneficiaries are far away from the picture. The goal of radio (Bahujan Hitaya, Bahujan Sukhaya) has got much more relevance in these days particularly in tribal dominated regions. Real picture of the country-men are found in village India. Everybody loves to hear reality, truth, the event as it is, but not a concerned image of an event. The time is nearing when radio will be of the people, by the people and for the people. When the very survival of the medium is questioned, there is a need to decentralise, the whole system, when everybody becomes a broadcaster and a listener as well. Comprising predominantly field based programmes, radio clubs will act as resource centre for total human development.

According to Kumar (1995) the need for appropriate communication technology in speeding the process of rural development is essential communication technology for the third world must be in the vision of new possibilities for enriching the lives of people both economically and socially with the aid of science and technology. In this context, the importance of video, one of the most powerful mass media is introduced, no doubt an important aspect of advancement in communication technology but it has mainly as a source of entertainment for long time, and its potential for development lies largely untapped. He further emphasised that formulation of proper strategy for the effective utilisation of video in the developmental efforts really paid it. Video technology has received considerable attention by the development practitioners throughout world.

Malhan (1995) emphasised that the communication media (including the big and small, modern and traditional, person-to-person and extension) are necessary to inform, educate and persuade people and thus provide effective communication support to democracy and developmental plans. The media can disseminate news, views, programmes and policies provide perspective to them for proper understanding; and promote participatory dialogue. They have to act as a watchdog on the as well as economic front. They can help in promoting national cohesion, enlighten and mobilise public opinion and stimulate the participation of various public at different levels. The media have the potentiality to act as catalysts in diffusing new practices, skills and technology. In this age of communication explosion and propaganda, they can aid in presenting a time image of the country and its people abroad, and promote better understanding of the outside world and its events among the people in the country.

Joglekar (1995) emphasised that it is also impossible to check telecast beamed worldwide by satellite. Satellite television is still new to India. But it will soon spread fast. A certain degree of discretion is necessary on the part of the international organisation to see that they take into account the impact and the results that a hasty programme may have. Power brings with it responsibility. And if the international media networks reap the advantage and the profit that globalisation brings they cannot shirk the responsibilities that go with it.

According to Mohanty (1995), agricultural extension, health education, population education, rural development and public information through the use of modern mass communication media has become more popular for the use of the rural urban masses. Mobilisation of the human potential at present scarcely tapped is not dependent on technological means alone and inter-personal communication plays a crucial in this endeavour.

According to Kuthiala (19950 the media of mass communication has to be used to cater to the need as perceived by the people themselves and not by experts. The anomaly of a few people deciding what the millions require need to be removed. Control of the media has to be moved techno experts to socially conscious non-experts experiment like kheda and many other have repeatedly talk to each other rather than a few people talking down to vast majorities. The role of

media men the developing society is that of the facilitators who coordinate dialogue between different sections of the population, rather than controllers and information brokers.

Singh (2003) analysed the relationship between mass media and level of modernity among the middle class youth in an empirical study conducted during January-March 1999 in silchar town of Assam by administering an interview schedule on a sample of 44 male and 38 female youth drawn from the voter list of a middle class locality. He found that as far as the relationship between mass media communication and modernity is concerned there was a positive relationship between mass media exposure and modernity at the medium level, but mass media exposures not solely responsible for 'the modernity level of an individual. It is also influenced by some other variables such as caste, class, occupation and education of the subject. Regarding the relationship between social structure and modernity it was found that there was no clear cut relationship between caste and level of modernity as most of the higher caste subjects has modern level of modernity and the lower caste subjects have developed high modernity. Thus, there seems to be a negative relationship between the caste and the level of modernity. However, there is a positive relationship between education and modernity in the sense that no respondent have primary 'level of education and no has very low level of modernity, at the secondary level of education 87.05% have medium level of modernity and a few (12.05%) have low level of modernity. It also suggests that although the level of modernity increases with the level of education but it perpetuates more at medium level. As far as the relationship between the income group and level of modernity is concerned that the medium level of modernity was found in a high degree in the low income groups. These suggest that there is no relationship between income group and modernity. Among the Brahmins most 60.86% have medium level mass media exposure; while among the Kayastha (52.83%) have medium level of mass media exposure, among the Vaishyas (67.67%) have medium level of mass media exposure, among the lower caste no one has low media exposure and most of subjects have high (33.03%) and medium level of mass media exposure (66.67%). It suggests that the media exposure of lower caste is relatively high than the upper caste respondents. At the secondary level 25% subjects have low media exposure, while at the graduate and post graduate level it diminishes at 10%. There is a level of high media increase as one move from secondary to post graduate level. At secondary level 18.75%, graduate level 28.57% and post graduate level 45%). Father's education also has positive relationship with son's media exposure. The subjects whose fathers are engaged in Govt. Or private sector have more mass media exposure rather than those whose fathers are engaged in business activities or retired from the services. There no relationship between income group and mass media exposure. In conclusion, we can say that the relationship between the three variables taken in the present study is complex. Although there seems to be a positive relationship between mass media communication and modernity, but level of modernity perpetuates more at medium level. The other factors like level of modernity of a person. However, the structural variables like caste has to some extent in negative communication as lower caste respondents have high and medium level of modernity associated with high and medium level mass media exposure. Therefore, it can be said that education is the most important factor in the advancement of the modernity level from medium to higher level rather than exposure to mass media communication. The factors like religion and caste have a negative impact on the process of modernisation. This is evident from the items wise analyses of the modernity in which of the respondents were of the view that a person who is Atheist may not be a good person. Thus, the deep root of caste and religion in Indian social structure check the process of modernisation in a developing society like India. Therefore, the level of modernity perpetuates more at medium level.

Singh (2003) thus rejects the views of Dharamvir (1990) and Mahajan (1990) that mass media has a negative relationship with modernity which in his view is an over simplification of the intricate relationship between mass media exposure and level of modernity. This study also shows the invalidity of the works of George Gerbner (1984), Sharuda (1988) and Singhal and Rogers (1989). It is a very clear that it is not simply the exposure to mass media communication which

brings modernity but what is most important is the contents of the programme listen or watch by a person on audio-visual and broadcast media or the kind of contents read by a person in the newspaper or the magazines. The high frequency of watching mythological serials on television by most of the subjects indicates that such type of programme may check the process of modernity rather than to enhance it.

From it is now clear that there are various paradigm and approaches about the effects of mass media on society. Some researchers are of the view that there is direct effect of media on society and individuals while the others say that there is limited impact of mass media on society and that is also under certain conditions. Some claims that there is no any direct impact of media at all.

1.3.2Trends in women studies

Women's studies attempt to make sense of social, cultural, economic, and political trends linking all this back to mainstream ideology and theoretical foundations relevant to the study of gender; and at the same time exploring women's place and context in the time that the research takes place in. The studies that took place globally in the greater part of the period between the 1960s-1980s were significant in bringing to the forefront women's issues especially as they pertained to the media. During this period a number of studies in line with feminist thoughts on the place of women in society were spurred on as a result of second wave feminism and most pointedly the women's liberation movement. The research concentrated on media content and the media's representation most notably of women. Research was conducted to investigate the depiction of women in gender specific roles many of them concentrating solely on advertising content. The point of these studies (Friedan 1963, Courtney and Lockeretz 1971, Dominick and Rauch 1972, Ferrante, Haynes and Kingsley 1988, Gilly 1988) was to show that advertising content did not adequately reflect social developments of the time. Findings can be drawn on to illustrate key themes and issues of debate that were of concern at the time. From the aims of these studies the issues of the time become apparent. The major issues were how women were being treated in society versus their actual place and role in society and how they were portrayed in the media; in contrast to how men were treated in society and their actual place and role in society versus how that was portrayed in media content. Another aim of studies in this time was to build onto the body of feminist writings and more particularly to contribute empirical research findings that would support feminist arguments towards liberating women. In South Africa at this time liberation meant something completely different. Women's issues were sidelined due the political struggle and the goal of emancipation of the nation. Whereas in the United States and Britain at this time, terms such as emancipation, equality and liberation were most notably associated with women's issues, in South Africa these terms were associated with the political struggle. Hassim (2006:21) characterises women's protests as "sporadic, varied in content, and characterised by an upsurge of political mobilisation around a specific campaign, followed by decline". This is unlike the consistent debate and study of women's issues in Western societies.

In South Africa it is claimed that other more prominent issues often took and continue to take precedence over women's issues. Hassim (2006:34) states that The dominant position within the ANC until the late 1980s was that the emancipation of women was secondary to and contingent upon national liberation. The task of women activists was to mobilize women for the broader struggle One can begin to notice the differences in the period between Western trends concerning women's issues and those in South Africa. Liberal feminists have argued for the emancipation of women from what they perceive to be a male dominated society. Equality for liberal feminists means that women would have an equal place in society alongside men; for example an equal chance in the labour market. Studies that concentrated on gender specific roles looked specifically at categories of occupation, product relationship, setting/environment, age of the on screen characters, sex of the on-screen spokesperson, and the sex of the voice-over. These categories were

considered adequate in obtaining findings to address the major concerns surrounding the portrayal of women at the time. The categories were developed from popular stereotypes that concerned both men and women. For example under the category of occupation the assumption was that women would occupy low-level income jobs as secretaries whereas men would in comparison occupy high-level executive, professional, and semi-professional occupations such as doctors, and managers. The approach to the analysis of how women were portrayed in the media meant that negative meanings were attached to such portrayals. Assumptions of research during this time anticipated negative and reductionist portrayals by the media, influenced mainly by the comparison between men and women.

A quantitative approach was prevalent at the time but recent trends have called for a more qualitative in-depth analysis and understanding of the different ways that women are portrayed. Such recent trends include that of raunch culture, where female characters are deliberately portrayed in a sexual nature either because they choose to or because the portrayal makes a specific point (Rizos 2009). Such developments are notably supported by more interpretative, in-depth techniques such as conducting a semiotic analysis where the embedded or rather different levels of meaning in a text could be explored rather than select aspects as was the critique of a more quantitative approach that may lose sight of more current developments in the field of gender studies. Alternatively Strinati (2003:177) explains that some feminists have also begun to critique the reliance on content analysis because the method tends to neglect wider structures of economic, political and cultural power. This is why most of these studies rely heavily on a theoretical base to address and support these aspects. Nevertheless a quantitative approach is still relevant to research on gender because many researchers aim to sample as many advertisements for analysis. This was because many of the studies also wanted to identify patterns and themes across television stations or mediums. A quantitative approach supported larger samples. Another contributing factor the relevance of the approach is that representation and the study of gender issues is considered somewhat subjective researchers asserted that by conducting a quantitative analysis that could be supported by pilot tests and inter-coder reliability that would strengthen the validity of their findings.

Demarcating the field

The point of departure in this field is to first define what is meant by gender continuing to more concentrated discussions of women's issues. Gender is generally and simply defined as cultural and social differences between the sexes. In the discipline of gender studies the following streams of feminism, masculinity and sexual orientation are included in women's studies (Fourie 2009).

Demarcating the field of gender studies involves as stated before defining gender biologically followed by more specific arguments on each and/or both sexes. Broadly this can include understandings from various disciplines including anthropology, psychology, politics as well as sociology. These disciplines offer various arguments that can be applied successfully to the study of gender and communication within the context of the study. For example Van Eeden (2006) in the research she conducted on gender associations with shopping malls uses aspects of geographic space, sociological, anthropological and psychoanalytical aspects in an exploration of media content in the form of advertisements for shopping malls. This multidisciplinary approach is able to provide a significant semiotic content analysis of advertisements illustrating how shopping as a social and cultural act has been traditionally associated with women. The research cannot be described as a study in communication rather it looks at an aspect of gender exploring how space is constructed and maintained through a media platform. Despite valid contributions, demarcating the field of gender studies has become quite difficult. It has become more difficult to write about gender and the media without drawing on a multitude of disciplines. Here concentration will

specifically be given on debates and issues surrounding conservative/traditional versus feminist viewpoints on how women and their images are portrayed in media and why.

Conservatism versus feminist views

Conservatist or traditional views rely heavily on biological determinism as an explanation for why women occupy very specific positions in society. The central argument is that biologically women are different from men. The biological make up of the sexes is seen as a determining factor that explains why women and men have traditionally been understood according to specific social and cultural roles. Over and above this, conservatism seeks to retain traditional gender specific roles. Anthropological studies on women's issues link conservatist views and feminist concerns by emphasising that social and cultural constructions of gender identities is based on biological difference (Ortner 1974, Gilmore 1990, Moore 1998).

McKay (1987:i) states that "According to the traditional view we are destined to be wives and mothers, to cook, mend, wash and care to be largely excludedfrom high-status occupations and positions of power". McKay (1987) is speaking from the perspective of being a woman. The study that McKay (1987) conducted looked at the nature of gender roles in South Africa and resonates with findings in American and British studies at the time (Friedan 1963, Courtney and Lockeretz 1971, Dominick and Rauch 1972, Ferrante, Haynes and Kingsley 1988, Gilly 1988). These same studies looked specifically at those more traditional roles and argued against the conservatist approach critiquing it for being too narrow and deterministic. The conservatist approach accordingly does not accommodate social, cultural or significant political change and the effect of the aspects on gender issues.

Feminism arose primarily to challenge and correct the flaws in the conservatist approach. Though feminism has a long history, discussion will concentrate primarily on the nature of feminist debate from the 1960s to more current debates. An overall concern in feminist debates is the relationship between gender, culture society, and ideology (Meyers 1997:1). Three long-standing streams in feminism can be identified and discussed for the purpose of this study; including liberal feminism which pays particular attention to labour relations as well as the unrealistic and oppressive way that women are represented by the media (Strinati 2003:160). Radical feminism supports the biological differences between women and men but critiques this difference being used to subordinate women. Radical feminism furthermore supports arguments that recognise patriarchy as the dominant ideology operating in society responsible for the repression of women. Socialist feminism also accepts the ideological role of patriarchy in culture and society and argues towards the radical transformation of social norms and practices as the only means to liberate and strengthen women's position in society.

The feminist movement reached its peak in the United States during the 1960s. Attention was given to how the media represented women. The media was seen as being instrumental in communicating ideological messages and it was the origin of such messages that concerned feminists. The perceived pervasiveness of media content called for continued analysis of the nature of media content. The media was understood to be an intricate part of the socialisation process because of the perceived audience exposure rates (Boyd- Barrett 2002). Increasing changes in the labour market meant that traditional occupations associated with women and men were no longer relevant. Changes in the labour market also resulted in aspects such as space needing to be revisited. Women were no longer solely operating in the private sphere but were also working in the cities; spaces traditionally associated with men. This also meant that roles of wife and mother (for women) and provider (for men) needed to be revaluated. Feminist studies aimed to bring to the forefront the discrepancies between current media portrayal and ideal media portrayals.

Liberal, radical and social feminists argued that audio-visualised portrayal of female characters still chose to rely on traditional/conservative definitions of occupation, role, and associations with space. These categories were outdated needing to be redefined. Continuous study

and research into advertising content during this period showed little change or shift in how advertising content portrayed female characters. Concern was raised over the lack of significant change in media content despite continuous study and exposure. Schneider and Schneider (1979) analysed Australian televised advertisements and noted slight changes in occupational roles assigned to female characters. Female characters were portrayed in professional positions; however this does not mark a significant change when so many other studies did not mirror this change.

Liberal feminists were calling for more equal representation in terms of the air time that women received on the as well as the nature of the portrayals needed to be more in line with social changes (Williams 2003:58). Alternatively radical feminists were calling for change but acknowledged that there would always be differences between the sexes. This stream of feminism argued that some differences needed to be celebrated while those that supported unequal treatment needed to be revisited and publicised (McDowell and Pringle 1992) Mabandla (1991) argued that significant change would be a result of existingpower relations and ideology being addressed and held accountable as the driving force behind the existing place of women in society and within their specific cultural contexts. It is generally an agreed upon notion in gender studies that power relations operating at a social, cultural, economic and political level is the origin of biased gender representation. Feminist arguments stated that media content to some extent was an extension or projection of existing ideological power relations that operated consistently and continuously on social and cultural level.

Patriarchy is used to encapsulate these power relations prevalent in society. The study, debate and critical evaluation of the concept of patriarchy is an important one in feminism; as the term is adopted to explain why women are treated as the lesser citizens of society not having the same human and social rights that men have. Patriarchy is a term that is found in most studies that look at women's issues because it is relied upon to explain what women's place in society was and continues to be. To this end women's studies are heavily reliant on a theoretical base to contextualise, explain, and validate findings, because so many studies are predominantly content analysis the theoretical base becomes very important.

McDowell and Pringle (1992:10) explain that to understand the underlying structures of women's oppression it is important to understand the power relations operating in society. Debates around the issue of patriarchy became quite academic in the sense that many writers (McKay 1987, Ferguson 2004) felt that it was also important to offer different approaches to the understanding of patriarchy. Walby (McDowell and Pringle 1992) for example offered a systems approach explaining that patriarchy was an interconnected system that could be looked at from six different angles. These angles included patriarchy as a mode of production, patriarchal relations in paid work, patriarchal relations in the state, male violence, patriarchal relations in sexuality, and patriarchal relations in cultural institutions. Walby's (McDowell and Pringle, 1992:11) system of patriarchy appears to cover the state, religion, economy as well as the private sphere. Mitchel (McDowell and Pringle, 1992) on the other hand offered a structuralist approach explaining that patriarchy operated on different levels; namely an ideological and capitalist level. Much time was spent on the intricacies of what constituted patriarchy and how to identify aspects of patriarchy operating in media content.

McDowell and Pringle (1992:12) explain that in the early parts of the 1990s there was a move away from patriarchy and towards gender as a category that may be more useful for ensuring that all social relations are looked at not just sex role stereotyping. This is in part a valid point and has been discussed in many studies at the height of second-wave feminism that concentrated on sex role stereotyping. Gender can be seen as an umbrella term encapsulating issues of feminism, masculinity as well as sexual orientation. Patriarchy is an important aspect in understanding the relationship between women's issues in society as well as issues in masculinity. What McDowell and Pringle (1992) are stating is that when patriarchy becomes the defining ideology drawn on in a

study or research initiative the result in most cases is an analysis of sex roles that are linked to patriarchal ideology limiting the scope of studies. A more holistic approach is being proposed that takes into account other aspects of gender. Yet these studies that have been critiqued for concentrating on patriarchal issues were all relevant in emphasising and adding reliability to the findings of the studies that preceded showing that women were not realistically portrayed in media content. Patriarchy as an ideology is still relevant in current studies, because women's issues in the form of oppression, emancipation and equality are still relevant in research. Studies will in some sense draw on patriarchy to support and explain why women are still on various levels and in different contexts oppressed. Reversely the same ideology is used to address masculinity and traditional expectations placed on men. Martin (Diamond and Quinby 1988: 16) argued this point in the late 1980s stating, "it is imperative that we not dismiss the importance of the concepts of patriarchy and oppression". Furthermore an analysis of sex-role stereotyping is still relevant in current research and across numerous disciplines, this is especially true from a communication perspective that seeks to understand why different forms of media portray parts of society in very specific ways and why women continue to be portrayed in traditional and outdated roles.

Altekar(1959) in his study illustrated the position and status of women in Hindu Civilisation from ancient times to the present both in the east and the west and offered solutions to the various problems that are faced by the Hindu women and simultaneously by men. He described the problems related to the childhood and education of women in the society, from the Vedic period to Smritis and Upanishads and to present time. He prescribed solutions to the problem by drafting of the new special courses for female education that would give equal emphasizes to both domestic and professional life. He threw light on the numerous problems related to the marriage, married life, divorce and the position of the widows. He said women held a respectable position in the society as well as public life and participated in religious activity. He even said that women had proprietary rights during covertures and proprietary rights during inheritance and partition; she had hold over the family matters and decision in the Rig Vedic age.

In the similar way (Upadhaya,1991; Lal:2005) explored a broad perspective from the ancient times including Vedic period to the present time. They traced hat with the passage of time after Vedic period the condition and status of women deteriorated with the arrival of Muslim leaders and British. And eventually at the times of British rule, social reforms were initiated by some of the great leaders and thinkers of the time such as Raja Ram Mohan Roy, Dayanand Saraswati, etc with this many women's organisation came up and participated in the freedom struggle movement. He traced that though there is constitutional grants equality of the sexes but still there is good number of crimes and violence against women. They analysed the issues of women freedom and gender equality in the Indian society and traced towards the injustices faced by the women such as sexual harassment, rape, gender discrimination, prostitution, violence and such other related crimes.

Ghadially (1988) provided an immediate access to some critical areas on the subject of women such as role and identity of women, existing stereotypes related to men and women, concepts of femininity and liberation in the context of changing roles, various violence faced by women, portrayal and representation of women in various mediums of media and also on the variety of efforts generated to this country regarding sensitising people to inequalities between the sexes.

Ammu and Kalpana (1994, 2006) addresses the set of questions that has arisen in recent years concerning women assess (as users) to the media and information their participation in media and communication structure and their portrayal and perspectives in media content. The second edition retains its unique gender analyses of media content and situates views and evaluates the coverage of women issues in the media within the context of recent trends in both the economy and media industry. Employing a novel and nuanced methodology, it offers a distinctive

view of the history of both the media and women the movement in India at the beginning of the 21st century.

Thakuria (2008) provided an account of scribes falling before extremism in the north east during the recent past. He pointed out that not a single killer was apprehended for the 22 journalists killed in different cases during this period. The atmosphere of the north east is blended with terrorist activities and these incidents from a considerable part of everyday news. So its natural journalist falls prey to the terrorist's bullets and women are no exception.

Thus it is clear that status of women has changed from time to time and women have to fight for their position.

Present day focus of media ethics on women

Misrepresentation of gender or gender discrimination in media is one of the most alarming issues today, which is indicative of the fact that till the resent date, media through showing high concern over women's issues, yet they are proposing no strategic schemes to do away with women subordination. The inherent tendency of media to capitalize women subordination and oppression thereby promoting the profit making mechanisms has been put to question at different corners. Media ethics is a strong intervention in the functioning of media in the said way.

Though in the year 1986, the government of India has passed an act called 'Indecent Representation of Women Prohibition Act and several organizations have adopted several codes or norms in several periods, the fact remains the same. Both print and electronic media continue to exploit women by portraying either stereotyped or the so-called 'modern' or 'vulgar' images of women. Media, be these Commercial Advertisements or Day Soap Operas or the so-called family drama or movie or news are degrading debasing and stereotyping images of women. The news papers and electronic media are saturated with gender-biased coverage. Media are very much influenced by the male dominated trend of patriarchal value set up.

Despite the strides made by women in various sectors including media themselves, women are persistently portrayed by the different forms of media in negative and stereotyped manner and exploited as sexual object and gratifying commodity. 'In everything from advertising, television programming, newspapers and magazines, films and video-games, women and girls are more likely to be shown in the home, performing domestic chores such as laundry or cooking, as sex objects who exist primarily to serve men, as victims who cannot protect themselves and are the natural recipients of beatings, harassment, sexual assault and murder', said Bandana Rana.

Despite the caution taken, media are still lacking in gender sensitivity. As is stated by Ansari, 'media today has become highly money oriented industry and can go to any extent to gain the TRPs, which is a gateway for getting maximum advertisements'. Media sensationalize stories and make it spicy and serve it to the viewers or the readers. News channels are more concerned about their television rating points. Media which are thriving on sensations, add colours to all issues/stories, be it molestation, theft, murder, kidnapping or rape, the result is desensitization to violence, aggression and stereotyping which lead to a stereotyped image of women in the mind of the viewers.

The way advertising media treat women and the exploitation of women both in and by advertising is a frequent deplorable abuse. Women are often treated as objects whose purpose is to satisfy other's appetite for pleasure or for power. Despite, the ethical codes/norms states that media should not portray women as passive or submissive, the current trend of female characters in television serials is also not admirable.

Media need to refrain from presenting women as inferior and exploiting them as sex objects. Women need to be perceived, portrayed and projected as equal authentic human beings in the media. Gender stereotyping should be eliminated through an exertion of will and foresight on the part of the media industry.

Women's Issues and Indian print media

However, only political freedom in terms of universal suffrage did not mean that other women's issues took centre stage. "Interaction between media and women's activists and groups have brought these issues to the forefront and generate public awareness especially about 'less complicated and contentious ones – such as education, healthcare, income-generation, savings and credit and to some extent, legal action.' (Joseph and Sharma) But, these issues still fail to make it to the first page or headlines in the media in a sustained manner.

Women's issues first began to be addressed in India when the Statecommissioned a report on the status of women to a group of feministresearchers and activists. According to the Report (1974) "Towards Equality" the heterogeneity of Indian experience reveals that there are multiple patriarchies contributing to the existence of multiple feminisms."Patriarchy ''according to Sylvia Walby is "a system of social structure and policies in which men dominate, oppress and exploit women" (1990), and "Indian society is oppressively patriarchal"(Suma Chitnis:1988).

The Indian print medium's liberal and reformist legacy of the pre-independence period has helped address women's issues. Journalists have striven hard to give women's issues a legitimacy so as to bring them within the ambit of "what makes news." Yet, several media researches conducted over a period of time continue to reveal that most women's issues remain within the confines of inside pages and analyzed only if they have socio-political implications and not independently as women's issues.

The famous Shah Bano case of 1985, which dealt with the issue of maintenance for Muslim women on divorce from her ex-husband, found newspapers focusing on the political, religious and legal aspects rather than from the standpoint of its impact on women.

While it is not correct to say that media is gender-biased, commercialization has definitely changed the orientation of the news selectors. A senior male journalist of a leading English Newspaper points out that when news is weighed against "readership qualities", which are more often than not determined by the "management of newspapers who sit in Ivory towers", it is difficult to "package and sell" serious news.

Despite such observations, there are instances: *The Indian Express, Pune Edition*, in the month of February, 2003, gave a complete supplement of 10 tabloid size pages to address the issue of Post-Rape Trauma which was the outcome of a research project by media students. Also, in quick succession were *Indian Express'* publication (March 18,2003) of an article "An Alternative women's Reservation bill" by Madhu Kishwar, founder editor of *Manushi*, and the *Times of India's*(March 20, 2003) "Shortchanged Again: Not a Woman-Friendly Budget", by Jayati Ghosh,Professor of economics at the renowned Jawaharlal Nehru University, New Delhi. Coverage of serious women's issues is therefore not entirely a neglected area in English newspapers although the frequency of such reportage leaves much to be desired.

The non-English language press tackles women's issues seriously even while maintaining a socio-cultural balance of the specific geographical area. The socio-cultural dimension of a particular region does have a bearing on covering women's issues, says Sabita Goswami, veteran journalist of Assam and the first woman reporter of the North-East who represented the British Broadcasting Corporation. As a pioneering woman field reporter, Goswami writes in her autobiography ,her journalistic travails of covering the most volatile and turbulent socio-political insurgency ridden situation in Northeast India. In Assam, women's status has, since time immemorial, been on par with men they even share equal property rights and the dowry system does not exist. "Coverage of women's issues has always found prominence in newspapers in the North-east, and editors who are most often men, address these issues seriously," she points out. Interestingly however, she does also note in her autobiography how she was not given a job as a reporter in an English daily in Assam presumably because she was a woman!

While the number of women in media houses has increased, those at the decision making level in media houses are yet to see women in the board-rooms. Would the presence of women in editorial boards of media houses make a difference to perspectives portrayed in the media regarding women issues?

Sandhya Taksale, a leading woman journalist who writes in another Indian language Marathi and a long time Assistant Editor of the Marathi *Saptathik Sakal,* spoke of marketing and advertising pressures on the print media. "Even though there are pressures of the market, with commitment, determination and a distinct ideology, it is not difficult for the press to highlight such serious issues as we continuously do. There is always a way out," adds Taxsale.

Like the English press, the regional language press has also been the victim of stiff competition and the increasing pressures of marketing and advertising. Yet they continue to address development issues, including women's issues, with sensitivity and a alacrity. Writing in a language spoken by the people of the region does retain the essence of meanings.

Former Chief Sub-editor of a leading Marathi newspaper, Ms. Varsha Kulkarni regrets that regional and mofussil news items that have a potential for serious handling are often neglected. "Many women's issues do come out of other development stories like water problems, sanitation and environment issues. Reporters must be able to recognize and understand this perspective," says Kulkarni. The news desk also has to be proactive in recognizing multi-dimensional potential in a news item.

While leading English women's magazines often face the criticism of being commercially driven and elitist, women's magazines in Indian languages do take up serious women-oriented development issues although not without a generous mix of cooking, knitting and beauty in the traditional format. Only niche magazines / newsletters like the *Population and Development Newsletter "People"* or *Grassroots* published by the Press Institute of India are exceptions. A private circulation magazine like *"Kaarbharani"* in Marathi addresses issues of empowered women in decision making bodies while another Marathi magazine "Purush Spandan" from Mumbai by Men Against Violence and Abuse (MAVA) addresses the need for women empowerment. Although the reach of such magazines is limited, the regional language press is making a difference in promoting women empowerment.

Women and audio-visual media

The audio-visual media has in the recent past had a tremendous growth and reach nationwide. Both, national television channel 'Doordarshan' and All India Radio (AIR) were primarily introduced with the objective to reach out to the people with development oriented messages. Women's issues aimed at empowering women have been consistently addressed by both Doordarshan and AIR through serials, discussions, talks and other audio formats. Interestingly however, just as in the print medium, commercialization and the directive to be financially self-sustaining has had its impact. Sometimes a compromise has to be struck on a serious issue in favor of a sponsored program. So, there arises a general contradiction in purpose versus commercialization. However, Sujata Paranjape, a radio programmer in Pune India, says that the All India Radio's women-oriented programs, especially phone-ins have a tremendous impact on the audience. Satellite television channels have faced the brunt of severe criticism in portraying conflicting images of women through their television soaps. With liberalization in 1990s, the satellite television channels' 24 X 7 sitcoms, soap operas, international programs , crime based programs have invaded the bedrooms like never before. On the one hand Hindi television serials like *Kahani Kissii Roz (Story of a time) or Kahaani Ghar Ghar Kii* (Story of every home) had scheming, nasty women like RamolaSikand and Pallavi,while on the other there was Tulsi, the ideal traditional Indian woman of a soap *Kyunkii Saas Bhi Kabhi Bahu Thi (Because the mother-in-law too was once a daughter-in-law).*Although most of these serials do have extreme portrayals of women, it was interesting to witness how they subtly made statements about a woman's individuality. There

were episodes of *Kyunki Saas Bhi Kabhi Bahu Thi*, for instance, that showed the woman-woman bonding between the mother-in-law and daughter-in-law, traditionally considered a difficult relationship. The women of the family supported Tulsi's cause while the new generation men in the serial are also given a dose of how they need to treat the women in their lives as equals.A more recent and currently on show popular soap "Balika Vadhu" (Child-Bride) has been addressing the rather regressive issue of child-marriage (constitutionally illegal), it has gone on to talk about the importance of women education as a key to empowerment. Besides, it also portrays an old-fashioned conservative grand-mother in law transform her attitude to being more progressive and even supporting her grand-daughter in-law (who is a divorced former child bride) in her mission for economic empowerment of women through education and micro-credit economic support tools.

In a culturally diverse society like India, such messages passed on subtly in the comfortable confines of a family life wherein exist diverse viewpoints -- traditional and conservative to the modem -- are attempts at making a statement about women empowerment without losing out on the advertisement revenue. Real life based crime-related programs have also addressed domestic violence and women's safety issues with a message to the society on respect and equality of women and the stance that women need to take in crisis situations. These are positive moves.

Women and advertisements

Advertisements in both print and audio-visual media once again depict conflicting images of the woman. Advertisements in the 1980s saw the woman as a homemaker to her macho man, in the 1990s arrived the sensitive, complete man but the woman was still a sex symbol. The advertisement world has also dared to tread where it dared not before, in creating the sexist, abusive, insensitive and hormone-driven female chauvinist bitch. While there are ads that show career women, young independent girls who know their minds and are no longer the coy girlfriends, who tease boys, advertisements like the fairness creams do continue to occupy airtime. Advertisements that are often timed around events like International Women's Day promote consumer items through a "liberated" career woman. Such advertisements hijack terminology, tones and concepts without actually addressing the larger issue of women empowerment.

In an email interview (October 14, 2013) whether gender sensitizing briefings were held with creative teams of advertising agencies in India, Rahul Jauhari, the National Creative Director of a leading advertising agency, Everest Brand Solutions said, "Usually the briefing to the team is comprehensive. Given the environment today where social media backlash is a reality, brands and agencies are a lot more conscious of the stance they take. I think most responsible agencies and brands are gender sensitive. Most agencies will brief their teams accordingly. Obviously one will expect lady members of the team to be gender sensitive a bit more instinctively and naturally. All in all, I think agency personnel are quite cognizant and appreciate the impact communication can have gender issues. Frankly if you observe, most well entrenched brands will and do toe the line here. Apart from the brand not wanting to upset the consumer, it is pretty much what any responsible person or brand would do." It is worth noticing how gender sensitivity is expected to be 'instinctive' for women team members!

Women and films

While Indian films have mostly projected women in the traditional stereotype, new films, both commercial and serious cinema, have in the recent past, addressed deeper women's issues. Dr. Vaishali Diwaker, a sociologist who has studied gender, nation and cinema, says films in the 1930s and 40s reaffirmed the impact of Brahminical patriarchy on women. Even when some films dealt with radical issues of those times like widow re-marriage or a right to have an opinion in not consummating a marriage, in the end, the films showed the woman as repenting her actions and succumbing to the normative order to fit into the Brahminical patriarchy. Mr. Amol Palekar, noted film-maker and actor, in a personal interaction on this topic said that through his several films, he

has consciously probed, explored and questioned serious women's issues with a strong belief that cinema can make a positive impact. Palekar's films like *Akriet, Ankahee, Thodasa Roomani Ho Jaye, Daayraa, Kairee ,Dhyasparva* or *Anahat* (that explores women's sexuality), have portrayed women in absolutely non-stereotyped roles. Today, mainstream Hindi (Bollywood) cinema too portrays a more independent strong woman, sometimes a career woman balancing home and a career, or a single woman, a divorcee or even an unwed mother, a go-getter asserting her individuality. However, 'item numbers' with raunchy sexist songs do continue to find reel space in the movies, once again contradicting a message it might have intentionally or unintentionally sought to drive home to the audience. India has a rich diverse regional language cinema that also not only portrays women as empowered, but also addresses other women's issues.

Women and theater

While theater has often portrayed women in mythological and historical roles, there have been distinct trends in portraying women's issues effectively through proscenium theatre as well as traditional theatre like puppet theatre. If we take a peek at Marathi theatre, Mr Madhav Vaze, a renowned drama critic and theatre personality, points out that though Marathi theatre initially had a preponderance of male domination in the pre-independence period, during the social reform movement, it addressed women's emancipation issues very effectively. Post independence saw prolific playwrights like the renowned Vijay Tendulkar whose plays extensively dealt with women empowerment. Today, new generation playwrights are addressing women's issues in a starker and bolder manner than ever before. Efforts at increasing awareness about women empowerment can be seen through initiatives like Pune's Friends Puppet Theatre that take up women's issues through puppet shows to reach out to the grassroots. Also, street plays, flash mobs and other folk forms of communication across the country play a key role in communicating women's issues and create awareness among the public.

Women and new media

Although the Internet has opened new vistas offering a plethora of information, its reach in the Indian context is still limited to the urban areas. Interactivity and its inherent characteristic of allowing an individual to navigate through available information according to one's own perceptions, makes the Net an effective communication tool. Perhaps its impact can be judged only when the entire nation has access to broadband Internet connection.

However, Blogging and Tweeting have ushered a new trend in new media communication, particularly for educated urban Indian women who are using this medium to start a discussion or debate on any topic. For instance, a 17-year old blogger was moved by the response she received from fellow bloggers across the globe when she posted a blog on female foeticide in India. Most bloggers admit that when they start interacting with people from diverse backgrounds and countries with diverse opinions via their blogs, they suddenly feel a part of the global community where they can make a difference with what they have to say.

What makes new media and blogging in particular more challenging is the unfettered flow of information and opinions which can promote women empowerment. But, the flip side to it is counter blogging, which can be negative, nasty and egoistic comments resulting in an unwarranted war of words, sometimes probably negating the very purpose of the debate.

Women Empowerment in India

The resurgence of women's issues resulted in U.N. declaration of 1975 as women's year and the period of 1975-1985 as women's decade due to the international recognition of the problems faced by women's all over the world. The appointment of the national committee on the status of women in India in 1972 and the publication of the report highlighted that despite constitutional guarantees the roles, rights and participation of women in all sphere of life were limited. In spite of

constitutional and legal safeguards, the women in India continue to suffer, due to lack of awareness of their rights, illiteracy and oppressive practices and customs. A steep decline is evident in the male- female ratio in India over the last century. It declined from 972 females for every 1000 males in 1901 to 927 per thousand in 1991 and 921:1000 (921 females for 1000 males) according to the census of 2001. The northern states in India show even poorer ratios than the national average. From cradle to grave there is a systematic discrimination against women. Nutrition, health care, education are all withheld or provided grudgingly to daughters. Son preference is expressed in deep rooted cultural mores, blessings and rituals at a marriage, foods prescribed for pregnant women, condolences at the birth of a girl child.

According to Cambridge English Dictionary 'empowerment' means 'to authorize'. In the context of the people, they have to be authorized to have control over their own lives. When applied in the context of development of the particular segment of population, the women have to be 'empowered' to have control over their own lives to better their socio- economic and political conditions. Thus, women empowerment can be interpreted as totality of empowerment including political, social, cultural, and other dimension of human life as also the physical, moral and intellectual. Empowerment of women unlocks the door for modernization of any society. Participation and control over resources of power are critical indicators in the process of development. Women especially in rural areas possess the least proportion of these resources and are therefore dependent. Thus, the question remains that who will empower them and how to empower them. Ideally speaking no one empowers any one and the best way is 'self empowerment '. However, this segment of population is handicapped both structurally and culturally to empower themselves without any outside help and affirmative action by the state and others. At the same time, it's also true that as long as they don't make any effort at self-empowerment, it would be long and difficult task and process for the outsiders to empower them. Instead of remaining passive beneficiaries, they must have to become active partners.

After independence, Government of India took several initiatives, programmes and policies, apart from constitutional and legal safeguards for the empowerment of women in the country.

Constitutional provisions in India

The Indian constitution grants equality to women and also empowers the state to adopt measures of positive discrimination in favour of women to neutralize the cumulative socio-economic, educational and political disadvantages faced by them. The principle of gender equality is enshrined in the Preamble, Fundamental Rights, Fundamental Duties and Directive Principles of the Indian constitution. Article 15 of the Indian constitution forbids discrimination on grounds of caste, religion, sex, race and place of birth, whereas Article 16 ensures equal opportunities of employment. Some of the provisions of Indian constitution safeguarding the women rights include: Equality before law for women (Article 14); State not to discriminate against any citizen on grounds of religion, race, caste, sex , place of birth or any of them (Article 15 (I)); State to make special provision in favor of women and children (Article 15 (3)); Equality of opportunity for all citizens in matters relating to employment or appointment to any office under the State (Article 16); State to direct its policy towards securing for men and women equally, the right to an adequate means of livelihood (Article 39(a)); Equal pay for equal work for both men and women (Article 39(d)); To promote justice, on a basis of equal opportunity and to provide free legal aid by suitable legislation or scheme or in any other way to ensure that opportunities for securing justice are not denied to any citizen by reason of economic or other disabilities (Article 39 A); State to make provision for securing just and humane conditions of work and for maternity relief (Article 42); State to promote

with special care the educational and economic interests of the weaker sections of the people and to protect them from social injustice and all forms of exploitation (Article 46); State to raise the level of nutrition and the standard of living of its people and the improvement of public health (Article 47); T o promote harmony and the spirit of common brotherhood amongst all the people of India and to renounce practices derogatory to the dignity of women (Article 51(A) (e)); Not less than one-third (including the number of seats reserved for women belonging to the Scheduled Castes and the Scheduled Tribes) of the total number of seats to be filled by direct election in every Panchayat to be reserved for women and such seats to be allotted by rotation to different constituencies in a Panchayat (Article 243 D(3)); and n ot less than one-third (including the number of seats reserved for women belonging to the Scheduled Castes and the Scheduled Tribes) of the total number of seats to be filled by direct election in every Municipality to be reserved for women and such seats to be allotted by rotation to different constituencies in a Municipality (Article 243 T 3) etc.

Legislative provisions in India

The government of India has enacted several women-specific legislations to uphold the constitutional mandate and to protect women against social discrimination, violence and atrocities and also to prevent social evils like child marriages, dowry, rape, practice of sati etc. The 'crime against women' under various legislations of government of India could be broadly classified within two categories: First, t he crimes identified under the Indian Penal Code (IPC) which includes Rape (Sec. 376 IPC); Kidnapping & Abduction for different purposes (Sec. 363-373); Homicide for dowry, dowry deaths or their attempts (Sec.302/304-B IPC); Torture, both mental and physical (Sec. 498-A IPC); Molestation (Sec. 354 IPC); Sexual harassment (Sec. 509 IPC) and importation of girls (up to 21 years of age). Secondly, t he crimes identified under the Special Laws (SLL) which are though not gender specific, but some do have special provisions to safeguard women and their interests. It includes The Employees State Insurance Act, 1948; The Plantation Labor Act, 1951; The Family Courts Act, 1954; The Special Marriage Act, 1954; The Hindu Marriage Act, 1955; The Hindu Succession Act, 1956; Immoral Traffic (Prevention) Act, 1956; The Maternity Benefit Act, 1961 (Amended in 1995); Dowry Prohibition Act, 1961; The Medical Termination of Pregnancy Act, 1971; The Contract Labor (Regulation and Abolition) Act, 1976; The Equal Remuneration Act, 1976; The Child Marriage Restraint (Amendment) Act, 1979; The Criminal Law (Amendment) Act, 1983; The Factories (Amendment) Act, 1986; Indecent Representation of Women (Prohibition) Act, 1986; Commission of Sati (Prevention) Act, 1987; and The Marriage (Amendment) Act, 2001 etc.

The constitutional and legislative provisions in India not only grants equality and protection to women, but also empower the state to adopt measures of positive discrimination in favour of women. In India, within the framework of a democratic polity, laws and development policies, programs have been aimed at women's advancement in different spheres of life. From Fifth Five Year Plan (1974-78) onwards, there has been a marked shift in the approach to women's issues in India, from welfare to development of women. India has also ratified various international conventions and human rights instruments committed to secure equal rights of women. Important among them is the ratification of the Convention on Elimination of All Forms of Discrimination against Women (CEDAW) in 1993; The Mexico Plan of Action (1975); the Nairobi Forward Looking Strategies (1985); the Beijing Declaration as well as the Platform for Action (1995) and the outcome document adopted by the UNGA session on Gender Equality and Development & Peace for the 21st century titled 'Further actions and initiatives to implement the Beijing Declaration and the Platform for Action ' have been endorsed by India for appropriate follow up.

Government Policy in India

The Government of India had ushered in the new millennium by declaring the year 2001 as 'Women's Empowerment Year' to focus on a vision 'where women are equal partners like men'. The objective of government policy in India has been to bring about development, advancement and empowerment of women in the country through active participation of all stakeholders. The government has attempted to create an environment through positive political, economic and social policies for complete development of women. Government policy has been to promote women's participation in political, social and economic life of the nation and identical access to health care, quality education, career and vocational guidance, employment, equal remuneration, occupational health and safety, social security and public office etc. The objective has been also to **s**trengthen legal system aimed at elimination of all forms of discrimination against women and changing the societal attitudes and community practices by active participation and involvement of both men and women.

Five Year Plans

In the first five year plan, the issue to provide equal status to women in India was focused. In fact the first four five year plans were focused on organizing various welfare activities for women's with priority to women's education. The fifth and sixth plans witnessed a shift in approach from welfare to entire development of women in India. The seventh plan laid stress on efforts to identify and promote beneficiary oriented programmes with the intention of extending direct benefits to women in India. The eighth plan made a significant shift from development to women's empowerment. It recommended 30 percent reservation for women at all levels of government. The Ninth plan ensured that a minimum of 30 percent of benefits or funds flow to women from all ministries and departments of the government. As the result, some positive indicators of women's development in India can be seen in the female literacy rate, which rose from 8 percent in 1947 to 54 percent in the 2001 census. In the same way life expectancy rate rose from 40.6 years in 1861-1971 to 58.1 years during 1981-1991 and to 64.9 years in 2001. The total fertility rate has also come down from 5.97 in 1951-1961 to 3.3 in 1997 and to 2.97 in 2001, signaling a comparatively greater acceptance of family planning and late marriage norms. Women presence in parliament has also increased from 4 percent in 1952 to 8.9 percent in 2001. At the village and district levels, nearly one million women are heads and members of the local self-government institutions.

There is no doubt about the fact that development of women has always been the central focus of planning since Independence. However, a clear vision is needed to remove the obstacles to the path of women's emancipation both from the government and women themselves. Efforts should be directed towards all round development of each and every section of Indian women by giving them their due share.

Education

The Government policy has been to ensure equal access to education for women and girls. Special measures were taken by the government to eliminate discrimination, universalize education, eradicate illiteracy, create a gender-sensitive educational system, increase enrolment and retention rates of girls and improve the quality of education to facilitate life-long learning as well as development of occupational, vocational and technical skills of women in India. Reducing the gender gap in secondary and higher education and gender sensitive curriculum is the focus area of government

Health

Women must have access to comprehensive, affordable and quality health care. A holistic approach to women's health which includes both nutrition and health services with special attention to the needs of women and the girl at all stages of the life cycle is another priority of the government. The reduction of infant mortality and maternal mortality, which are sensitive indicators of human development, is a major concern. The government policy reiterates the national demographic goals for Infant Mortality Rate (IMR), Maternal Mortality Rate (MMR) set out in the National Population Policy 2000. Measures have been taken by the government to enable women to exercise informed choices regarding their reproductive rights, vulnerability to sexual and health problems together with endemic, infectious and communicable diseases such as malaria, TB and water borne diseases as well as hypertension and cardio-pulmonary diseases. Government is also focused on to tackle the social, developmental and health consequences of HIV/AIDS and other sexually transmitted diseases with a gender perspective. Spread of education, compulsory registration of marriage and special programs like BSY and delaying the age of marriage so that by 2010 child marriages should be eliminated are other focus area of the government. In view of the high risk of malnutrition and disease that women face at all the three critical stages of life cycle viz., infancy and childhood, adolescent and reproductive phase, government is focused on meeting the nutritional needs of women and widespread use of nutrition education to address the issues of intra-household imbalances in nutrition and the special needs of pregnant and lactating women.

Economic

Women comprise the majority of the population below the poverty line in India and given the harsh realities of intra-household and social discrimination, macroeconomic policies and poverty eradication programs is the focus area of the government to address the needs and problems of such women. Government intends to implement the programmes which are women oriented with mobilization of poor women and convergence of services, by offering them a range of economic and social options, along with necessary support measures to enhance their capabilities. In order to enhance women's access to credit for consumption and production, the government has proposed the establishment of new and strengthening of existing micro-credit mechanisms and micro-finance institution so that the outreach of credit is enhanced. Other supportive measures include the adequate flow of credit through extant financial institutions and banks, so that all women below poverty line have easy access to credit and to include **w** omen's perspectives in designing and implementing macro-economic and social policies by institutionalizing their participation in such processes. Government also intends to recognize their contribution to socio-economic development as producers and workers in the formal and informal sectors (including home based workers) and initiate appropriate policies related to employment and working conditions.

Legal System

Government intends to make legal and judicial system more responsive and gender sensitive to women's needs, especially in cases of domestic violence and personal assault. It intends to enact new laws and review the existing one to ensure that justice is quick and the punishment meted out to the culprits is commensurate with the severity of the offence. The government policy aims to encourage changes in personal laws such as those related to marriage, divorce, maintenance and guardianship with the full participation of all stakeholders including community and religious leaders so as to eliminate discrimination against women. The evolution of property

rights in a patriarchal system has contributed to the subordinate status of women. The government policy aims to encourage changes in laws relating to ownership of property and inheritance by evolving consensus in order to make them gender just.

Institutional Mechanism

Government of India intends to strengthen the institutional mechanisms which exist at the Central and State levels, through provision of adequate resources, training and advocacy skills to effectively influence macro-policies, legislation, programmes etc. to achieve the empowerment of women in India. Government initiative includes the formation of the National and State Councils to oversee the operationalization of the policy on a regular basis. The National Council to be headed by the Prime Minister and the State Councils by the Chief Ministers with broad in composition having representatives from the concerned Departments/Ministries, National and State Commissions for Women, Social Welfare Boards, representatives of Non-Government Organizations, Women's Organizations, Corporate Sector, Trade Unions, financing institutions, academics, experts and social activists etc **.** the government also intends to establish National and State Resource Centers on women with mandates for collection and dissemination of information, undertaking research work, conducting surveys, implementing training and awareness generation programs, etc with link up with Women's Studies Centers and other research and academic institutions through suitable information networking systems. The government proposal also includes strengthening of institutions at the grass-roots and district level. Government intends to organize and strengthen women's into Self-Help Groups (SHGs) at the Anganwadi/Village/Town level through its programmes and help them to institutionalize themselves into registered societies and to federate at the Panchyat/Municipal level. These societies will bring about synergistic implementation of all the social and economic development programs by drawing resources made available through Government and Non-Government channels, including banks and financial institutions and by establishing a close Interface with the Panchayats/ Municipalities.

Indian government special initiatives for women

Special initiatives were taken by government of India for building confidence and self dependency across Indian women. Some of them include: (i) National Commission for Women was set-up as a statutory body in January 1992 with specific mandate to study and monitor all matters related to constitutional and legal safeguards provided for women, review the existing legislation to suggest amendments wherever necessary, etc.

(ii) Reservation for Women in Panchayats & Municipalities (Local Self Government): T he 73rd Constitutional Amendment Act was passed in 1992 to ensure one-third of the total seats for women in all elected offices in local bodies whether in rural areas or urban areas.

(iii) The National Plan of Action for the Girl Child (1991-2000) to ensure survival, protection and development of the girl child with the ultimate objective of building up a better future for the girl child.

(iv) National Policy for the Empowerment of Women (2001) to bring advancement, development and empowerment of women in all spheres of life through creation of a more responsive judicial and legal system sensitive to women and mainstreaming a gender perspective in the development process. The strengthening and formation of relevant institutional mechanisms

and implementation of international obligations/ commitments and co-operation at the international, regional and sub-regional level was another commitment.

(v) The Protection of Women from Domestic Violence Act, 2005: It provides for more effective protection of the rights of women guaranteed under the constitution who are victims of violence of any kind occurring within the family and for matters connected herewith or incidental thereto. It provides for immediate and emergent relief to women in situations of violence of any kind in the home.

(vi) Ministry of Women and Child Development (MWCD) was created in January 2006 and is the nodal Ministry of the government of India for the advancement of women and children.

(vii) Implemented ESCAP Project on Improvement of Statistics on Gender Issues during 1994-96 by organizing the first National Workshop on Improvement of Statistics on Gender Issues in 1994 followed by Second National Workshop in 1995, at New Delhi. These workshops laid the foundation of identifying various relevant issues including data requirement, data gaps in the field of gender statistics and indicators on gender issues. Started bringing out the regular Annual publication "Women and Men in India" since 1995.

(viii) National Plan of Action (NPA) was prepared in 1998 for Improvement of Statistics on Gender to bridge the data gaps. In a meeting held at Rome in December 2007 in wake of Global Gender Forum, it was decided by IAEG that India would chair an Advisory Committee for capacity development in Gender Statistics.

In spite of all these provisions, there is growing indecent representation of women or references to women publications, particularly in advertisements which have the effect of denigrating women and are derogatory to women. Though there may be no specific intentions of these advertisements, publications, etc to have an effect of depraving or corrupting persons. Therefore the Indecent Representation of Women (Prohibition) Act 1986 was legislated to effectively prohibit indecent representation of women through any publication, media or advertisement. The object of this Act is to prevent depiction of the figure, form of body of women in any indecent form which is likely to deprave, corrupt, and injure the public morality or morals.

The Indecent Representation of Women (Prohibition) Act, 1986 provides for the regulation of representation of women in the media. It prohibits indecent representation of women through advertisements, books, writings, paintings, figures or in any other manner. Section 4 prohibits the production, sale, hire, distribution, circulation, sending by post any books, pamphlets, slide, film, writing, drawing, painting etc., which contain indecent representation of women in any form. Yet advertisements showing women in an indecent way are aired day in and day out and hardly any action is taken. The National Commission of Women (NCW) has suggested modifications in the Act and elaborates upon ways to strengthen it and make it workable so that the objectives can be achieved. (Mamata Raw 2012).

Women Issues in India: Current Perspective

Women's are the wealth of India and they have contributed in almost every field and made country feel proud at every occasion. They are in front, leading the country, making mile stones and source of inspiration for many. In politics, President Pratibha Patil, Lok Sabha Speaker Meira Kumar, UPA Chairperson Sonia Gandhi, Chief Minister of UP Mayawati and Delhi Sheila Dixit, bureaucracy, Nirupama Roy, in socio-cultural field, Medha Patekar, Arundhati Roy, Shobna Narayanan, Lata Mangeskar, Anjolie Ela Menon, Rekha, Meera Nayar and many others, in sports,

Sania Mirja, Saina Nehwal are some of the names at the top. Women's are also playing important role in national growth and economic development through corporate houses. They are not only working at grass root level but participating in decision making. Jyoti Naik, President of Lijjat Papad, Kiran Mazumdar, Chairman and Managing Director of Biocon, Naina Lal Kidwai, Deputy CEO of HSBC, Ranjana Kumar, Chairman of NABARD, Ritu Kumar, CEO of Escolife, Priya Paul, Chairman of Apeejay Park Hotels, Indira Nooyi, Chairperson & CEO of Pepsico, Roshani Nadar, CEO of HCL are some of the pioneers in their respective field. At present women's are contributing and participating in every sphere, politics, business, education, science and technology, media, sports, art and culture etc.

However this is the one face of coin and on the other side of coin is the hard truth of the Indian society. There is systematic discrimination and neglect from early childhood of women's in India, which could be in terms of inadequate nutrition, denial or limited access to education, health and property rights, child labour and domestic violence. The fear of sexual violence has been a powerful factor in restricting women's behavior and sense of freedom. The struggle against violence is actually the struggle against the unequal distribution of power both physical and economic between the sexes. It is important to address the root cause for the subordinate status of women in the Indian society. Hillary Clinton, US secretary of State, addressing the Delhi University students on 20 July 2009 said that "women's roles and rights are as important as any issue we can list. Women are the key of economic growth. It's been established through research". Men should perceive women not as subservient being but as empowered individuals who are equal partners. The issues need to be seen in the context of a patriarchal social framework and a value system based on 'son preference', such as the son being responsible for the carrying forward of the family name, support in old age and for performing the last rites. Further, the practice of dowry and the tag of 'Parayadhan' translate into daughters being considered an economic liability. Women's are not only entitled for survival but also to a life with dignity, grace and equal opportunities so that they can grow to their full potential. There is an urgent need to pay attention to the issues that concern this section of population. The focus should be on poverty reduction, gender justice, health, nutrition, sustained awareness of rights and redressal, eradication of social evils etc.

Political Issues

Women's equality in power sharing and active participation in decision making, including decision making in political process at all levels will ensure the achievement of the goal of women empowerment. Government of India through 73rd and 74th Constitutional Amendment Acts reserved the one-third of seats in all local elected bodies for women as a sign of political empowerment. Over a million women have actively entered political life in India through the Panchayati Raj institutions. There are many elected women representatives at the village council level. The percentage of women in various levels of political activities in India have risen considerably, however women are still under-represented in governance and decision-making process. Their power is restricted, as it the men who wield all the authority. Their decisions are often over-ruled by the government machinery. It is crucial to train and give real power to these women leaders so that they can catalyst change in their villages regarding women. In recent years there have been explicit moves to increase women's political participation at top level. However, the Women's reservation bill is a sad story as it is repeatedly being scuttled in the parliament. All this shows that the process of gender equality and women's empowerment still has a long way to go.

Economic Issues

Women professionals in India are facing a range of problems. Women have extensive workload with dual responsibility of profession and household and they have to balance household demands with those of their profession. Development policies and programs of the country tend not to view women as integral to the economic development process. This is reflected in the higher investments in women's reproductive rather than their productive roles, mainly in population programs.

Women are engage in economically productive work and earn incomes though their earnings are generally low. Most of the women work in agricultural sector either as workers, in household farms or as wageworkers. It is precisely livelihood in agriculture that has tended to become more volatile and insecure in recent years and women cultivators have therefore been negatively affected. The government's policies for alleviating poverty have failed to produce any desirable results, as women do not receive appropriate wages for their labour. There is also significant amount of unpaid or non-marketed labour within the household. The increase in gender disparity in wages in the urban areas is also quite marked as it results from the employment of women in different and lower paying activities. They are exploited at various levels. They should be provided with proper wages and work at par with men so that their status can be elevated in society. There is urgent need to improve women's economic status because they are fundamental to the process of economic development of the country.

Social and Cultural Issues

The socio-cultural attributes in society have left a deep mark on women empowerment in India. Parents depend on sons for support in old age and looked to them as potential builders of family prestige and prosperity whereas daughters are considered to destine for others. Women's in India need and expect equal access to education, health, nutrition, employment and productive resources. In fact they are fighting for their rights to decide their own path for development.

Education

The female literacy rate in India is though gradually rising, it's lower than the male. According to the National Survey data (1997), only the states of Kerala and Mizoram have approached universal female literacy rates. The gender gap in education is far greater in northern states of India. Although in states where enrolment rates for girls are higher, many girls drop out of school after a few years of education. Factors such as inhibition on education being imparted by male teachers to girls once they reach puberty, is responsible for drop out. Consequences are that early marriage and child birth pronounced in families of lower socio-economic status.

Health and Nutrition

The socio-cultural practice of women eating last in the family has eminent effect on her health especially if it is a household in low economic status. Most direct effects of poor health and nutrition among women in Indian society are high mortality rates among young children and women of child bearing age. A women health and nutrition status influence her newborn's birth weight and chance of survival. Post neo-natal death is generally caused by infectious diseases. The incidence and severity of most of this disease are affected by controllable factors such as immunization, health care and nutrition. Due to gender biased, these factors are not controlled equally for male and female children. Maternal mortality in India estimated at 437 maternal deaths

per 100,000 live births, result primarily from infection haemorrhage, obstructed labour, abortion and anaemia.

Crimes against Women

Crimes against women are of various natures. It include crimes involving sexual exploitation for economic gains like prostitution & trafficking, adultery, abduction, rape, wrongful confinement, and murder etc on the one hand and crimes related to women's property like dishonest misappropriation, criminal breach of trust, domestic violence, dowry extortion and outraging the modesty of women etc on the other. These crimes are not only injurious and immoral for the women but for the society as a whole.

Violence against women

Violence against women has been clearly defined as a form of discrimination in numerous documents. The World Human Rights Conference in Vienna, first recognised gender- based violence as a human rights violation in 1993. In the same year, *United Nations* declaration, 1993, defined *violence against women* as "any act of gender-based violence that results in, or is likely to result in, physical, sexual or psychological harm or suffering to a woman, including threats of such acts, coercion or arbitrary deprivations of liberty, whether occurring in public or private life". (Cited by Gomez, 1996)

Radhika Coomaraswamy identifies different kinds of violence against women, in the United Nation's special report, 1995, on *Violence Against Women* ;

a) Physical, sexual and psychological violence occurring in the family, including battering, sexual abuse of female children in the household, dowry related violence, marital rape, female genital mutilation and other traditional practices harmful to women, non spousal violence and violence related to exploitation.

b) Physical sexual and psychological violence occurring within the general community, including rape, sexual abuse, sexual harassment and intimidation at work, in educational institutions and elsewhere, trafficking in women and forced prostitution.

c) Physical, sexual and psychological violence perpetrated or condoned by the state, wherever it occurs. This definition added 'violence perpetrated or condoned by the State', to the definition by United Nations in 1993.

Coomaraswamy (1992) points out that women are vulnerable to various forms of violent treatment for several reasons, all based on gender.

1) Because of being female, a woman is subject to rape, female circumcision/genital mutilation, female infanticide and sex related crimes. This reason relates to society's construction of female sexuality and its role in social hierarchy.

2) Because of her relationship to a man, a woman is vulnerable to domestic violence, dowry murder, *sati.* This reason relates to society's concept of a woman as a property and dependent of the male protector, father, husband, son, etc.

3) Because of the social group to which she belongs, in times of war, riots. Or ethnic, caste, or class violence, a woman may be raped and brutalised as a means of humiliating the community to which she belongs. This also relates to male perception of female sexuality and women as the property of men.

Combining these types of abuse with the concept of hierarchical gender relations, a useful way to view gender violence is by identifying where the violence towards women occurs. Essentially, violence happens in three contexts - the family, the community and the state and at

each point key social institutions fulfil critical and interactive functions in defining legitimating and maintaining the violence.

1) The family socialises its members to accept hierarchical relations expressed in unequal division of labour between the sexes and power over the allocation of resources.

2) The community (i.e., social , economic, religious, and cultural institutions) provides the mechanisms for perpetuating male control over women's sexuality, mobility and labour.

3) The state legitimises the proprietary rights of men over women, providing a legal basis to the family and the community to perpetuate these relations. The state does this through the enactment of discriminatory application of the law.

Margaret Schuler has divided gender violence into four major categories;

1) Overt physical abuse (battering sexual assault, at home and in the work place)

2) Psychological abuse (confinement, forced marriage)

3) Deprivation of resources for physical and psychological well being (health/nutrition, education, means of livelihood)

4) Commodification of women (trafficking, prostitution)

Adriana Gomez has also talked about two basic forms of violence, that is; structural and direct. Structural violence arises from the dominant political, economic and social systems, in so far as they block access to the means of survival for large number of people; for example, economic models based on the super-exploitation of thousands for the benefit of a few, extreme poverty in opposition to ostentatious wealth, and repression and discrimination against those who diverge from given norms.

Structural violence according to her is the basis of direct violence, because it influences the socialisation which causes individuals to accept or inflict suffering, according to the social function they fulfil. Open or direct violence is exercised through aggression, arms or physical force. (Larrain and Rodrigue, 1993)

The Fourth Conference of Women, 1995 has defined violence against women as a physical act of aggression of one individual or group against another or others. *Violence against women* is any act of gender-based violence which result in, physical, sexual or arbitrary deprivation of liberty in public or private life and violation of human rights of women in violation of human rights of women in situations of armed conflicts.(Conference on Women, Beijing, 1995 Country Report).

Violence is an act carried out with the intention or perceived intention of physically hurting another person (Gelles and Straus, 1979).

Gender Violence is defined as "any act involving use of force or coercion with an intent of perpetuating promoting hierarchical gender relations". (APWLD, 1990, Schuler, 1992)

Adding gender dimension to that definition amplifies it to include violent acts perpetrated on women because they are women. With this addition, the definition is no longer simple or obvious. Understanding the phenomenon of gender violence requires an analysis of the patterns of violence directed towards women and the underlying mechanisms that permit the emergence and perpetuation of these patterns.

Liz Kelly (1998), Surviving Sexual Polity has defined violence as "any physical, visual, verbal or sexual act that is experienced by the woman or girl at the time or later as a threat, invasion or assault, that has the effect of hurting her or degrading her and/or takes away her ability to contest an intimate contact".

In Indian society, it is widely accepted that within the family the man is the master and women is the inferior and subordinate partner and societal pressure force women to maintain this status quo. Wife beating is the most prevalent form of violence against women in the Indian society and it is viewed as a general problem of domestic discord. According to National Crime Report Bureau, 1.5 lakh crimes against women are registered annually out of which nearly 50,000 are related to domestic violence in their homes.

Female Infanticide and Feticide

This is playing a significant role in lop sided sex ratio in India. Poor families in certain regions of the country sometimes resort to killing baby girls at birth, to avoid an unwanted burden on family resources. Sex selective abortion has also been common in the country. It's dangerous to abort the foetus after 18 weeks of pregnancy and quiet harmful for mother too at such a late stage. Various techniques of sex determination and sex pre-selection have been discovered during the last fifteen years, such as sonography, fetoscopy, needling, chorion biopsy and the most popular amniocentesis have increasingly become household names in India. Amniocentesis technique is used in the small town and also in some cities of states like Gujrat, Maharashtra, Uttar Pradesh, Bihar, Madhya Pradesh, Punjab, Tamilnadu, Rajasthan etc. Mumbai and Delhi are also the major center for sex determination and sex pre-selection tests

.Dowry

Dowry remains the major reason for discrimination and injustice towards women in India. When dowry demands are not met, it precipitates into serious consequence for the young bride. The Dowry Prohibition Act of 1961 marks the first attempt by the Government of India to recognize dowry as a social evil and to curb its practice. The act was modified with the Dowry Prohibition Amendment Act of 1984, which has again been modified with Dowry Prohibition Bill 1986. Women's organization have played key role in this process of change. The 1961 Act define dowry and makes the practice of dowry- giving and taking, a punishable offence. However, i t is ridiculous to see that even among highly educated sections, the articles of dowry are proudly exhibited in the marriage as a status symbol. The dowry abuse is increasing in India. The most severe is 'bride burning', the burning of women whose dowries were not considered sufficient by their husband or in-laws. Most of these incidents are reported as accidental burns in the kitchen or are disguised as suicide. Dowry is one of those social evils that no educated woman will own up with pride, still many are adhering to it. Practices of dowry tend to subordinate women in the society. Women should be more economically empowered and should be educated properly regarding the various legal provisions such as Section 498A CrPC, protection from domestic violence etc., only then this evil menace could possibly be eradicated from Indian social system.

Rape

Rape is the fastest growing crime in India compared to murder, robbery and kidnapping. According to the report of National Crime Records Bureau (NCRB), every 60 minutes, two women are raped in this country. A total of 20,737 cases of rape were reported in the year 2007, registering a 7.2 percent increase over the previous year. According to NCRB, 19,348 rape cases were reported in the year 2006. The biggest number of such crimes was reported from Madhya Pradesh. One-quarter of the victims were minors, 75 percent of culprits were known to victims and 10 percent were relatives. These figures are underestimations as many incidents go unreported due to fear of stigma and non awareness of rights. There are also the countless cases of eve teasing, indecent gazes, pinching, brushes and comments that infringe upon the rights of women, especially in overcrowded spaces and public transport buses and trains. Major cities in the country have become the hub of misdemeanour because of technological reach. Mobile, cyber café, car, beach, mall, restaurant, hotel have become popular apparatus for the criminals. What precipitates the problem is that the incidents of rape, sexual molestation and harassment have been followed by dubious

attempts by perpetrators and law enforcers to arm-twist the course of justice. There is a need for a drastic change in attitudes and mindsets towards such incidents. Poor investigations, harsh cross examination of victims, senseless adjournment of cases and faulty assessment of evidence and furnishing of evidence by victims in presence of culprits are areas that need reforms.

In the year 2007 for which the latest data is available from the National Crime Records Bureau, seven of the ten fastest rising crimes in India were those against women. While the incidence of all cognizable crimes under the Indian Penal code rose by under 5 percent over the previous year, dowry deaths registered an increase of 15 percent, cruelty by husband and relatives 14 percent, kidnapping and abduction of females 13 percent, importation of girls 12 percent and sexual harassment by 11 percent. Rape and molestation cases grew by a more modest 6-7 percent, but even that was higher than the average rate. Despite the increasing cases of crime against women, they would appear to be not in priority list of the investigating agencies. The NCRB data shows that investigation starts within the same year in only one out of 10 sexual harassment cases and only two out of ten cases of molestation or cruelty by husband and relatives. Similarly, only three out of ten rapes and dowry deaths are investigated within the same year. A comparative study of the data available about these crimes suggest that there were rise in the crimes against women in 2008 compared to the previous year. While a total of 1,012 cases were registered for kidnap of women in 2007, the number went up to 1,494 in 2008. Similarly, the number of incidents related to dowry death rose from 1,226 in 2007 to 1,233 in 2008. Similarly, cases of atrocities perpetrated for dowry rose to 2,230 in 2008 from 1,493 in 2007. Cases related to eve-teasing and molestation shot up to 188 during 2008, 20 more than those recorded in the previous year. Also incidents related to kidnapping of women increased from 1,012 in 2007 to 1,494 in 2008. The fact remains that there is sufficient information about crime against women that calls for appropriate remedial actions.

Media Coverage of Women Issues

Media implicitly rank the importance of the public issues according to the amount of press coverage devoted to an issue. Lack of appropriate media coverage of an issue leads to the implication that the topic is not important. Public awareness is significantly lessened if a story is not reported. Violence against women is a global pandemic and the consequences of media ignorance and bias are horrific. In India, the amount of coverage in mainstream media is inversely proportional to the actual prevalence of the kinds of violence and gives a false impression. Most disturbing is the disproportionate coverage of sensationalized violence. Invariably, rape stories get far more coverage than domestic violence stories. In all likelihood, this is because rape stories usually focus on one individual woman. If she is attractive, she is a very marketable victim. It is no accident that rape is a frequent theme in pornography. The sexual brutalization of women is a highly marketable business and a profitable story for the news media. For example the Indian media, be it press or the broadcasters, choose to highlight the rape and murder of a 14-year-old girl rather than to report about the success of women in recent panchayat elections in the country. The media have no time to show the actual problems of real India at the grass root level, its culture, traditions, faiths and beliefs and so on. They usually show only those handpicked stories which sells and increase their TRPs. (Juluri, V. (2013, March 19).

Even the amount of media coverage women get overall is much less than men do. Men are provided with a larger number of opportunities to present their viewpoints and shown in diverse roles in all areas like administration, law, business, science and technology. While representation of women varies from negligible to total exclusions and are interviewed and talked about only in

certain accepted professions such as educationists or doctors. If they are interviewed for achieving success in a 'male' profession, then it often goes to great pains to point out her 'feminist' (ibid).

Indian media needs to be sensitized to gender issues. It should play proactive role in inculcating gender sensitivity in the country and should ensure that women are not depicted in poor light. It should devote special slots for crimes against women in India and discuss all proactive aspects. The challenge before media is to move beyond clubbing what happens to women with routine crime briefs, on the one hand, and sensational stories, on the other. Media should take a proactive role in creating public awareness on the rights and privileges of women. Constitutional and legal rights should also be advertised and discussed regularly. The latest rulings and judgments are discussed so that the public are made aware of these rulings. Press Council should be given more teeth so that they could intervene effectively to counteract objectionable publications. There must be mechanisms to sensitize Censor Boards and bring about a working dialogue between members of the Censor Board and citizens groups (Nair, G. 2013, Feb 21).

This is the time to rethink and revisit the country's mass media policy. There are many issues which should be discussed threadbare to have an unbiased and healthy media policy in the country. But before that materializes, the stalwarts of Indian mass media should exercise prudence and restraint, show the truth, unadulterated, undoctored and unbiased news and views, unbiased analysis and non-sensationalization of events or incidences whether big or small (Uberoi, P. (2006).

Press, the fourth estate of democracy, has to maintain a balance between good reporting and accountability. Journalists are expected to maintain a standard of neutrality, objectivity but not sans sensitivity. In an era of paid news, media often become agents of propaganda. With electronic media entering the scene, our living rooms are flooded with 24 hours entertainment and news channels. Nothing escapes the gaze of media. While electronic media is a manifestation of the fact that we are living in the information society, there are some pertinent concerns a viewer needs to raise (Parvin Sultana, 2014).

With regard to news channels, the first concern must be whether print and electronic media is able to manage the required standards that are set for good journalism. How do media report on sensitive issues like sexual violence against women, child sexual abuse? Over a period of time the competition of TRPs (Television Rating Points) paved the way for unnecessary sensitization of news. The line between real news and scripted dramatic serials has become blurred. People became mere stories. While print media tried to maintain the code of conduct, electronic media often overstepped its domain. A number of incidents made one rethink where to draw the line between journalistic ethics and sheer sensationalism. While covering the Aarushi-Hemraj double murder case of 2008, news channels showed lewd animated pictures of the 14 year old girl along with the other victim in indecent postures. This is not an isolated incident. When a tragic incident of a video doing rounds in one of India's premier educational institution took place, media continued to be insensitive. Along with the students involved, media continued harassing the other students by constantly intruding their academic space. Fingers were also pointed at students coming from particular states of the country. The same media was lukewarm towards the institution's struggle for getting their democratic elections back (ibid).

Another shocking incident was a young girl being molested on a busy highway in Guwahati by a number of miscreants in June, 2012 and this was being shown through live telecast by a local private news channel. While a young girl was being pushed and pulled in every direction, the news channel was basking in the glory of being able to provide a live telecast. What happened to the journalist's duty as a concerned human being to intervene and immediately inform the police? Are we pushing notions of a neutral, objective bystander too far? Live telecast of molestation seems like

a precedent to live telecast of more serious crimes. Similar behaviour was witnessed during the December, 2012 gang rape case in Delhi where news channels as well as some newspapers were more obsessed with the identity of the victim and her relationship with her male companion as opposed to the crime (Chaudhuri, A. 2012).

In another recent incident, when a girl was attacked by her class mate in a premiere university, while the entire country expressed shock and concern, a leading Hindi newspaper *Dainik Bhaskar* was more caught up in discovering the nuances of the relationship between the girl and the boy. Instead of initiating a debate on the need to rethink romantic relationships, the paper indulged in character assassination of the girl who was fighting for her life. Compelled by the demand of market, this newspaper seemed untouched by the ongoing debates of how movies like *"Ranjhnaa" (2013)* tend to justify the aggressive behaviour of a jilted lover. Another shameful incident is the kind of reporting that is doing rounds on the recent case of gang rape in Mumbai. In case of criminal assault on women, media is expected to maintain a level of secrecy. This is to save survivors of such assault from further harassment. In this case while some newspapers initially gave out details regarding the woman's workplace, they immediately removed it. But a leading daily like The Times of India sent its reporter to the building where the woman lived to give an exclusive report on the reaction of her neighbours and friends. It also gave details about the way this heinous crime was perpetrated. Other papers like the Hindustan Times, Indian Express, The Hindu only provided details given by the hospital. This is a gross violation of journalistic ethics, and a threat to women who face such crimes.(ibid)

This recurring insensitivity on the part of media raises some pertinent concerns about whether news media is also commercialised and gendered. Even news items are dovetailed for a dominantly male audience. News business is rapidly driven by hard news. Entrusted with the crucial responsibility of keeping people well informed on the kind of atrocities happening around the country, journalists of both print and electronic media need to be extra careful (ibid).

Any talk of the role of media cannot bypass a discussion on movies and TV serials which are an important source of entertainment. With increasing number of cases of violence against women, social scientists, and psychologists tried to understand if there is any relationship between representation of women in media and increasing violence on them. While there may not be any direct causal relationship, people who are exposed to a particular degrading portrayal of women are found to be more acceptable of the violence meted out to them. Most mainstream movies and TV serials portray women in two ways - as meek, docile and vulnerable, in constant need of protection of a male or as cunning and calculative. Family and politics at home seem to be central to these women's existence. Very few TV serials or movies take up issues that a working woman faces in her life. How we see a woman and her relationships on the TV screen is crucial in Indian society. In a conservative social set up, families do not give the space to engage on issues of relationship. If movies lik*"Ranjhnaa" (2013)* romanticize stalking to such an extent that male aggression comes to be justified as true love, women are denied agency even in such an intimate relationship. It is only when popular culture questions these deep rooted biases; women will be able to deal with society on an equal footing as men (Parvin Sultana, 2014).

Government Media Policy

The government in India is striving for removing demeaning, degrading and negative conventional stereotypical images of women and violence against women in media. The government attempt is to involve private sector partners and media networks at all levels to ensure equal access for women in the area of information and communication. The government of India policy is to encourage media to develop codes of conduct, professional guidelines and other self

regulatory mechanisms to remove gender stereotypes and promote balanced portrayals of women and men.

Degradation of women in media

Media, both the traditional and modern, is in no where exception regarding the portrayal of women. Like television, radio, old folk stories, films, and print media perpetuate gendered role portrayals. Many a time print media are guilty of sexism, distortion of image of women, and propagation of gender stereotypes as mothers, housewives, dependent, passive recipient etc. the prominent image in most of the popular print media is that of the self-sacrificing housewife. Women are seldom shown as working women-capable professionals, labourers, farmers in those media.

The portrayal of women in the print media is also quite degrading more often than not depicting her as a commercial commodity. By reinforcing gender stereotypes and constantly glorifying motherhood and subservient wifehood the print make it difficult for women to break out these prescribed roles, norms and behaviour patterns. In spite of the boom in electronic media, high tech information explosion, the traditional print media remain unvanquished. It carries credibility, weight and still moulds the opinion of many. Clearly the media do not provide a balanced picture of women's diverse lives and contributions to society in a changing world.

The daily newspapers rarely put women's news relating to their development. Rather they prefer reporting on rape, atrocities, crime, sexual harassment and abuse of women prominently in their columns. Besides Sunday or Saturday special glossy editions on women's fashion, beauty, leisure and other luxurious news items with erotic photographs are issued from time to time by daily newspapers. If a woman wins a beauty contest, magazines and newspapers in particular give much importance to the news and even take her photographs on front page but if a woman gets Nobel Prize she does not get so much coverage. Even the photos of sport stars are also provided in a manner that depicts their body attraction.[1]

Popular newspapers with large circulations many times flash vulgar and obscene glossy photographs with wide coverage of (three days after) the cruel incident of Laxmi Orang, happned on 24th nov,2007 in Guwahati, may be mentioned here[2]. This bias evident, how sensational are print media too. The less moral or responsible media are the more sensational, the more monetary/profitable, they become. The underlying principle of today's media is inclined towards making more money by creating more sensationalism.

Indian magazines contain primarily and predominantly volumes of advertisements and sexist writings. Vast majority of Indian magazines are known for the portrayal of women as sex objects, consumers and the like. Even women magazines, like Femina, Women's Era, and Eve's Weekly foster traditional patterns of female subordination in modern trappings.

Movies are another particular aspect of audio-visual media which do have an overdose of sex. Sex and violence are the two usual targets for anyone to take on the film industry. Keeping the moral sense in vain, like advertisements, in movies too women are often depicted as sexual objects either for pleasure or for profit. The film industry is likely to be running on the principle that 'the less you concern ethics, the more you profitable'.

Thus, women image has gone through several unjust projections at the hands of the media. Throughout times women have been portrayed in the media as victims, subservient, nurturing, sacrificing and objectified sexualised beings. Images of women as objects and as the recipients of aggressive behaviour do cause a desensitization of violence.

[1] For example, the Dainik Jugasankha (a local daily, Silchar) pictorial depiction of Serena Williams, a popular tennis star, on 29th Jan, 2010.
[2] The Telegraph, Guwahati, dated 27th Nov.2007

It is true indeed that while the functioning and the sustenance of the media depend highly upon marketing agencies or forces, to go against the compulsions created by these forces is tough for media. Because of the control exercised by the market, there is possible extinction of those forms and contents of media which are unable to meet the criterion of market forces even when they are of undoubted relevance towards creation of a better society. And secondly, there is possible expansion of those parts of media which clearly harm the general societal interest.

Thus the interplay of market and media fixes the route for media functioning. This sort of market mechanism is now-a-days being projected as a nearly flawless mechanism not only for establishing an economic equilibrium but even for deciding the social issues.

Globalisation is one of the most relevant factors which have caused changes in both media-inside and the relation between media and market. The process of globalisation enabled to have the larger impact upon people. As the market is becoming worldwide, survival in the new global business market calls for increased competition and in order to face increased competition, the use of technology has been maximised.

As the tentacles of globalisation have trespassed into electronic media, there is an increase in information flows, a technological change with the advent of fibre optic communications, satellites, and increased availability of worldwide web. The technological base of the media is also causing changes in the media-market relation. The new technology based on satellites, computes etc. not only make the storage, processing and transmission of information much easier, but it does so at a much reduced cost. Because of such cost reduction, information management or media are now attracting more attention as a commercial activity, relegating many of its non-commercial dimensions to the background.

The media functioning viewed as economic activities which disseminate information has also undergone radical changes causing a much larger role of the market forces in its affairs. The most fundamental aspect of this change in the media character is that-earlier information was viewed as a source of knowledge , wisdom and enlightenment, but in today's world, besides these, information is a source of 'power'- an institution which has more information about others is in a position to maneuver and manipulate and hence, more powerful. This power implication of information is what lends it a character of a commodity, commanding a price which may or may not reflect its value.

Another important dimension of information as a commodity is that disinformation is also a commodity and media are a vehicle for both. Just as information makes as individual or organisation potentially more powerful, by being innocently fed with disinformation it can become vulnerable. Advertising is a burning example, where persistent disinformation is able to produce a distorted preference pattern among the consumers, serving the interest of the giant producers. Indeed producers today need not produce what the consumers want, but the consumer can be made to want what the producers produce. Such being the power of information and disinformation; it is very natural that the entire media space is under pressure and it thus yields easily to the market forces. Space is allocated to those messages which are paid for, other messages how so ever desirable, are either altogether neglected or are reluctantly given a little space, just to avoid the criticism that media are wholly a commercial activity.

The process of globalisation has severe implications for the regulation of the media as electronic methods of communication proliferate state regulation is becoming increasingly difficult. So in the globalised media anything (violence, pornography) goes to increase coverage and profit. Thus dehumanising or devaluing women through media content has become natural. As Margaret Gallagher has pointed out that 'with the globalisation of markets, economic affairs are becoming more and more detached from social concerns. As multimedia conglomerates markets, public authorities are less and less able to impose/maintain controls to the detriment of the most vulnerable groups in society. With media regulation becoming more and more difficult to enforce,

and with the media increasingly driven by the quest for huge financial profit, the commodification of women in media content is likely to intensify". (Gallagher)

Moreover, the dominant trend of our society is also one of the relevant factors. Our society is grounded on patriarchy, where women are supposed to enjoy the secondary status and bear all types of oppressions. As every society has its own norms and values, the patriarchal society is also having its own standards and it always tries to impose its norms and value to all its disseminations including the media. Media is just a reflection of the existing social structures. The reporters, the journalists, producers, editors and other associates of the media are part and parcel of the society. Media have now become a tool to serve the system itself. The main purpose of the media is to serve the larger society by providing information, education and entertainment, whereas media are capitalising women's distorted images for sustaining its own survival in the competitive world. It sustains the patriarchal values in order to serve a particular section of society.

What is concern is that with the growth of people's awareness about the increasing tendency of commercialization of media, people's reliability on media is going downward. So, media should overcome the situation and follow the ethical guidelines because media can survive in the long run by making compromises with morality, honesty and integrity.

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Indian Women's Fate: Never-Ending Oppressions

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Abstract:
Women—the half of the sky, born as a human but treated differently because of some distinguished "feminine" qualities which are predominantly given the inferior status due to patriarchal culture. Being inferior in almost every field, except in house hold matters, women are judged only as mother, daughter, wife or sister, having the identity always when she makes relationship with a man, neither get equal footing in the family and nor does she get the same status and position in outside—all make women secondary living being in relation to men. It is the story of all the women over the globe. The plights of Indian women, to find out, is not a very easy task because of the complex nature of the social system (caste and class) as well as the various kinds of patriarchy being working as the force behind the women to be inferior, religious matters, rituals, rites and customs based on religion, various personal laws defining the dos and don'ts for women—all have made the whole environment muddled to liberate women.

Keywords: *patriarchy, caste, class, religion and personal laws*

1. Introduction

- → "By a girl, by a young woman or even by an aged one nothing must be done independently, even in her own house" (as quoted in Rambachan A.:2002 p-19)
- → "Women must be honoured and adored by their fathers, brothers, husbands, and brother-in-laws who desire (their own) welfare" (ibid).

Starting with such speech of words, as it seems germane, to record the plights and sufferings of women in a patriarchy, where society cherishes androcentric views and insists the value and significance of women only in relation to men. Indian women, being a meagre part of the global women population, are no way different from their counterpart, in terms of status and position. In spite of their numerical strength in India, women occupy a marginalised position due to various socio-cultural constraints being based on patriarchy, women become victims of dowry deaths, rape, child marriage, forced prostitution, polygamy, female infanticide and other severe crimes which are still not uprooted from Indian society but increasing with the time passing by. Indian women have neither adored as human similar to men nor have the equal footing inside or outside the home but instead, become the toys of the hand of men and manmade everything.

So, Uma Chakravarti says:

- We have been aware that while the subordination of women is a visible feature of most stages of recorded history, and is prevalent in large parts of the world, the extent and form of that subordination has been conditioned by the social, economic and cultural environment in which women have been placed (2003 p-25).

The very diversity in India in terms of geography, the varying cultures, behaviours, food habits, rituals, customs on the basis of geographical diversities, on one hand gives a peculiar position in world culture but there raises some problems too in terms of dividing the interests, aspirations and desires on the other, especially it divides the women in to several groups which restrict them to come united against the age old oppressions being faced by them. In India, there exists various categories and sub-categories among men which are been made on the basis of birth, wealth, geography, religion and so on—all these determine the fate of women in India.

Prehistorically, though there is lack of sufficient evidence, what we have just the tools, pottery and the cave shelters of that period, still many of the scholars stick to the point, from gender point of view, that gender stratification cannot be presumed to have existed in those less stratified societies in this subcontinent. Trying to describe the prehistoric condition of women in this Indian subcontinent, Prof. Uma Chakravarti (2003) has penned down the work of Gerda Lerner thus:

- ....we may deduce that there was no rigid sexual division of labour, and that the role of women in the food economy was equal if not more than that of men. Lerner has argued that the most egalitarian societies are found among hunting-gathering groups and are characterised by interdependency. The relative status of men and women can at the most be characterised as 'separate but equal'(p-40).

Historically, the Rig Vedic[1] society though most of the 19th century Hindu nationalists romanticised this period as congenial to in respects of women's perspective, but there is lack of evidences to prove to be so. According to Kumkum Roy (2002) if one analyses the hymns of rig period it will show the prevalence of strong patriarchal society in that period also. Most of the hymns were written valorising the male heroes while a few were devoted to adore the female deities. Women's sexuality was fully under the control of the patriarchal leadership as warfare was one of the most visible characteristics of that period. The practice of Niyoga[2]also symbolises the women as being the resource of the men's hand.

So, patriarchy and the customs, cultures, stratifications formed on the base of patriarchy are imbibed in such a manner that no one can think of a life without these, especially in India. Stratifications such as caste and class made on the basis of birth and wealth are two giants which providing fuel to the preservation of patriarchy—make women inferior and secondary. Among patriarchy, caste, class and gender—there is a close relationship towards shaping the life of women in India. Where caste is determined by birth, class is determined by wealth.

2. Indian Caste/Class System and Women

To understand the relationship between caste/class and women it is important to recognise that these hierarchies are operative in Indian society: one according to ritual purity with the Brahmana at the top and the untouchables at the bottom, the other according to the political and economic status with the landlords at the top and the landless at the bottom. The caste/class system has shaped the lives of women of all castes, whether high or low, they are linked with each other through the structure of marriage, sexuality and reproduction.

3. Marriage, Sexuality and Reproduction

In India marriage occupies an important role to carry on the caste system on one hand and to control the women's life on the other. Marriages are made so that man may start his own line or vansa. Practically, women of different vansas or lines are transferred to other or husbands' vansas to make alive a permanent vansa i.e. husbands' line. The incoming of wives maintains all rules of purity and pollution of their husbands' vansas. So, women sexuality is strictly guarded and controlled in India. Based on these concepts, Endogamous marriage (the rule enjoining marriage within a specified group) has been given priority in Indian caste system. This marriage system does not contaminate the castes, particularly the upper castes.

- Caste as a system of discrete units within a larger system of production makes endogamy a crucial element of the caste system and this in turn affects gender. The purity of Caste cannot be produced and maintained without endogamy and it is for this reason that endogamy is regarded as a tool for the manifestation and perpetuation of caste and gender subordination. It is endogamy that enables also the expansion of a certain kind of production relation and provides it with flexibility to incorporate other pre-caste communities, maintaining the cultural discreteness of each new community that becomes a part of the caste system.

With marriage there is maintained a sacred custom of "Kanyadaan" (to gift one's daughter to husband) in an Indian Hindu family according to which a father has to gift her daughter to the husband with an adequate bride prise which include money, jewellery, furniture, tv, freeze etc. In other words, it may appear strange for one, but through kanyadaan a father not only gift the daughter, but her qualities, her femaleness, her procreative powers too—all these make a girl leave her own gotra and vansa they born into for entering into another line, which designates them as receptacles and transmitters or carriers of the male line not her fathers.

4. Indian Family System

The social structure in the Vedic period set up predominantly on Joint family system. As it patriarchal in nature tended to keep women subordinate to men giving the special property rights for men which reinforces the male dominance, male centeredness and male identification. Besides, in this particular period women denied the education, right to remarriage, the right to social mobility and so on—women became the birds without wings. The status of Indian women in their family is well stated in the following:

- "Men in our families are like the sun, they have a light of their own, (they own resources, are mobile, have the freedom to take decisions). Women on the other hand are like satellites, without any light of their own. They shine, if and only if, when the sun's light touches them. This is why women have to constantly compete with each other for a bigger share of sunlight, because without this light there is no life" (Poonam: 2008).

5. Strisvabhava and Stridharma

In the name of caste, there are certain constraints and restrictions are imposed on women who cannot go out of these if one does wish so but men set free. Pativrata dharm[3], stridharma, strisvabhava have been delineated by the Dharamashastras[4] written by Manu, the first law giver of Hindus, to tame the women for only in the house, not for outer world. Most of the Hindu religious scriptures delineate women's nature thus:

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[1]Historians have divided the Vedic age into two: The Early Vedic or k g Vedic age which begins from 1500 B.C. and the post-Vedic age which extends from 1000 B.C. to 500 B.C.

[2]It was prevalent in that particular period which was meant for women. According to this a woman can marry her brother–in –lawwhose husband is dead.

[3]The duties of a chaste woman who fulfils the wishes of her husband without questioning.

[4]Law Books of Hinduism.

- "According to Mahabharata women have been sinful from very beginning when the creator first made the five gross elements, and he gave shape to men and women."
- "Satapatha Brahmana held that a woman, a sudra, and a crow are the embodiments of untruth, sin and darkness."

Manu says,

- "In childhood a female must be subject to her family, in youth to her husband, when lord is dead to her sons; a woman must never be independent."
- "Though destitute of virtue, or seeking pleasure (elsewhere), or devoid of good qualities, (yet) a husband must be constantly worshipped as a god by a faithful wife."

In this regard the Ramayana is the most ideologically coherent of normative texts which created role models for men and women. The pativratadharma was shown by the character of Sita where Sita worshipped her Husband Rama as god, pativrata, dutiful, long-suffering, patient, chaste, loving and faithful. With this it was established that the wife like Sita are good and such type of wives are sinless and pure. So, it is rightly said:

- The rules prescribed for "pativrata" prevented her from eating even with her husband. This custom prevails even now in many parts of India. Almost a master-slave relationship began to develop between the husband and the wife. She was in fact trapped in the "Pativrata image" and she continues to be trapped in this miasma (R. Latha: 1980 p-43)

In the same way the dharmashastras also tell us what happens to the errant women who are not capable of sustaining their devotion to their husbands, as Manu dictate, to be beaten by their husbands.

In this way the whole women folk had gone under the control of the males and the patriarchal caste/class system had begun to affect the women's sexuality, social structure, relation between the production and reproduction and other institutions of the society. Regarding this R. Latha writes:

- This gradually destroyed her self-confidence and in turn destroyed her self-concept. The roles began to get stereotyped. She began to suppress her real feelings and it became difficult for her to untangle her true self from the existing social roles. There arose a finn-rooted belief among the majority of women that they were only capable of producing children and managing the household affairs (ibid).

In post vedic period Indian women had been given a symbolised personhood in terms of men with her nature of silence, suppressed feelings, and the occlusion of her sufferings. And gradually she became the property of a man's home which led the way to oppressions for women in forms of sati, rape, battering, dowry deaths, women infanticide, child marriage etc.

Gradually, in the medieval period women's position declined with the coming of Muslim rule. The Islamic custom of Purdah (veiling of women) forced the public world to be separated from the private world, with women confined to the latter. Following its subjugation by the Muslims, and fearing adverse outcomes for its women, a large part of the Hindu India accepted the practice of veiling. Through this privatization, Indian women were forced to trade their mobility for safety. Repeated invasions by the Muslims further pushed the Indian women towards inhuman "traditions" such as child marriage, the dowry system, purdah and sati (the immolation of the widow on the dead husband's pyre). The challenge of Islamic aggression also made Hindu India defensive and introverted causing a desperate return to orthodox Hindu beliefs and practices and further constraining the status of Indian women.

However, in British India several reformers from elite upper caste came forward to reform the inhuman situation of Indian women. But these nineteenth century social reformers were primarily concerned with issues that affected urban, upper caste, middle class women such as purdah, sati, education, age of marriage and widow remarriage. These reformers did not work outside the purview of caste, Brahmanism or Brahamanical Patriarchy. They argued that uplift of women was necessary because women are the mothers of future generations. While women were urged to come out and work for the nation, there was no questioning of the traditional role of mother and wife. In fact, it was stressed that if they were educated they would become better wives and mothers. In other words, these reformers worked to uplift women reconsolidating Brahmanical patriarchy and traditional caste hierarchy.

Regarding the 19th century social reform, Uma Chakravarti commented, although the women's question dominated 19th century social reform in India, only two major critiques of dominant class ideologies on gender in the 19th century. Both these critiques originated in western India and focussed their attention on the structure of Brahmnical Patriarchy which was identified as the locus of gender oppression. One came from Jyotiba Phule, the non-Brahman leader from Maharashtra and the other from Pandita Ramabai. In this context names of Sarala Devi Choudhrani, Savitri Bai Phule, B.R. Ambedkar should be taken for their literary works and activities towards the upliftment of women. Though, these social reformers were not successful in getting widespread support for these reforms. But their efforts established various prerequisite conditions necessary for the development of the Indian women's movement. In modern period Uma Chakravarti, Madhu Kishwar, Kamala Das, Shashi Despande, Arundhati Roy just to name a few, who hold their stepping in the women's world.

After independence Indian Government being paternalistic towards women took some measures but could not meet the aims of empowerment of women changing the prevailing secondary status of women. But despite the constitutional guarantees of equality, the democratic framework, various constitutional provisions, different state legislations if we see the Indian social realities, there is not so much change or improvement in the status of women. The awakening of certain sections of Indian women, the influence of feminist movements in the West—all made Indian women to initiate women's liberation movements in India. All theoretical indicators of equal rights and high social status such as policy declaration, constitutional guarantees and prohibitive protective measures exist only on papers and the life of average Indian women is still governed by customs, habit, prejudices and unwritten code of conduct. Besides, there are personal laws which have made Indian women's life miserable attributing illogical restrictions on women. In these laws there are several discriminatory laws which limit the chances to be equal for women. In "Status of Women in India" Poonam (2008, p-2) describing about personal laws writes:

There are certain features common in all personal laws, including the reformed Hindu personal laws, which perpetuate inequality between women and men:

[1] Under all the personal laws it is the man who is the head of the family in all circumstances (however, now mother's name can also be mentioned in school's admission form).

[2] The line of succession is through the male line.

[3] The woman, normally, has to live wherever the man decides after marriage.

[4] The right to divorce is far more lenient with the man under Christian and Muslim laws but in interpreting the law Hindu women also face the same difficulties.

[5] Women often do not get equal right to property.

Thus, the combination of legal complexities and social realities create the life of average Indian women insecure and miserable—which is never going to be an end without the awakening on the part of both men and women.

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Women's Objectification in Media Contents: through a Feminist Lens

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Abstract:
Objectification of women in Media has been a topic of discussion over the globe from the late 60s. It can roughly be defined as seeing or judging the humans, especially the women folk as objects. This is a central notion of the feminist theory. In that particular period feminist movement in U.S got peak and concentrated on media's representation of women. It was 'The Feminine Mystique' written by Bretty Friedan which for the first time marked the arousing dissatisfaction of the feminists with the media portrayals of women.

Keywords: *Objectification, media, and feminism.*

"The patriarchal construction of the difference between masculinity and femininity is the political difference between freedom and subjection".

Carole Patemen (1988)

1. Introduction

Woman is born to suffer--- Simone De Beauvoir

To start with such vocalizations, it seems, it is very painful for women. So, Simone de Beauvoir once asked herself what is a woman? and answered instantly that "she is nothing but the womb". Through this self-denying words Beauvoir painstakingly reveals the harsh reality and the plights of a woman's life. It is rightly stated in the following:

- Throughout history, women have been generally oppressed and repressed by the patriarchal society in which men are dominants. They were denied the right to live in the same kind of freedom as men and to get their share of education and career. Instead they were forced to stay at home and raise the family. In other words, they were silenced and locked away by the dominating gender. Marriage was considered important for women to ensure their security, but then they were forced to obey their patriarchal husbands without any objection (Beden N: 2011, p-2).

According to feminists wherever there is patriarchal set up women are thought to be subservient or inferior fit for the role of loving mother, caring wife, dutiful daughter, sacrificing sister and so on. Women are defined in relation to men, without whom as if women have no identity. It's a story of women over the globe. These oppressions have continued through the ages. Patriarchy is infused in the society in such a depth that dominance, identification and centeredness of males over female is prevalent in every field. In every field political, social, cultural, academic, legal, or religious---dominance plus servitude of male is prevalent. Murtaza S. (2012) says:

- Numerically women constitute half of the human race, but in general women occupy a secondary place in relation to men, on the bases of class, status and political power-the three recognized dimensions of inequality. A peek into the history will reveal that women have always been subordinated to men. According to Beauvoir," what peculiarly signalizes the situation of women is that she- a free and autonomous being like all human creatures –nevertheless finds herself living in a world where men compel her to assume the status of the **other**"(Beauvoir;1949), and this otherness takes different forms; one such form is her oppression (p-3).

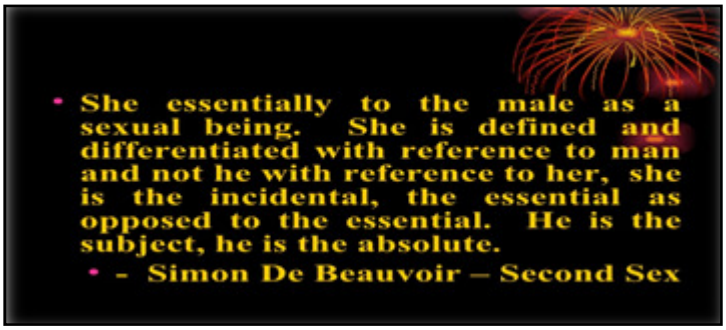

Figure 1

So, feminists of the late 60s emphasised on the durability of media towards change of the society and the empowerment of women. But being an institution established on the patriarchal set up media are playing the role of agent of the patriarchy. One of the major problems of the recent feminists with media is the objectification of women. Objectification is symbolised through those ways and contents of media which suggests that women are the objects to be own, playthings to be shown off and treasures to be touched. This leads to the categorisation of women as sex objects or objects of entertainment and women become the victim of sexual harassment by the men. The dangerous consequence of objectifying women has been highlighted by Dr Jean Kilbourne who notes that, "turning a human being into a thing is almost always the first step in justifying violence against that person." It's been criticised that media, being the part of the patriarchal society show women always as the puppets or in other words toys for men, when he is happy with her till then she has the identity, otherwise she is nothing. For that this type of thinking cultivated in the minds of both men and women that women should look beautiful and slim, and smart. The media, it seems, is loathed to project the image of a woman as a serious partner in decision-making, a successful professional or an erudite politician or leader. Neilson (2008, p-9) once quoted like this:

- According to the feminist philosopher Susan Bordo (2003) the idealisation of slimness in women is a very recent phenomenon, dating from the 1920s. It is often argued that the thin ideal is the outcome of successful marketing by the fashion industry, which has become the standard of cultural beauty in the industrialised affluent societies of the twentieth century. Clothes fashions were represented by hand-drawn illustrations until the 1920s, when they started to be photographed and widely distributed in mass-market fashion magazines. These magazines presented a fantasy image of how women should look. The fashions themselves demanded a moulding of the female body, because each 'look' suited a particular body shape (Grogan: 1999).

At some time or other the images of both men and women are determined by the traditional stereotyped qualities attributed by the society and the culture itself. Media through their portrayals reinforce the socially and culturally imposed these stereotypical images of women. So, Julia T. Wood in her article "Gendered Media: The Influence of Media on views of gender" says:

- In general, media continue to present both women and men in stereotyped ways that limit our perceptions of human possibilities. Typically, men are portrayed as active, adventurous, powerful, sexually aggressive and largely uninvolved in human relationships. Just as' consistent with cultural views of gender are depictions of women as sex objects who are usually young, thin beautiful, passive, dependent, and often incompetent and dumb (1994, p-31).

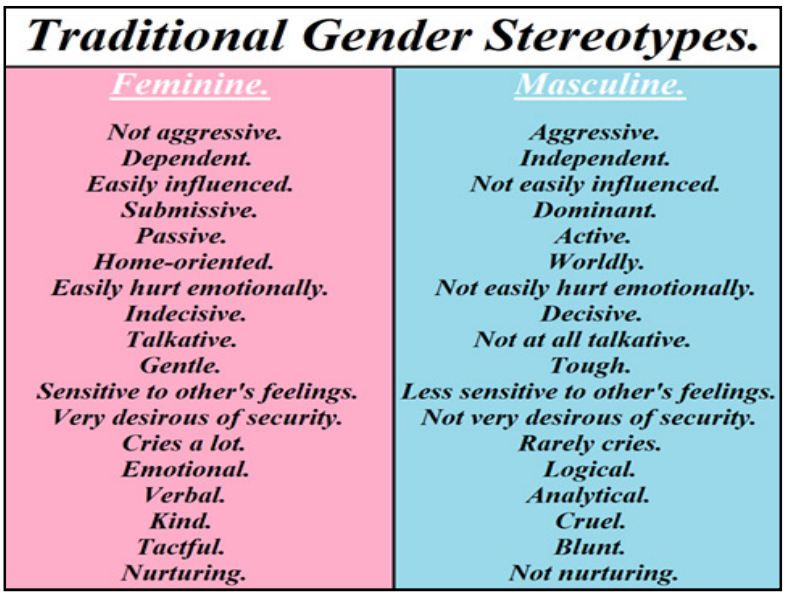

Figure 2

Source: https://www.google.co.in/search?q=stereotype+images+of+men+and+women&num

Feminists critique media as these put forth the body of women as 'blank screen' which is open for the construction and reconstruction of socially and culturally given meaning to women. In this regard Neilsen (2008, P-5) has quoted like this

- In addition to presenting highly stylized and idealized imagery of the body, contemporary popular media are replete with messages that emphasize the desirability of a well-maintained body i.e. thin and toned, and that promote consumer products designed to assist in the achievement of such a body. In this cultural context, the body has assumed a sort of malleability in that it has been constructed as an object open to ready transformation through body projects of dress, diet, exercise, and surgery (Bordo, 1993; Featherstone, 1991; Foucault,1977; Shilling, 1993; Turner, 1991).

According to Sheffield (2002) at some time or other, it makes us so stigmatic to think that women are the incarnations of male gaze. Simone De Beauvoir highlighting on the "otherness" and "inessentialness" of women says through the male gaze woman is defined and differentiated according to the judgement of men. This gaze makes women objects and strips them of liberty. Laura Mulvey in her article 'Visual Media and Narrative Cinema' widely criticising the Hollywood's screen magic as its manipulation of visual pleasure,

primarily revolving around the image of females. Male audience members are encouraged to gain erotic pleasure from looking at beautiful women on screen. This practice labelled as scopophilia has encouraged the objectification of women and the development of narrow criteria for sexual desire (Deckar: 2010, p-11). Many feminists have considered this "as a form of violence against women as it is a reminder of women's object status, sexualisation, lack of power as well as a violation (Johannsdottir, N.K.:2009 p-21). Regarding the personhood of woman Rosemary Tong illustrates the thoughts of Mary Wollstonecraft's words thus:

- What Wollstonecraft most wanted for women is personhood. She claimed that a woman should not be reduced to the "toy of man, his rattle," which "must jingle in his ears whenever, dismissing reason, he chooses to be amused." In other words, a woman is not a "mere means," or instrument, to one or more man's pleasure or happiness. Rather, she is an "end-in-herself," a rational agent whose dignity consists in having the capacity for self-determination (Tong: 2009 p-16).

Danya Espinosa (2010) saysin some other ways it can be said that media are deeply implicated in the process of defining boy and girl or man and woman. The media messages imbibe in the mind of people what it means to be men and women. It's a general consensus among the media to portray or project women as sex object, there are myriads of unnecessary displays of women bodies in films, magazines, newspapers or in advertisements as if women's body is for just the medium of entertainment for the male cantered society. This situation itself create an unrealistic environment for women to become beautiful for entertain the male gaze and always been in a competition for beautifying themselves as the body or beauty shown in media (p-4).

The continuous presentation of women as sex objects or distressed or inferior would normalise the cultural indictment of men's superiority which had been solidified through the ages in the religious writings, rites and rituals, customs and so on. Women would become the victims of the harassment which might be in the shape of wife battering, rape, witch craft, dowry death or many more. In a Third world country like India where women have to live under the guardianship of father, brother, husband or son, it's a dream which is yet to be accomplished to think about freedoms and empowerment of women.

- In childhood must a female be dependent on her father; in youth, on her husband; her lord being dead, on her sons; if she has no sons, on the near kinsmen of her father; if she has no paternal kinsmen, on the sovereign; a woman must never seek independence. (Quoted in Introduction, V, 148)

From birth to death an Indian woman has to be secondary without having any say in the house hold affairs or in the public. The place of women in the private sphere, blocking the stepping of women in the public sphere has generalized the Manu's dictum that women can never be independent. But media are not focusing those problems. They are only busy with to publish the gossips of the actors and actresses, the love stories between them. This negative attitude towards women in real life is very much reflected in the way media represents them as well. Media representations of Indian women reveal that they are less accepted and respected as persons and more looked upon as objects. She has three projected roles--- biological, domestic and decorative. Media are hardly challenging the gender attitudes promoted and perpetuated by the society. In this regard the following can be cited:

- Uma Chakravarti (1993: 579) has opined that the general subordination of women assumed a particularly severe form in India, through the powerful instrument of religious traditions which have shaped social practices. A marked feature of Hindu society is its legal sanction for an extreme expression of social stratification in which women and the lower castes have been subjected to humiliating conditions of existence(quoted in Nath, D.P & Dutta J., p-15)

So, Indian media cannot be free from the shackles of patriarchy or in other words from the bindings of social, cultural and religious beliefs. As a result, different Indian feminists have come forward with different criticism and they have conducted different scholarly researches over the representation, portrayal and performance of women in media. Indian media's role towards the portrayal and projection of women is basically succumbed into the two extreme continuums as 'devi' and 'damned'. As the Indian society is more complex and different than that of west in regard to the perception, projection and acceptability of women in a stringent patriarchal culture, the persona or role model of Indian women revolves around 'devi' and 'damned'. With Feminist movement of 70's the very question of women's rights, role/status and identity of Indian women in Indian patriarchy were raised and is yet struggling to gain clarity and acceptance of society.

Between these double standard role as 'devi' or blessed and 'damned', Indian women are now experiencing the intense identity crisis and has been narrowed down as secondary and inferior to men. In this regard Jain says (2011, quoted in Sarkar S.:2014)

- Indian women representing urban class have been projected as self-independent, empowered, liberated and looking good in terms of "fair and lovely", "thin and sexy", "smart and fashionable" and also financially empowered as projected by media in last two decades. These images have reached largest no of households in India through TV channels and influenced the societal attitudes en-mass and women in particular. On the one hand women are still being exploited, used, victimised seen as an object of desire and second grade citizen in the family and the society as well. Films, television and advertisements all have been reconstructing women image by visual and print—prioritising elegance and beauty (p-53).

Be it television, films or advertisements in both print and visual media, women body is used for market purpose, to sell the beauty products, sarees, salwar suits, jeans, even cars, under wears of both men and women, home appliances, household utensils. By such type of projection of women body is itself oppressive and devastating in terms of women empowerment and deceives the women as to what is or should be the real image. In this regard Sumita Sarkar (2014) quoted Derne like this:

- Derne put forth that media promoted the divide of same gender through generating lifestyle and promoting in all small screen soaps showing class division within women population, a class exposed to pasta, jeans and tea shirts, laptops and size zero fashion and the other suppressed and overtly oppressed often shown wearing sarees, believing in talisman and tantras, making kheer as best desert to give traditional taste of palate and protector Indian culture (p-55).

The mass media have long been welcomed as the watch dog of society and this tradition bestows upon them the social responsibility to mirror and guide the process of social change. Media reports reflect the happenings of the society but unfortunately media is wavering from its actual role of disseminating factual information instead presenting biased information which obstruct the development of the society. The women's issues get a low priority in media. Our society is plagued with burning women's issues like female feticide, sexual harassment, discrimination in work places, women empowerment, maternal health, unemployment and literacy among women. Women are rarely given professional coverage in fields like economic, social, political and business. The most disquieting trend in media is that women are either poorly or negatively covered, and where covered women are exhorted to the reconstruction their image to suit to male perception of beauty. The under representation of women in media in the west but paramount of gender based studies in mass media is relatively less in India. Media needs to be sensitized in addressing the positive portray of women.

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Media And Women Question: The Contradiction Between 'Real' and 'Ideal' Women

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ABSTRACT:- Women, the half of the global population, having being persuaded of the images created by media, are in turmoil to preserve their womanhood—is now becoming a question of many of the researchers over the globe. Over the years, media, as it is one of the great contributors to upgrading the human civilisation to a greater extent, are obviously contributing its role—to develop humanity, in the construction of ideas regarding rights, duties, democracy, laws and many core ideas of the modern world. But, side by side, the growing awareness among the womenfolk has made them conscious about the images being produced in media contents, be it print or electronic media, to question media as being coping the patriarchal notion on women and womanhood and regenerating the concept of popularity of male gaze.

Key words:- *male gaze, patriarchy, women, and womanhood.*

In a stringent Patriarchal[1] society, the concept of men and women, being based on "sex" and "gender", tends to incline on the same in determining the role and images of both men and women. Judith Butler, one of the most regarded feminist of her time, was startled to place and judge men and women on the basis of so called femininity and masculinity and being a post-structuralist feminist in her analysis of men and women—all made her reject the traditional perception of gender and sex. Refusing the traditional notion on sex and gender, Butler, instead, stuck to her opinion that gender is something one performs or acts, which forms one's identity, is mostly created and recreated throughout one's everyday life: it's a repetitive process as Simone De Beauvoir once said "one is not born a woman but rather becomes one"—the entire society, the institutions or organisation, cultures or rituals teach a woman what its mean to be a woman. Mere, binary categorisation as men and women on sex or gender cannot just perturb the women's position as inferior or deformed sort of humanity. Butler says: "There is no gender identity behind the expressions of gender…identity is performatively constituted by the very 'expressions' that are said to be its results" (Butler: 1990, p. 233, as quoted in C.T. Neilson: 2008, p-13).

As long as women live in such a culture saturated with conventions of patriarchal bindings where women having oppressions and inequalities are in pressures to become what society thinks to be. In our media-governed society basic concepts are being formed according to the stories, narratives created by Media[2] which reach for the individuals or the viewers, who become go-between the mediated stories and the society's patriarchal thinking. Being the receptor of the mediated stories the viewers start to act like the stories go and gradually the images of men and women get imprinted in the minds of the people. As far as women's image is concerned, there are myriads of criticisms are still being made by the researchers over the globe. The main problem of the researchers with the media is the stereotypical construction of image of women—which is the starting point of all kind of oppressions and discrepancies of women, where women become a hoax between the "Real" and "Ideal" which ends up with the identity crisis, scholars say, especially the feminists.In entertainment sector media has been placed in a very strong position in today's mediatised world with being affected everyday life of each individuals, be it men or women—all these make media have the titles of "Mirror of the society" and "Watch Dog". Media energise the process of social change and social transformation, but with the passage of time, after the advent of the feminist movement various questions are being raised by them complaining media's portrayal of women. Feminists have flabbergasted with the media's projection of women sometime as good and

[1] According to Walby (1990 p-20) Patriarchy is a system of social structures and practices in which men dominate, oppress, and exploit women...the use of the term social structure is important here, since it clearly implies rejection both of biological determinism and the notion that every individual man in a dominant position and every woman in a subordinate position (N.K.Johannsdottir:2009 p-1).

[2] "Media" refers to various means of communication. For example, television, radio, print and new media are different types of media. All these forms use technology to propagate the message (P. Chitra & Neelamalar M.:2013,p-296). In this article, especially, both print and electronic media is being covered during entire discussion.

caring mother or wife or girl friend doing all the household chores and sometime as slim, beautiful and care free rejecting all the social norms. With "The Feminist Mystique", a new horizon of thinking was arrived in media studies against the patriarchal nature of media towards women. J. T. Wood (1994) says:

In general, media continue to present both women and men in stereotyped ways that limit our perceptions of human possibilities. Typically men are portrayed as active, adventurous, powerful, sexually aggressive and largely uninvolved in human relationships. Just as in consistent with cultural views of gender are depictions of women as sex objects who are usually young, thin beautiful, passive, dependent, and often incompetent and dumb (p-32).In recent time, the most regular image of women in media is a woman having slim body, stylish get-up and independent care free minded, indulged in entertain the viewers as being objects of entertainment and sex. In other words women's body has become a blank screen which is open to construction and reconstruction of images in compliance with the surrounded meaning given to men and women. In this regard Neilson quoted like this: According to the feminist philosopher Susan Bordo (2003) the idealisation of slimness in women is a very recent phenomenon, dating from the 1920s. It is often argued that the thin ideal is the outcome of successful marketing by the fashion industry, which has become the standard of cultural beauty in the industrialised affluent societies of the twentieth century. (Grogan:1999, as quoted in C.T. Neilson: 2008 p.9).In this regard Mulvey's "Male Gaze" (1975) perspective on cinema can be served to describing the women's roles on films being fetching the visual pleasure for the male gaze and in other words women characters are adored in such a way so that it may attract the males. Women characters are chronicled on the experience of the males which is largely based on the socially assigned characteristics or roles being attributed to men and women. Traditionally, males are expected and taught to be tough, active, aggressive and dominant while women are caring, nurturing and passive and most importantly women have to be sexually attractive and beautiful. So its rightly said:

Male characters were described as "powerful, smart, rational, tall and stable" whereas female characters were found to be "attractive, fair, sociable, warm, happy, peaceful, and youthful" (p. 122). Males were more active and independent, smart, and powerful. Women were portrayed as lacking these qualities (Tadesco:1974 as quoted in J.T. Decker:2008 p-9)

The "male gaze," as she (Mulvey) termed it, assured that films would take the man's perspective and cater to male patrons, effectively denying woman's voice and the interests of female audience members (J.T.Decker:2010 p-11).These constructions, unfortunately, limit the reality and what men and women think, feel and behave. So, Wiersma argued: "Constructions of reality take on subjective meaning for individuals. Socially constructed reality may become a self-fulfilling prophecy…once people have ideas or beliefs of what it means to be appropriately male or female; they will behave or engage in activities in accordance with these beliefs. They have thus turned their subjective meanings into objective reality" (p-15 as quoted in J.T. Decker: 2010 p-6).Media, in constructing subjective perspective on gender, play a very crucial role providing role models, scripts and behaviours or activities given to the male-female characters. Viewers being active actors as social being and copier everyday try to imitate the behaviour and life style given to the characters or any description given in both print and visual media without having to think about the originality and reality of the humans, both men and women. So, J.T. Decker writes:

In other words, viewers who heavily watch television and movies are more likely to perceive the world as being similar to the programs viewed than those who view TV and films sparingly. These cultivation effects combine with "accessibility effects," which are the recalling of moments, messages, dialogue, narrative, and other details in media. Thus frequent consumers more readily recall specific details from what they watch, which are then converted via cultivation effects into schemas for understanding the world (p-9).

The role models shown in both in print and visual media, through contents or pictures, are becoming the "ideal" women for the viewers and even they try to compare the women of their lives with the role models shown in the films or advertisements in terms of body, beauty, style and so on. In recent time many scholars of gender studies fear the consequences of these portrayals of women as this will definitely create a situation of identity crisis for the women folk. The portrayals nothing but reduce women into mere objects, a socially institutionalised concept about women which personify women as inferior to men. Regarding this R.M. Tong quotes like this:

What Wollstonecraft most wanted for women is personhood. She claimed that a woman should not be reduced to the "toy of man, his rattle," which "must jingle in his ears whenever, dismissing reason, he chooses to be amused." In other words, a woman is not a "mere means," or instrument, to one or more man's pleasure or happiness. Rather, she is an "end-in-herself," a rational agent whose dignity consists in having the capacity for self-determination (2009, p-16).In fact this harmful "ideal" put forth by the media restricting women to show off their originality as women are human beings and having equal footing with men, put women in the cage of patriarchy, globalisation, capitalism and the other modern systems born out on the base of patriarchy. The standard set forth by the media, with bringing aspiration, among women to become one, ultimately re-energises and generates patriarchy—all totally neglect the emotions and thinking of a woman in real. Being aware of the

harmful effects of patriarchy and capitalism R.M. Tong (2009, p-4) writes: Socialist feminists agree with Marxist feminists that capitalism is the source of women's oppression, and with radical feminists that patriarchy is the source of women's oppression. Therefore, the way to end women's oppression, in socialist feminists' estimation, is to kill the two-headed beast of capitalist patriarchy or patriarchal capitalism (take your pick). In this regard if I try to give arguments in support of women for having equal status with men it seems germane to include those names who posited several rational questions about the age-old oppressions and discrepancies suffered by women. In determining the equal place and status of women with men Feminists like Marry Wollstonecraft, and later joined J.S. Mill, celebrated the rationality—according to them to settle back and free women from the clutches of men. So, Rosemary Tong quotes:

He (J.S. Mill) argued in "The Subjection of Women" that if women's rational powers were recognized as equal to men's, then society would reap significant benefits: public-spirited citizens for society itself, intellectually stimulating spouses for husbands, a doubling of the "mass of mental faculties available for the higher service of humanity," and a multitude of very happy women.Valerie (1998) writing about the First wave feminism mentioned that in 'Vindication of Rights of Women' Wollstonecraft pens it down that an ideal woman is a woman who is active and intelligent blending civic and familial responsibilities, freed from drudgery and debasing frugality. She also focuses on Wollstonecraft's articulation on women and men relationship thus:

.....show that elegance is inferior to virtue', and the 'first object of laudable ambition is to obtain a character as a human being, regardless of the distinction of sex'. She saw women as degraded by the flirtatious and chivalrous behaviour of their male companions.... (P-16)

So, being a part of patriarchal mechanism Media are supposed to patronising maleness in everywhere and set men as the standard of judging women—the truth once said by Simone De Beauvoir that women are the 'others' or 'inessential' while men are the 'self' or 'essential'. So, it is rightly stated in the following:

The category 'woman' has thus no substance, being merely a projection of male fantasies (the 'myth of the eternal feminine') and fears. But since all cultural representations of the world presently available to us—whether in myth**,** religion, literature or popular culture—are the work of men, women too have internalised these definitions and learned to 'dream through the dreams of men'. Indeed, a 'true woman' is *required* to accept herself as Other for man: she must 'make herself object…renounce her autonomy' (Thornham S.:1998 p-29).So, the clash between the ideal, which created by media for market purpose, to sometime sell the products from beauty products to men's under wear, from shaving cream to car, are the signs of male dominance[3], male centeredness[4] and male identification[5] where women are trapped as caged birds and real women, who cannot be the way they are, whatever women achieve are judged and compared with men and by the men, because of the prevailed notion of women—between which women are becoming the toys in the hand of men in all the structures, systems (socio-political and economic), institutions of our patriarchy, be it family, marriage, religion, rituals, government or media. Women, through their continuing struggle, over the couple of centuries, are trying get rid of the prevailing discrepancies and oppressions, which are taking the forms of violation and crimes against women in the forms of rape, dowry or dowry deaths, witch craft, honour killings, sexual harassment, battering and so on—but hardly they get positive representations and coverage in media. Though women have a meagre representations in media, if not for anything else, but likely to prove women to be inferior subservient to men, in other words, in men's world, by and large, has been identified as a problem by the social scientists and even harmful also.

To conclude, as the Radical Feminists say patriarchy is the root cause of subordination of women through the ages, it can be said that not only the patriarchy's legal and political structures should have to be uprooted but the social and cultural institutions also have to be overturned from the society to liberating the women from the bondages of illogical environment. So, it is rightly said that:

In order to be liberated, women must reject femininity as it has been constructed for them and give it an entirely new meaning. Femininity should no longer be understood as those traits that deviate from masculinity. On the contrary, femininity should be understood as a way of being that needs no reference point external to it. Full personal freedom for a woman consists, then, in her ability to renounce her false feminine self in favour of her true female self (as quoted in R. M. Tong: 2009 p-3)

[3] Patriarchy is male dominated in that positions of authority—political, economic, legal, religious, educational, military, domestic—are generally reserved for men. When a woman finds her way in such position people tend to be struck by the exception to the rule and wonder how she will measure up against a man in the same position (Allan G. Johnson: 2005 p-5).

[4] Patriarchy is male centred in the sense that there is always a focus on men, what they do and what they say. (ibid)

[5] Patriarchal societies are male identified in that core cultural ideas about what is considered good, desirable, preferable or normal are associated with how we think about men and masculinity. For example we regularly use the word "Men" to identify "Human Beings" (ibid).

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Feminism on Media: Theorizing the 'Uncanny' state of women in men's world

Himashree Patowary

The essence of Feminism has a strong fundamental case intended to mean only that there are excellent reasons for thinking that woman suffer from systematic social injustice because of their sex, the proposition is to be regarded as constituting feminism."-----Richards, Janet:1981
As an ideology[1] and as the chains of movements[2] for women's empowerment, the be all and end all of feminism, in all the fields-- political, cultural, literary or social,feminism emerges against the discriminatory[3] treatment of women in all aspects of life— social, economic, political etc. in consistent with the humanitarian perspective. It challenges the age old perceptions of people regarding women andgender[4] discrimination and stands deadly against the patriarchal hegemonic phenomenon to which women at large are being subjected in every stage of their lives and besets itself with the charge of searching solutions. It also endeavours to edit the stereotypical perception of patriarchy for women asserting their identity as parallel to men in all walks of life in the teeth of the opposition of the fundamentalists of course. Having been emphasising on it Bhasin and Khanremark----

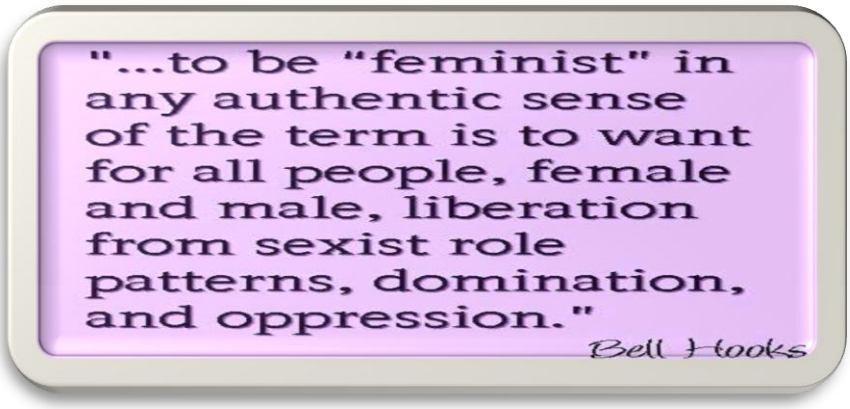
"Feminism is an awareness of patriarchal control, exploitation and oppression at the material and ideological levels of women's labour, fertility and sexuality, in the family, at the place of work and in society in general, and conscious action by women and men to transform the present situation" (Bhasin and Khan, 1999: 3).

[1]Feminism is an awareness of women's oppression and exploitation at work, within the family and society, and conscious action by women and men to change this situation and uplift the life of women. Feminism has no specific abstract definition applicable to all women at all times, since it is based on historically and culturally concrete realities and levels consciousness, perceptions and actions. It can be articulated differently in different parts of the world, depending upon various backgrounds. Feminism is against patriarchy expressed in domination, selfishness, aggression, violence and oppression (Singh, Ivy "Feminism: Various Approaches and Its Values")

[2]The recent form of feminism that came after 1960s has become an evolving socio-political movement. It is a political project aiming to understanding the power structures and relations in the society and to challenge it as well, which is still working in the forms of male domination, through the transmitters of social practices, social institutions. So, as a movement it devices the strategies to emancipate and empower women out of this imbalanced environment. (http://shodganga.inflibnit.ac.in

[3]The feminist movement "includes any form of opposition to any form of social, personal or economic discrimination which women suffer because of their sex (Bouchier, David, quoted in http://shodganga.inflibnit.ac.in)

[4]Gender is the cultural significance given to biological difference of reproductive organs. It refers to men and women, as well as to appropriate and less appropriate ways to be a man or a woman (masculinity and femininity). Often, gender is seen as the original difference and as a universal divide in all human groups. The construction of femininity and masculinity are part of dominant ideology that prescribes 'proper behaviour for men and women. (Hermes, Joke:2007)



Media[5] have the power to energise the process for re-establishingthe systems of whole society—social, political or economic on the basis of equality. But the growing dissatisfaction against media, among the feminists, has opened up a new angle to study and investigate the portrayal of women in media and attitude of media as well.And it is found in some researches been made on this, with a view to examine the portrayals of women that women have been treated as mere objects of consumption. Feminists assert women's potential character as essentially capable of and eligible for all successes and glories of the world and refuse to be seen as an object of desire, lust and consumption[6]. The emergence of writers in India like MadhuKishwar, Kamala Das, ManjuKapur, MamtaKalia, AmritaPritam, to name a few, whose works are but an assertive mirror of their creative potential with their pungent critique of pathetic treatment of women in patriarchal society[7], is a potent testimony to the fact that women are today conscious enough to understand their position and accordingly prepared to confront their disgraceful and submissive status at the vicious hands of the ever empowered male dominated society (R.R Dwivedi:2014). Dupuis (2000:268) has elaborated it through mentioning about Simone D. Beauvoir's articulation on the age old oppression and under-developed status of women thus…

[In the middle of the 20th century, Simone De Beauvoir's book 'The Second Sex' was published and she clearly established that the problems and the poor images of women arose from the affirmation of the past and a gross neglect of the growth, development, the talents and opportunities of women in specific societies.]

Betty Friedan in 1960 had brought out a book titled "The Feminine Mystique" with its major emphasis on the consequences of the treatment of women as objects or commodity in advertisements. Before the paper progresses to illustrate the service of media to women through its different manifestations, it is but imperative to analyse the feminists' major concerns in order to lend a critical assessment of the role of media vis-s-vis priorities of feminism redefined through many a feminist critic of world repute.

The major contradiction made on men and women in a patriarchyis either the concept of gender or sex[8]: stereotyped conceptions regarding these are cultivated in the minds of the people. In consequence of this,those norms are becoming culture in which women are structured as inferior in comparison to men. The following citations will exert some light on it….

In pursuance of this, Feminists being aware are trying to regenerate the ideas of equality and justice, in the form of Ideology and movements.From a philosophical point of view, the term 'feminism' generally designates a mindset that is not limited to women or to gender in its definition. Rather, the core of the definition of feminism is in discrimination on the basis of gender (Nagel-Docekal 1999: 8).

[T]he principle which regulates the existing social relations between the two sexes – the legal subordination of one sex to the other – is wrong in itself and now one of the chief hindrances to human improvement; and […]

[5]Media play an important role in that they inform and instruct their audiences about current issues and happenings around them or affecting them. The media are, therefore, a central part of human relations and an essential tool in communication as they play a critical role in educating the masses. Further, societies and cultures greatly influenced and transformed through media (Okiring :2013

[6]As cited in Dwivedi, Dr. R. R: 2014. Women in Indian Television Advertisement: A Feminist Observation.

[7]Feminist studies emphasized the major role of institutions for gender inequality early and repeatedly (Elson:1991; Marchand and Parpart :1995; Parpart:1993; Johannes and Morrison:2005). They argued that patriarchal structures perpetuate gender inequality. To overcome it women must challenge existing power relations and change or abolish Patriarchal institutions.(Johannes and Morrison:2005)

[8]The term gender role refers to society's concept of how men and women are expected to act and how they should behave. These roles are based on the norms or standards by the society. William Little in Introduction to Sociology in the chapter titled Gender, sex and sexualityhttp://opentextbc.ca/introductiontosociology/chapter/chapter12-gender-sex-and-sexuality/.

ought to be replaced by a principle of perfect equality, admitting no power or privilege on the one side, nor disability on the other. (Mill, 1984: 261)

It was during the 1960 and 70s when the feminists in US, at large, looked into the images and portrayal of women in media as a concern for making in-depth studies. In this particular point of time, the studies were based on the principle of liberalism and by and large advocated for equal participation of women in media for the positive portrayal of women. Out of multiple concerns of feminist critics, stereotyping of women is the one which perhaps bothers them the most. With a view to theorise the on-going objectifications of women as sex objects, and the representation of women in the mythical roles, feminists come to forefront.That is why the necessity and viability of Feminist approach to the media is being acknowledged in the present day situation. R.R Dwivedi observes,

Media in general both but the electronic media in particular is usually proven notorious for projecting women as stereotypical characters where they supposedly play an underrated role in the household ambience. Feminists' objections stand even more relevant when understanding of women as either object of consumption or in their oversimplified roles prevails in a time when women articulate their representations advocating their prerogative in public and private spheres".(Rajiv RanjanDwivedi: 2014).

In India also, in 1970 with the advent of the second wave of Feminism, and the emergency period during Indira Gandhi's tenure, women of India were making voices against the domination of male in everywhere and demanded democratisation of every fields and equal distribution of the resources. It is noteworthy that the space assigned by the society towards women in patriarchal society of the world in general and India in particular is defined by two characters, firstly as sex objects, for satisfying the men and secondly as their all pervasive stereotypical roles as good mother, house wives, and daughter etc.

In regard to the stereotype roles, it is seen that, women might be attributed some ultra modern qualities or some traditional qualities inspired from the myths of culture and religion, but in both cases women are not portrayed in a positive way.

The atrocious discrimination in India or any other society towards women is born of the sadist and miserable treatment showed to them by the male society in general as the males always carve for victimisingwomen. This has led to the emergence of many a literary feminist critic in defence of their cause. Simone de Beauvoir's opinion in this respect is amply suitable when she says:

"One is not born but rather becomes a woman. No biological, psychological or economic fate determines the figure that the human female presents in the society; it is civilization as whole that produces this creature."(Beauvoir, 457)

"While stating a sharp distinction between "sex" and "gender" being biological and cultural/social/psychological construct respectively, Kate Millet in her Sexual Politics observes the repression and subordination of a woman as "a most ingenious form of interior colonization". (Kate Millet)

J.S. Mill, the ardent supporter of women's liberty expressed his critical concern reflecting on the pathetic and sadist condition of women in society at large. In his book, *The Subjection of Women,* Mill writes about the problems of women's inequality in society and stated—"What is now called the nature of women is an eminently artificial thing the result of forced repression in some directions".

In the 1990s, the feminist intrusions in the media have gained more attention in the field of cultural studies group of centre for contemporary cultural studies (CCCS) at Birmingham. The feminist scholars recognised the importance of Gender, questioned the naturalization of masculinity and masculine discourse in media studies and argued for 'Feminine' as a new philosophy of study. (McMillan: 2007)

Further feminist issues gained remarkably more importance in the media, especially after the UN Fourth World conference on Women held at Beijing in 1995. "The strategic objectives of the Beijing Platform for Action were—Increase the participation and access of women to expression and decision making in and through the media and new technologies of communication; promote a balanced portrayal of women in the media."Thereafter, many women's organisations began to voice their concerns against the negative portrayal of women as "Commodity and Second Class Citizen" through both private and government controlled Print and electronic media, and the crying need for encouraging women to join the profession.

Feminist Media studies differs from other studies such as Post-modernism, Pluralism, Neo-Marxism because of its absolute focus on analysing gender as a mechanism that structures material and symbolic worlds and our experiences of them.(Van Zoonen)

As a matter of fact, Feminist is someone who cherishes the thought that the reason behind all the sufferings of discrimination by women is due to their sex and the value laden concept of gender. The words 'Feminist' and 'Feminism' are all political brands[9] emerged in the late 1960 aiming the support of the new women's movement. Feminist criticism was then a critical and theoretical practice committed to the struggle against patriarchy and sexism, not simply a concern for gender in literature. According to Millet…..

[9]Gallagher, Margaret. (2006) Feminist Media Perspective.

"……feminists have politicised existing critical methods (in much the same sort of way that Marxist have) and it is on this basis that feminist criticism has grown to become a new branch of literary studies . Feminist reader looks towards politics of gender. French version of 'Feminine' refers to 'Femaleness' and 'Femininity'" (Millet).

I. The History of GenderedMedia:Stereotypification of women through it

The Gendered Media articulates the Masculine biasness towards women, focussing narrowly women in a "Biological"category, and ignore its critical role in challenging the historical understanding of sexuality and capabilities and assertiveness in the intellectual field. Though Media are designated as the public sphere where critical analysis should be conveyed, yet this mode of media was only focussing on the existed and pre-destined stereotyped images of both men and women. It is well stated in the following….

Gender roles are prevalent in media, often portraying women as nurturing, gentle, cooperative, concerned with appearance, and sensitive to others; while men are viewed as logical, competitive, independent, assertive, financial providers, skilled in business (Foss, 1989; Wood & Reich, 2006), and dominant over women (Morris, 2006)".

As far as India is concerned, the age of gendered media started from the period from the Vedic period, where written contents are found writing on women.The available media, being in the form of text, like the Vedic text, Dharma Sutras etc. had located the status and position of both men and women in their specialised roles. Kumkum Roy[10], discussing on the specified roles assigned to both men and womensays that…

.....looking at the historical context when media in the formof text was available, like the later Vedic texts, the Dharma Sutras and the Grhya Sutras signify the role of the grhapati or the male head of the household or the family defined roles and obligations of each of its members. The household was also taken as a unit that controlled and used productive resources, including land and cattle, ensured transmission of such resources from one generation to the next through the process of patrilineage. In the process, the existing gender relations which were unequal in nature were passed on to next generation." (Roy, Dr.Kumkum: 2010)

There are other examples such as the "Jatakas" which are around 550 in numbers and are the stories of Lord Buddha's previous births. These had presented women as subordinate to men, engaged in various agricultural and household works,where men did the important jobs like "setthi" or banker and the "sarthavaha" or merchant. It can be assumed that since then stereotype occupational differences of men and women and associated gender division of labour carved out.

During the Gupta period (400-500 AD), the plays of Kalidasa would show that the gender relation existing at that time was the future trend as it is revealed in the present day situation. In his plays, the dressing pattern of the characters playing the role of the queen is according to the situations they are in. Hence, the dresses and attires were part and parcel of womanhood and depicted one of the important components of the presentation and identity of women. It also it reinforced the attributes associated with them being women. Similarly, the gestures were also used so as to maintain the gender roles (e.g. salutations or touching the feet confined only to women). Again, the language used was also gendered in the sense that Sanskrit was considered as "high" language and Prakrit as "low" language and the dialogue delivery was done according to the prescribed status of men and women, i.e., men characters spoke Sanskrit language, while women spoke Prakrit language, thus maintaining the gender bias of the high and the low. These forms of media strengthen the existing stereotypes prevailing in the society (Roy, Dr.Kumkum (2010).

In present day also women are presented as the same way before the twenty years ago. Media are still reinforcing the patriarchal norms, putting men as dominant and women as powerless and victims of the entire oppressions duo to patriarchal culture.Kumkum Roy says,

It fulfils and protects the corporate interest. It is trying to maintain and keep the political and cultural situation of the country intact through the presentation of various issues. Media does not talk about the diagnosis or the treatment of the social problem. Rather it creates a space for disillusionment. Women are considered and further projected as weak persons in terms of physical strength, emotional space and intellectual sphere.

II. Failure of media as an agency of social change and status of women

"Feminist studies emphasised the major role of institutions for gender inequality early and repeatedly (Elson, 1991; Marchand and Parpart, 1995; Parpart, 1993). They argued that patriarchal structures perpetuate gender inequality" (As cited in JohanessJuting&Christian Morrison).

Media, one of the powerful institutions of today's world through which ideas are shared and opinions get the shape of policies, is still in the hands of male owners. As a result, women are still in the position of victims rather than decision makers: media are projecting women as the objects of entertainment and sex. The obsession

[10]As cited in "Women, Media and Gender Equality":R. Sujata

for fair skin still marching ahead, the number of fairness cosmetics flooded in the market and rich sponsorships in the form of advertisements uncountable. In this regard Dr. P.C. Joshi says---

"Women are still projected as beauty objects. Still she has to look beautiful and fresh all the time from rising from the bed till she dropsdead after working the whole day playing the dutiful roleof many of the status, she is holding. She is managing business empire but when returns home "the dutiful bahu" is the expected role" (Joshi, P.C: 1989).

Women, at the global level and in India particular,by and large, are presented as glamorous or elegant having the capabilities of handlingjobs like compeer, newsreader and anchorperson, where women are shown as mere objects of entertainment and lagging behind men in regard to the intellectual power.Women appear in magazines, fictions and in televisionsoap operas, and films as self deprecating anddependent, irrational, and overemotionalalong with being beautiful. Present day, children grow up, reared and beared in the constant interaction with role models from mass media. They follow them every inch and want to be like the way they are. In this regard Routray says,

How many of us know about Homai Vyarawalla, the first woman press photographer, whotook many memorable pictures of the old India atvarious important stages of its history? Similarly, in print media, news related to atrocities on women ispublished to gain on TRPs. It is sensationalized andthe core issue is rarely focused(SujayaRoutray:2011).

According to her theissues which need to be addressed to assess the roleof media in transformation of the society are:

- Ismedia presenting woman as an object of desireor a strong individual with specific needsandrequirements?
- How media is portraying women – confining herto traditional private domain or showcasing theireligibility as befitting members negotiating forspace in the public domain which is consideredas a male domain?
- Are "personal issues" of the common women madepolitical?
- What kind of social messages are being spreadthrough media? The quality of coverage ofwomen's issues in news media.
- Is media an agent of social change or just socialpolicing – maintaining the existing order inaccordance to the desired and approved socialcontrol of the dominating group i.e. men ?

  The necessary structural change within media willcertainly help in reducing the existing gender bias inthe society as well change in the gendered role of menand women as prescribed by the society (ibid). These aredescribed below:

- The folk media/grass root media or the alternativemedia should be encouraged so that issueshappening at community level which areempowering in itself can have a wider viewership.
- There should be proper presentation of the roleof feminist movement in any small form it mightbe taking place in a small hamlet to worldwide, theefforts made by village women in curbing themenace of alcoholism, dowry, and environmentaldegradation and so on.
- Women consist of a heterogeneous group but arethe tribal and dalit women given a space to raisetheir concern, their voice. All the women faceshould be discussed frankly and neutrally.
- Highlight the success stories of women inrespective fields as well as in their contribution inbringing a gender just society.
- Women should not treated as objects that theother half desires and accordingly get used andexploited for marketing, advertisement and promotion.
- There should be avoidance of any mediapresentation of women which is sexist and genderbias in nature.
- There should be an increased number of womenjournalists in the media scenario further more thereshould be gender sensitization among the malejournalist. The female journalist should have thecourage to discuss and cover issues responsibly.
- Sexist advertisement and messages which arehumiliating to womanhood and out of contextshould be prevented.
- Need for campaign for media literacy in rural areaswhich teaches the common people to analyze themessages conveyed through media and also theability to react to the information in a rational andconscious manner.

III. The philosophy of Social Responsibility: The control on Media

The philosophy of Social Responsibility theory of mass media is an extension of the libertarian philosophy in that the media recognize their responsibility to resolve conflict through discussion and to promote public opinion, consumer action, private rights, and important social interests. This theory has its major premise that freedom carries concomitant obligations (Ravi, BK). The media (including social media) have an obligation to be responsible to the public. If it is not so, then some agency of the public should enforce it. Public opinion and

consumer action can guarantee that the press behaves. This theory led to the establishment of Press Councils, drawing up of Codes of Ethics and anti-monopoly laws in many countries(Gangte,T.M: 2015)

One of the foremost Communication scholars Denis McQuailsummarized the basic principles of Social Responsibility Theory as the following:

- Media should accept and fulfil certain obligations to society.
- These obligations are mainly to be met by setting high or professional standards of informativeness, truth, accuracy, objectivity and balance.
- In accepting and applying these obligations, media should be self-regulating within the framework of law and established institutions.
- The media should avoid offensive content triggering crime, violence, or civil disorder or harm to minority groups.
- The media as a whole should be pluralist and reflect the diversity of their society, giving access to various points of view and rights of reply.
- Society and the public have a right to expect high standards of performance, and intervention can be justified to secure the, or a, public good.
- Journalists and media professionals should be accountable to society as well as to employers and the market.

In this regard the social responsibility of media towards women should be to emancipate women from the age old tradition of subordination of women. SujayaRoutray says

> The challenge is to liberate women from the inequality and injustice of the traditional society without taking away from them the ingredients of sense of security, dignity and partnership which had become a part of the modern industrialized society creating a consciousness among women and men. This new society will be distinguished from the past societies by the fact that not hierarchical and power relation."

IV. Indian version of Feminism on Media: Historical Background

The media and the cultural productions of the women's movements in India crisscross the subcontinent's ethnic, linguistic, regional, caste, the class divisions, challenging patriarchal norms in Indian legal, political and cultural arenas. They range from speeches, pamphlets, posters, opinion essays and columns, theatrical forms of resistance, songs, and plays to periodicals, books, videos and on-line resources[11].

The women's movement in India can be traced to the early 19th century[12]social reform movement progressed through the period of nationalism and freedom struggle towards the milieu of democracy which was established in India with the achievementof independence. The achievement of the constitutional guarantee of equal rights for women could not fully realize thefeminist aims in India providing a new momentum to the Indian women's movement. The new women's movement isexpressing itself in the form of new organizations and groups which are emerging, new agitations and campaigns whichare taking place to fulfill the dream of women being emancipated (R.Gull&Shafi, A:2014[13]).

In the early to mid-19th century, public consciousness of women's emancipation spread as Indian male social reformers campaigned to liberate Indian women from practices that the British colonizers had deemed "barbaric"—sati or widow burning, isolation of widow, child marriage, and polygamy[14].

Gradually, the more pressing issue of women's education began to take center stage and as women gained the benefits of literary and form of public participation, the seeds were sown for the rise of the modern women's movement in post colonial India. The resumption of thewomen's movement saw the involvementof women in various campaigns and agitations. The state wasconfronted with many questions that the women's movementswere raising regarding land rights; the gender-blinded nature ofdevelopment; laws pertaining to dowry, rape, divorce, etc (As cited in G. Rashida& A. Shafi[15]).

Although male reformers in the urban centers of India initially were the primary agents of change, educated middle and upper class/caste Indian women in urban centers across India began to assume leadership roles in the movement by the end of the 19th century. The establishment of women's service associations like the women's

[11]As cited in Women's Movement in Media (India), in John D.H. Dowing, John Derek and Hall Downing (ed), Encyclopaedia of Social Movement Media.(2011)

[12]ibid

[13]As cited in 'Indian Women's Movement after Independence' (2014) International Research Journal of Social Sciences, Vol -3(5), pp-46-54.

[14]As cited in Women's Movement in Media (India), in John D.H. Dowing, John Derek and Hall Downing (ed), Encyclopaedia of Social Movement Media.

[15]Which was originally taken from Choudhury, M., (2003) Gender in the making Indian Nation State in SharmilaRege (ed), *Sociology of Gender: The Challenge of Feminist of Sociological Knowledge. New Deldi: Sage Publication*

service associations like the Women's Indian Association, SaktiSamiti, AryaMahilaSamaj, SevaSadan, PrayagMahilaSamiti, MahilaSevaSamaj, and the Hindu Ladies Social and Literary Club extended the movement into wider regional and National Networks[16].

A burgeoning body of women's print culture emerged from this closely knit web of pioneering woman leaders and formal women's organsations. Women's periodicals, non-fiction books, novels, memoirs, essays, poetry, and letters and columns in the mainstream press transported the ideas and philosophies of the nascent Indian Women's movement into hundreds of homes, clubs and libraries[17].

Similarly, there are several writers who have criticized the role played by media towards women. A Feminist group in Delhi formed by RituMenon and Kamala Bhasin called ' The Committee of portrayal of women in the Media' rightly claims that it is not only the physical exposure of women that is derogatory but also the reinforcement of their stereotypes that are more damaging to image and the dignity of womanhood. Television ads go on harping about good mothers who feed their children with health drinks and instant noodles, ideal wives who care about their husband's shirts and cholesterols, mothers who wash their babies with soft soap to ensure soft bottoms and little girls who say they choose certain soap so that it makes them as beautiful as their mother. These are damaging, insulting and humiliating to the woman-image and takes all talks of women's progress, education, political participation, and several steps backwards, going back to where we began.
GeetaSeshu describes the latest media's image of women in the following words,

"Short skirts and noodle-strap tops, see-through shirts with shorts that barely cover her derriere, hard drinking and hard partying, impossibly slim and dizzyingly tall, a go-getter career girl with snazzy mobile phones to match every outfit".

ShabanaAzmi, renowned actress and activist said, "A matter of grave concern is that, when it comes to films, women are shown to be completely dormant, totally subservient persons. It reinforces the notion that Indian women are supposed to be that. I think the only way in which we can counter these images is to portray a woman not just as a body but also an intelligent being".

According to Raja Rao one of the biggest obstacles to women's access, participation and control of the media is the patriarchal structure of societies where men continue to see women as subordinate to them. Patriarchal attitudes of governments and media are manifest in their being predominantly male institutions which tend to view women as an undifferentiated mass of low status of society. Gender biases and gender-based discriminations therefore result in stereotyped attitudes, sexual harassment, pay inequities, discriminatory treatment in assignments and promotions, traditional gender hierarchies, including a premium on family responsibilities, lack of support mechanisms for working women and low education that deter women from joining the media or assume decision-making positions.

There is an on-going trend in Indian Media to portray women as busy and concerned with beautifying herself, choosing make-up, new fashions, jewellery, cosmetics, constantly watching her weight, worried about good figure and skin colour, proud of advertising and selling latest products. She is hardly portrayed as having social commitments, capable of intelligent decision making, or as capable leaders and policy makers. Usually she is shown to accompany her husband like a shadow or as a decorative piece. Manu's dictum that 'a woman is protected by her father in childhood, husband in adulthood and son in old age' is perpetuated in all media representation. In most representations she is tactfully domesticated, and her place is 'home and hearth' by unwritten codes of society. Everything around her is arranged in such a way that she can't let herself loose. Women who break this unwritten code and re-arrange their day are considered feminists or rebels. And media is playing their role perfectly to preserve the societal concepts. As a result, most of the mediated women are "weak, passive, needy and subservient, or vain, irrational and hot-headed. But the question is how to turn the media into an effective tool for promoting constructive change and faithfully representing the multiple roles of the women today---as achiever both at home and in the labour force.

Most mainstream newspapers do not pursue an openly anti-women line. This is at least partly because of the ideal of the equality of sexes is enshrined in the Indian Constitutional and because measures to ensure equal participation in national life as well as to dominate discrimination and oppression are among the accepted goals of the country. The Shah Bano controversy received highest media attention mainly because it was viewed as legal, religious and political issue. Dowry deaths, rape and sati are the other issues which is gaining media attention. The problems of women in education, employment, politics and other important spheres do not fit into the traditional concepts of what constitute news. The advent of the women reporters and presence of some senior journalists in positions of responsibility have made significance, if limited, difference to the coverage of women's issues in the press.

[16]As cited in Women's Movement in Media (India), in John D.H. Dowing, John Derek and Hall Downing (ed), Encyclopaedia of Social Movement Media.(2011)
[17] ibid

A study carried out for the Second Press Commission of the contents and performance of women's journals, says that most of women's journals consistently seek to direct women's energies into a narrow channel and defines their concern, preoccupations and aspirations with an arbitrarily imposed feminine frame work. The study says that the impression created is that the outside world belongs to men and the issues which arise there do not affect women except indirectly through the men related to them.

Lastly, it is worth mentioning that Media and its contents influence the social image and the self image of women. Media affects the choices they make, what they eat and what they wear. It influences their behavioural attitude, their learning processes and ultimately what they become. Media has clearly discouraged the emergence of a new confident, assertive woman. Such differential media treatment increases their isolation, disempowers them, and weakens them. They remain unheard, unrepresented and 'incommunicable' (Sharda, Adhikari: 2014; Dr.V. Deepa, Nair[18]). To liberate and emancipate women from the age old inequality and in-equal practices,Media have to play a positive and constructiverole in promoting intellectual growth rather than physical beauty. The craze for Zero size figures and obsession of fair skin[19] for women in global set up in general and India in particular, have left many psychological traumatized by the distorted or unrealistic self-image. Unchecked, these can lead to various fatal diseases like anorexia nervosa[20].

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[18]Dr.V. Deepa Nair in Gender Sensitisation http://www.mcrhrdi.gov.in/DR%20Assistants%20final-%20Batch%20II/material/Gender%20Sentization%20Presentation1.pdf

[19] Media "helps to shape beauty ideals by showing certain body sizes [as…] beautiful and desirable (Rumsey 217). It can perpetuate images though a variety of distribution vehicles and can more easily the cultural standard for appearance in the society. (Kendyl M.Klein:2013)

[20]Anorexia nervosa is a disorder mostly affecting young female adolescents and adults of normal weight. It is characterized by excessive weight loss, refusal to eat and obsessively exercising. Despite evidence to the contrary, consumers view themselves as fat. Death occurs more often with this disorder than any other psychiatric ailment. ('Disability Guide' http://www.seasidechamber.com/docs/disabilityguide.pdf)

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Women In Media Entertaining Men In Men's World: Let's Think of a Women's World

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ABSTRACT:- Women and Media—has been a topic of interests of the researchers over the globe for its relevance in the upliftment and empowerment of women. Representation, participation and portrayal—these three are equally studying by the researchers especially by the feminists as because media have the power of its kind to create perception on male and female among the individuals. One of the major problems of the feminists with media is the portrayal of women and quite often feminists criticise media being entertaining male viewers and generating ideas and concepts according to serve the male gaze: women are portrayed according to the male's perception, experience and concepts where women are shown as slim, beautiful, stylish or sometimes as caring and sincere home-maker. But Media have been recognised in modern time as the powerful agent of social change, socialisation, modernisation and so of the creator of proper social, economic and cultural environment.

Key words: *feminist, male gaze, media and women,*

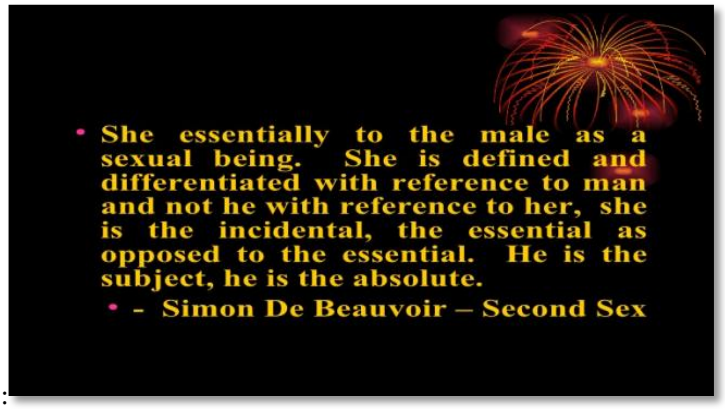
I. INTRODUCTION

Subordination of women—which is not only a topic of study among the researchers instead it is a philosophy of each woman's life with which they have to live without having any say. It has been the history in each stage of human civilisation and is prevalent large parts of the world—all the circumstances out of the experiences to be subordinated make it happens to women be united and voice against the age old sufferings and oppressions and to cut off the subordination as fast as men can suppress women. Gender analysts are still busy with their projects to find out the substantive causes of women's sufferings out of the patriarchy and patriarchal institutions working as fuel for the survival of the socio-economic and cultural environment for women. As a result there is a shift in the feminist scholarship from mere studying the status of women whether being high or low but rather to find out the specific nature and the basis of their subordination in a given social, economic and cultural structure. Articulating the sufferings of women Mackinnon says (as quoted in Gardiner J.K: 2004 p-39):

Imagine that for hundreds of years your most formative traumas, your daily suffering and pain, the abuse you live through, the terror you live with, are unspeakable—not the basis of literature. You grow up with your father holding you down and covering your mouth so another man can make a horrible searing pain between your legs. When you are older, your husband ties you to the bed and drips hot wax on your nipples and brings in other men to watch and makes you smile through it. Your doctor will not give you drugs he has addicted you to unless you suck his penis. (MacKinnon, 1993, p. 3)

The analysts come with their interpretations out of the chronological examinations of the remnants of the human records that women's sufferings are being facilitated by the prevailing socio-economic and cultural institutions (marriage, family system, etc.): the evolution of patriarchy in the history of human civilisation and other socio-economical and cultural institutions which in turn based on patriarchy affect gender.

The Cultural Beliefs, derived from the patriarchal set up of the social structure, are justified to oppress and victimise women. In such a situation women can neither have equal status and position nor can she breathe in a free environment. In our strictly stratified society women and men are being justified on the basis of sex and gender—according to which men are superior and powerful while women are thought to be powerless and so inferior. So, Beauvoir once said:



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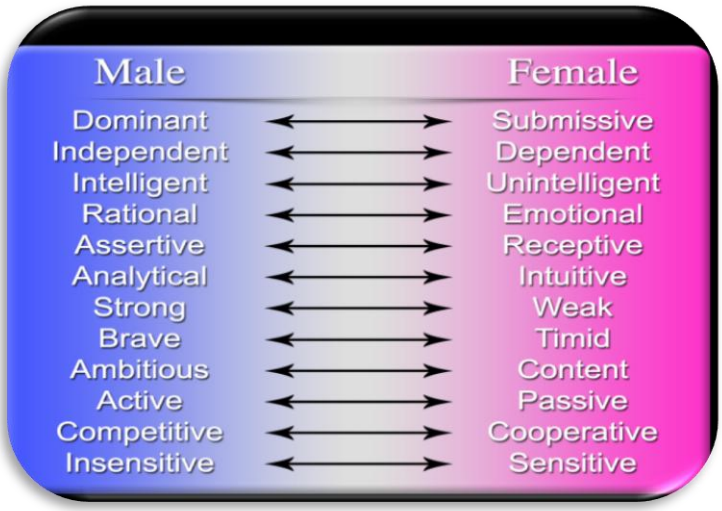
MacKinnon, on gender differences makes her opinion thus:

".....difference is the velvet glove on the iron fist of domination. The problem is not that differences are not valued; the problem is that they are defined by power". Women/men is a distinction not just of difference, but of power and powerlessness….Power/powerlessness is the sex difference" (MacKinnon: 1989,p- 219)

Culturally women had been attributed the qualities to become inferior to men, while men were supposed to be the "Essential[1]", "powerful" or "superior" with having socially attributed qualities to be so. The general view regarding the basic characteristics of men and women can be visualised thus:



In men dominated culture, the women's position is subordinate because of the women's deprivation of status as culture subject for a long time. Therefore, we always recognize those old sayings in mind unconsciously, such as "the men go out to work while the women look after the house", "men should have a career, women should take good care of the family", "women are born to be weak, men are born strong", "Women are sad in tears, men cannot weep in public", "there must be a woman to support a successful man behind", and so on (Hui L.:2012 p-268).

1 According to de Beauvoir, in all the societies there exist the essential and the inessential; the self and the other, and all the societies reflect this duality. From this perspective, woman is socially constructed in relation to male and considered as inferior to the superior male. The man from his infant age has been cherished to assume an unquestioned superiority. (see http://shodhganga.inflibnet.ac.in/bitstream/10603/20322/5/05_chapter%20i.pdf)

Moreover, in almost all the religious scriptures designate women as inferior while men are superior—women are thought to be created as an "After-thought". Manusmriti[2] occupies a significant place in Hinduism where it was stressed in the inferior status of women. It reads:

In childhood must a female be dependent on her father; in youth, on her husband; her lord being dead, on her sons; if she has no sons, on the near kinsmen of her father; if she has no paternal kinsmen, on the sovereign; a woman must never seek independence. (V. Geetha: 2009,p- 48)

In Quran also women's inferiority is established under the superiority of men where women are just seen as the objects to satisfy the men sexually and providing the children. It says:

Men are superior to women on account of the qualities with which God had gifted the one above the other . . . Virtuous women are obedient, careful during the husband's absence, because God hath on them been careful. (Rodwell 415)

In this regard Bible is not behind to prioritize men over women saying to submit women to their husbands as women were created out of men, so men are superior and women are the subservient.

So, reform of such social structure facilitating the women's sufferings and oppressions—lies in what the agents of social change accomplish: in changing the situation for the women folk in today's digital world. Media, the powerful means to socialisation and change, though vital in communicating and covering some areas, but from women's perspective, it seems, have failed in doing that. So, Banadana Rana writes:

[...] the women's movement and the use of media got further impetus after the Beijing Conference in 1995. Many women's organisations then began to voice their concerns against the negative portrayal of women as a commodity and as second-class citizens through both private- and government-controlled print and electronic media, and the need for encouraging women to join the profession.

In today's mediated society much of what comes from the narratives, stories, series, soap operas, advertisements—which influence viewers' mentality to form own ideas and conception on a specific topic. The women question in media is very much confusing as media are being busy with creating the image of ideal women ignoring the real emotions of a real woman. In this regard, media are focussing on what the cultural beliefs presume women to be and what the patriarchy construct the image of women to be—all are regenerated in media contents leaving women as inferior and subservient. In Visual Media such as the Films, Television, or in the advertisements, those women are monitored as slim and beautiful, independent but care free as if women are nothing but the objects to be projected as men want and needs. That culminates the women's assertiveness and firmness to be called human beings and to have equal status with men and low down women to a "thing" or "objects" which are easily accessible.

In other words, media's projection of women as objects or things signifies the social and cultural construction of women as "Thing" or "object" due to their "Femaleness" or the "Procreative Power" to give immortality, continuity and purity to the "Male line". Women sexuality is being trapped in so called "Production" which divides women as upper, middle or lower and "Reproduction"(which differentiates women from men) systems of the society facilitating patriarchy in the minds of the general people: patriarchy is plant deep rooted to express, interpret, and define what it means to be men and women. In a research by Gerda Lerner about the Mesopotamian civilisation, she saw that though women were from different economic status and often enjoyed economic independence, still their sexuality was strictly controlled by men—which even can be visualised in every society. Traditional or modern, women must have to be controlled by men—this is the

[2] It was written by Manu and is the first Law Book in Hinduism.

universal norm of society: anyone who goes against it she is labelled as "Desperate" or "Feminist" or "Errant" by the so called patriarchal society.

So, seeing the activities of media, it appears that, it is not out of the influence of patriarchy. Traditionally, women are thought to be and adored in almost all the religions and civilizations as caring mother, wife or good homemaker where media has also a share of it to show women as so. And now there is shift to show women as slim, beautiful or stylish and economically independent but in turn in the name independence women are being pushed as objects of entertainment and sex—media are reenergising the traditional concept of women who never are independent but it was not so long ago that women on the screens solely portrayed as submissive housewives taking care of their children and family. The confusion is well stated in the following:

Many scholars who study the gender role construction of women in mass media fear the consequences of the "ideal woman," who is usually depicted as a hyper-sexualized, domestic, and obedient creature (Charlebois as quoted in Murray: 2014 p-2).

With the influx of the women characters in films, television shows, having the traditional masculine profession such as doctors, engineers, lawyers of the past few decades people may vision the gender equality be grounded in society but in reality, it is a matter of discussion, are these strong female roles shown on the screen really promoting the gender equality or are they patriarchy in disguise? Though the women characters are seen cooking kitchen wearing the aprons, washing clothes in the bathrooms, not sweeping the floors but other background activities of her personal life, the dialogue she delivers, the behaviour she portrays, symbolise patriarchy. In a study of a role of a woman CIA Agent in the television series of U.S by Shelby C. Murrey, the researcher found that instead of being a strong woman, she was not shown free from the stereotype womanly emotions: her personal life was shown so negatively that it undermined her success and credibility which ultimately reflect patriarchy still working. So, the researcher says:

Examining these misleading female roles is important because characters that may seem to challenge gender stereotypes and appeal to gender equality still reinforce hegemonic values. These media portrayals are also important to examine because reinforcing these cultural norms could potentially have a destructive effect on females and males, in which exposure to these portrayals can affect their actions, beliefs, and place in society (2014 p-2).

Feminists, after years and years struggled for gender equality and still struggling for the same, but there is no sign of equality indeed. It is implicated argument in feminism that molding, direction and expression of sexuality organizes society into two sexes—men and women—in which the totality of all the human relationships are embedded. Feminism is nothing but a theory of power and distribution: inequality—it provides the accounts of how the paternalistic disparities are internalised and justified in society though unjust. According to Griffin and Foss, the three most important principles—equality, imminent values and self determination on which feminists are justifying their movement fetching equality and to end the age old sufferings of women but it, by no means, wants to attribute matriarchy or matriarchal values. Through the basic principle of equality feminists talk about establishing a relationship between men and women on equality not on dominance by men over women or women over men. The second principle imminent value also rejecting the dominance illuminates that every individual, irrespective of men and women has their unique value in society. So there should be no ranking or hierarchy between men and women and dominance as every individual has their unique worth or immanent value. Similarly, through the third principle the feminists talk about to have the power to take decision of their own and to be empowered or to live their live the way they want.

It is on the basis of these three principles, it will be useful to reiterate that it is the difference between men and women in terms of sex and gender has problematised the situation of women to be called human beings having equal footing with men. Feminists put effort to make distinction between the biologically differentiated "male" and "female" and between the socially different "man" and "woman". According to them at the time when an infant born into, besides the biological differences in genital and reproductive organs, there is not much

difference between a male child and a female child, but in due course of time they are socialised according to their gender expectations and roles. In this regard, the imperative of Media as an agent of social change and socialisation, have meant that it should be responsible towards the development and empowerment of women. But, as against this norm, most of the time media have been seen deceiving its viewers creating vague image of women. It is well stated in the following:

Mass media portrayals of characters on television can be very deceiving. They can make you think you are engaging in something positive, such as powerful women on television, when in reality, you are simultaneously supporting male hegemony.(Murrey:2004)

It is worth-mentioning that one cannot ignore the cognitive effects of media contents on human brains—on one hand media fetch unrealistic socio-cultural and economic conditions of a particular society and on the other it justifies the created cultures through their narratives, stories and image construction: those images of men and women might not be the real as feminists say that disparities between men and women are internalised and justified through the socio-cultural beliefs though those are unjust. It is well quoted in Lou (2012 p-270):

According to the opinion of Walter Lippmann, an American media scholar, the content of the mass media create the pseudo-environment in which the mass media send all kinds of information to the public through symbolic events processing, information selection and images reconstruction. Those selected information is not the complete reflection of the reality. There is implicit ideology in the reconstructed information which not only restricts people's cognition and behaviour but also influence the social cognitive environment for quite a long time.

II. CONCLUSION

To conclude, it can be said that, an attempt was made to demonstrate, through this article, the relationship between images of women created by media having been patriarchal in nature and the actual feelings of women and their arguments in terms of social constructions of what it means to men and women. Rejecting the actual accounts of women to be called inferior in patriarchy dominated society, media are actualising and normalising image of women as society constructs their views on the basis of—sex and gender. Its contents entertain the male gaze and are being created such situation as if women are always ready to show their body to be called sensation by the males—which itself is a patriarchal oppression on women by men and it lowers the position to be objects of satisfying and entertaining the men.

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MEDIA PORTRAYAL AND WOMEN: WOMEN, GOD'S CREATION AS 'AFTERTHOUGHT'

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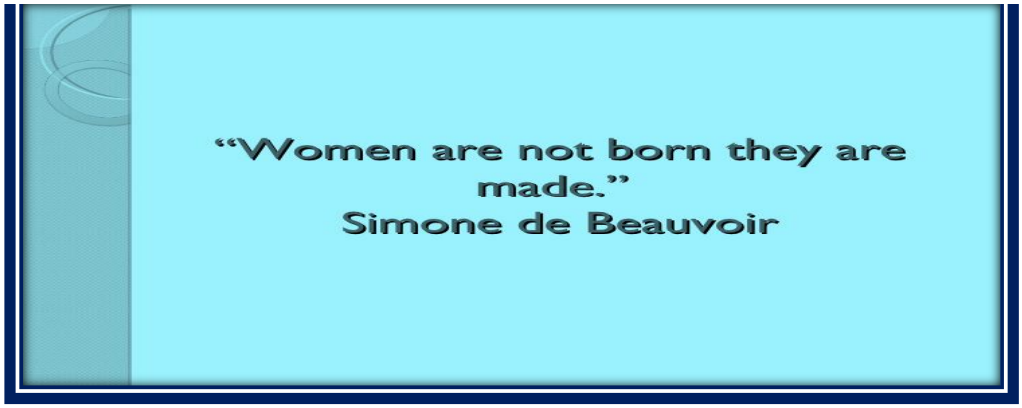


Figur1.Simone Beauvoir on women

"I cannot be fair about books that treat women as women. My idea is that all of us, men as well as women, whoever we are, should be considered as human beings."—Modern Woman: The Lost Sex, Dorothy Parker

"Everything that has been written by men about women should be viewed with suspicion, because they are both judge and party."—Poulain De La Barre

"Humanity is male, and man defines woman, not in herself, but in relation to himself; she is not considered an autonomous being. "Woman, the relative being,"—Michelet.

Simone De Beauvoir in her book "The Second Sex" says that 'woman is not born, but rather becomes a woman'. She explains that gender differences in the society make the man superior through his role bread- winner. It gives him position of power in the family as well as in the society: they become superior and women the subordinate. She is treated as the "Other".As long as women live in a culture saturated with social conventions of what it means to be a woman, there will be a pressure for women to conform to certain ideals. This in turn could result in a conflict of identity, between a being's comprehension of herself and the concept of woman which has been constructed by ideology. This conflict is the reason why women have felt the need to express themselves in writing in the first place, because they feel that there is a gap between what they see as themselves and what they are told that they should be.

As for women[1], it's a cliché talking that their plights and oppressions bagger description, out of the patriarchal nature of society. From birth to death, society fights shy of women in regard to their empowerment[2] and development issues, however, there are women, still longing for better lives within a just and egalitarian society: just and egalitarian, not from the legal and constitutional promise perspective but from realistic point of view.

The women are unique creation of the world and constitute half of the population of the country. No society can socially, economically, politically and culturally progress without the active participation of women.

In spite of the fact, women are the most deprived and socially discriminated in the society in the name of gender and treated as sex objects[3] and commodity. Such approaches and perceptions prevailed in the society are shown in the media from time to time. In this regard the concept of 'cultural transmission' effectively works in transmitting the culture, and in particular expectations of the genders from one generation to the next. So, the role of media as a factor for socio-cultural transformation shaping the attitudes and behaviors of the genders towards the better development of the society, upliftment and equal recognition of the women in the society is recognized in a developing country like India. But at the same time, the negative projection of the image of women, their poor participation in the media and also an insignificant role in the women issues, related to gender bias, sex objects are common feature of the media industry. It helps not only in nourishing these differences but also showing the ideology of male supremacy.

As we know that the Indian social system carries about the diverse cultures that are reflected in various gender relations ranging from caste to class system, patriarchal forms to matrilineal. In India where a patriarchal society flourishes, 'son preference' is an age-old gender bias, in which the male of the family bears the responsibility of 'carrying forward' the family's name. He is supposed to support his parents in old age and also perform their last rites when they die. The fact that daughters are generally regarded as 'Parayadhan' or 'somebody else's wealth' and the giving away as dowry to the groom ensure that daughters are often seen as an 'economic liability'.

A United Nations statistics shows Gender inequality very starkly:

"Women perform two-third of the world's work but earn only one-tenth of the world's income. They comprise two-third of the world's illiterates and own less than one–hundredth of the world's property. A gross discrimination stands out".

[1]Women denote a social or cultural category of females as gendered persons. She is an adult female of the human race. She has all biological qualities like men have, she can think, she can speak, she is the creator of new generation. But she is not considered as a status of the same gender, she is portrayed, exploited and discriminated in the living world (Dimitrov, George:2015).

[2] Socialist feminists are interested in undermining the power-over system of capitalist patriarchy through empowerment. However, they believe this can be accomplished best by a societal and global redistribution of power, as opposed to placing their hopes in the empowering capacity of feminine traits. As a result, socialist feminist are most active in socialist revolutions and women's economic movement s, on welfare, women in development, and women in the 'global factory'. As cited in 'Analysing Structures of Patriarchy.

[3] The Media have been criticized for its portrayal of women as objects whose value is measured in terms of their usefulness to others. It becomes difficult to see them as thinking, feeling, and capable people. Constantly, portraying women in a highly sexualized way makes it more likely all women will be seen as sexual objects (Women and Media: Who do they think you are?).

Besides certain Hindu Scriptural text claim that at the very dawn of creation, women emerged as sinful creatures, fire, snakes and poison all rolled into one. The original Manu, the author of the Dharmashastra argued that at the moment of creation itself women were allotted the habits of lying, sitting around, with an indiscriminate love for ornaments, and qualities such as anger, meanness, treachery and bad conduct. A Hindu woman is compared with a crow or with a shudra without having intelligence and commonsense. Women should be always like "Sita[4]" of Ramayana, an ideal woman, revered by the Hindu society, as she adored her husband as 'Pati-paramiwshwar' or god. "The Manusmriti[5] lumps together animals, shudras and women and considers all of them equally unclean, polluting and fit to be subdued and controlled by the men of upper caste." (As stated in V.Geeta)

In Christian religion also it is maintained that men are created by God for the first time and after that women are created from the rib of the 'Adam', the first man on the earth created by God. So, man is the exemplary human whereas woman is a secondary and dependent being. Similarly, in Holy Quran also, it is maintained that men are created to rule and women are created to be ruled by the God. (V. Geeta).

Religion has been a significant contributor to the oppression of women for millennia. For most religions, particularly monotheistic religions, God is depicted as a male and addressed as "Father". In the Biblical creation story, Eve is created from Adam's body, suggesting male superiority. Eve is also often blamed for committing the "original sin" because she gave in to temptation and then persuaded Adam to sin as well (other cultures have similar notions. In Christianity, God gave the world a "Son" to save mankind, not a daughter. Many of the prophets of Christianity, Judaism, and Islam are men, including Moses and Muhammad. The majority of religious authority figures are males, and in some religions, like Roman Catholicism, women are not permitted to become priests[6].

The portrayal of this complex range of gender subjectivity can provide an appearance of media's simultaneous sensitivity and bias on gender issues. The prevalence of gender discourse has ensured that the impact of gender differentiating structures in terms of atrocities such as sati, rape, female feticide, denial to access to facilities and resources (credit, health care, property) and poor quality of participation in availed avenues is well reported. In the absence of defined and institutionalized policies, procedures and mechanism guided by gender just concerns, the messages conveyed fall in the realm of individual attribution on meaning and representation of gender issues in combination with the dominant socio-political norms. Thus gender representation in media is open to the influence of competing tendencies, be it the market, cultural capital, communalism, electoral politics or women's empowerment articulation (Dagar, 2004).

The history brings it to light that communication is fair and square, in communicating the information, sharing problems with the recommendation of the solutions of the humans from its inception in the

[4] Sita is the central female character of the Hindu Epic Ramayana, daughter of Janaka. She is the consort of the Hindu God Rama and is an avtar of Laksmi, the Goddess of Wealth and wife of Vishnu. She has been a much revered figure among the Hindus. She has been portrayed as an ideal daughter, an ideal wife and an ideal mother in various texts, stories, illustrations, movies and modern media.https://en.wikipedia.org/wiki/Sita

[5] Manusmriti was the first book written on Laws of the world, which deals with social and moral conduct of a person. It falls in the smriti category of Hindu Scriptures and hence it is less authoritative than Vedas and Upnishads. Manusmriti is also known as Dharmasutra of Manava. http://hinduismfacts.org/hindu-scriptures-and-holy-books/manusmriti/

[6] https://en.wikibooks.org/wiki/Sociological_Theory/Feminist_Theory

global set up. As a result, Media[7], rightly given the titles of "Watch Dog"[8] and sometime "Mirror of the society"[9] are, basically, worthy to play of a distinguished role in the struggle of women in gender transformation and in bridging the gap between social identities of men and women. The stereotypification[10] of women by the patriarchal society and the very result of it, the male dominated power relations, has been, far and away, objectifying women as sex and commodity, which according to the so called patriarchs, can be sold or purchased in the market of patriarchy. According Van Zoonen--

> "The media are hypothesized to fulfil the structural needs of a patriarchal and capitalist society by reinforcing gender differences and inequalities". Media reflect society's dominant social values and symbolically denigrate women, either by not showing them at all, or by depicting them in stereotypical roles" (Van Zoonen :1996).

There are different names of oppressions are still existed in the society taking the shape of sex and gender stratification and giving out the inequality based on sex and gender, imbalanced power relation between men and women, imbalanced status based on stereotype traits attributed on both men and women. In a sentence, it can be sum up that patriarchy is the root cause of all the sufferings and oppressions[11] or injustices on women, which they experience each and every second of a single day.

According to Gender stereotypical perceptions women are supposed to be dependent, weak, incompetent, emotional, fearful, flexible, passive, modest, soft-spoken, gentle, care takers while men are powerful, competent, important, logical, decision-makers, aggressive, focused, strong and assertive. Gender stereotype and gender inequality is so deeply engraved in the long history of social

[7]The role of women in media started off from 1960 onwards when Television becomes the part of the society. From that period onwards women who were showed in the newspapers, films and Television got much importance on her. Most of the media corporations were owned by big MNC as well as big Business men who were all males. So, they were not conscious about women so they started women as weapon of attracting their audience and to improve their ratings (Dimitrov, G.: 2015).

[8] The Watchdog media is the guardian of public interest, warning citizens against those who are doing them harms.The mass media are often regarded as the fourth branch of government because of the power they wield and the oversight function they exercise. The media's key role in the democratic governance has been recognised since the late 17th century, and remains a fundamental principle of modern day democratic theory and practice. Media shape public opinion, media can promote democracy by educating voters, protecting human rights, promoting tolerance among various groups and ensuring that governments are transparent and accountable. (Sheila, S, Coronel, The Role of Media in deepening Democracy, Executive Summary. http://unpan1.un.org/intradoc/groups/public/documents/un/unpan010194.pdf)

[9]It is cited in the "Role of Women in Indian Media: An overview" by DevendarBhardwas, Dr. Suresh Chandra Nayak and Dr. Deep Narayan Padeyel. It is said so because of its accountability towards the society as a whole.

[10]Gender stereotypes are oversimplification, exaggerations, generalisations and reductions of men and women (Basow: 1992). Similarly, Talbot says that, gender stereotypes [are] linked to gender ideology [to] reproduce naturalised gender differences. In doing so, they function to sustain hegemonic male dominance and fe,le subordination (as cited in Reutler, Maike:2013, "How Gender stereotypes are achieved linguistically in AMC'S Mad Men", published in Journal of Serial narration of Television ll,http://www.uni-saarland.de/fileadmin/user_upload/Professoren/fr41_ProfSolteGresser/serial-narration/PDFs/Journal_02-2013/073-085_s46nth9.pdf

[11]Patriarchy is "a set of symbols and ideas that make up a culture embodied by everything from the content of everyday conversation to literature and film" (Johnson, 1997, p. 84). "At the heart of patriarchy is the oppression of women, which takes several forms" (p. 11). Patriarchy colors family, work, law, individual identity, and religion; in fact, there is not a single area that can escape the effects of patriarchy. Patriarchy must be recognized as one of the underlying causes of violence against women in India. (Pamela A. Johnson and Jennifer A. Johnson:2001)

consciousness that it is now believed that only the media with its tremendous reach and power would be the ideal tool in bringing about gender equality. In literature there are many stereotypically female and male characters and feminists argue that these roles reproduce and maintain patriarchy.

> According to Elizabeth Langland, there are common stereotypes such as the mother, the wife. The stereotype the "submissive wife" is portrayed as an "obedient, passive, unassuming" woman.
>
> Gamble mentions that the submissive women are commonly portrayed as "nurturant wife, mother or muse".

Traditionally, the wife's role was to stay at home and take care of the children, while her husband worked and brought money to the household (McElroy 102). Gale A. Yee claims that the role of the submissive housewife is partly a product of the wife's lack of financial independence. Thus, by following norms and values in society, reinforced by ideology and religion, the traditional wife reflects the stereotypical role of the submissive wife. In contradiction, Louis Blackwell discusses sexuality as a part of the stereotypical submissive wife. She argues that women are described as subordinating themselves to dominant men because of a fulfilling sex life. According to this stereotype, these particular women also have a tendency to endure their men's violent behaviour and abuse.

Stereotyped "Feminine" traits

- **Physically Weak** - When a person is unsuccessful using bodily strength, for example incapable of opening a jar or carrying a big box, or similar actions.
- **Submissive** -When someone is obeying someone else without questioning their authority.
- **Emotional**- When someone is showing his/her feelings, both positive and negative.
- **Dependant**- Someone that depends on someone else, for example a home, food and money or other things.
- **Nurturing, Helpful** - Someone that takes care of or supports someone else physically or mentally.
- **Afraid, fearful** – When someone is nervous or afraid to get hurt or that something bad will happen.
- **Troublesome** – Someone who causes trouble or pain to others.
- **Follower** – A person that supports and admires another person or set of ideas. A person who is very interested in a particular activity and follows all the current news about it.
- **Victim:** Someone that needs to be saved because he/she is being hurt or tortured by someone.
- **Described as physically attractive** - The character is described as beautiful/attractive by another character.
- **Asks for or accepts advice** - The character asks for help or assistance or in other ways and shows that he/she need help.
- **Ashamed** – Someone feels shame or embarrassment due to something he/she has done. (England et al. 2011, p. 561 table 2 & 3 the oxford advanced learners dictionary.).

1.4.2Stereotyped "Masculine" traits

- **Physically Strong**– Something shows that the character is strong, by example moving heavy objects, hitting something etc.
- **Assertive** – Someone that strongly expresses their opinions so that others will notice declaring or positively stating something.

- **Unemotional** –The opposite of emotional, a character that does not show emotions.
- **Independent** -Someone who is self-sufficient and does not depend on other people for home, food and money etc.
- **Selfish/Self-serving**– People who only care about themselves and not about others. People who are only interested in gaining advantages for themselves.
- **Hero, Brave, inspires fear** – A person that is admired for doing something good or brave, for example saving someone or doing something that is dangerous. Someone who inspires fear by making someone else be afraid of him/her.
- **Problem solver**– A person that finds ways to solve problems.
- **Leader** – A person that in some way leads a group of people.
- **Perpetrator –** A person that commits a crime or does something that is wrong/evil/mean.
- **Described as having a higher economic/career status and being intellectual** – A person that is described as having a profession in which the character earns a lot of money. Also this person is reading or doing similar intellectual activities.
- **Gives advice**– Someone who gives other people advice on how to act etc.
- **Proud** – Feeling satisfied with something that has never been achieved. (England et al. 2011, p. 561 table 2 & 3 the oxford advanced learners dictionary.).

As a result, feminists, keeping in mind, the influential role of media towards society, as the contents of it reflect the society and social norms as a whole, expect media to play the role of the agent of social change and social transformation to environ women in secured embankments with positive space where women can able to find some space of dignity, respect and identity.Research spanning more than 100 countries found that 46 per centof news stories, in print and on radio and television, uphold gender stereotypes. Only 6 per cent highlight gender equality. Behind the scenes, men still occupy 73 per cent of top media management positions, according to another global study spanning 522 news media organizations. While women represent half of the world's population, less than one third of all speaking characters in film are female (http://beijing20.unwomen.org/en/in-focus/media). For this, portrayal of women in positive and dignified way is very much necessary, with which a positive outlook can be fetched among the people against the age old tradition of gender inequality and imbalanced power relations. It is well stated in the following citation….

> "Media has a role to play in the struggle for gender transformation and bridging gap between social identities of women and men. While communication studies, even of the radical critical tendency, have long seemed to be largely 'gender-blind' (Van Zoonen 1991; 1994; Gallagher 2003).

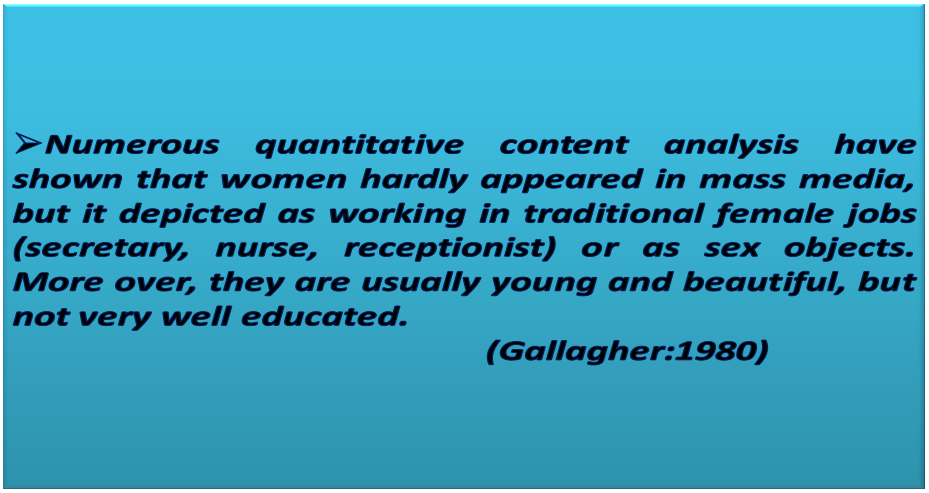
Consequently, Women, Media and media's role towards projection of women in it have been the subjects of study for researchers all over the world. When we start talk about women, feminism[12] and media the first question that strikes most is why women has been the subject of media for the ages and why not men? Why media and gender become the issues of discussion? Why should we need feminism? The only answer can be cited here is that women are human beings and they have the right to live in such an environment where they can voice against the injustice and violations done to them. Obviously, humans cannot forget the role of media as the fourth pillar of democracy, but yet it's a matter of

[12]Feminism is the idea that women should have political, social, sexual, intellectual and economic rights equal to those of men. It involves various movements, theories and philosophies, all concerned with issues of gender difference, that advocates equality for women and campaign for women's rights and interests.(Johannesdottir:2009)

concern for the feminists regarding media's portrayal of women and gender inequality[13] over the globe. Over the centuries, the media industry has developed so extensively that it relates itself with the society as a whole through its communication infrastructure. It plays a vital role in setting opinions, influences our behavior, attitudes, social interactions through the presentation of image. But it should also be kept in mind about the role, which has to be played by the mass media in eradicating gender stereotypes through the media messages and contents. In the past few years the forms and content of mass media plays a significant role in the production and transmission of patriarchal culture. A review of various research studies on the media portrayal of women undertaken up to 1980 by Gallagher (1981), however, observes:

> "…… a consistent picture emerges from those research studies which have investigated the media's portrayal of women. At the very best, the portrayal in narrow; at worst, it is unrealistic, demeaning and damaging". In the name of freedom of speech, the media claim the right to represent women as they wish." –Gallagher

The ways in which women are routinely portrayed in Mass Media, for which media vein of, are nothing but the stereotyped images. Gaye Tuchman, Arlene Kaplan Deniels and James Benet's foundational collection of empirical and theoretical articles in *Health and Home* was among the earliest to problematize women's media representation. The text cited not only women's routine omission or symbolic annihilation—from mass media, but also ways in which women were stereotyped.



Similarly, Margaret Gallagher's (1979) UNESCO Funded study hold to search the underlying reasons why women's image would continue to concern women for decades to come: The media are potentially powerful agents of socialization and social change—presenting model, conferring status, suggesting appropriate behaviors, encouraging stereotypes (Carolyne M.Byerly & Karen Ross: 2006). So, its role towards women should not be tided over or ignored. Popular mass media as well as the new media represent a symbolic power of social control, which are even versed with to initiate social changes and

[13] The main point feminists have stressed about gender inequality is that it is not an individual matter, but is deeply ingrained in the structure of societies. Gender inequality is built into the organization of marriage and families, work and the economy, politics, religions, the arts and other cultural productions, and the very language we speak. Making women and men equal, therefore, necessitates social and not individual solutions. Judith Lorber in Variety of Feminisms and their contribution to Gender Equality.

becoming increasingly powerful mechanisms for mobilizing popular support. It will be cleared from the passage given below--

> The structure of ownership and participation are new in media. So it's important to search the position and status of women in the new set up of media, whether women are being portrayed positively or in derogatory sense or whether women are being employed in media. (Arif Moin & Ehtesham Ahmad Khan 2013)

To keep an eye on the role played by media Feminists have been trying to give focus on the contents published in media and kept on criticising the role of media. As a result, Feminist media studies have emerged as one of the richest[14] and most challenging intellectual projects within the field of media and cultural studies over the past twenty-five years.

> The range, complexity and transdisciplinarity of feminist media studies today bear little resemblance to the fledgling body of work that began to appear in the 1970s.The world wide feminist movement has pointed out three basic important dimensions regarding women's participation, performance and portrayal in media. (Gallagher: 2005)

Gallagher says in "Feminist media perspectives" that it was indeed a political impetus that first shaped the academic agenda of feminist media analysis (Gallagher). The tradition was started with Betty Frieden[15] who was dead against the media's role towards women. Gallagher says---

> "One starting point for Western feminists was Betty Friedan's The Feminine Mystique[16] (1963), with its clear critique of the mass media. At a global level the United Nations International Decade for Women (1975–85) was a catalyst for debate about the probable factors of women's subordination, while the media's role as a specific source of oppression was documented in reviews initiated by UNESCO (Ceulemans and Fauconnier, 1979; Gallagher, 1981).

In this regard, it should be treated of, that Tuchman had added the concept of "Symbolic Annihilation"[17] being noticed the media's role towards women as they were deeply implicated in the patterns of discrimination, operating against women in society – patterns which, through the absence, trivialization or condemnation of women which are wanting in the real pictures of women[18]. It is discussed well by Gallagher….

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[14]In "Feminist Media Perspective" Gallagher discussing about feminism as a theory, politics and activism says that it's an intellectual project within which media and cultural studies took shapes.

[15]Frieden and other feminist authors of the 'Second Wave', in Europe and US, unleashed a powerful movement in the 1970s that redefined what it meant to be a woman (Hermes, Joke:2007).

[16]The Feminist Mystique written by Betty Frieden (1963) marked the reawakening awareness of women to the pervasive societal pressures to conform to a traditional role. This thesis bears the examination of the nature of relationship between the media and the social change (Damarest, Jack & Jeanette, Gerner:1992).

[17]The concept of 'Symbolic Annihilation' was first introduced by George Gerbner in 1972. He first briefly referenced the concept without going elaborately as: representation in the fictional world signifies social existence; absence means symbolic annihilation. Gerbner used this concept to reveal how representations in the media cultivate dominant assumptions regarding how the world works and, as a result, where power resides. Later this concept was further elaborated by Gaye Tuchman and expanded the concept from Gerbner's simple definition from 'absence' to include 'condemnation' and 'Trivialisation'.

[18]In "Feminist Media Perspective" Gallagher has aptly made a critical discussion on 'symbolic annihilation' regarding the portrayal of women in media. She referred this concept in terms of two major themes: firstly in the

> ".....the overall media treatment of women can best be described as narrow…women are rarely portrayed as rational active or decisive…Underlying practically all media images is a dichotomous motif which defines women as either perfectly good wholly evil , mother or whore, virgin or call girl, even tradition or modern".

Stressing on world scene the Mc Bride commission said in general that the media paid insufficient attention to specific issues of women's importance, to the activities of the women's movement and the social contribution made by independent and gifted women as media are making after the preservation of myths. Women appear in news papers or magazines or films as self deprecating and dependent, irrational, superstitious and over emotional. In both the media vis. Print and visual make for shown women either as the house wives whose interests are limited to domestic needs, or in sexually allowing background which by its associations with consumer goods make them attractive. A numbers of studies indicate over-effects of portrayal of women's images. There are some fundamental aspects which have not received as much publicity as question of glamorization of women as sex objects by the media in a developing society like India.

Traditionally, the media world has been male-dominated globally as well as nationally. Men design and define media policies, priorities, and agendas, including how women are portrayed and presented. Most often, it is men who make decisions about hiring staff. The ratio of male-female workers in the media is heavily imbalanced in favor of men. It is no wonder then that the media is biased against women in many areas. This bias affects images of women in the media, and, in turn, has a negative effect on women's development in a society. In India, cricket news occupies nearly 20% more space than women's issues. Female presence is more through advertisements, news of crime, and social events. Women's representation has moved beyond female images of the family and home to personal care, as dictated by the market agenda in a predominant patriarchy. The subtle stereotyping is more insidious as it is relatively more invisible but, nonetheless, demeaning and patronising.

The continuing debate on mass media and gender produces much more complex understandings of the social, cultural dimensions of power and inequality existed between men and women in the society, and more specifically feminist analyses of the media, culture and society. According to Gallagher (1992), *"..... the mass media function in the larger system of patriarchy and capitalism that controls media structures and organisations and represents women as subordinates."*

Ranu Tomar observes,

> "……..the role of women in media-decision making is reflected in the poor representation of women issues and concerns. The drastically changing media (print) can be seen through years or especially in post-liberalization period, media has become market-oriented". (Tomar Ranu: 2009)

The mass media are being challenged for its involvement to get on the hegemony of dominant social classes and reproducing gender relations in the context of a larger system of patriarchy and capitalism which control the mass media and subordinate women. So, different women's groups and media professionals get along to challenge them. The question of gender and gender inequality touches almost every aspect of the media-culture relationship. So,Van Zoonen (1991) writes that……

analysis of the structures of power in which women are systematically subordinated and secondly, in the politics of representation and the production of knowledge in which women are objects rather than subjects.

> "……. the meaning of gender is never given but varies according to specific cultural and historical settings…is subject to ongoing discursive struggle and negotiation' (p45). Here important issue is professional inequality which is embedded in media and is strongly based on social differences between man and woman."

The exclusion, seclusion and oppression of women by transnational corporations are translated into media representation and employment. To address these issues UNESCO commissioned major review of the literature worldwide related to women and Media (Gallagher 1981). Gallagher (1981) notes that her reviews present a picture remarkable only for its overall consistency when compared from one country to another. The report offers considerable evidence in support of conclusion that is:

Representation of women can best be described as narrow. On film, press and the broadcast media, women's activities and interests typically go no further than the confines of home and family. Characterized as essentially dependent and romantic, women are rarely portrayed as rational, active or decisive. Both as characters in fictional media material and as newsmakers in the press and broadcasting, women are numerically under representation- an absence which underlines their marginal and inferior status in many spheres of social, economic and cultural life. Prevalent news values define most women and most women's problems as unnewsworthy, admitting women to coverage primarily as wives, mothers or daughters of men in the news: in their own right, they make the headlines usually only as fashionable or entertainment figures.

At global level major study was done known as Global Media Monitoring Project in 2005. This study was co-coordinated by World Association for Christian Communication (WACC) an international NGO that promotes communication for social change. This study was conducted in 76 countries across the globe (Bharadwaj, D. et al: 2014) .

This study found that:-

i) There has been a steady increase in the percentage of news items reported by women from 28% in 1995, to 31% in 2000, reaching 37% in 2005. Female reporters have gained more ground in radio and television than in newspapers. The press lags far behind the electronic media, with only 29% of stories written by female reporters in 2005.

ii) As news presenters, women are more likely to be found in television than radio. With 57% of television items presented by women in 2005, this is the only area in which female outnumber males. In radio 49% of items were presented by women.

iii) The on-screen presence of women decreases with age. Up to the age of 34 women are in the majority as both news presenters and reporters on television. By the age of 50, only 17% of reporters and 7% of presenters are female. For women in the profession, a youthful appearance is more highly valued than experience. Male presenters and reporters continue to appear on-screen well into their 50s and even 60s.

iv) In most news organizations, local news is deemed less prestigious than national or international news. Female reporters are more likely to work on local stories (44%) than on national (34%) or international stories (32%).

v) Female reporters predominate in only two topics weather reports on television and radio (52%) and stories on poverty, housing and welfare (51%). There is a 50-50 gender balance among reporters in celebrity news, and in stories on consumer issues. In all other topics, male reporters are in the majority. Sports news is the least likely to be reported by women, with just 21% of female reporters.

vi) Overall, male journalists report at the so-called 'hard' end of the news spectrum such as politics and government (where women report only 32% of stories). Females are more likely to work on the so-called 'soft' stories such as social and legal issues (40% reported by women). Although many 'soft' news stories are important, they are not always perceived as such in the hierarchy of new values. As a result, the work of female journalists is sometimes under-valued, and women reporters are frequently assigned to stories that are downright trivial–celebrity news (50% reported by women), or arts and entertainment (48%).

vii) There are more female news subjects in stories reported by female journalists (25%) than in stories reported by male journalists (20%).

This Global Media Monitoring project concludes that women have made great strides in the news media over the past decade. But they still struggle to achieve equal treatment. Older female professionals are rarely seen on television: for women appearance is valued more highly than experience. Female reporters frequently work in local news beats and on stories at the 'soft' end of the news spectrum. This could be one of the reasons why there are more female news subjects in stories reported by female journalists. But, irrespective of who reports the news, the fundamental question is: why do so few women make the news at all. The Global Media Monitoring Project 2005 concludes, the world we see in the news is a world in which women are virtually invisible (Gallagher 2005).

Further Gallagher (2005) describes that the use of stereotypes reflects a mental dead-lock not only in terms of what society may expect from women, but also more seriously in terms of what women may expect from them. The basic structures of many societies have been based on assumptions of sex-biased roles, which are entrenched in the use of language. When gender-biased language is used in a story (for instance, craftsman, businessman, fireman, and policeman), journalists support a destructive bias that suggests women are excluded or incapable of playing their roles. True gender equality should liberate both men and women from the limitations of such narrow thinking.

—It is not impossible to produce news stories that are gender sensitive. It just means thinking more creatively about the topic at hand—whom it concerns, who should be included in its coverage, in what way and for what purpose. says Margaret Gallagher, author of the GMMP(2005).

It has been a global view of the contribution of women work force in media. In context of India, a study on Status of Women Journalist in Print Media was conducted in 2002 by Press Institute of India commissioned by National Commission for Women. A two pages questionnaire was distributed in three languages to journalists across the country, from Punjab and Shillong in North and North East to Kanyakumari in the South and from Calcutta in the East to Kotach in West. This study turns into the reality that women in regional-vernacular press are lagging far behind their colleagues in the English language press. There is vast difference in the wages earned by those in English national newspapers and those in regional media. This report says that in regional press men and women are hired like contract labor on daily wages. They are extremely insecure and invariably it is the women that are the first to be axed.

The level of awareness of basic working conditions is very low on some key issues:

i. 31 per cent were not aware if any equal employment policy existed in their Organization.
ii. 29 per cent did not know if women were targeted.
iii. 19.5 per cent did not know whether formal appeal procedures or mechanisms for handling grievances existed in their organization while 50.7 per cent were sure of no such facility.

iv. 10 percent are not aware of any formal training program in their organization while 42.3 said that no such facility was provided.

v. 87.6 percent are not aware of any superannuation scheme or believe that it does not apply to them.

The objectification of women in mass media has a long sorted history. Critics, however, argue is that such an analysis is an exaggeration, which they dismiss along with most feminist critiques of society. The representation of women in the media has always been exploitative and derogatory as well. It has, throughout the years, reduced women's position to just mere objects which can be won, prizes to be shown off, and playthings to be abused (Stephanie Nichole Berberick:2010). The ideal women, who are portrayed by media is in contradiction with the real picture of women. In the contents of Print Media or the electronic media, women are portrayed as beautiful having slim figure, fair skin, long legs, attractive and so on. Both the self and society has suffered because of the objectification, sexism, exploitation and assessment.

In 2010, following a set of three studies that "examined the associations among sexist beliefs, objectification of others, media exposure and three distinct beauty ideals and practices," Researcher Viren Swami and collegues, found that sexism exists where beautyideals and practices are rigidly consumed and followed, (Swami et al. 2010:367, as cited in Berberick:2010).

> In patriarchal societies, the roles and privileges accorded to women are inferior to those assigned to men, and as such, sexism plays a central role in the continuing oppression of women. Moreover, and as predicted by the "beauty ideals are oppressive (BIO) hypothesis (Forbes et al., 2007), the existence of patriarchal structures and attitudes should result in significant relationships between sexist attitudes and the endorsement of beauty ideals and practices, (Swami et al., 2010:366).

The women's issues get a fallback position and are kept away from the mainstream reportage in media even though the entire world society is plagued with burning women's issues like female feticide, sexual harassment, discrimination in work places, women empowerment, maternal health, unemployment and illiteracy.

> Mass Media, one of the world's largest database, as well as agents of influencing public opinion, reflect opinion and perceptions through reporting what other people, companies and organizations are saying and doing. Media reports reflect the happenings of the society but unfortunately media is wavering from its actual role of disseminating factual information instead presenting biased information which obstruct the development of the society, especially women (Tauchman:1978).

Besides, women are rarely given professional coverage in fields like economic, social, political and business. The most disquieting trend in media is that women are either poorly or negatively covered. The under representation of women in media in the west but paramount of gender based studies in mass media is relatively less in India. Media needs to be sensitized in addressing the positive portray of women.

For these reasons portrayal of women and media coverage of women's issues has got immense importance throughout the world and has been a source of contention and debate by the media researchers.

Feminism, Stereotype Theory and Intersectionality

Theoretical conjecture of this work, firstly, derives from Feminist Media studies, an approach that emphasizes the gap between gender representations and social Reality[19]. It seeks to explain how women find their own power in a world filled with social stereotypes and stigmas. "Feminism seeks to expose, patriarchal practices" (p. 39). It is about fighting for equal rights for women as a distinct social group, equal to men in every way[20].

"Identifying male sadism, especially toward women, and holding men at least theoretically culpable for such acts as rape, wife beating, and child abuse are major achievements of modern feminism" (Clover, 1992, p. 226). Because of the women's rights movement, feminists argue that female portrayals in the media should change. King (2007) argues, "As women assume authorial control and industrial power, and as audiences demand new images in old-fashioned genres, the representation of women should continue to change" (p. 2). Before the representations can change, it is first important to understand these representations of women, what they mean, and to understand where they fit into scholarly theory (ibid). According to Tuchman, the media performs two simultaneous works, first enshrining and reflecting dominant societal values and then acting as a means of socialization. Therefore, media images are regarded as 'a version of reality that is culturally determined' (Jewkes 2012:37). It is a site where 'cultural understanding about women are reflected, created, transformed and publicized' (Hirsch 1994:1027).

As a system of gender ideology, the media reflects masculine understandings of the world, and in turn legitimates the "natural" authority of men and subordination of women (Daly & Chesney-Lind 1988; Flavin 2004; Humphries 2009). Constructions of gender thus reinforce the socialization of 'dichotomized and hierarchal sex-role stereotypes' (Carter and Steiner 2004:2).

Through 'institutional coerciveness' (Cameron 1997:31), stereotypes portrayed in the media transcend alternative practices of gender construction. By selectively disseminating ideology and information, the media largely perpetuates and reinforces the status quo regarding the position of women (Prasad 2005:13). The general categories identified in the construction of gender dichotomies include powerlessness and passivity against authority and power, with the former associated with women and the latter with men (Van Zoonen: 1994). The Indian media appropriate the cultural norms that relegate women to the private sphere, which performs a secondary socialization by reinforcing typically female roles (Smart and Smart 1978:2). Although previous blatant sexism has dissipated in Indian media, this has evolved into subtle distortions due to the media's patriarchal structure (Joseph and Sharma 2006:42). coverage reinforces these socially appropriated roles. The question is whether there have been any changes to move away from such stereotypes, overt or clandestine.

Social Scientist, Walter Lippmann, first used the term stereotype in 1922 to refer to an image that individuals hold in their heads about a specific topic. In his critically acclaimed book, Public Opinion (1922), Lippmann explains that the way things are in the real world are often not the same as the images

[19] As cited in The Monochrome Lens of the Media? Women's subordination in news print coverage of rape in India. Available at

http://www.southasia.ox.ac.uk/sites/sias/files/documents/The%20Monochrome%20Lens%20of%20the%20Media.%20Women%27s%20subordination%20in%20news%20print%20coverage%20of%20rape%20in%20India%20K%20Sandhur%202014.pdf

[20] As cited in Chad Brewer:2005

that exist in the minds of individuals within a given society, yet the dominant group perpetuates the inaccurate images. Ford and Tonander (1998) stated that "…traits which differentiate a social group from people in general are more likely to be judged as stereotypical than traits which are less differentiating" (p. 373). This means that the dominant group tends to label traits or characteristics of another group, that stand out as unique, as stereotypic of a particular group.

Stereotypes tend to separate individuals into certain subgroups within society based on a particular group membership. Thus, one might conclude that society, itself, is partially responsible for forming the group concept of a stereotype. In society, stereotypes become comfortable and easy ways for those in the majority to refer to those in the minority. They are unrealistic at times, but they are also unreliable generalizations that give rise to negative feelings and associations of negative qualities with certain groups. For this reason, prejudice often finds its way into society through stereotypes (Kanahara: 2006). On the other hand, the very need of the dominant group to achieve self-esteem enhancement can affect the stereotype formation of a particular subordinate or minority group drastically. This means that those members of the dominant group may often put down on members of another group in order to make themselves look better to society. The dominant group needs to believe that it is better than those that are different from them (Ford & Tonander: 1998).

Individuals often use stereotypes in the media to differentiate between the characteristics of two particular groups, such as men and women, without focusing on the legitimacy of the claims themselves. Often in the media, women become the stereotyped group and men become the group who stereotypes (Rettew, Billman, & Davis: 1993). Researchers believe that understanding media stereotypes is important because stereotypes lead to discrimination among the sexes. They hope that their research will provide information that will help minimize public evaluations based on misinterpretations by the media.

Intersectionality is a feminist theory, which can be used as an analytical tool to study and understand the convergence of multiple identities with gender and to respond appropriately to alleviate the discrimination against oppressed classes. The theory is based on the premise that individuals simultaneously belong to multiple communities (that have emerged from social and power structures in the society) and would experience oppression and privilege both at the same time (Symington: 2004[21]). In this study this theory is applied to analyse the status and position of women, particularly in media's portrayal of women out of the discrepancies prevailed in the name of gender and sex.

Multiple identities tend to push women to extreme fringes and make them more vulnerable to discrimination in terms of access to basic human rights, opportunities, resources etc. Intersectionality as a theoretical paradigm helps us gain a better understanding, by voicing the opinions of the victims themselves, as opposed to self-interest groups. Intersectionality as a theoretical framework has been used for more than a decade and is different from diversity management in its research focus, intended outcomes and methodology of implementation. Its main focus is to advocate for the basic rights of minorities like women, disabled, colored, LGBT's, and indigenous individuals (Symington: 2004)[22].

[21] As cited in Mrudula Anne et al:2014
[22] Ibid

Women Issues in India: Current Perspective

"As women are generally the poorest of the poor ...eliminating social, cultural, political and economic discrimination against women is a prerequisite of eradicating poverty ...in the context of sustainable development".—International Conference on Population and Development (ICPD) Programme of Action, 1994

Women's issues[23] first began to be addressed in India when the State commissioned a report on the status of women to a group of feminist researchers and activists. According to the Report (1974) "Towards Equality" the heterogeneity of Indian experience reveals that there are multiple patriarchies contributing to the existence of multiple feminisms."Patriarchy ''according to Sylvia Walby is "a system of social structure and policies in which men dominate, oppress and exploit women" (1990), and "Indian society is oppressively patriarchal"(Suma Chitnis:1988).

In India, there is systematic discrimination and neglect from early childhood of women's in India, which could be in terms of inadequate nutrition, denial or limited access to education, health and property rights, child labour and domestic violence. The fear of sexual violence has been a powerful factor in restricting women's behaviour and sense of freedom. The struggle against violence is actually the struggle against the unequal distribution of power both physical and economic between the sexes. It is important to address the root cause for the subordinate status of women in the Indian society (Purnima: 2010).

Hillary Clinton, US secretary of State, addressing the Delhi University students on 20 July 2009 said that "women's roles and rights are as important as any issue we can list. Women are the key of economic growth. It's been established through research". Men should perceive women not as subservient being but as empowered individuals who are equal partners. The issues need to be seen in the context of a patriarchal social framework and a value system based on 'son preference', such as the son being responsible for the carrying forward of the family name, support in old age and for performing the last rites. Further, the practice of dowry and the tag of 'Parayadhan' translate into daughters being considered an economic liability. Women's are not only entitled for survival but also to a life with dignity, grace and equal opportunities so that they can grow to their full potential. There is an urgent need to pay attention to the issues that concern this section of population. The focus should be on poverty reduction, gender justice, health, nutrition, sustained awareness of rights and redressal, eradication of social evils etc. (ibid).

1.6.1 Political Issues

Political status of women implies a degree of equality and freedom enjoyed by women in sharing of power and importance given by the society to the role of women in the political system. The equality and active political participation are inseparable. Participation of women in political arena is integral to the advancement of women (as cited in Vikas Nandal[24]: 2013).

[23] The period between1960s-80s were significant globally, regarding women studies as this period was significant in bringing women issues to the forefront. During this period a number of studies in line with feminist thoughts on the place of women in society were spurred on as a result of second wave feminism and most pointedly the women's liberation movement.(Pillay, Nerisa: 2008)

[24]VikasNandal (2013) Participation of Women in Panchayatiraj Institutions: A Sociological Study of Haryana, India,

In recent years there have been explicit moves to increase women's political participation. The Women's Representation policy Bill is, however, a very sad story as it is repeated being scuttled in the parliament[25]. Government of India through 73rd and 74thConstitutional Amendment Acts reserved the one-third of seats in all local elected bodies for women as a sign of political empowerment (Purnima:2010;Dr. Alok Mishara et al:2014). But still their power is restricted, as it the men who wield all the authority. Their decisions are often over-ruled by the government machinery. It is crucial to train and give real power to these women leaders so that they can catalyst change in their villages regarding women. In recent years there have been explicit moves to increase women's political participation at top level. However, the Women's reservation bill is a sad story as it is repeatedly being scuttled in the parliament. All this shows that the process of gender equality and women's empowerment still has a long way to go (Purnima: 2010; Ahmed S: 2014).

1.10. Economic Issues

India's patriarchal society thinks of women only as homemakers and sexual objects and is generally subjected to exploitation and torture (Dube, 2001[26]).Status of women can be broadly defined as the degree of socio-economic equality and freedom enjoyed by women. Economic, social and cultural factors interplay for reinforcing the gender differences in ownership, control and access to land trough inheritance, marriage orinformal networks (Arun:1994). Women's economic status in the household, depends on three levels of influence, viz., women's acquired economic and social power, the socio-economic status of their households and the level of support and opportunities in the community (Zhao: 1991)[27].

Women have extensive workload with dual responsibility of profession and household and they have to balance household demands with those of their profession. Development policies and programs of the country tend not to view women as integral to the economic development process. This is reflected in the higher investments in women's reproductive rather than their productive roles, mainly in population programs.Women are engage in economically productive work and earn incomes though their earnings are generally low (Purnima:2010; Dr.AlokMishara et al:2014).

Most of the women work in agricultural sector either as workers, in household farms or as wageworkers. It is precisely livelihood in agriculture that has tended to become more volatile and insecure in recent years and women cultivators have therefore been negatively affected. The government's policies for alleviating poverty have failed to produce any desirable results, as women do not receive appropriate wages for their labour. There is also significant amount of unpaid or non-marketed labour within the household (ibid).

1.6.3. Social and Cultural Issues

"Girls are the world's most squandered gift. They are precious human beings with enormous potential, but across the world, they are generally the last to have their basic needs met and first to have their

[25] Ahmed Shamshed (2014) Crimes Against Women in India in K.M. Baharul Islam (ed). Issues in Women's Rights: A Practitioner's Book. New Delhi: Allied Book Publishers pvt.ltd.
[26]As cited in Problems and Challenges Faced by Urban Working Women in India by VarshaKumari (2014).
[27]Ibid

basic rights denied.[28]"The socio-cultural attributes in society have left a deep mark on women empowerment in India. Parents depend on sons for support in old age and looked to them as potential builders of family prestige and prosperity whereas daughters are considered to destine for others. Women's in India need and expect equal access to education, health, nutrition, employment and productive resources. In fact they are fighting for their rights to decide their own path for development (Purnima: 2010; Dr. Alok Mishara et al: 2014).

1.6.4. Education

Napoleon was once asked, what the great need of France was. He answered," Nation's progress is impossible without trained and educated mothers. If the women of my country are not educated, about half of the people will be ignorant[29]."The female literacy rate in India is though gradually rising; it's lower than the male. As per the census of 2011, an effective literacy rate for men was 82.14% whereas for women it was 65.46%. Though there has been seen a substantial increase in the number of literate women and this gap is narrowing, it still persists[30].The gender gap in education is far greater in northern states of India. Although in states where enrolment rates for girls are higher, many girls drop out of school after a few years of education. Factors such as inhibition on education being imparted by male teachers to girls once they reach puberty, is responsible for drop out. Consequences are that early marriage and child birth pronounced in families of lower socio-economic status (Purnima: 2010; Dr.AlokMishara et al: 2014).

1.6.5. Health and Nutrition

The health of Indian women is intrinsically linked to their status in society. Research on women's status has found that the contributions Indian women make to families often are overlooked, and instead they are viewed as economic burdens. There is a strong Son preference in India, as sons are expected to care for parents as they age (Victoria A. Velkoff & Arjun Adlakha: 1998).The socio-cultural practice of women eating last in the family has eminent effect on her health especially if it is a household in low economic status. Most direct effects of poor health and nutrition among women in Indian society are high mortality rates among young children and women of child bearing age. A women health and nutrition status influence her newborn's birth weight and chance of survival. Post neo-natal death is generally caused by infectious diseases. The incidence and severity of most of this disease are affected by controllable factors such as immunization, health care and nutrition. Due to gender biased, these factors are not controlled equally for male and female children. Maternal mortality in India estimated at 437 maternal deaths per 100,000 live births, result primarily from infection haemorrhage, obstructed labour, abortion and anaemia (Purnima:2010; Dr.AlokMishara et al: 2014).

1.6.6 Crimes against Women

Crimes against women are of various natures. It include crimes involving sexual exploitation for economic gains like prostitution & trafficking, adultery, abduction, rape, wrongful confinement, and murder etc on the one hand and crimes related to women's property like dishonest misappropriation,

[28]As cited in Socio-cultural Issues in Contemporary India. Available at http://www.nios.ac.in/media/documents/SecICHCour/English/CH.20.pdf
[29]As cited in 'Status of Women Education in India',Dr. Jeetaedra Kumar &Ms.Sangeeta (2013), Educationia Confab,Vol.2, No-4.
[30]As cited in Low Female Literacy Rate and Its impact on our Society (Ranadeep Kaur:2013)

criminal breach of trust, domestic violence, dowry extortion and outraging the modesty of women etc on the other. These crimes are not only injurious and immoral for the women but for the society as a whole (Purnima: 2010; Dr.Alok Mishara et al: 2014).

1.7. Violence against women

Violence[31] against women has been clearly defined as a form of discrimination in numerous documents. It has its origin in the patriarchal structure that oppresses women[32]. Gender inequality is the underlying determinant of violence against women[33]. The World Human Rights Conference in Vienna, first recognised gender- based violence as a human rights violation in 1993. In the same year, United Nations declaration, 1993, defined violence against women as…..

> "…..any act of gender-based violence that results in, or is likely to result in, physical, sexual or psychological harm or suffering to a woman, including threats of such acts, coercion or arbitrary deprivations of liberty, whether occurring in public or private life" (UN :1994, as cited by Gomez:1996; Montiel, Aimee Vega:2013)

Radhika Coomaraswamy identifies different kinds of violence against women, in the United Nation's special report, 1995, on Violence Against Women[34]---

a) Physical, sexual and psychological violence occurring in the family, including battering, sexual abuse of female children in the household, dowry related violence, marital rape, female genital mutilation and other traditional practices harmful to women, non spousal violence and violence related to exploitation.

b) Physical sexual and psychological violence occurring within the general community, including rape, sexual abuse, sexual harassment and intimidation at work, in educationalinstitutions and elsewhere, trafficking in women and forced prostitution.

c) Physical, sexual and psychological violence perpetrated or condoned by the state, wherever it occurs. This definition added 'violence perpetrated or condoned by the State', to the definition by United Nations in 1993.

Coomaraswamy (1992) points out that women are vulnerable to various forms of violent treatment for several reasons, all based on gender (ibid)---.

1) Because of being female, a woman is subject to rape, female circumcision/genital mutilation, female infanticide and sex related crimes. This reason relates to society's construction of female sexuality and its role in social hierarchy.

[31]The perpetration of men's violence against women is understood as to be a manifestation of historically unequal power relations between men and women. (Wall, Liz:2014)
[32]Amoros:1990, as cited in Montiel, Aimee Vega:2013.
[33]Gender inequality as a cause of violence against women also underpins approaches to prevention by organisations such as the World Health Organisation and in Australia, VicHealth, as well as, much of the research on the topic (Yodanis: 2014, as cited in Wall Liz)
[34]As stated in Women at Risk: Understanding power and Violence in Kashmir (AneesaShafi& M. Sallem Jahangir 2013)

2) Because of her relationship to a man, a woman is vulnerable to domestic violence, dowry murder, sati. This reason relates to society's concept of a woman as a property and dependent of the male protector, father, husband, son, etc.

3) Because of the social group to which she belongs, in times of war, riots. Or ethnic, caste, or class violence, a woman may be raped and brutalised as a means of humiliating the community to which she belongs. This also relates to male perception of female sexuality and women as the property of men.

4) Combining these types of abuse with the concept of hierarchical gender relations, a useful way to view gender violence is by identifying where the violence towards women occurs.

5) Essentially, violence happens in three contexts - the family, the community and the state and at each point key social institutions fulfil critical and interactive functions in defining legitimating and maintaining the violence.

6) The family socialises its members to accept hierarchical relations expressed in unequal division of labour between the sexes and power over the allocation of resources.

7) The community (i.e., social, economic, religious, and cultural institutions) provides the mechanisms for perpetuating male control over women's sexuality, mobility and labour.

8) The state legitimises the proprietary rights of men over women, providing a legal basis to the family and the community to perpetuate these relations. The state does this through the enactment of discriminatory application of the law (Mathur: 2004).

Margaret Schuler has divided gender violence into four major categories[35];

1) Overt physical abuse (battering sexual assault, at home and in the work place)

2) Psychological abuse (confinement, forced marriage)

3) Deprivation of resources for physical and psychological well being (health/nutrition, education, means of livelihood)

4) Commodification of women (trafficking, prostitution)

Adriana Gomez has also talked about two basic forms of violence, that is; structural and direct. Structural violence arises from the dominant political, economic and social systems, in so far as they block access to the means of survival for large number of people; for example, economic models based on the super-exploitation of thousands for the benefit of a few, extreme poverty in opposition to ostentatious wealth, and repression and discrimination against those who diverge from given norms. Structural violence according to her is the basis of direct violence, because it influences the socialisation which causes individuals to accept or inflict suffering, according to the social function they fulfil. Open or direct violence is exercised through aggression, arms or physical force. (Larrain and Rodrigue:1993[36])

[35]VarshaJawale (2015) Violence Against Women: Its causes and Consequences, Sai OM Journal of Commerce and Management,Vol.2, Issue 8.
[36]As cited in Violence Against Women (A Literature Review).Available at http://www.crpc.in/women_violence.html

The Fourth Conference of Women, 1995 has defined violence against women as a physical act of aggression of one individual or group against another or others. Violence against women is any act of gender-based violence which result in, physical, sexual or arbitrary deprivation of liberty in public or private life and violation of human rights of women in violation of human rights of women in situations of armed conflicts[37].(Conference on Women, Beijing, 1995 Country Report).

In Indian society, it is widely accepted that within the family the man is the master and women is the inferior and subordinate partner and societal pressure force women to maintain this status quo. Wife beating is the most prevalent form of violence against women in the Indian society and it is viewed as a general problem of domestic discord. According to National Crime Report Bureau, 1.5 lakh crimes against women are registered annually out of which nearly 50,000 are related to domestic violence in their homes(Purnima:2010).

1.7.1. Female Infanticide and Feticide

This is playing a significant role in lop sided sex ratio in India. Poor families in certain regions of the country sometimes resort to killing baby girls at birth, to avoid an unwanted burden on family resources. Sex selective abortion has also been common in the country[38]. It's dangerous to abort the foetus after 18 weeks of pregnancy and quiet harmful for mother too at such a late stage. Various techniques of sex determination and sex pre-selection have been discovered during the last fifteen years, such as sonography, fetoscopy, needling, chorion biopsy and the most popular amniocentesis have increasingly become household names in India. Amniocentesis technique is used in the small town and also in some cities of states like Gujrat, Maharashtra, Uttar Pradesh, Bihar, Madhya Pradesh, Punjab, Tamilnadu, Rajasthan etc. Mumbai and Delhi are also the major center for sex determination and sex pre-selection tests (Purnima: 2010; Dr.AlokMishara et al: 2014).

1.7.2 Dowry

Dowry is one of the most ancient practices of India. The dowry system is a social evil, prevalent in all parts of India and almost in all the countries of the world. In India many of the traditional customs have been given up, but the custom of dowry has not only continued, but flourished over the years (Nithya N.R:2013).

Dowry remains the major reason for discrimination and injustice towards women in India. When dowry demands are not met, it precipitates into serious consequence for the young bride. The Dowry Prohibition Act of 1961 marks the first attempt by the Government of India to recognize dowry as a social evil and to curb its practice. The act was modified with the Dowry Prohibition Amendment Act of 1984, which has again been modified with Dowry Prohibition Bill 1986. Women's organization have played key role in this process of change. The 1961 Act define dowry and makes the practice of dowry-giving and taking, a punishable offence. However, it is ridiculous to see that even among highly educated sections, the articles of dowry are proudly exhibited in the marriage as a status symbol. The dowry abuse is increasing in India. The most severe is 'bride burning', the burning of women whose dowries were not considered sufficient by their husband or in-laws. Most of these incidents are reported as accidental burns in the kitchen or are disguised as suicide. Dowry is one of those social evils that no

[37]As cited in Violence Against Indian Women and Human Rights (BinaRai: 2015)
[38]NirupamaPrakash: Status of Women in Indian society: Issues and Challenges in process of Empowerment; Dr.AlokMishara et al:2014.

educated woman will own up with pride, still many are adhering to it. Practices of dowry tend to subordinate women in the society. Women should be more economically empowered and should be educated properly regarding the various legal provisions such as Section 498A CRPC, protection from domestic violence etc., only then this evil menace could possibly be eradicated from Indian social system.

1.7.3. Rape

Rape is the fastest growing crime in India compared to murder, robbery and kidnapping. According to the report of National Crime Records Bureau (NCRB), every 60 minutes, two women are raped in this country. A total of 20,737 cases of rape were reported in the year 2007, registering a 7.2 percent increase over the previous year. According to NCRB, 19,348 rape cases were reported in the year 2006. The biggest number of such crimes was reported from Madhya Pradesh. One-quarter of the victims were minors, 75 percent of culprits were known to victims and 10 percent were relatives. These figures are underestimations as many incidents go unreported due to fear of stigma and non awareness of rights. There are also the countless cases of eve teasing, indecent gazes, pinching, brushes and comments that infringe upon the rights of women, especially in overcrowded spaces and public transport buses and trains. Major cities in the country have become the hub of misdemeanour because of technological reach. Mobile, cyber café, car, beach, mall, restaurant, hotel have become popular apparatus for the criminals. What precipitates the problem is that the incidents of rape, sexual molestation and harassment have been followed by dubious attempts by perpetrators and law enforcers to arm-twist the course of justice. There is a need for a drastic change in attitudes and mindsetstowards such incidents. Poor investigations, harsh cross examination of victims, senseless adjournment of cases and faulty assessment of evidence and furnishing of evidence by victims in presence of culprits are areas that need reforms.

In the year 2007 for which the latest data is available from the National Crime Records Bureau, seven of the ten fastest rising crimes in India were those against women. While the incidence of all cognizable crimes under the Indian Penal code rose by under 5 percent over the previous year, dowry deaths registered an increase of 15 percent, cruelty by husband and relatives 14 percent, kidnapping and abduction of females 13 percent, importation of girls 12 percent and sexual harassment by 11 percent. Rape and molestation cases grew by a more modest 6-7 percent, but even that was higher than the average rate. Despite the increasing cases of crime against women, they would appear to be not in priority list of the investigating agencies. The NCRB data shows that investigation starts within the same year in only one out of 10 sexual harassment cases and only two out of ten cases of molestation or cruelty by husband and relatives. Similarly, only three out of ten rapes and dowry deaths are investigated within the same year. A comparative study of the data available about these crimes suggest that there were rise in the crimes against women in 2008 compared to the previous year. While a total of 1,012 cases were registered for kidnap of women in 2007, the number went up to 1,494 in 2008. Similarly, the number of incidents related to dowry death rose from 1,226 in 2007 to 1,233 in 2008. Similarly, cases of atrocities perpetrated for dowry rose to 2,230 in 2008 from 1,493 in 2007. Cases related to eve-teasing and molestation shot up to 188 during 2008, 20 more than those recorded in the previous year. Also incidents related to kidnapping of women increased from 1,012 in 2007 to 1,494 in 2008. The fact remains that there is sufficient information about crime against women that calls for appropriate remedial actions.

1.8 Media and violence against women and girls: a feminist scholar agenda

Both the CEDAW and Belem Do Parà call to the responsibility of the media in the elimination of violence against women and girls. In 1995 the Beijing Platform for Action (BPfA) called explicitly on governments to 'take effective measures or institute such measures (emphasis mine), including appropriate legislation against pornography and the project of violence against women and children in the media' (UN, 1995). The BPFA called on both the media and advertising industries to:

• Establish, consistent with freedom of expression, professional guidelines and codes of conduct that address violent, degrading or pornographic materials concerning women in the media, including advertising.

• Disseminate information aimed at eliminating spousal and child abuse and all forms of violence against women, including domestic violence .At the national level, laws regarding violence against women and girls in countries such as Mexico, Brazil, Argentina, Spain and India list specific actions related to media industries. However, while the BPFA listed the actions which would achieve gender equality and stop gender-based violence, there is no single formal policy on gender and communication in most countries in the world.

All these mandates have been followed by extensive research developed by feminist scholars regarding media's role in the reproduction of violence against women. This is why gender-based violence in media content has become one of the core issues of the research agenda. The representation of sexual violence in media content was one of the first issues taken up by feminist communication studies. Feminist critics showed how through the commodification of women's bodies, media content –news, films, magazines– contributed to the 'normalisation' of sexual assault, rape and other forms of sexual violence and how they reinforced gender inequalities.

This first stage was followed by analysis of other specific forms of violence against women. Coverage of domestic violence in the news media attracted special attention as its rise was alarming. Based on a holistic perspective, current research includes the analysis of different forms and modalities of gender-based violence in media discourse (Vega Montiel, 2010). Findings from numerous studies have demonstrated the ways in which media content reinforces violence against women and girls (Benedict, 1992; Cuklanz, 2000; Laguna, 2004; Diez, 2002; Vega Montiel, 2007).

These studies show that:

• Media content reproduces sexist stereotypes that associate male identity with violence, domination, independence, aggression and power, while women are depicted as emotional, vulnerable and sensitive,and dependent upon male actions (Elasmar,Hasegawa and Brain,1999;McGhee and Frueh,1980;Thompson and Zerbinos,1995).

• Women are usually stereotyped as sexual objects or even as mere body parts. Some examples show that: female nudity in magazine advertisements increased significantly around the world between 1983 and 1993 (Reicht et al., 1999); teen female TV characters used to be hyper-gendered (Holdden, 2012). In consequence, female sexuality is represented not as the sexual liberation of women but as the availability of women for male consumption.

• Only 24% of news subjects are women, 76% are men. Representation of gender in news is associated with relations of domination and subordination: whereas men are represented as sportsmen, politicians

and businessmen, women are represented as vox populi –that is to say, they use to be associated to the lack of status and power (WACC, 2010).

• News reports of violence of gender tend to represent women as victims –associated to their lack of power– or, conversely, as those responsible for the violence of which they are victims. Usually, aggressors are not part of news reports (Diez, 2002; Vega Montiel,2007).

• Popular music is a powerful vehicle for the reproduction of violence of gender. That is the case with rock and pop music, country, rap and, most recently, reggaeton. Feminist research has also shown how the Internet and ICTs are now part of the gender-based violence environment.

A central problem associated with digital communication is the growing circulation of pornography. Statistics show that there are 4.2 million web pages that offer pornography – 12% of the total number of websites in the world; 100,000 of them offer child pornography. The online pornography industry makes 97.06 billion dollars per year, a much higher profit than Microsoft, Google, Yahoo, Amazon, Netflix and Apple combined (Feminist Peace Network, 2006). Video games are now part of the digital gender-based environment. Some of the most popular ones show assaults on women, rape, prostitution and murder. Some examples are Grand Theft Auto and Benki Kuosuko (Maltzahn, 2006). Linked to pornography is the sexual trafficking of women, girls and boys that has been enhanced through the Internet. What some scholars call 'virtual traffic' refers to the implications of the Internet and other ICTs on sex trafficking (Maltzahn, 2006). Sex trafficking operates mainly in countries with a lack of Internet regulation and policy and a high percentage of poor women (UN, 2005).

At this point, we would say that 'reducing women to sexual objects and making them available for consumption through communication and information technologies seems to be one of the most dramatic expressions of the digital age' (Vega Montiel,2013,p.21).

A final but no less important dimension of the gender-based violence and media relationship is the increase in violence against women journalists. Forms include sexual, physical, psychological, economic and feminicide. This occurs in conflict and post-conflict countries where the human rights of female journalists have become more vulnerable. This happens with the consent of states and in an environment in which news media do not ensure secure conditions for women journalists to develop their work. For this reason, just this year UNESCO and the International News Safety Institute (INSI) launched the Global Survey on Violence against Female Journalists. This effort goes together with other INSI actions, such as publications and training programmes aimed at female media workers.

In this context, we must also mention violence against women working in community media. Community media are crucial to ensuring women's human right to communicate. In particular, community radio is a vehicle for the empowerment of women and the expansion of notions and debates on women's human rights in rural communities. However, for decades most women in developing countries have been forced to operate their radio stations under conditions of scarcity as there has not been any official regulation of community media. This circumstance goes together with a context of violence of gender that prevails in rural communities, putting these women in a vulnerable position. As in other areas, feminist communication scholars have been involved, together with activists, feminist advocates and women media workers, in important projects that have impacted at the global, regional and national levels. Examples are: the Who Makes the News? Global Media Monitoring Project, promoted by the World Association for Christian Communication (WACC) and coordinated by scholars such as Margaret Gallagher; the Global Report on the Status of Women in the News Media from the International Women's Media Foundation, led by Carolyn Byerly; and Advancing Gender Equality in

Decision-making in Media Organizations from the European Institute of Gender Equality (EIGE), coordinated by Karen Ross, Claudia Padovani and Erzsébet Barát.

1.9 Establishing gender inequality as a determinant for violence against women

It has been acknowledged that there is a lack of information about causal factors for violence against women at the societal level of the ecological model compared to the individual and community levels (Krug, Dahlberg, Mercy, Zwi, & Lozano, 2002; WHO, 2010). Indeed, the lack of research data about societal risk factors makes comparison between settings within countries or between countries difficult to explore.

Cross-cultural studies provide important clues to understanding the ways in which social norms in different cultures affect levels of gendered violence. The work that has been done in this area finds a correlation between cultural social roles and levels of violence (Archer, 2006).

However, establishing the underlying causes of violence against women has been the subject of varying theories. The most prominent of these was the feminist model of causation that came out of the feminist movement of the 1970s. This held that patriarchy and men's indisputable power and oppression of women were the underlying causes (WHO, 2010). More recently, extended models of explanation have been incorporated to develop the theory of gender inequality further and to explore the effects of social roles, attitudes and other cultural factors. The one currently most in use is the ecological model. Heise (1998) advocated for a conceptualization in an ecological model that could take feminist theory further, incorporating other societal and community factors influencing individual perpetrator behaviour and explaining why some but not all men perpetrate violence.

The work of feminist activists in raising the profile of intimate partner violence and other violence against women enabled the issue to be seen as a significant public health problem. This has facilitated an approach that aims for prevention of the problem. However, one of the key factors in public health prevention is identifying the societal factors of the problem at hand Gender equality and violence against women and working to change these. This is more difficult where the problem is not just physical or biological but has a social dimension as well, as is the case with violence against women. This requires investigation of social elements at various levels of the ecological model.

1.10 The role of social norms and gendered expectations

An important aspect of thinking about gender inequality in this societal sense is to understand the role of social norms and social organization in situating groups into a hierarchical structure based on certain features such as gender, race or class (Ridgeway, 2014).

Such structures result in social status being conferred upon those with the most advantageous position. In terms of power and access to resources, these structures sort groups into a perpetuating pattern of inequality as the higher status groups retain their hold on power and resources. Ridgeway observed that social status or status in relation to other groups is therefore a central consideration in entrenched inequality. Entrenched differences in status lead to "status beliefs" and expectations about the social difference, for example that males are more competent, that then become autonomous beliefs which continue to reproduce the differences by perpetuating patterns of inequality (Ridgeway, 2014). This conceptualization of status explains the widely shared cultural status beliefs at the societal level that impact on ordinary social relations at the community, organizational and individual levels, and work to legitimate the inequality of the social structure (Ridgeway, 2014). An important aspect of viewing

inequality as a relational aspect between social group classifications is that it can bring in additional components of social inequality such as race, disability and class.

Summarising the evidence around gender inequality as a determinant for violence against women, one of the key features of sexual and family violence is the reality that such violence is disproportionately experienced by women as victims and perpetrated by men (WHO, 2005).

Socio-cultural theories about causes of violence are based on the consideration of power and its relation to social structures such as institutions, political and economic systems as well as shared beliefs and attitudes that may be influenced by these structures. Such shared attitudes and behaviours can be considered to be cultural factors that underlie behaviour in a particular group (Nayak, Byrne, Martin, & Abraham, 2003). In assessing causation of violence against women, interventions that address these specific factors to achieve attitudinal and behaviour change will be most relevant. It is therefore important to look at specific differences cross-culturally and take into account influences such as religion, history and political factors in assessing differences (Nayak et al., 2003). By examining the attitudes across diverse countries and cultures, it is more likely that themes relating to causation of violence against women can be gleaned. It has already been established by research that gender is important in relation to attitudes, for example gender differences in attitudes towards sexual assault and domestic violence have been noted between men and women, with men more likely to endorse violence against women (Fanslow, Robinson, Crengle, & Perese, 2010; Nayak et al., 2003; Victorian Health Promotion Foundation et al., 2006).

1.11 Media Coverage of Women Issues

Media implicitly rank the importance of the public issues according to the amount of press coverage devoted to an issue. Lack of appropriate media coverage of an issue leads to the implication that the topic is not important. Public awareness is significantly lessened if a story is not reported (Purnima: 2010; Lucinda Marshal: 2004). Violence against women is a global pandemic and the consequences of media ignorance and bias are horrific[39]. In India, the amount of coverage in mainstream media is inversely proportional to the actual prevalence of the kinds of violence and gives a false impression (Dr.Alok Mishara et al: 2014; Lucinda Marshal:2004;Purnima: 2010). Most disturbing is the disproportionate coverage of sensationalized violence. Invariably, rape stories get far more coverage than domestic violence stories. In all likelihood, this is because rape stories usually focus on one individual woman. If she is attractive, she is a very marketable victim. It is no accident that rape is a frequent theme in pornography (Lucinda Marshal: 2004; Purnima: 2010; Sharada Adhikari: 2014).

The sexual brutalization of women is a highly marketable business and a profitable story for the news media. For example the Indian media, be it press or the broadcasters, choose to highlight the rape and murder of a 14-year-old girl rather than to report about the success of women in recent Panchayat elections in the country. The media have no time to show the actual problems of real India at the grass root level, its culture, traditions, faiths and beliefs and so on. They usually show only those handpicked stories which sells and increase their TRPs.(Juluri, V.:2013, March 19; Dr. R.P Raman: 2009,Bihar Times Indian Mass Media and its Role Towards Society whither Goest Thou?;Sharada Adhiari:2014).

[39]Lucinda Marshal (2004) Media Culpability in the Continuum of Violence Against Women. Available at http://www.countercurrents.org/gender-marshall300904.htm

Even the amount of media coverage women get overall is much less than men do. But Indian media needs to be sensitized to gender issues. It should play proactive role in inculcating gender sensitivity in the country and should ensure that women are not depicted in poor light. It should devote special slots for crimes against women in India and discuss all proactive aspects. Media should take a proactive role in creating public awareness on the rights and privileges of women. Constitutional and legal rights should also be advertised and discussed regularly. The latest rulings and judgments are discussed so that the public are made aware of these rulings. Press Council should be given more teeth so that they could intervene effectively to counteract objectionable publications. There must be mechanisms to sensitize Censor Boards and bring about a working dialogue between members of the Censor Board and citizens groups (Nair, G.:2013, Feb 21).

Press, the fourth estate of democracy, has to maintain a balance between good reporting and accountability. Journalists are expected to maintain a standard of neutrality, objectivity but not sans sensitivity. In an era of paid news, media often become agents of propaganda. With electronic media entering the scene, our living rooms are flooded with 24 hours entertainment and news channels. Nothing escapes the gaze of media. While electronic media is a manifestation of the fact that we are living in the information society, there are some pertinent concerns a viewer needs to raise (Parvin Sultana: 2014).

With regard to news channels, the first concern must be whether print and electronic media is able to manage the required standards that are set for good journalism. How do media report on sensitive issues like sexual violence against women, child sexual abuse? Over a period of time the competition of TRPs (Television Rating Points) paved the way for unnecessary sensitization of news. The line between real news and scripted dramatic serials has become blurred. People became mere stories. While print media tried to maintain the code of conduct, electronic media often overstepped its domain (ibid).

A number of incidents made one rethink where to draw the line between journalistic ethics and sheer sensationalism. While covering the Aarushi-Hemraj double murder case of 2008, news channels showed lewd animated pictures of the 14 year old girl along with the other victim in indecent postures. This is not an isolated incident. When a tragic incident of a video doing rounds in one of India's premier educational institution took place, media continued to be insensitive. Along with the students involved, media continued harassing the other students by constantly intruding their academic space. Fingers were also pointed at students coming from particular states of the country. The same media was lukewarm towards the institution's struggle for getting their democratic elections back (ibid).

Another shocking incident was a young girl being molested on a busy highway in Guwahati by a number of miscreants in June, 2012 and this was being shown through live telecast by a local private news channel. While a young girl was being pushed and pulled in every direction, the news channel was basking in the glory of being able to provide a live telecast. What happened to the journalist's duty as a concerned human being to intervene and immediately inform the police? Are we pushing notions of a neutral, objective bystander too far? Live telecast of molestation seems like a precedent to live telecast of more serious crimes. Similar behaviour was witnessed during the December, 2012 gang rape case in Delhi where news channels as well as some newspapers were more obsessed with the identity of the victim and her relationship with her male companion as opposed to the crime(Chaudhuri A.:2012; Sultana: 2014).

This recurring insensitivity on the part of media raises some pertinent concerns about whether news media is also commercialised and gendered. Even news items are dovetailed for a dominantly male

audience. News business is rapidly driven by hard news. Entrusted with the crucial responsibility of keeping people well informed on the kind of atrocities happening around the country, journalists of both print and electronic media need to be extra careful (ibid).

Any talk of the role of media cannot bypass a discussion on movies and TV serials which are an important source of entertainment. With increasing number of cases of violence against women, social scientists, and psychologists tried to understand if there is any relationship between representation of women in media and increasing violence on them. While there may not be any direct causal relationship, people who are exposed to a particular degrading portrayal of women are found to be more acceptable of the violence meted out to them. Most mainstream movies and TV serials portray women in two ways - as meek, docile and vulnerable, in constant need of protection of a male or as cunning and calculative. Family and politics at home seem to be central to these women's existence. Very few TV serials or movies take up issues that a working woman faces in her life. How we see a woman and her relationships on the TV screen is crucial in Indian society. In a conservative social set up, families do not give the space to engage on issues of relationship. If movies like "Ranjhnaa"(2013)romanticize stalking to such an extent that male aggression comes to be justified as true love, women are denied agency even in such an intimate relationship. It is only when popular culture questions these deep rooted biases; women will be able to deal with society on an equal footing as men (Parvin Sultana: 2014).

This is the time to rethink and revisit the country's mass media policy. There are many issues which should be discussed threadbare to have an unbiased and healthy media policy in the country. But before that materializes, the stalwarts of Indian mass media should exercise prudence and restraint, show the truth, unadulterated, undoctored and unbiased news and views, unbiased analysis and non-sensationalization of events or incidences whether big or small (Uberoi P.: 2006;Dr. R.P Raman: 2009; Purnima: 2010).

1.12. Degradation of women in media

Media, both the traditional and modern, is in no where exception regarding the portrayal of women. Like television, radio, old folk stories, films, and print media perpetuate gendered role portrayals. Many a time print media are guilty of sexism, distortion of image of women, and propagation of gender stereotypes as mothers, housewives, dependent, passive recipient etc. the prominent image in most of the popular print media is that of the self-sacrificing housewife. Women are seldom shown as working women-capable professionals, laborers, farmers in those media (Nautuyal and Dabral: 2012).

The portrayal of women in the print media is also quite degrading more often than not depicting her as a commercial commodity (Anusha Chopra: 1998). By reinforcing gender stereotypes and constantly glorifying motherhood and subservient wifehood the print make it difficult for women to break out these prescribed roles, norms and behavior patterns. In spite of the boom in electronic media, high tech information explosion, the traditional print media remain unvanquished. It carries credibility, weight and still moulds the opinion of many. Clearly the media do not provide a balanced picture of women's diverse lives and contributions to society in a changing world.

The daily newspapers rarely put women's news relating to their development. Rather they prefer reporting on rape, atrocities, crime, sexual harassment and abuse of women prominently in their columns. Besides Sunday or Saturday special glossy editions on women's fashion, beauty, leisure and other luxurious news items with erotic photographs are issued from time to time by daily newspapers. If a woman wins a beauty contest, magazines and newspapers in particular give much importance to the

news and even take her photographs on front page but if a woman gets Nobel Prize she does not get so much coverage. Even the photos of sport stars are also provided in a manner that depicts their body attraction (Nautiyal&Dabral: 2012; Dhar &Patnaik:1998, Portrayal of women in Media at http://documents.mx/documents/women-portrayal-in-the-media.html ;Katoch:2013)

Popular newspapers with large circulations many times flash vulgar and obscene glossy photographs with wide coverage of (three days after) the cruel incident of Laxmi Orang, happned on 24th nov,2007 in Guwahati, may be mentioned here[40]. This bias evident, how sensational are print media too. The less moral or responsible media are the more sensational, the more monetary/profitable, they become. The underlying principle of today's media is inclined towards making more money by creating more sensationalism.

Indian magazines contain primarily and predominantly volumes of advertisements and sexist writings. Vast majority of Indian magazines are known for the portrayal of women as sex objects, consumers and the like. Even women magazines, like Femina, Women's Era, and Eve's Weekly foster traditional patterns of female subordination in modern trappings (Katoch:2013).

Movies are another particular aspect of audio-visual media which do have an overdose of sex. Sex and violence are the two usual targets for anyone to take on the film industry. Keeping the moral sense in vain, like advertisements, in movies too women are often depicted as sexual objects either for pleasure or for profit. The film industry is likely to be running on the principle that 'the less you concern ethics, the more you profitable'.

Thus, women image has gone through several unjust projections at the hands of the media. Throughout times women have been portrayed in the media as victims, subservient, nurturing, sacrificing and objectified sexualised beings. Images of women as objects and as the recipients of aggressive behavior do cause a desensitization of violence.

It is true indeed that while the functioning and the sustenance of the media depend highly upon marketing agencies or forces, to go against the compulsions created by these forces is tough for media. Because of the control exercised by the market, there is possible extinction of those forms and contents of media which are unable to meet the criterion of market forces even when they are of undoubted relevance towards creation of a better society. And secondly, there is possible expansion of those parts of media which clearly harm the general societal interest (P.P.Gosh:1998).

Thus the interplay of market and media fixes the route for media functioning. This sort of market mechanism is now-a-days being projected as a nearly flawless mechanism not only for establishing an economic equilibrium but even for deciding the social issues.

Globalization is one of the most relevant factors which have caused changes in both media-inside and the relation between media and market. The process of globalization enabled to have the larger impact upon people. As the market is becoming worldwide, survival in the new global business market calls for increased competition and in order to face increased competition, the use of technology has been maximized.

As the tentacles of globalization have trespassed into electronic media, there is an increase in information flows, a technological change with the advent of fibre optic communications, satellites, and

[40] The Telegraph, Guwahati, dated 27th Nov.2007

increased availability of worldwide web. The technological base of the media is also causing changes in the media-market relation. The new technology based on satellites, computes etc. not only make the storage, processing and transmission of information much easier, but it does so at a much reduced cost. Because of such cost reduction, information management or media are now attracting more attention as a commercial activity, relegating many of its non-commercial dimensions to the background.

The media functioning viewed as economic activities which disseminate information has also undergone radical changes causing a much larger role of the market forces in its affairs. The most fundamental aspect of this change in the media character is that-earlier information was viewed as a source of knowledge , wisdom and enlightenment, but in today's world, besides these, information is a source of 'power'- an institution which has more information about others is in a position to maneuver and manipulate and hence, more powerful. This power implication of information is what lends it a character of a commodity, commanding a price which may or may not reflect its value (Ghosh:1998).

Another important dimension of information as a commodity is that disinformation is also a commodity and media are a vehicle for both. Just as information makes as individual or organisation potentially more powerful, by being innocently fed with disinformation it can become vulnerable. Advertising is a burning example, where persistent disinformation is able to produce a distorted preference pattern among the consumers, serving the interest of the giant producers. Indeed producers today need not produce what the consumers want, but the consumer can be made to want what the producers produce. Such being the power of information and disinformation; it is very natural that the entire media space is under pressure and it thus yields easily to the market forces. Space is allocated to those messages which are paid for, other messages how so ever desirable, are either altogether neglected or are reluctantly given a little space, just to avoid the criticism that media are wholly a commercial activity (P.P.Ghosh:1998)

The process of globalization has severe implications for the regulation of the media as electronic methods of communication proliferate state regulation is becoming increasingly difficult. So in the globalised media anything (violence, pornography) goes to increase coverage and profit. Thus dehumanizing or devaluing women through media content has become natural (Patricia A.Made:2000). As Margaret Gallagher has pointed out that……

> '….with the globalisation of markets, economic affairs are becoming more and more detached from social concerns. With media regulation becoming more and more difficult to enforce, and with the media increasingly driven by the quest for huge financial profit, the commodification of women in media content is likely to intensify". (As cited in Patricia A.Made:2000).

Moreover, the dominant trend of our society is also one of the relevant factors. Our society is grounded on patriarchy, where women are supposed to enjoy the secondary status and bear all types of oppressions. As every society has its own norms and values, the patriarchal society is also having its own standards and it always tries to impose its norms and value to all its disseminations including the media. Media is just a reflection of the existing social structures. The reporters, the journalists, producers, editors and other associates of the media are part and parcel of the society. Media have now become a tool to serve the system itself. The main purpose of the media is to serve the larger society by providing information, education and entertainment, whereas media are capitalizing women's distorted images

for sustaining its own survival in the competitive world. It sustains the patriarchal values in order to serve a particular section of society[41].

What is concern is that with the growth of people's awareness about the increasing tendency of commercialization of media, people's reliability on media is going downward. So, media should overcome the situation and follow the ethical guidelines because media can survive in the long run by making compromises with morality, honesty and integrity.

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The Role of State as an Active and Informal Agency of Education

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Abstract

In the words of Aristotle, "The state is a union of families and villagers having for an end, a perfect and self-sufficing life by which we mean a happy and honourable life. A state exists for the sake of good life and not for the sake of life only".

This definition has given a clear vision on the relationship between man and the state. The state, in modern times is regarded as an important agency or in other words a human organization for maintaining disciplined and a well-arranged environment for education.

In contemporary world, the functions to be performed by a state are going wide day by day. So, one of the functions of a state is to give proper education and to create a proper environment for imparting knowledge among people. In a democratic country the role of state in spreading education is very much important. These states provide educational aims and objectives, open schools and colleges; arrange the syllabus and curriculum, plan, control and direct educational activities for their citizens. Performing these functions the modern states can create such an environment in every society where every citizen can be made educated enough to understand the complexities of modern world.

Besides these, the modern world can make proper arrangements for research and experiments in various fields of education. For this a state should establish such institutions and organisations to inspire the eligible individuals.

In a big country like India, the state makes educational policies based on needs, ideals and aspirations of the people. For this there are various administrative unite are established. Each such unites maintain an educational department of its own for providing liberal and vocational

education up to highest standard. States also maintain one or more universities for higher education. Thus, it can be said that a state exerts it's direct and indirect influences on all aspects of education.

Introduction: The state is the universal and most powerful of all the social institutions created by man. It is both natural and necessary institutions for the good of human beings. It is the creation of man for the welfare of human society. Man hands over all the powers to the state so that it can organize people. Above all, it can be said that the state is the ultimate source through which every human being can get ultimate prosperity and development. It is worth mentioning that modern states are the democratic welfare states. So, in modern times the main function of these states is to look after all the concerns of a human life.

But instead of doing further discussion on the functions of a state, here it will be more meaningful if I point out the educational functions of the state. Before that, we should be cleared about what the word education lies.

1. According to one section of philosophers, education is the process through which the innate qualities and capabilities of an individual can be drawn out and develops his personality.
2. According to some education is a process through which human behaviour can be modified.
3. On the other hand, there is a section of philosophers who believes that education is a process of adjustment to the environment and society.

But after all it can be said that Education is a lifelong process. It begins immediately after a child is born and continues till death. Education is the process through which all round development of each and every individual is possible. Education may be formal, non-formal and informal.

Formal education is that which is consciously and deliberately planned for the modification of behaviour with a particular end in view. This type of education is imparted through schools, colleges or other institutions, specifically established and maintained for this purpose.

The education imparted through various correspondence courses is called non-formal education. Those who cannot join formal educational institutions they can get proper guidance or knowledge through postal courses, state elite programmed or open universities and lastly about informal education it can be said that it is not pre-planned. It is that type of education which the children get while moving and living in the community or society with other persons. There are

various informal agencies, such as, family, society, community, religious institutions and state, through which everybody can get knowledge on in other words proper education.

Thus, an important mention can be done that the state is informal but an active agency of education. It performs some basic important educational functions. Those can be mentioned as follows---

1. A state provides educational aims and objectives: In today's world, most of the countries have accepted democracy as their ultimate way of socio-political development. So, every state wants to cultivate the democratic qualities among the citizens through education with the help of schools, colleges or universities. That is why every state lays down clear-cut aims and objectives and guidelines for all the educational institutions. Because it is seen that the main aim of a modern state is to produce democratic qualities and democratic thinking.
2. Arrangement of education of different levels: Every modern state makes arrangements of whole education system in different levels such as pre-primary, primary, secondary, university, technical, commercial, professional etc., for the welfare of the community as a whole. It also makes provisions for education of all types such as liberal, scientific, vocational to train or prepare different individuals for different jobs and vocations. For this purpose, the states open high or higher secondary and multipurpose school, technical and commercial institutions.
3. Framing of curriculum and syllabus: Modern states frame specific curricula and suggest definite syllabus for different levels of education system to maintain uniformity and standard throughout the country as a whole. It also modifies or re-constructs a curricula and syllabus according to the needs of the individuals. For this every state takes help from different specialists and experts and sometimes also from the provincial govts.
4. Planning, directing and controlling educational activities: State controlled education is now necessary for every modern state because it makes the whole education system more clear and purposeful. So, state directs, controls the whole educational activities. It also makes plans for the better management and organization of educational activities. Of course, in a big country like India, different provinces maintain their own education system. Such unit also maintains one or more

universities for providing higher education.

5. Education for all: Today, every state is responsible to provide basic education to all, as the educational rights are being made fundamental rights in a country like India. In India, both the govts. (Central and state) and the consultation are equally responsible for the preservation and maintenance of suitable environment where everybody can acquire knowledge.
6. Arrangements for educational research and experiments: States make proper arrangements for educational research and experiments in various fields to modify syllabus or curriculum or any other problems relating education. For this purposes, various governmental and semi-governmental bodies and organizations has been established.
7. It organizes seminars and workshops: The state also organizes seminars and workshops for student's teachers and any other personals who have relation with education department.
8. Appointment of various committees and commissions: States also appoint committees and commissions headed by various experts and specialists to do survey and discuss the various concerns and perspectives of education.
9. Adult education campaign- There are many citizens in a state who could not get education in their childhood due to certain reasons. So, the states can maintain some adult education canters to provide them education through evening or night classes on non-formal or informal basis.
10. Self-reliance through education: One of the primary responsibilities of a modern state is to make every citizen independent in every respects of life. For this states introduce variety of vocational and professional courses along with the education of pure academic subjects.
11. Training and appointment of teachers: Teaching is a critically challenging job not a play. It requires especially some trained teachers. Such training is given by the state through some specialised agencies and when they are fully trained, they are appointed to further the mission to its final stage.
12. Scholarship facilities to talented and poor students: States give scholarship to maintain high standard of education to talented and poor students.
13. Value education: States provide value education to its citizens through various beliefs

regarding religion, society or communities, moral attitudes, philosophies of life, political and social ideologies, culture and civilization in the courses of schools, colleges or universities. In order to preserve, maintain and advance the position of our country comprehensive programme of value education is important.

14. Basic and compulsory education to all: Most of the countries like India provide basic and compulsory education to all of their citizens, so that everybody can get proper education to live peacefully in a society.

Basically above mentioned functions are performed by every modern state. But with the emergence of the concepts of citizenship, democracy, self-determination, self-rule the role of state as an agent of education is going wide. The most important thing is that in this globalised world, where the world is emerging like a global village, the whole concepts of citizenship, rights, freedoms are replaced by the words universal or global citizenship, brotherhood, peaceful co-existence, mutual love for each other, inter dependence etc.. So, here the role of state towards education has been broadened. For this the state should introduce quality syllabus and curricula in every schools, colleges or universities which can cultivate the democratic qualities like understanding, co-operation, tolerance, among the citizens. So, it is the responsibility of the state to spread education to give knowledge on these concepts.

In a big modern country like India, where diversities are prevalent in every concern of Indian people, the particular state should have a consciousness to spread education in such a way that unity among the diversities can be established. It is very important for such a big country to unite the people in every concern. So, the state should arrange every levels or departments in such a strict manner that it can bring the feeling of oneness, feeling of sameness, equality and integration. For this, every democratic country should organise same activities or extra-curricular activities in schools or colleges. In India, the 'Sampurnanand Committee on Educational Integration' lays great emphasis on the daily assembly in schools and colleges, where the head of the institutions must take a talk on moral side of student life, on the past leaders of our country, on the life, society, culture of our country of our provinces and social and political aspects of our national life. But it should be mentioned here that all these should be arranged or organized by the state so that it can become impartial and disciplined based on the rules and principles prepared

by the state taking help from the commissions or committees headed by different scholars, experts and specialists.

In this discussion, a new angle has come out i.e. the relationship of inter-dependence between state and education to fulfil the basic needs of human beings. Because both state and education are the two basic conditions for the welfare of the people.

In this discussion, a new angle has come out i.e. the relationship of interdependence between state and education to fulfil the basic needs of human beings. Because both state and education are the two basic condition for the welfare of the people.

There are three approaches supported by the philosophers regarding the relationship between state and education. Those approaches can be mentioned as follows-

1. Individualism: According to the great individualism John Locke, J.S.Mill, the only duty of the state is to protect and guide its people not to interfere in their personal affairs. So as education is entirely a personal matter, the state should not interfere in the sphere of education at all.
2. Collectivism: Mathew Arnold, Ruskin, Marx are the great supporters of collectivism. According to this ideology, the function of the state is not to protect it's citizens from external or internal dangers only but also control their behaviour and activities through education in the larger interest of the state.
3. Golden mean approach: This approach is regard as the middle path of both individualism and collectivism. According to the supporters of this approach the task of education is so important for the individual as well as for the state that there must be full co-operation and co-ordination among all the agencies of education such as, family, school, church, community and it is only the state which can play this dynamic role as it has a superstructure and supreme legal powers. All the social institutions have the power to perform their educational functions, with full freedom, but supervision is necessary for establishing social justice which is basically done by a state.

Thus, it has been cleared that the modern theories regarding human societies for development have accepted the concept of state control education. The supporters of this concept argue that is necessary for----

1. The universalization of education:-
   According to these supporters state can spread education among the masses in a systematic way.

2. The success of democracy:-
   The supporters also believe that education is one of the important conditions which help democracy to be successful.
3. Maintaining national integration and unity:-
   It is important to maintain national integration and unity among the diversities of a particular state. But it is possible through quality education under the supervision of a state.
4. The proper understanding of the needs and requirements:-
   A state can understand the basic needs and requirements of its own and of its people.
5. Spreading uniform education:-
   Uniform education and education of national character is possible only when education is centralised and controlled by a state.

But it is necessary to mention here that too much control of a state over education may----------

1. Politicize the whole education system where the individuals cannot get proper knowledge;
2. Indoctrinate its own ideology in to the minds of children ignoring the basic values of human society;
3. Neglect the individuality of children and crush the creativity of them;
4. Create such environment where all round development of all children may not be possible;
5. Demoralize those children to receive education of their choice and interests.

However, a structured, disciplined and democratic control of a modern welfare state over education can create such an environment where all the people can get proper education peacefully. In such a state people can enjoy all their rights, freedoms and facilities properly. So, it can be said that the relationship between state and education is the relationship of interdependence. Every modern state should be responsible for spreading education among the people democratically so that everybody can have the knowledge of democratic principles and qualities.

Thus, this discussion has proved that the state is an important informal and active agent of education.

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Two certificates (one for conference and one for workshop)

CONTENTS

ISCA-IVC-2016-2AVF-002-Resource Person

Correlation between Physicochemical Parameters and Fish Production at Kasar Sai Dam, Pune, Maharashtra

S.N. Bhalerao
A.P. College, Pirangut, Pune, Maharashtra, India

Abstract: The present study was conducted to assess the effect on fish productivity due to seasonal fluctuations in physicochemical parameters in the Kasar Sai Dam. The dam is mainly used for irrigation purposes. The fish productivity is very less as compared to the spread area of the dam. The present study was conducted from December 2013 to October 2015 to establish the correlation between physicochemical parameters and fish production. The fish fauna of the dam water was also observed. The observations were carried out at every alternate month at five predefined locations. Various physicochemical parameters, such as water temperature, pH, dissolved oxygen, alkalinity, free CO_2, phosphates, sulphates, nitrates, turbidity, etc. were observed. The fishing was also carried out with the sampling. It was observed that the physicochemical parameters are favourable for fish productivity from March to May.
Keywords: Physicochemical, Kasar Sai dam, Fish fauna, Fish production.

ISCA-IVC-2016-3BS-006-Resource Person

Thiodan Stress on Brain Neurosecretory Cells of the Earthworm Eudichogasterkinneari: A Histological Profile

Leena Lakhani
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Abstract: Adult Eudichogasterkinneari was exposed to a safe concentration (0.003 ppm) of Thiodan for twenty days to evaluate the effects on neurosecretory cells of cerebral and sub pharyngeal ganglion of brain. Brain was severely affected by exposure of above insecticide causing denatured neurosecretory cells due to vacuolization and liquification in cytoplasm, nucleoplasm, in neurosecretory material and in neuropile. Irregular shape of neurosecretory cells were seen, viz- uneven stain, disorderly thickened and broken cell membrane was seen at many places in neurosecretory cells. Accumulation of neurosecretory material around the nucleus and devoid of neurosecretory material from cell perikariya was noticed. Ultimate atrophy of whole histological architecture of neuro secretory cells in both ganglion of brain was seen. Significant reduction in diameter of cell area, nuclear area, cell length and axon length of neurosecretory cells ($p< 0.001$) were observed significantly.
Keywords: Brain, Thiodan, Histomorphology, Neurosecretory cells, Neurosecretory material, Supra Pharyngeal ganglion, Sub pharyngeal ganglion.

ISCA-IVC-2016-3BS-015- Resource Person

Studies of functions and anatomical structure of silk glands of Neoscona bihumpi, Patel, S. and Larinia kanpurae, Patel and Nigam

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Abstract: Silk glands of Neoscona bihumpi Patel, S. and Larinia kanpurae, Patel and Nigam. (Family: Araneidae) were studied first time in this region. The silk glands are vary in shape, size, colour and number in different species. The small ampullate and cylindrical glands found in all spiders and they formed the basic glandular equipment of these spider, however their number and connections with spinnerets to open outside differed in different families due to different utility of silk. Large ampullate are found in both the families.aciniform glands are foung in both the spiders, while pyriform gland found only in N.bihumpi. Aggregate glands are also found in both the spiders. Cribellate glands ae absent so, these are belongs to Ecribellate group.
Keywords: spiders, silk glands.

ISCA-IVC-2016-3BS-018- Resource Person

C. Infundibuliformis: A Potential Source for Bioactive Compounds

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Chemistry of Heterocycles and Natural Product Research Laboratory, Department of Chemistry, School of Advanced Science, VIT University, Vellore-14, Tamil Nadu, India

Abstract: The relationship between life, diseases and plants is as old as history of mankind itself. Plants play an important role for the existence of life in the Universe. Human beings started using plants from the very beginning and found that

majority of plants were suitable as food, whereas the others were either toxic or medically useful.Thus, man"s quest to acquire perfect health, everlasting beauty and long life has forced him to search for the fountain of health. India harbors about 15 % out of 20,000 medicinal plants of the world. The glossary of Indian medicinal plants has listed around 3000 plants. Above 2000 plants have been reported to be ethno medicine. In addition almost 25 % of the entire compounds of the current prescription drugs were derived originally from the plant sources. Among the rich and varied plants of Indian forest, the medicinal plant constitutes an important source. Many people have defined medicinal plants but the accepted definition was given by Agricultural and Natural Resource Development as "plant that are recognized by the people to have reliable and effective medicinal values which are commonly used in treating and preventing specific ailments and diseases which play an important role in health care". The importance of medicinal plants was used at the house hold level by women to improve the health at village level and even by the Tribal. Thus medicinal plants are gaining importance in the field of research especially in the field ofpharmaceuticals, biotechnology in elevation of human sufferings and to improve quality of life and health. Natural products such as alkaloids, terpenoids, saponins, phenolics, tannins, sesqueterpenes, anthraquinones, flavonoids, and fatty acids etc., derived from higher plants play an important role as useful investigation tool in pharmacological studies. Therefore, it is important that natural product chemistry continues to explore natural resources in search of new natural products.

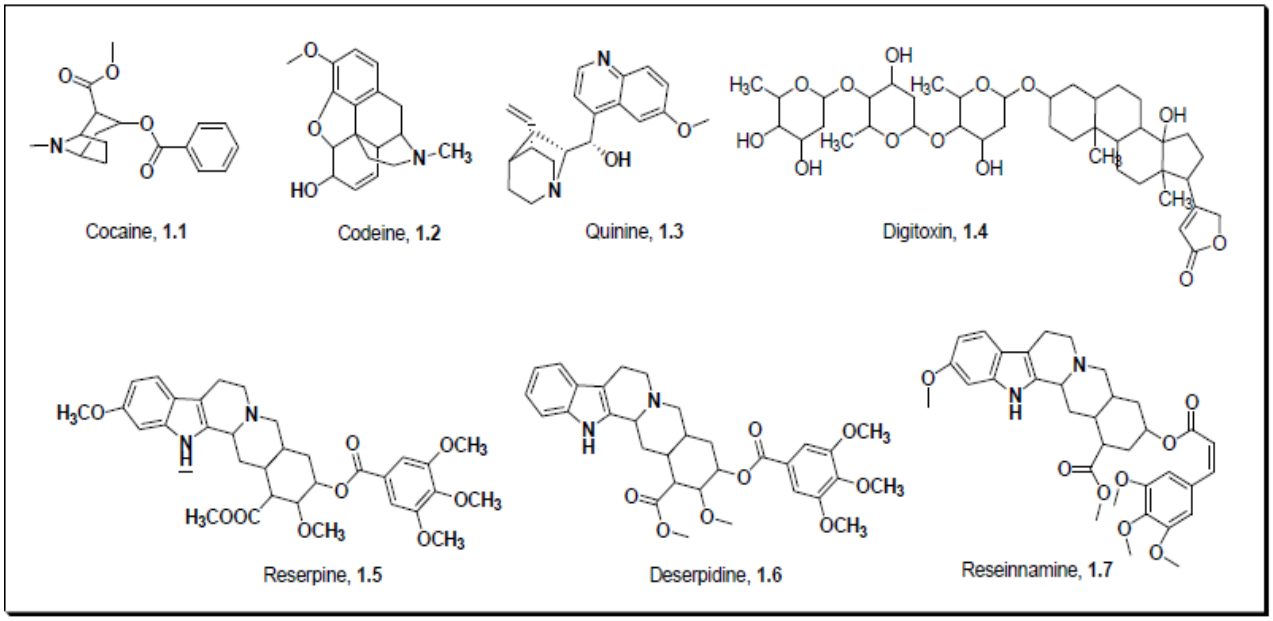

Figure-1
Drugs from plant origin

By considering the importance of natural products,in our presentation, I will be focusing on the isolation, identification and biological property of active compounds from the dried leaves of *C. infundibuliformis*.

ISCA-IVC-2016-4CS-005- Resource Person

Antibacterial and Antifungal Studies of Some Derivatives of Tributyltin (IV) of Salicylic Acid

Pankaj Mittal
Department of Applied Sciences (Chemistry), Hindustan Institute of Technology and Management, Keetham, Agra, 282 007, India

Abstract: The organotin compounds are widely used as biocidals. Some derivatives of Tributyltin (IV) of salicylic acid have been synthesized in molar ratios 1:1 and 2:1. The synthesized derivatives were characterized by elemental analyses, IR spectral data, ^{1}H NMR spectral data and molar conductance measurements. The antibacterial studies of the synthesized derivatives have been evaluated through their Minimum Inhibitory Concentration (MIC) values both on gram positive (*Staphylococcus aureus*) and gram negative (*Escherichia coli*). The antifungal studies of the synthesized compounds have been evaluated through their Minimum Inhibitory Concentration (MIC) values both on *Aspergillus niger* and *Candida albicans* fungi. These derivatives exhibited enhanced antibacterial and antifungal effects as compared to the ligand.
Keywords: Tributyltin, IR, ^{1}H NMR, antibacterial, antifungal, Salicylic acid.

ISCA-IVC-2016-4CS-012- Resource Person

Multicomponent Synthetic Approach towards Heterocylces

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Abstract: Currently, the researcherswerefocused towards the green chemical methodologies for synthesizing the heterocycles, there by decrease the reaction time, usage of organic solvents and side products.Development of environment friendly synthetic methodologies has become an urgent need forthe several chemical transformations. The Multi-Component Assembly Process (MCAP) is a method in which more than two starting materials were combined in a consecutive mode to give highly selective single product with high atom economy and selectivity. Gewald, Mannich, Hantzsch pyridine, Biginelli, Passerini and Ugi reactions are some of the examples for MCAP for the construction of *N*-heterocycles. Utilization of microwave irradiationin organic synthesis has become one of the top most energy sources which will reduce the reaction time and increase the rate of the reaction.The synthesis *N*-heterocycles using microwave irradiation were promoting the green chemistry principles such as easy workup, high reaction rates, good atom economy, more economic and ecofriendly. *N*-heterocycles were abundantly present innature which possesses a variety of medicinally important properties such as anticonvulsant, antihypertensive, antioxidant, anti-inflammatory, antitumor, antitubercular, antiviral, sedative hypnotic, diuretic, antimicrobialand anticancer activities. Some of the examples are Luotonin A, a quinazolin-one based ring junction *N*-heterocycles which are used to treat abscesses, inflammationand rheumatism,Mappicine and Camptothecin (Fig. 1) are the two other alkaloids used in the cancer treatment chemotherapy. Similarly triazoles have been considered as one of important structural scaffoldpossesses various applications in medicinal chemistry, organocatalysis and materials science.Some of the medicinal drugs like Fluconazole, Triazolam, Rizatriptan and Alprazolam have contains triazole core moiety (Fig. 2) having medicinal values, likeanticonvulsant, antifungal, anxiolytic, analgesicantiemetic and antihistaminics. Biologically rich acridine and fused acridines have been usedas antimalarial, anticancer, antiviral, antioxidant, anti-inflammatory and antibiotic activities.Similarly quinazolinones are the important heterocycles possess good medicinal and pharmacological properties.

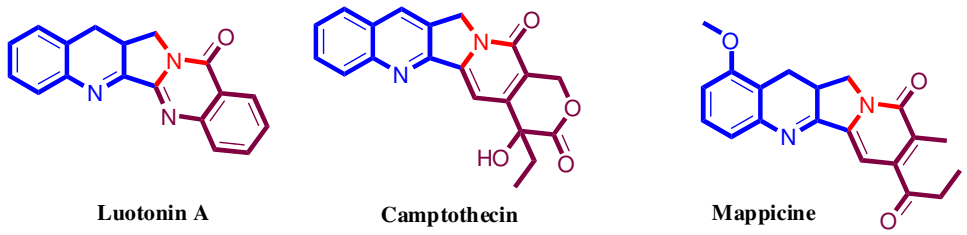

Figure-1
Medicinally important alkaloids contain ring junction nitrogen

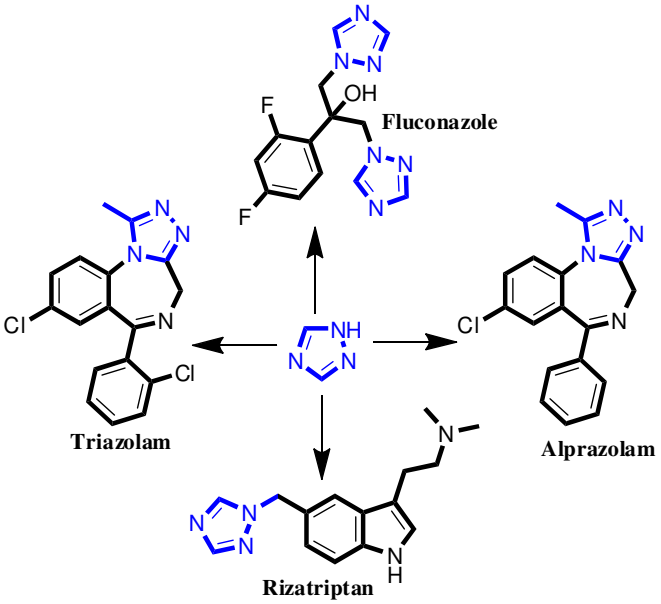

Figure-2
Drugs contains [1,2,4]triazole nucleus

By considering the importance of heterocycles, we have reported the heterocyclicmolecules contain of acridines, quinazolinones, pyrazole fused acridines etc.In our talk we are going to cover a series of heterocycles such as acridines, quinazolinones and pyrazole fused acridinessynthesis *via* multicomponent reaction. This multicomponentreaction provides a rapid construction of bulkier molecules in short duration with high yield.

ISCA-IVC-2016-4CS-021- Resource Person

Synthesis and Study Of 4-(4'-N-Alkoxybenzoyloxy)-3-Substituted Benzylidene-3-Amino Coumarins

R. C. Tandel
Applied Chemistry Department, Faculty of Technology and Engineering, The Maharaja Sayajirao University of Baroda, Kalabhavan, Vadodara-390 001, Gujarat, India

Abstract: The derivatives of coumarin have been synthesized by condensing respective 4-(4'-n-alkoxybenzoyloxy)-benzaldehyde and 3-amino coumarin. The derivatives have a bulky methoxy group as a lateral substituent and ortho- to ester linkage, due to steric effect molecules would be become more acoplanar and broad therefore the derivatives are being purely non-mesogenic. The increase in length of terminal substituent as well as more polarizability of the molecules has the higher thermal stability and occurrence of the nematic phase (thread like texture). The higher derivatives exhibit more mesomorphic thermal stabilities. The study of thermal stability of heterocyclic compounds is quite interesting as it includes the significance of some additional parameters such as dipole due to heteroatom, electro negativity of the heteroatom etc. The purity of the prepared compounds was confirmed by TLC and structures of synthesized compounds were characterized by spectral studies. The transition temperatures were determined by using polarizing microscope with heating stage.

ISCA-IVC-2016-7EngS-005- Resource Person

Eco-friendly Chemical-free Dyeing of Polyester/Cotton Blended Fabrics

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Abstract: Dyeing of textile fibres involves utilization of various chemicals and auxiliaries for the various purposes, such as exhaustion of the dyestuff from the dyeing liquor to the textile substrate, fixation of the dyestuff on the substrate, giving uniform and level dyeing results, etc. The utilization of these chemicals in the dyebath adds up to the effluent load after the dyeing is complete, which may cause harm to the environment if they are discharged along with the waste water. Moreover, expensive treatment techniques are utilized for the removal of dyes as well as chemicals from the effluent liquors. The present paper deals with chemical-free dyeing of polyester/cotton blend; to achieve this, modification of the blend is carried out with a highly reactive polymer and a suitable cross-linking agent. The conventional dyeing of polyester/cotton blended fabrics with disperse/reactive dye system involve acidic and alkaline media respectively for the fixation of the dyestuffs on the respective substrates. The application procedure usually employed is either dyeing in two separate dyeing liquors or in a single dyebath in two different steps. The blended fabric was treated with polyacrylic acid in presence of cross-linking agent and subsequently dyed with the disperse and reactive dyes in the same bath using pad-dry-cure dyeing technique, without using any chemical or auxiliary in the dyeing liquor. The chemical-free dyeings were compared with the conventionally dyed samples in terms of colour strength (K/S) values, measured spectrophotometrically. The washing and light fastness of the dyed samples were quite good and comparable with conventionally dyed samples. The study of effluent characteristics indicates that the pH, BOD, COD, etc. were all in the permissible range; hence, no extra effluent treatment is required, except for the removal of dyes/colour from the effluent by a suitable colour removable technique. The chemical-free dyeing of blended textiles may be considered as "Green technological approach" for a textile dyer.
Keywords: reactive dye, polyester/cotton blend, eco-friendly dyeing, polyacrylic acid, effluent characteristics.

ISCA-IVC-2016-8EVS-001- Resource Person

Toxicity Evaluation of Cadmium (cd) in Aquatic System Using Algae (*Chlorella Pyrenoidosa,* chick)

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Abstract: Indiscriminate disposal of industrial, municipal and agricultural wastes into the aquatic ecosystem are mainly responsible for environmental pollution. Life support systems *viz*, H_2O, air and soil are thus getting exposed to an array of pollutants, especially, heavy metals released by anthropogenic activities. Aquatic plants, particularly algae were more

tolerant, are able to survive and with stand the pollution stress and also serve as pollution indicator. Beyond the toxicity level, the xenobiotics are toxic to the entire aquatic ecosystem. Algae serve as a biotool for the toxicity evaluation of different xenobiotics. The present study was focused on morphological toxicity and biochemical responses of *Chlorella pyrenoidosa* to the Cadmium stress. The laboratory experiments were conducted to the assess toxicity level on morphology and biochemical responses of the test plant species at the interval of 3, 6, 9 and 12 days exposure duration at the concentration of 0.01, 0.04, 0.10, 0.15, 0.20 and 0.25ppm. The test plant shows normal growth and chlorophyll, protein and carbohydrate content increases from 0.01ppm to 0.10ppm of cadmium, however, beyond this concentration (0.15ppm to 0.25ppm) test plant shows toxicity symptoms and decline in the content of biochemical parameters. Thus, if the concentration of xenobiotics increased, the aquatic flora shows the declinity. It is the step to conserve the aquatic flora and fauna from the toxic environment. It is an experiment to create awareness about the significance of conserving biodiversity.

Key words: Algae, Xenobiotics, Heavy metals, Toxicity.

ISCA-IVC-2016-9FMS-001- Resource Person

A Clinical Research Study to ascertain the Efficacy of Homoeopathic medicines in cases of Migraine

Babita Rasheed
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Abstract: Migraine is a severe type of headache characterized by recurrent attacks of unilateral headache usually accompanied with nausea, vomiting and or photo-phonophobia. The attacks are variable in nature i.e., intensity, frequency & duration etc. In some cases attacks are preceded by or associated with neurological and mood disturbances such as flickering lights, spots, lines in front of eyes, irritability, depression etc. A clinical study was undertaken with an aim to ascertain the efficacy of homoeopathic medicines in the management of the cases of migraine. 50 cases of migraine were included in the study. Each case was carefully studied, managed and follow up was done following homoeopathic principles. The result showed that maximum number of cases i.e. 68 % cases were cured 22% were benefited, improved whereas 8 % remained status quo so 90% cases showed positive results. Medicines which were given during the study and found to be effective were Cyclamen, Ignatia,Iris Versicolor.,Lac defloratum.,Niccolium Onosmodium,Sang. can., Spigelia, Theridion and many other constitutional medicines.Thus this study shows and hence proves the efficacy of Homoeopathic Medicines in cases of Migraine.

Keywords: Migraine, Unilateral Headache, One Sided headaches

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ISCA-IVC-2016-10FCC-001- Resource Person

Lifestyle, Family Imbalance and Its Effect on Health & Work Place

Naveen Kumar Vishnoi
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Abstract: The background of the study is my perception as to how the family imbalance effects a person at the workplace. The study was started on 1st August in the urban as well as rural areas of Udaipur and is continuing. Work and family are both central to our daily lives. Attempting to balance more numerous and complex work and family roles is a source of stress for many of us, mainly because it causes roll strain and spillover. Role strain occurs when the responsibilities of one role interfere with your ability to fulfill the other roles in your life. Spillover happens when the conditions and relationships in one area of our life impact you in another area. Finding a good balance between your work and home lives is not an easy task, but the benefits to your well-being are worth the effort. Family balance is very essential for overall substantial growth of an individual. If a person carries the remnants of family problems on his mind then he cannot put in his full effort at his workplace and he will in a way not only stop him from progressing further but also effect the organization in the long run drastically. The methods being adopted is random sampling method with on the field studies through questionares and schedules. Preliminary findings reveal the lack of awareness of complications arising out of family imbalance among the masses.

Keywords: Family imbalance, stress, workplace, spillover, relationships.

ISCA-IVC-2016-13PCS-002- Resource Person

Development of a Liposomal Nano Delivery System

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Abstract: System L is the second most abundant transport system available at the BBB transporting neutral amino acids. These transporters can be exploited for the delivery of drugs. The steric requirements for System L are that the substrate must possess an α-amino group and a carboxylic group attached to the same carbon atom, plus a hydrophobic side chain. TDAA satisfies steric requirement of System L. By using TDAA as a recognition ligand, drug molecules or drug molecules loaded on to carriers can be delivered to the brain. We attempted to prepare liposomes with TDAA with or without cholesterol. However all the preparations were difficult to hydrate and liposomes did not form with TDAA either with or without cholesterol. But we could load TDAA on to the liposomes up to a concentration of 20% of the total lipid without affecting the liposomes stability. The liposomes were prepared by film hydration method followed by sonication in which aqueous Azidothymidine (AZT) solution was encapsulated. Formation of liposomes was confirmed by optical microscope. The liposomes after sonication were characterized for size and size distribution, charge and zeta potential, percent entrapment and invitro release.

Keywords: Liposomes, System L, Nano Drug delivery, Drug targeting, Tetradecyl aspartic acid.

1. Agriculture, Forestry and Horticulture

ISCA-IVC-2016-1AFH-001

Influence of Weather Parameters on Lentil (*lens culinaris* m.) at Allahabad

Singh Vijay Pratap, Nath Satyendra, Patra Sitanshu Sekhar*, Rout Sandeep and Sahoo Soham
School of Forestry & Environment, Sam Higginbottom Institute of Agriculture Technology & Sciences, Allahabad, UP, India

Abstract: A field experiment was conducted during the 2014-2015 at the research farm of School of Forestry & Environment, Sam Higginbottom Institute of Agriculture Technology and Sciences, Allahabad, to find out influence of weather parameters on Lentil (Lens culinaris M.) under Allahabad condition in Randomized block design (factorial) replicated thrice. Induction of hydro priming was obtained by immersing the seeds in distilled water. The GDD accumulation was highest in D_1 (1907.25 day °C) than other sowing dates. The minimum GDD was accumulated in D_3 sowing (1633.15 day °C). The highest PTU was obtained by D_1 (21899.10°day hrs). The hygrothermal unit-I was highest (168544.70°day percent) in the D_1. HgTU-II, photo temperature, nycto temperature, inter diurnal temperature was also highest in D_1.
Key words: Agrometeorological indices, GDD, Lentil, Temperature.

ISCA-IVC-2016-01AFH-002

Impact of GA_3 seed Pre-Treatment on Seedling Growth in *Delonix regia*

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[2]Biotechnology-cum-Tissue Culture Centre, Orissa University of Agriculture and Technology, Bhubaneswar-751003, Odisha, India

Abstract: An experiment was carried out at the nursery of Biotechnology- cum-Tissue Culture Centre, OUAT, Bhubaneswar, Odisha, India, during the year 2015-16 to study the impact of different concentration of GA_3 (i.e. Control, 700, 710, 720, 730, 740, 750, 760, 770,780,790 and 800 ppm) seed pre-treatments on seedling growth in Delonix regia. Seeds pre- treated with of GA_3 at 790 ppm significantly enhanced the plant height (41.66cm), number of bipinnate leaves (8.33), maximum root length (28.66 cm), seedling fresh biomass (6.59 g) and dry biomass (2.55g) at 45 Days after sowing (DAS). Hence, it may be concluded that seeds pre- treated with GA_3 at 790 ppm can be recommended for obtaining better quality seedlings of Delonix regia.
Keywords: Delonix regia, GA_3, seedling.

ISCA-IVC-2016-01AFH-003

Relationship between Rainfall, Runoff, Soil Loss and Productivity in North Eastern Ghat Zone of Odisha, India

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[1]College of Agricultural Engineering and Technology, Orissa University of Agriculture and Technology, Bhubaneswar, Odisha, India
[2]Department of SWCE, CAET, OUAT, Bhubaneswar-751003, Odisha, India
[3]CAET, OUAT, Bhubaneswar-751003, Odisha, India

Abstract: A trial was conducted at All India Coordinated Research Project ,OUAT, Phulbani during the year 2007-09 with the objectives to quantify the runoff and soil loss under different cropping systems and develop relationship among them. The treatments tried were T_1-Sole crop of rice, T_2- Sole crop of pigeon pea. T_3- Sole crop of groundnut,T_4-Pigeonpea and rice in alternate strips,T_5- Pigeon pea and groundnut in alternate strips, T_6-Intercrop of rice and pigeon pea (5:2),T_7- Intercrop of groundnut and pigeon pea (4:2),T_8-Uncultivated fallow,T_9-Cultivated fallow, All crops were planted across the contour. Intercrop of groundnut and pigeon pea (4:2) gave significantly higher rice equivalent yield compared to other sole crops. Mean rice equivalent yield was 38.62 q/ha. Groundnut + pigeon pea (4:2) introduction increased the yield by 158 % as 97% and 21% when compared with sole crop of rice, pigeon pea and groundnut respectively. Groundnut + pigeon pea (4:2) gave the lowest runoff of 309mm which is 23 % less than the cultivated fallow (401mm).Groundnut + pigeon pea (4:2) gave the lowest soil loss (8.03t/ha) which is 47 % lower than the cultivated fallow (with highest soil loss 15.19 t/ha).The Groundnut + pigeon pea (4:2) gave the lowest (24.2 %) mean runoff of the rainfall compared to other treatments. The relationship among rainfall, runoff and soil loss was found out which can be used to predict the runoff and soil loss from rainfall for same type of soil condition and slope. The Thus it can be concluded that intercropping of groundnut with pigeon pea planted along contour may be practiced to increase crop yield and lowering the soil loss and runoff in the hilly tribal areas of Kandhamal district of Odisha.
Key words: Relationship, rainfall, runoff, soil loss, productivity

ISCA-IVC-2016-01AFH-004

Effect of Growth Regulators and Chemicals on Leaf Nutrient Changes in Tamarind Plantation

C. N. Hari Prasath, A. Balasubramanian, S. Radhakrishnan, A. Mayavel, S. Manivasakan, C.Veeramani and K.K. Suresh

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Abstract: Tamarind, a suitable tree species for wasteland and other afforestation programme planted extensively in Tamil Nadu by forest department, farmers and other agencies. The profuse flowering in *Tamarindus indica* resulting in large scale abscission of flowers as well as fruits during various stages of development. To address this phenomena, a four different combination of growth regulators and chemicals namely $ZnSO_4$ 0.5 per cent + Boric acid 0.3 per cent, Planofix, Paclobutrazol and Ethephon was applied through foliar application and observed under four growth stages namely new flush formation stage, peak flowering stage, pod maturation stage and harvesting stage with Randomized Block Design. The treatments were applied in a 15 year old plantation raised at Chinnakupam village, Harur taluk, Dharmapuri district, Tamil Nadu (12º01'00''N 78º27'38.7'' E) under ICAR-IINRG Network project. The study observed that nutrient status of leaf (Total nitrogen - 3.52 %, total phosphorus - 0.345 % and total potassium - 0.203 %) was observed highest in Paclobutrazol application followed by Planofix and lowest macro nutrients status was recorded in Control treatment. As growth progress, the nutrient status was increased from new flush formation stage to peak flowering stage and gradually declined from pod maturation stage to harvesting stage with significant variation between each growth regulator and chemical treatment. From the study it was concluded that, application of Paclobutrazol increased nutrient in tamarind leaves and it will paves the way for maximum flower and fruit production.

Keywords: Tamarind, Growth regulators, Nutrients, Leaves, Chemicals, Paclobutrazol

ISCA-IVC-2016-01AFH-005

Some Phosphate Solubilizing Fungi Isolated from Paddy Fields of Raipur, CG

Amia Ekka* and AnjuVerma

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Abstract: Phosphate solubilizing microorganisms (PSM) play an important role in agriculture. Few works on these microorganisms especially on bacteria had been reported from Korea and Raigarh district. Therefore, the present study was aim focused in the isolation and screeningof phosphate solubilizing fungi from Raipur district of Chhattisgarh which is located at $22^0$33'N - $21^0$14'N, $82^0$6'E - $81^0$38'E. Phosphorus is second essential element after nitrogen for the growth and development of the plants. But most of the agricultural soils are phosphorus deficient. To increase its availability large amounts of phosphorus fertilizers are used regularly. After application a considerable part of this phosphorus gets precipitated and hence cannot be utilized by plants. Phosphate solubilizing microorganisms could play an important role in solubilizing this insoluble form. Fungi have been reported to solubilize more efficiently than the bacteria. In this study rhizospheric soil samples were collected from paddy fields of five different villages of Raipur. Isolation and screening were performed in Potato Dextrose Agar medium (Himedia) and Pikovskaya's Agar medium (Himedia) respectively. Out of forty nine isolates fourteenwere screened on the basis of halozone formation in Pikovskaya's Agar medium. Some of theseisolates were identified as *Aspergillus* sp. and *Penicillium* sp. on the basis of colony morphology andmicroscopic examination. It is concluded from this preliminary study that phosphate solubilizing fungi were present in rhizosphere of rice plants. These strains would be further exploited as bioinoculants for the plant growth.

Keywords: Phosphate Solubilizing Fungi, Paddy field, Isolation, Screening, Raipur.

ISCA-IVC-2016-01AFH-006

Effect of Nitrogen Sources on Phosphate Solubilization Efficiency of two Different *Aspergillusniger* Strains from Rice Rhizosphere Soil of Raipur, CG, India

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Abstract: Phosphorus (P) deficiency in the soil is one of the major problems that restrict plant growth.Consequently, a regular application of chemical phosphatic fertilizers is required for achieving optimum yields. Regular and excess use of chemical phosphatic fertilizers causesvarious environmental problems such as eutrophication and also resulted in intense mining of rock phosphate, a non-renewable natural resource. Phosphate solubilizing microorganisms (PSMs) are capable of transforming insoluble phosphorus to soluble form and hence, expected to surmount problems related with phosphate fertilization and pollution control. Dissolution of complex organic and inorganic phosphorus sources by PSM depends on

many physiological and nutritional factors. The solubilization of insoluble P varies among different strains of the same organisms. Therefore, the present work was carried out to find out the effect of differentnitrogensources on the solubilization of P and fungal growth by two strains of *Aspergillusniger (*RAJ2 and RAS4).Both the strains showed significantly higher P solubilization and fungal dry weight. However, RAJ2 showed maximum P solubilization in the presence of ammonium sulphate (119µg/ml) and potassium nitrate (119µg/ml) whereas; RAS4 solubilized more in the presence of ammonium chloride (80.83µg/ml). Significantly higher fungal dry weight (0.3667g and 0.38gfor RAJ2 and RAS4 respectively) was observed in the medium supplemented with potassium nitrate by both the fungi. A significant drop in medium pH was also recorded that varied from 2.74 to 4.05 and 3.20 to 6.54 for RAJ2 and RAS4 respectively. The finding showed a strain level difference in P solubilization potential of the two fungi. Hence, optimizations of different parameters are constantly required for the development of efficient phosphatic biofertilizer.Use of an effective strain ofmicroorganism is very importantfor the purpose of agricultural application.

Keywords: Nitrogen source, *Aspergillusniger*, P solubilization, Rhizosphere soil, Raipur

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Fisheries Profile in the River Satluj from RoparHeadworks to Harike Barrage in Punjab, India

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Abstract: The river Satluj has been a major source of capture fisheries in India. The river sustains a diverse flora and fauna including fish species. River Satluj originates at southwest of Tibetan lakes of Rakasthal and Mansarover which covers an area of about 1078 km. It enters the plain of Punjab at District Ropar and flows up to Fazilka via industrial city of Ludhiana and meeting point of river Beas at HarikePattan covering an area about 280.02km in Punjab. The commercial as well as subsistence fishing activities are in practiceby local as well as migrant fishermen, using various types of nets and gears in upstream, mid stretch and downstream of river Satluj in Punjab.Variety of fish species were monitored in river Satluj. Field survey was conducted during different season at landing sites as well as local market at Ropar, Ludhiana, HarikePattan, Amritsarcovering a total stretch of more than 200 km. The intensity of fishing and fish diversity is low near district Ropar where a maximum of 56 species were encountered. With the convergence of a few small tributaries, the river Satluj water gets augmented at Ludhiana resulting in the increase in both the diversity (93 species) and abundance of fishes in the river. Further increase in both diversity (104 speices) and catch was observed at HarikePattan. The fish catch was most representative at HarikePattan, where important catch component of the Satluj fishery was encountered. Among these, featherback, shad, aspidoparia, Indian major carp, common carp, kalbasu, minor carps, minnow, loaches, barb, catfish such as boal, pabdah, mystus, whiskered catfish, giant river catfish, climbing perch, glassperchlet, freshwater garfish, mullets, live fishes such as magur, stinging catfish, murrels/snakeheaded, striped spiny eel, tire track spiny eels were identified in catches. The fishermen used traditional nets and gears in all major landing sites of the River Satluj which prove to be ineffective, as more manpower is required to get a poor harvest. It also appeared that lack of trained fishermen in fisheries sector resulted in low catch. The shifting course of the river during summer and winter, declining water level & fish productivity, lack of co-operative development for fish culture practice, and violation of fishery regulation are affecting the Satluj fishery as well as socio-economic condition of local and migrant fisher. Overall the major threats to Satluj fishery include pollution due to industrial and municipal waste, dumping of Budhhanallah waste, indiscriminate use of organochlorine pesticides and chemical fertilizers in nearby farming areas, and construction of dams and barrages. All these have led to a decrease in water flow and degradation of riverine habitat of the river. The future scenario of Satluj fishery appears to be very discouraging even if the developmental activities remain at this level.

Key words: Fish species, Diversity, River Satluj, Punjab

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Indigenous Knowledge of Fish Capturing Techniques in Freshwater Ecosystem in Distt-Tarn Taran, Punjab, India

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Abstract: Fishing is an age old practice carried out since time immemorial. From the subsistence level, fisheries have attained the status of an industry now. Inspite of the fact, traditional fish harvesting practice in freshwater bodies is still a major source of livelihood for riparian fishermen. The commercial as well as subsistence fishing practice by local as well as migrant fishermen occurring in the river. Fish catch composition from different gears was monitored at landing sites in the river as well as in fish market during many field visits. Fish catching in running water bodies is a very tedious task but

application of traditional indigenous knowledge made the fishermen to know the species behavior/abundance/diversity and to reach the unreachable areas for capturing fish through indeigenously developed fishing gears. Varieties of indigenous, non-mechanized boats are used for operating the larger nets in high as well as low water currents and more than 18 types of traditional fishing gears/netsare used by fishermen in fresh waterbodies. Various gillnet, long lines, and plunge basket traps or individual fish traps are used during high water. Such gears generally get a small catch per unit effort but it is used for a long period. Plunge basket trap or filtering gears are used on the migration routes near temporary water bodies of river. Long fences containing several small cages are used to catch the fish into one central holding chamber. Drag nets/seine nets, large mesh gill nets, lift net, purse net, scoop net are used during dry season. Large mesh gillnet is used in midstretch of the river in order to catch big size fish during dry season. Large major carps/catfishes of commercial value are caught by drag net, gill net and purse net. The application of gears varies with current, depth of water, size/nature of fish to be captured, and availability of raw materials. Riverine fishing gears are artisanal, small scale and labour intensive and are traditionally been employed in freshwaterbodies such as river Beas, Satluj, and wetland in Distt-Tarn Taran for many decades. Technical know-how advancement and ideas, certain gears are used more frequently. By and large, traditional cotton and jute nets have been replaced by nylon nets. Many of the fishing gears are employed for a short time when water level is suitable for their use. Generally fishermen use static, filtering, plunge basket trapping and long lining when flood water rises or recedes. The present study discusses about the application of indigenous knowledge as source of livelihood for many riparian fishermen.

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Genetic Diversity Studies on *Calophylluminophyllum* (Undi) Pprogenies through Inter Simple Sequence Repeat (ISSR) Markers

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Abstract: The present scientific study was carried out at Forest College and Research Institute, Mettupalayam with the objective is studying the genetic divergence among 30 undiprogenies using 10 primers of Inter simple sequence repeat (ISSR) markers. Among them, 2ISSR markers were found to be polymorphic and the number of bands ranged from eight to eleven. The highest polymorphic information content (PIC) value 0.58 was observed in primer UBC823and average PIC value was 0.45. Cluster analysis using NTSYS generated dendrogram divided allthe 30 progenies into ten distinct groups. The progenies A4 and A7, A5 and A8 were closest at the similarity coefficient of 1.000.
Keywords: Inter Simple Sequence Repeat, Undi, Markers and Primers.

2. Animal, Veterinary and Fishery

ISCA-IVC-2016-2AVF-001

Apitoxin: An Anthelmintic and Food Supplement Agent to Poultry Model

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Abstract: The crude apitoxin was collected by venom extractor invented and developed by the scientists at University of Allahabad, India from Indian honey bee, *Apis indica*, reared at work station. Apitoxin is a shiny liquid dries up quickly when come in contact of air. It is hydrophilic in nature. Chemical constituent of apitoxin includes peptides as melittin, apamin, phospholipase-A2, hyaluronidase, histamine, heptapeptides, adolopin and apamine were separated and characterized by high performance liquid chromatography and Mass spectroscopy. The anthelmintic and food supplement activity of different fractional doses of toxin was analyzed *in vitro* and applied *in vivo* in well designed control and experimental poultry bird models. The control group was kept on plain poultry feed, whereas the other three groups were supplied with 0.5, 1.0 and 1. 5mg of apitoxin, respectively, per kg of poultry feed. The average daily body weight was found to be increased for model supplemented with honey bee venom in comparison to control poultry model. The findings were substantiated and level of significance was calculated by biotastistical applications. The 1.0mg apitoxin per kg of poultry feed dose was significantly increased growth performance than other doses ($p<0.05$). The *in vitro* bio assay of bee venom against heterakid roundworms, recovered from same model were tested and applied *in vivo* in experimental poultry models. The constituents of bee venom (heptapeptides, 7Kda) play a significant key role in anthelmintic activity against heterakid nemic fauna of avian vertebrates. These finding gave an idea about better poultry model through apitoxin supplementation in their daily diet that acts as food supplement as well as anthelmintic factor for newly born chicks and adults.

Key words: Apitoxin, *Apis indica,* Poultry feed, Food supplement, Anthelmintic.

ISCA-IVC-2016-2AVF-003

Faunal Diversity of Ajmer Aravalis Lepidoptera Butterflies

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Abstract: Ajmer is located in the center of Rajasthan (INDIA) between 25^0 38 "and 26^0 58 "north 75^0 22" east longitude Covering a geographical area of about 8481sq km hemmed in all sides by Aravalli hills. About 7 miles from the city is Pushkar lake created by the touch of lord Brahma. The Dargah of khawaja Moinuddin chisti is holiest shrine next to Mecca in the world. Ajmer is abode of certain flora and fauna that are particularly endemic to semi-arid and are specially adapted to survive in the dry waterless region of the state. Lepidoptera integument covered with scales forming colored patterns. Availability of butterflies were more during the sunny hours and population seemed to be Confined to the sunlit areas. Butterflies are among natures most beautiful gifts to mankind they have been admired and studied for centuries, every art form has used their colour and design as an embellishment. Following butterflies are recorded in AJMER.

Keywords: Ajmer, Faunal diversity, Lepidoptera, Aravalis.

3. Biological Sciences

ISCA-IVC-2016-3BS-001

Estimation of Total Protein in *E. coli* isolates

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Abstract: Out of 100 samples collected 74 samples showed nucleated colonies with metallic sheen. Isolates that showed colonies were subjected for growth measurement and protein estimation by Lowry's method. Growth was monitored by measuring O.D. at 590nm. Protein estimation was carried using stock solution of 1 mg/ml concentration of bovine serum albumin as a standard compound. The O.D. for growth at 590 nm ranged from 0.4 and 1.69. The protein production by 74 isolates ranged between 0.7 µg/ml and 2.9 µg/ml. *E. coli* isolates pe16, pe68, pe74, pe88 and pe93 whose protein values were between 2.5 to 2.9 µg/ml and O.D. values at 590 nm ranged between 1.3 and 1.69 were selected for further studies.
Keywords: E. coli, lowry's method, Folin's reagent.

ISCA-IVC-2016-3BS-002

Evaluation of Carbon Monoxide and Oxygen levels at Traffic Signals, Toll Plazas and in Main Roadside Built Houses and Impact of its Exposure on Public Health

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Abstract: Carbon monoxide poisoning occurs after too much inhalation of carbon monoxide (CO). Carbon monoxide is a toxic gas, but, being colorless, odorless, tasteless, and initially non-irritating, it is very difficult for people to detect. Carbon monoxide is a product of incomplete combustion of organic matter due to insufficient oxygen supply to enable complete oxidation to carbon dioxide (CO2). It is often produced in domestic or industrial settings by motor vehicles that run on gasoline, diesel, methane, or other carbon-based fuels and from tools, gas heaters, and cooking equipment that are powered by carbon-based fuels such as propane, butane and charcoal. Exposure at 100 ppm or greater can be dangerous to human health.My current study includes,assessment of outdoor Enviornmental air quality in the ambient air with respect to quantity of carbon monoxide and oxygen in ppm and its impact on people residing on highways and on main roads as compared to people residing in Interior locations of the road sides. It's a survey based research where a survey of CO and Oxygen levels in ppm was done and it was found out that people residing on main road or on highways are suffering with many health problems .The permissible level of CO in an adult man according to WHO is 1-4ppm.Most of the people on highways and main road are suffering with heart problems,breathlessness and fatigueness with depression.The level of CO was found to be more than 25 ppm on traffic signals and highways in which the traffic police stays for more than eight hours a day.Maximum police man and people residing on main roads, near traffic signals and near toll plazas suffer with depression,fatigues,tiredness,forgetfulness,respiratory problems and with high pulse rate and low oxygen levels.

ISCA-IVC-2016-3BS-003

Preservation of Vegetables by Fermentation

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Abstract: Consumption of vegetables has dramatically increased in India during the past few decades. It is estimated that about 20% vegetables produced is lost each year due to spoilage. Fermentation of vegetables as a method of preservation is a process that is difficult to control because of naturally occurring micro organisms, heterogeneous botanical structures and composition of the raw vegetable material. Preservation of a variety of vegetables was carried out by adding brine containing 2.5% salt. The changes in organoleptic properties such as colour, odour, taste and overall appearance and chemical and microbiological parameters such as pH, acidity, total viable count, LAB count and Coliform count was studied at regular intervals up to four weeks. Significant changes were observed during the course of natural fermentation leading to preservation of these vegetables without adding any preservative. Initially various Gram-positive and Gram-negative bacteria were found to be present. After one week acidity increased and Gram positive catalase negative cocci and rods belonging to lactic acid bacteria predominated. At the end of four weeks, yeasts were also observed along with Gram positive catalase negative cocci and rods.
Key words: Vegetable losses, Brine, organoleptic, Lactic acid bacteria, yeast.

ISCA-IVC-2016-3BS-004

Global Scenario of Antiviral Drugs for Japanese Encephalitis

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Abstract: Japanese encephalitis (JE) commonly known as Brain fever is a mosquito borne disease that is widely prevalent in the temperate and tropical zone of Asia. It is one of the leading forms of viral encephalitis worldwide. Approximately 60% of the world population lives in JE endemic areas. As per WHO estimate 50,000 serious cases and about 10,000 deaths reported each year. There is no specific treatment for JE and no effective antiviral drugs have been reported so far. The prevention of JE can be achieved by controlling the vector or by immunization regime. The vector control in the rural areas, which are the worst affected ones, is practically almost impossible. Three vaccines that have been implicated against JE include inactivated mouse brain derived; inactivated cell culture derived and cell culture derived live attenuated JE vaccine. But each has its own limitation. Besides the vaccine has certain side effect and is expensive. There is a burning need for the development of novel therapeutic drugs against JE. There are many promising antiviral agents against JE infection which need further assessment. *Ipomoea cairica* is a weed of waste areas, disturbed sites, rainforest margins, open woodlands and growing near waterways. It may be used as carminative agent and lessens inflammation, and is useful in fever, jaundice, biliousness, bronchitis, liver complaints etc. In the present study we have extracted arctigenin from *Ipomoea cairica*. Arctigenin, when tested for antiviral activities against JEV found to reduce expression of JE specific proteins. Hence it has potential to be used as antiviral drugs. Thus, *Ipomoea cairica,* seemed to have the potential to be used as a new therapeutic agent for JE patients.

ISCA-IVC-2016-3BS-005

Applications of lipopeptide(s) from a Bacillus sp: an overview

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Abstract: Extensive use of chemicals to control plant diseases in the field has disturbed the delicate ecological balance of the soil, leads to groundwater contamination, development of resistant races of pathogens and humans health risk. The biggest ecological challenge for microbiologists and plant pathologists is the development of eco friendly alternatives to the extensive use of chemical pesticides for combating crop diseases. The constant demand for new therapeutic agents with a effective mode of action has activated the intensive research in the field of diverse antimicrobials compounds of natural origin. Among these molecules, lipopeptides are a unique class of bioactive secondary metabolites with increasing scientific, therapeutic and biotechnological interest. The main representative of the lipopeptide family is surfactin, which is produced by bacterium Bacillus subtilis. This most potent known biosurfactant was named surfactin due to its surface activity. These properties make surfactin a candidate drug for the resolution of a number of global issues in medicine. Cancer and phytopathogens are the major problem in the today's scenario. Cancer is a major cause of morbidity and mortality and runs in the top three cause of death worldwide especially in the developed countries. Bacillus subtilis have potent anti-fungal activity against Fusarium oxysporum, Aspergillus niger and Mucor sp. (30.00%, 66.66%, and 77.77% respectively). The lipopeptide possessed cytotoxic activity against Hep2C, HCT-15 and L-132 cancerous cell lines. The IC50 value(s) of lipopeptide for Hep2C and HCT-15 cell lines were 16.4 and 42.1 µg/ml, respectively. The sensitivity of the lipopeptides to enzymes was tested against Trypsin (~10,000 U/mg), Steapsin (lipase) (40-70 U/mg) and Porcine pancreatic lipase (40-70 U/mg) was tested. Lipopeptide(s) were observed as resistant to enzymes and show clear zone of clearance against Mucor sp

Keywords: Lipopetide(s), Iturin, Surfactin, Anti-cancer.

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Effects of Lead and Cadmium on Biochemical Parameters in Leaves of Mustard Plant (*Brassica Juncea*)

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Abstract: Remediation of soil pollution is one of the many current environmental challenges. Plants can extract heavy metals from contaminated soil and translocate them to their above plant tissues by the process of phytoextraction. The variation in biochemical parameters in the leaves can be used as indicators of pollution for early diagnosis. The present study was carried out to evaluate the effect of Cd and Pb on the chlorophyll and ascorbic acid content of *Brassica juncea* leaves. In this study, the pot experiment was performed in green house. *B. juncea* plants ware planted in artificially Cd and Pb contaminated soils in different concentration of 10 $mgkg^{-1}Cd(CdCl_2)$, 50 $mgkg^{-1}Pb$ ($PbCl_2$) and $mgkg^{-1}Cd$ ($CdCl_2$)+50 $mgkg^{-}$ Pb ($PbCl_2$) along with ethylene diamenetetra acetate(EDTA) $1gkg^{-1}$. The exposure of *B. juncea* plant to Cd and Pb

contaminated soil was showed the chlorophyll contents of the leaves were significantly decreased while the ascorbic acid content increase of the stage of flowering.

Keywords: *Brassica juncea*, Lead, Cadmium, Chlorophyll, Ascorbic acid.

ISCA-IVC-2016-3BS-008

Biosurfactants and their screening methods

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Abstract: The demand for specialty surfactants in the agriculture, cosmetic, food, pharmaceutical, and environmental industries is continue increasing. Most of them compounds are synthesized chemically and potentially cause environmentally and toxically problems. Biosurfactants are produced by plants, animals and by microorganisms. The most important advantage of biosurfactants such like surfactin, when compared to synthetic surfactants is their ecological friendly, low toxicity and biodegradable nature. Another advantage of biosurfactants is that they can be modified by biotransformation to generate new products for specific requirements. Microbial surfactants are complex molecules, comprising a wide variety of chemical structures such as glycolipid, lipopeptides, fatty acids, polysaccharide-protein complexes, peptides, phospholipids and neutral lipids. Potential applications of biosurfactants include emulsification, phase separation, wetting, foaming and surface activity that can be exploited in food, cosmetic and pharmaceutical industries. In the environmental sector, microbial surfactants show promising applications in bioremediation and waste treatment to remove hazardous materials. The lipopeptide(s) obtained from a Bacillus sp. showed strong antifungal activity against Mucor sp., and Candida sp. with 21 and 16 mm zone of clearance respectively. So the use of lipopeptide could be elaborated to combat the as fungal diseases. Lipopeptides also used in laundry and enhance oil recovery. Microbial biosurfactants like lipopeptide(s) are considered safer alternative to chemical or synthetic surfactants owing to lower toxicity, ease of biodegradability and low ecological impact.

Key words: Surfactin, anticancer, Lipopeptide(s), Iturin, antifungal.

ISCA-IVC-2016-3BS-009

Pteridophytes as an Antimicrobial Agent

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Abstract: The rapid emergence of multiple drug resistance strains of pathogens to current antimicrobial agents has generated an urgent need for new antibiotics from medicinal plants and has accelerated the research for discovery of new antibiotics/drugs. Plants have a rich source of secondary metabolites/bioactive molecules (alkaloids, flavonoids, terpenoids, phenolics, phytosterols *etc*.) present in small quantity. From economic and medicinal point of view, higher plants have been investigated but not pteridophytes. So, it may be interesting to explore pteridophytes to screen their extracts for antimicrobial activities. Pteridophytes are the seedless vascular cryptogams plays important role in the earth's biodiversity and their use as medicine had been mentioned in the Ayurvedic and Unani system also. About 12,000 species of pteridophytes occur in the world flora of which about more than 1,000 species into 70 families and 191 genera likely to occur in India and western himalaya is designated as global biodiversity hotspot due to its distinct biogeographic eco-region, topography and climatic position. Pteridophytes grow luxuriantly in moist tropical and temperate forest and their occurrence in different eco-geographically threatened regions from sea level to the highest mountain are of much interest. The medicinal value of few pteridophytes against bacteria, fungi, virus, cancer rheumatism, diabetes, inflammation, consultant, fertility, diuretic, pesticides and heptoprotective has reported. The tribal communities, ethnic groups and folklore throughout the world have been utilizing their plant parts like rhizome, stem, fronds, pinnae and spore in various ways for the treatment of various ailments since ancient time. The number of contributors about the taxonomy, ecology and distribution of pteridophytes has been published from time to time but enough attention has not been paid towards their useful aspects in the form of their medicinal properties/biologically active components to ensure their beneficial use.

Keywords: Pteridophytes, Western Himalaya, antimicrobial, secondary metabolites.

ISCA-IVC-2016-3BS-010

Genetic Diversity Exploration and QTL Mapping of Morphological Traits for *Daucuscarota* L. (Apiaceae) Based OnIsozymes Markers

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Abstract: For the improvement of crop, exploration of genetic diversity is of prime importance. *Daucuscarota* L. is one of the economically as well as medicinally important vegetable. Present research was conducted to study the genetic diversity of

Daucuscarota. 156 accessions of *Daucuscarota* L. from different countries (Tunisia, Syria, Greece, Czech Republic, Pakistan, Kazakstan, bulgaia, Turkey, Denmark, Italy, Germany, Bulgaria, France, Poland, Hungry, Portugal, Czech Republic, Uzbeckista, Albania and USA) were used for morphological, isozyme marker and QTL analysis of traits. Among all morphological characters root shape in longitudinal section showed more variation than other qualitative characters. Seedlings of 156 accessions belonging to different regions were used to study their isozyme by using Sodium dodecyl sulphate polyacrylamide gel electrophoresis (SDS-PAGE) technique. In present study total number of bands was 12 ranged from 6 to 240 kDa. Bands with molecular weight 70 kDa was the only bands present in all 156 accessions while accessions on other molecular weights showed allelic variation and they were polymorphic. Presence of bands on molecular weight 56 kDa represents the presence of phytoenedesaturase enzyme in all accessions. Win QTL cartography software ver. 2.5 was used to identify the linkage of QTL with traits. Analysis of all traits by using simple linear regression indicated that 4 trait of carrot out of 28 were linked to QTL but according to the interval mapping 80 QTL was linked to 26 traits. Maximum number of the QTL was present on chromosome 7 at different cM position. It was concluded that Interval mapping more method was more powerful than single-marker approaches to detect QTL because of the structure and additional genotypic information supplied by the genetic map. Therefor it is suggested that for genetic exploration of *Daucuscarota* L. combination of morphological and isozyme marker should be utilized.

ISCA-IVC-2016-3BS-011

Bio-synthesis and Applications of Silver Nanoparticles

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Abstract: Nanotechnology is a rapidly growing field with its applications in science and technology for the purpose of manufacturing new materials at the nanoscale level. Nanoparticles can be synthesized by physical, chemical and biological synthesis methods. Most of the physical and chemical methods are expensive or use toxic substances which are major factors that make them not so favoured methods for nanoparticle synthesis. Another alternate, feasible method is biological method to synthesize silver nanoparticles by using microbes, fungi and plants. The biosynthetic methods are of two types intra-cellular and extra-cellular synthesis according to the location where nanoparticles are formed. The metal ions are transported inside the microbial cell to form nanoparticles by intra-cellular biosynthetic method whereas the extra-cellular nanoparticles biosynthesis involves trapping the metal ions on the surface of the cells and reducing ions in the presence of enzymes. Silver nanoparticles are playing a major role in nanotechnology and nanomedicine. Silver nanoparticles have long been known for their antibacterial activity. The development of a rapid, simple, cost-effective, biocompatible and environmentally friendly method to synthesize nanoparticles is an essential aspect of current biomedical research. Silver nanoparticles are of interest because of the unique properties which can be incorporated into anti-bacterial applications, biosensor materials, cryogenic superconducting materials, cosmetic products and electronic components. The anti-microbial activity of nano-silver particles have applications in food packaging materials, odour-resistant textiles, anti-bacterial creams and powders, electronics, household appliances, cosmetics, room sprays, waste water treatment, soil remediation and molecular imaging of cancer cells.

Key words: Nanoparticle, biosynthetic methods, anti-bacterial, nano-silver.

ISCA-IVC-2016-3BS-012

Microbial RNase as Therapeutic Agent

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Abstract: Ribonuclease (RNases) plays a key role in RNA metabolism and also involved in host defence and physiological cell death pathways in living organisms. RNases can be component of super molecule complexes and function in concert with other enzymes which involved in cancer treatment (anti-tumour), cytotoxic effect and therefore are considered as alternative chemotherapeutic drugs. Microbial origin RNases are highly cytotoxic for maligant cells selectively and triggering apoptotic response. RNases cytotoxicity depend upon factors includes catalytic activity, ability to escape natural inhibitors, stability, efficiency of internalization. Their cytotoxicity action is characterized by Cellular targets and molecular determinants of RNases. RNase have ablity to catalyze cleavages of phosphodiester bond in RNA. RNase bind to negatively charged cell membrane, enter cell by endocytosis and translocated to cell for evade ribonuclease inhibitor protein (RI) which lead to drgrade the RNA. Microbial RNases have many in clinical applications, still remaining in the shadow of their animal relatives. We were isolated hyper-producing extracellular bacterial strain (*bacillus sp.*) from soil sample. Bacterial isolates were screened on the basis of zone of hydrolysis on the nutrient agar plates and optimized physio-chemical parameters for enhance the RNase activity (4.26 U/mL) and protein (73.63 mg/mL) were observed. Onconase is the smallest, very stable, less catalytically efficient and more cytotoxic than most RNase A homologues. Ribonucleases may exhibit activities other

than ribonucleolytic activity, such as anti-mitogenic, anti-bacterial, anti-fungal, anti-proliferative, anti-viral activity, HIV-I reverse transcriptase inhibition, translation inhibition and angiogenicity.

Keywords: Micobial, RNase, Cytotoxicity, Anti-tumour.

ISCA-IVC-2016-3BS-013

Protease Inhibitor from *Butea monosperma* (Lam.) Taub. Seeds and its affect on Developmental Physiology of *Helicoverpa armigera*

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Abstract: *Helicoverpa armigera* is one of the major devastating pests of crop plants. In this context a serine protease inhibitor purified from the seeds of *Butea monosperma* was evaluated for its effect on developmental physiology of *H. armigera* larvae. *B. monosperma* peptidase inhibitor on 12% denaturing polyacrylamide gel electrophoresis exhibited a single protein band of~14 kDa with or without reduction. *In vitro* studies towards total gut proteolytic enzymes of *H. armigera* and bovine trypsin indicated measurable inhibitory activity. *B. monosperma* peptidase inhibitor dose for 50% mortality and weight reduction by 50% were 0.5% w/w and 0.10% w/w, respectively. The IC_{50} of *B. monosperma* peptidase inhibitor against total *H. armigera* gut proteinases activity was 2.0μg/mL. The larval feeding assays suggested *B. monosperma* peptidase inhibitor to be toxic as reflected by its retarded growth and development, consequently affecting fertility and fecundity of pest and prolonging the larval-pupal duration of the insect life cycle of *H. armigera*. Supplementing *B. monosperma* peptidase inhibitor in artificial diet at 0.1% w/w, both the efficiencies of conversion of ingested as well as digested food were downregulated, whereas approximate digestibility and metabolic cost were enhanced. The efficacy of *Butea monosperma* peptidase inhibitor against progressive growth and development of *H. armigera* suggest its usefulness in insect pest management of food crops.

ISCA-IVC-2016-3BS-014

Immobilized Pointed Gourd (*Trichosanthes dioica*) Peroxidase in Decolorization of Synthetic Dyes

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Abstract: Concanavalin A (Con A) pointed gourd peroxidase (PGP) was employed in decolorization of synthetic dyes. The expressed activity of immobilized preparation on fifth repeated use was ~50% and decolorization achieved for synthetic dyes DR19 and dye mixture (DR19+DB9) was 64.9% and 61.5% respectively. Immobilized enzyme could effectively decolorize up to 88.2% and 77.4% of DR19 and dye mixture respectively in stirred batch process at 40ºC whereas dye color removal monitored at 30ºC and 50ºC was comparatively low under similar conditions. Immobilized enzyme in the packed column used for the continuous removal of dye color could successfully decolorize DR19 and dye mixture to 69.4% and 51.4% after 50 d of operation. Thus, DEAE immobilized PGP is a simple, economical and effective preparation to remove color of synthetic dyes.

Key words: Pointed gourd peroxidase; Lectin; Immobilization; Dye decolorization; Continuous reactor.

ISCA-IVC-2016-3BS-017

Seasonal Dynamics of Spider Fauna in Indra Vihar Park, Raigarh, Chhattisgarh, India

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Abstract: The objective of the present study was to explore the spider fauna and their seasonal dynamics of Indra Vihar Park, which is geographically located ($21^0$54'49.2" N & $83^0$25'40.4" E) at Raigarh, Chhattisgarh, India. The faunistic survey illustrated presence of 63 species representing 38 genera under 10 families, 2 specimens were identified till genera. Among all these 7 families Predominant diversity was examined in the family Araneidae (15 species) followed by Gnaphosidae (13 species), Thomisidae (10 species), Lycosidae (9 species), Oxyopidae (5 species).Different diversity indices were calculated to study diversity and abundance of spiders, Value of Shannon weiner diversity index is 3.971, Evenness index is 0.8291 and Margalef index is 10.33.

Keywords: Spider, Indra Vihar Park, Diversity, Raigarh, Chhattisgarh

ISCA-IVC-2016-3BS-020

Genetic Diversity Analysis *Capsicum Frutescence* Throughrapd Analysis

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Abstract: The aim of our study was the investigation of the genetic diversity of ten different varieties of *Capsicum frutescens*were analysed by random amplified polymorphic DNA (RAPD) technique. The *C. frutescens* were collected from Western Ghats belts of Karnataka. The plants *C. frutescens*with variable shapes, sizes, colors and other morphological characteristics. We have carried our work regarding the RAPDcharacterization of all the localvariety in this region and their genetic variability has been assessed through RAPD analysis (Random Amplified Polymorphic DNA).The seeds were collected and grown in nursery. The young seedlings were selected for DNA extraction. The DNA was extracted by CTAB method from the leaf sample and DNA amplified by PCR. Using 10 differentprimers (OPA-02, OPB-10OPD-02, OPA-03, OPC-06, OPB-07, OPB-08, OPB-17, 970-11, OPA-12). Then the amplified DNA solution was subjected to agarose gel electrophoresis. Around 400 different bands were observed under UV light. Primers OPA-03 and OPB8 gave similar patters with all the samples.Primer OPB-7 gave one unique band at about 1.4 Kb position. This is an additional loci which is not present in other samples.Primer OPD-02 differentiated CF9 and CF10 from other samples.Primer OPA-12 and OPB-17 differentiated samples 2,3,5 and 10 from others.Primer OPC-06 gave different pattern in 6 and 10 samples.Primer 970-11 gave unique band with sample 8.Primers OPA-02 and OPB 10 gave differentiable pattern for all the samples. Out of this sevenbands were polymorphic for a specific primer and can be used as differential markers. RAPD markers can be used to find genetic diversity of *C. frutescens.*

Keywords: *Capsicm frutescens*, genetic diversity, molecular markers, RAPD.

ISCA-IVC-2016-3BS-021

Impact of Climate Change on Plant Biodiversity

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Abstract: Climate change known as long term changes in environmental conditions has significant impact on plant biodiversity at all levels like ecosystem, species and genetic diversity. Climate changes include increasing CO_2 conditions, increasing global temperatures, altered precipitation patterns, changes in the patterns of extreme events like cyclones, floods , fires and storms. Millenium Ecosystem Assessment (MEA) predicts climate change to be the principal threat to biological diversity. The average temperature has increased by 0.6^0C since mid 1800s and is predicted to rise by 1.4 - 5.8^0C by year 2100. The global mean sea level has risen by 10 to 20 cm and may further rise to 88cm. The thickness of Arctic ice has decreased about 40%. Many areas are facing water shortage. These climate changes are producing various types of impacts on plant biodiversity. There is migration of vegetation towards higher altitude. Plants in forests have been replaced by other types of plants. With only 30^0C temperature change forests have moved 250km. Invasive species here become threat to native species as they are more tolerant to climatic variations. It has led to phenological shifts in life cycles of flowering plants and insect pollinators causing mismatches between them which leads to extinction of both the plant and pollinator. Other relationships like competition, mutualism, prey-predator and host - parasite are also affected. Number of forest fires has increased due to high temperatures. Number of pests like nematodes, insects, aphids, viruses and fungi have increased. Variation in temperature and precipitation patterns can result in more frequent droughts and floods making plants more vulnerable to pests and diseases. These impacts of climate change on plant biodiversity in turn affect ecosystem structure and function. To maintain balance of ecosystem there is need of a better understanding of plants, animals and biodiversity and make efforts to promote conservation and protection of biodiversity. Long term changes in environmental conditions are collectively called Climate Change.

ISCA-IVC-2016-3BS-022

Current Fish Biodiversity of Narmada River in Selected Town of Narmada Velly

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Abstract: The present study has been conducted to assess the fish biodiversity profile in a Narmada river in Madhya Pradesh. In this paper author have tried to documents fish biodiversity of this river and composition of fish community In light of physical habitats quality. The Narmada valley from Omkareshwar (Khandwa District) to Rajghat (Barwani District) , Spared over approximate 150 km in length situated between 2240 N Latitude and 8145 E longitude (Alvares and Billorey, 1988). The river after traversing 1312 km from its origin joins the "Gulf of Combay " 1312 km point. A study of fish biodiversity in Narmada Velly was carried out for a two years seasonally from 2014 to 2015. Total 60 species belonging to 36 Gerera , 18

Families and 7 order were recorded in this velly. Eleven new species rewarded in the present study. These species are (Barilius bandelistis, Gonialosa Manmina, Labero-boga, Labeoangra, Cyprinus-carpio, panties-conchonius puntius sophore, puntius- dosalis, Mystus-tenfra, Oxygaster –gora, Channa-Marulius). Among the collected species cyprinidae family was most dominant constituting 48% followed by Bagridge family constituting 10% of the total fish species. Carp fishes 48%, Cat fishes 27% and Miscellaneous fishes 25% were observed during study periods.

Keywords: Fish Biodiversity, Narmada Velly, Composition, Species.

ISCA-IVC-2016-3BS-023

A study of lipid profile Levels of Type II Diabetes Mellitus

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Abstract: This study consists of two parts; the Part one is to evaluate the level of Blood glucose and lipid profile among diabetic patients(121 patients) which are compared with non-diabetic subjects (60 persons) and part two is to correlate lipid profile with cardiovascular abnormalities among type II diabetic patients. The diabetic patients were collected from Jabir Aboeleiz Center for Diabetes (51.9±11.22 years). Sixty healthy non-diabetic subjects were chosen as controls (52.44±10.76years). Blood glucose, total cholesterol (TC), triglycerides (TG) and high density lipoprotein (HDL) were measured by enzymatic colorimetric methods in both groups, and low density lipoprotein cholesterol (LDL) was calculated for each sample. Among diabetic patients, glucose level and serum total cholesterol, triglycerides and LDL cholesterol were significantly higher ($p<0.5$), while HDL cholesterol was significantly low when compared to nondiabetic subjects. No statistically variation was found in the level of glucose and lipid profile between male and female diabetic patients. In our study, we have found that serum lipid - cholesterol, triglycerides and low-density lipoprotein - levels were significantly ($p < 0.05$) correlated to cardiovascular abnormalities, while HDL had shown a statistically non-significant correlation ($p>0.05$). The study concluded that higher level of cholesterol, triglyceride and LDL-cholesterol in diabetic patients compared to non-diabetic subjects with lower level of serum HDL-cholesterol in diabetic patient compared to non- diabetic subjects.

Keywords: Diabetic, Insulin, Mellitus and lipid.

4. Chemical Sciences

ISCA-IVC-2016-4CS-001

Microalgae Culture for Bio-fuel Production w.r.t. INDIA: A Review

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Abstract: Biofuel production from renewable sources is becoming more and more attractive because of the rapidly increasing consumption and irreversibly diminishing reserves of petroleum. Advanced biofuels produced from biological systems should be chemically similar to petroleum-based fuels. It is necessary to develop advanced biofuels besides widely used bioethanol and biodiesel. Agricultural wastes and edible- oils are potential raw material for the production of energy and biodiesel. Although each of these fuel alternatives provides initial platforms for Biofuel development, their increased commercialization to replace petroleum is not without its limitations. Ethanol is incompatible with the current fuel infrastructure, and the supply of raw materials for biodiesel production from plant oils and waste animal fats may become a concern. These opportunities for refinement have lead researchers to look for alternative fuels and production processes to replace petroleum derived fuels, including fermentative alcohols, non-fermentative higher chain alcohols isoprenoid and lipid fuel, and fuels synthesized directly from CO_2 via photosynthesis. The desire for renewable liquid fuel replacements to petroleum has steadily increased with concerns about the current fuel economy's stability and environmental impact. Synthetic fuels are produced by the chemical process of conversion. Conversion methods could be direct conversion into liquid transportation fuels, or indirect conversion, in which the source substance is converted initially into syngas which then goes through additional conversion process to become liquid fuels. Basic conversion methods include carbonization and pyrolysis, hydrogenation, and thermal dissolution.

Keywords: Bio fuel, Renewable sources, Micro-algae, Environmental friendly, Global Warming, Economic sustainability.

ISCA-IVC-2016-4CS-002

Ecofriendly Synthesis of Biginelli Products

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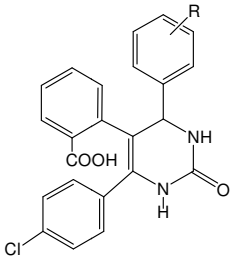

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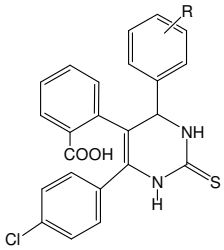

(2)

Abstract: A simple and efficient method has been devised for the synthesis of 2-[6-(4-chlorophenyl)-2-oxo-4-(substitutedphenyl)-1,3,4-trihydropyridin-5-yl]benzoic acid **(1)**and 2-[6-(4-chlorophenyl)-2-thioxo-4-(substitutedphenyl)-1,3,4-trihydropyridin-5-yl]benzoic acid **(2)**, by a one-pot three component cyclocondensation reaction of compound containing active methylene group**,** aromatic aldehyde, and urea/thiourea using catalytic amount of fresh lemon juice in refluxing ethanol. Representative samples were screened for their anti-microbial activities against gram-negative bacteria and gram-positive bacteria using disc diffusion method. The structures of the products were confirmed by IR, ^{1}H, ^{13}C NMR and elemental analysis.

Keywords: Aromatic aldehydes, Dihydropyrimidine, lemon juice.

ISCA-IVC-2016-4CS-003

Some New thorium (IV) complexes of Azo-ester Ligands (Part-I)

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Abstract: Some new complexes of thorium (IV) metal by varying anions (viz. I^-,NO^-_3 and OAc^-) with azoester ligand have been synthesized. These complexes are characterized by conventional methods viz. melting point, conductance measurements as well as by spectral methods viz. IR including far IR spectral studies. Coordination number of the complexes on the basis of these studies were proposed to be 8- 12. The tentative structures of these complexes were also reported.

Keywords: Thorium (IV) metal, Complexes, Azoester, Spectral, Structures.

ISCA-IVC-2016-4CS-004

Physicochemical Modeling of Piperidine-4-Carboxamide Derivatives CCR5 Antagonist (TAK-220) with Anti-HIV-1 Activity

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Abstract: The work describes QSAR and SAR studies on the Piperidine-4-Crboxamide Derivatives as non- nucleotide reverse transcriptase inhibitor of HIV-1 using the topological, physicochemical, and hydrophobic parameters, indicator parameters along with the some quantum parameters. The set of Piperidine-4-Carboxamide Derivatives chosen for the modeling is consists of 21 compounds. Application of multiple linear regression analysis indicated that a combination of adhoc molecular descriptors and the indicator parameters yielded a statistically significant model for the prediction of activity, CCR_5[a]$logIC_{50}$. The final selection of a potential Piperidine-4-Carboxamide Derivatives as non- nucleotide reverse transcriptase inhibitor of HIV-1 is made by the physicochemical modeling.
Keywords: QSAR, Anti HIV-1, Topological indices, physicochemical properties and logP.

ISCA-IVC-2016-4CS-006

Preparation of Charcoal from Banana Plant Waste and Using it for Filtration of Waste Water Sample after Holi Festival

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Abstract: The demand for charcoal is increasing day by day due to its wide range of applications. Activated charcoal is used as a filter in water purification systems throughout the world. However, the production of charcoal from wood leads to deforestation and pollution. This study aims at providing an alternative to wood charcoal using agricultural waste which is economical and environmental friendly. Banana plant is one of the most extensively cultivated plant species in India. After fruiting once, the stem of the plant dies which is normally cut and thrown as agricultural waste. In this study, the banana plant waste was used to prepare charcoal in the laboratory. It was then used for filtration of waste water sample after Holi festival. The physico-chemical parameters of waste water sample, before and after filtration, were tested and compared in order to determine the extent of water purification by filtration.
Keywords: Charcoal, filter, water purification, deforestation, pollution, biomass, agricultural waste, banana plant, waste water sample, Holi festival, filtration.

ISCA-IVC-2016-4CS-007

GC-MS analysis of *Nigella sativa* & *Trigonella foenum-graecum L.* seed extract and study of Antibacterial effect

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Abstract: The seeds of Kalonji (Nigella sativa) and Fenugreek (Trigonella foenum-graecum L.) are widely used medicinal plant throughout India, Arab and China. The aim of the current research was to determine the chemical composition of seed extracts of these medicinal plant and the comparative study of their antibacterial effect. The seed extract were prepared by using Soxhlet extraction assembly. The gas chromatography coupled with mass spectrometer [GC-MS] was used to reveal the phytochemical constituents. The antibacterial activity of extracts were tested against microbes *Staphyllococcus aureus*, *Escherichia coli*, *Bacillus subtilis* and *Pseudomonas aeruginosa* by Agar well Diffusion method. The GC-MS analysis revealed the presence of 35 compounds in Nigella sativa extract and 24 in Fenugreek extract. The extracts of Nigella sativa and Fenugreek both showed no response at 20µl concentration against Gram positive bacteria. Nigella sativa extract showed a zone of inhibition against *Staphyllococcus aureus* indicating it is mildly effective against Gram positive organism.

ISCA-IVC-2016-4CS-008

Corrosion Basics, Impacts & Remedies in Hydrocarbon Industry

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Abstract: The strong need of this paper emerged after multiple observations of appearance of corrosion phenomenon in the existing fields/industry. The same concern was sounded in various discussions with senior colleague from safety & integration disciplines. The need was also apparent in the consciousness/ worriedness of integration managers in the green field in the process of handover of asset from projects to operation team. This paper was written to provide brief idea about corrosion to fresh engineering graduates, working engineers and supervisors in operations team and others disciplines engineers/ scientists who are working in Hydrocarbon industry/advance chemistry related to hydrocarbon industry but do not have much exposure to corrosion.

ISCA-IVC-2016-4CS-010

Synthesis and Application of Silicotungstic acid Modified Montmorillonite Clay as a Green Catalyst for Organic Synthesis

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Abstract: Heteropoly acids (HPAs) have several advantages over liquid acid catalysts such as noncorrosive, environmentally benign and due to their strong acidity HPAs have attracted much interest as the catalyst. In the present study silicotungstic acid (STA) modified montmorillonite Clay have been synthesized. Modified heteropoly acids possess qualities such as good thermal stability, high acidity and high oxidising ability. The efficiency of these catalysts, Silicotungstic acid (STA) modified montmorillonite Clay can be compared with the Montmorillonite by using them in reactions such as Deoximation of oximes of aldehydes and ketones, synthesis of acetal derivatives of aldehydes and ketones, synthesis of coumarin derivatives etc. Heteropoly acids (STA) modified montmorillonite (STA-Mmt) clays have been synthesized and characterized by various analytical techniques such as FT-IR, XRD, TGA, DSC etc. It has been found to be an efficient and reusable catalyst for the synthesis of coumarin derivatives in excellent yields.

ISCA-IVC-2016-4CS-011

Fungicidal Activity of Polyurethane Polymer was Performed on Hard Woods

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Abstract: Surface modification is an effective way to improve the durability of Hard Wood (Anjun-Hardwickiabinata). Polyurethanes are produced by reacting an isocyanate containing two or more isocyanate groups per molecule with a polyol containing on average two or more hydroxyl groups per molecule in the presence of a catalyst.Fungicidal activity of polyurethane was performed by well diffusion method in which test organism was inoculated with two techniques,Spread plate technique and Pour plate technique.Fungicidal activity of polyurethane was performed using *Aspergillussp* and *Penicillium sp.* as test organisms. The effect of polyurethane was performed by maintaining seasonal condition in winter season. It has been observed that polyurethane exhibited different effects in seasonal conditions.
Key words: Fungicidal activity, Polyurethane, Seasonal conditions, Hard wood, catalyst.

ISCA-IVC-2016-4CS-013

Illustration of Symmetry State with Orgel Diagram of Complex Compounds

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Abstract: Orgel diagrams only show the symmetry states of the highest spin multiplicity instead of all possible terms, unlike a Tanabe–Sugano diagram Orgel diagrams are correlation diagrams which show the relative energies of electronic terms in transition metal complexes, much like Tanabe–Sugano diagrams. They are named after their creator, Leslie Orgel. Orgel diagrams are restricted to only show weak field (i.e. high spin) cases, and offer no information about strong field (low spin) cases. Because Orgel diagrams are qualitative no energy calculations can be performed from these diagrams; also ,. Orgel diagrams will, however, show the number of spin allowed transitions, along with their respective symmetry designations. In

an Orgel diagram, the parent term (P, D, or F) in the presence of no ligand field is located in the center of the diagram, with the terms due to that electronic configuration in a ligand field at each side. There are two Orgel diagrams, one for d1, d4, d6, and d9 configurations and the other with d2, d3, d7, and d8 configurations.

ISCA-IVC-2016-4CS-016

Drospirenone – A Progestin for Birth Control

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Abstract- Drospirenone an anti-androgenic synthetic progestin that is used in birth control. It is part of some birth control pills and hormone replacement therapy. In combination with ethinyl estradiol it is used as contraception, to treat moderate acne, and for premenstrual dysphoric disorder. In combination with estradiol it is used to treat menopausal symptoms and premenstrual dysphoric disorder. All oral contraceptives are effective in preventing pregnancy if they are taken correctly, so the choice of which one to use rests on the profile of side effects. Venous thromboembolism is one of the most serious side effects, and although it is rare, it can cause death (in about 1-2% of all cases of venous thromboembolism in women taking the pill).

Keywords: Drospirenone, birth control, Contraceptive agent.

ISCA-IVC-2016-4CS-017

Planniig and Ecobalance in India

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Abstract: India's economic growth over the past few years has raised the prospect of eliminating extensive poverty within a generation. But this growth has been clouded by a degrading physical environment and the growing scarcity of natural resources that are essential for sustaining further growth and eliminating poverty. It is no coincidence that the poorest areas of the country are also the most environmentally-stressed regions, with eroded soils, polluted waterways, and degraded forests. Simultaneously, rapid growth has unleashed greater public awareness and an unprecedented demand for the sound management of natural resources including air, water, forests, and biodiversity. Environmental sustainability is rapidly emerging as the next major development and policy challenge for the country, and will be central to the 12th Five Year Plan which is currently under preparation. This paper attempts to discuss various issues related with environmental planning & management in India such as challenges, environmental governance, government priorities, list of active projects, projects in pipeline & ongoing research.

Keywords: Environmental Planning & Management, Environmental Governance, Environmental Sustainability

ISCA-IVC-2016-4CS-019

Biochemical and Metabolic Disturbance in Human Health due to Excess of Potassium Bromate Present in Food

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Abstract: žPotassium bromate is also illegal in the European Union, Canada, Brazil and elsewhere because it causes cancer in rats and mice. In the United States, however, it has remained legal since it was first patented for use in baking bread, in 1914. žBread dough's beige and shapeless appearance belies the staggering complexity of the molecules that hold it together. The wheat protein infamous for its indigestible components that some people have to avoid — is the glue that binds bread dough to itself. (Gluten-free bread relies on other thickening agents such as. žBut in order for two gluten molecules to bind to each other, molecular bridges have to form between them. žSuch bridges do not form spontaneously. Rather, they're the product of oxidation. Historically, bakers relied on oxygen in the air to form the molecular bridges in dough — they "aged" flour after milling it by exposing it to open air for weeks, and then slowly mixed the flour in dough, all the while allowing ambient oxygen to do the hard work of bridge building. žBut potassium bromate is a powerful oxidizing agent that chemically ages flour much faster than open air. Potassium bromate bleaches dough, and enhances its elasticity by strengthening its network of molecular bridges, which makes for the formation of tiny, thin-walled bubbles as the bread rises. The end product is fluffy, soft and unnaturally white. ž ž.

ISCA-IVC-2016-4CS-020

Conductivity of Polyethylaniline Experimental Auspects

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Abstract: PolyEthylAniline complexes generally have a multiple nature ,consisting of salt rich crystalline phase and amorphous phase with dissolved salts .Therefore one of the most important characteristic of PolyEthylAniline electrolyte is that their conductivity is a property of the amorphous elastomeric phase. PolyEthylAniline may be converted into electroactive materials using various doping methods. •The chemical and electrochemically induced doping process greatly modifies the conducting properties of the PolyEthylAniline.On gradual increase of the PEG concentration the half wave potential of the metal ion like Zn (II)or Al(III) shifted to more negative value in each case and the diffusion current also decreased ,thereby indicating complex formation of the metal ions with PEG •Lingane Treatment of the obserevedpolarographic data showed 1:1 metal :PEG complex formation in each case with formation constants for Zn(II)-PEG equal to log B=0.2787and log B=4.50,respectivelyTo find out the number of electrons involved in the electrode process cyclic voltammetric studies have been performed. Various sets of solutions containing varying concentrations of each of the polymers in 0.1 M potassium chloride(over all concentration) were prepared and the pH was adjusted to 8.0 ± 0.1and scan rate was 40mVs-1, similar sets were prepared containg varying concentration of the polymer complexes under study. Cyclic voltammograms of these sets were recorded on pulse polarograph CL-90.

ISCA-IVC-2016-04CS-022

Study of (Cd (II) – 8-Hydroxy QuinoLine–Hydroxy Acids) System as a Tool in Removal of Excess Cadmium from Human Blood: A Polarographic Approach

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Abstract: The excess of Pb & Cd in human blood, causing stone problem and cancer in gall bladder is conspicuous among the residents of Ganga belt. 8-hydroxy quinoline (8-HQ) is capable of forming complexes with divalent metal ions through chelation. We have studied mixed ligand complexes of 8-HQ and Glycollate (gly1) and Lactate (lac1-) with Cd (II) which make Cd soluble and excrete it through urine. The Stability constants of these soluble complexes [Cd (8-HQ) (gly)]+, [Cd(8-HQ) (gly)2], [Cd (8-HQ)2 (gly)]+ [Cd (8-HQ) (lact)]+, [Cd (8-HQ) (lact)2] and [Cd (8-HQ)2 (lact)]+ are log β11 = 5.8518, log β12 = 6.9003, log β21 = 9.5023 log, β11 = 6.5499, log β12 = 6.6840 and log β21 = 9.9672 respectively at pH 7.4 and 25±0.1ºC. The value of stability constant is determined by polarographic method. The values of stability constants shows that the soluble mixed ligand complexes of Cd (II) with 8-HQ, glycollate and lactate are stable. 8-hydroxy quinoline (8-HQ) and its derivatives hold medicinal properties such as anti-neurodegenerative, anticancer, antioxidant, antimicrobial, anti-inflammatory and anti-diabetic activities. Hence it is imperative that the excess amount of Cadmium in human blood is excreted by means of above mentioned complexes which makes cadmium soluble and excrete it through urine

ISCA-IVC-2016-4CS-023

Estimation of Chemical Shift of Sulfonamide using Balaban Indices

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Abstract: The paper describes the estimation of chemical shifts in NMR using Balaban and Balaban type indices. The statistically significant models are governed by a variety of statistical parameter.
Keywords: QSAR Method, Carbonic Anhydrase Inhibition activity. Topological Indices, NMR Chemical Shift

5. Computer and Information Technology

ISCA-IVC-2016-5CIT-001

Performance Analysis: Find out Relevant Web Page and Precision of Bing and Dogpile Search Engine in Now Day

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Abstract: In Present day Searching is most powerful tool of internet. Searching is use to internet only for search any type of information. Searching is applied to internet through Search Engine. Search engine is very popular application in internet. If any internet user can be wanted to any type of subject related information in internet then time he searches to search engine. Search engine always given to searched item related result in from of list of link and after that internet user selected to any one link is getting on information. This result list is related to search item and some result list are not related for search item or Query. In This paper cover to retrieval effectiveness of performance parameter of precision and Relevant Web Page of Bing search engine and Doggpil Meta search engine. The searching keyword or queries are basically divided into three categories. These Categories are a simple one word, simple multi word and complex multi word and we taken on each Categories in three searching keyword or Query. Main aim of this research paper is find out which search engine is given more relevant result and this paper helped to researcher, internet user or organization which are searching on information to all time because we try to calculation on performance of Bing and Dogpile search engine.

Keyword:- Bing, Dogpile, Precision, Performance, Relevant, Search Engine, World Wide Web.

ISCA-IVC-2016-5CIT-002

ICT Tool: - 'C' Language Program for Matrix Multiplication

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Abstract: In mathematics to solve matrix problems, manually it is very difficult task to get the required output need to perform. Multiplication of two matrixes is only possible if first matrix has size m X n and other matrix has size n x r. Where m, n and r are any positive integer. In the era of Information Communication Technology (ICT) .The ICT programming technique, it is easier task. One of the very popular programs in C programming is Matrix Multiplication. Multiplications mean successive addition. This paper discuss Matrix Multiplication in C language, source code and methods with outputs. The source codes of program for Matrix Multiplication in C programming are to be compiled. Running them on Turbo C or available version and other platforms might require a few modifications to the code. You probably know how to multiply two matrices.

Key word: Matrix, ICT, C lang, Turob c, Positive Integer.

ISCA-IVC-2016-5CIT-003

A Study of Symmetric Algorithms for Data Security

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Abstract- Cryptography is a technique to increase the security of a message by scrambling the contents so that it can be study only by someone who has the right encryption key to unscramble message. Cryptography can afford a means of securing data. As more and more information is stored on terminals or communicated via terminals, the need to insure that this data is invulnerable to snooping and/or tampering becomes more relevant. With the fast progression of digital information exchange in e-way, Data security is becoming much more important in data storage and transmission. Data confidentiality has a prominent significance in the overview of principles, regulation and most recently in Information Systems. With the evolution of human intelligence, the art of cryptography symmetric algorithms has become more complex in order to make data more secure. Arrays of Encryption systems are being deployed in the world of information systems by various organizations. In this paper, a study of various symmetric algorithms is presented.

ISCA-IVC-2016-5CIT-004

Uses of Optical Nanoantenna in ICT and its Ability

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Abstract: Nanotechnology has gained increase in popularity largely due to the design, creation and utilization of materials whose constituent structures exist at Nano-scale. Optical antennas and plasmonic nanoantennas are important nanoscale devices for converting propagating optical radiation into confined/enhanced electromagnetic fields. The radio- wave and microwave antenna theories depend upon their structure, many structures in optical antennas for electric field enhancement of bandwidths of antennas and introduced from their counterparts in radio-wave and microwave region. The collective electronic excitations in noble metal films or nanoparticles. Nano structured materials, such as nano particles, nano electronics nano wires, nano tubes and thin films, provide a particularly useful platform for successful development of wide-ranging therapeutic and diagnostic applications in the biomedical area and communication field. The Conventional antennas which are widely used to transmit radio or TV signals can be used at optical frequencies. The Nano antennas can also be used to generate electronic surface waves known as "surface plasmons.The concept and application of optical antennas in physical optics is still evolving.eg antennas can be used in the radio frequency (RF) regime, the aspiration of optical antennas is to localize the free propagating radiation energy, and vice versa. The optical antennas utilize the distinctive properties of metal nanostructures, which are strong plasmonic coupling elements at the optical nano –regime. The antenna has use possibilities in numerous fields' likes the received RF power level can be wirelessly transmitted along with blood pressure signal for feedback control of the external RF source is a reader which can transmit RF energy to the RF rectifier inside the human body.

Keywords: Optical-Nanoantenna, Nanotechnology, Communication, Radio-frequency, Photovoltaic cell, Types of antenna.

6. Earth and Geology

ISCA-IVC-2016-6EG-001

Groundwater Quality Evaluation of Khed Block in Ratnagiri District of Maharashtra to Estimate its Suitability for different use

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Abstract: The study was undertaken to study the suitability of ground water for drinking and irrigation purpose. Selected wells samples in the Khed block, were examined for chemical characteristics. The suitability of groundwater was checked for drinking and irrigation purposes by comparing these parameters with world health organization (WHO) standards and correlation matrix between the groundwater quality parameters like EC, TDS, SAR, Na%, RSC, TH, KI, PI, MH, CAI, and CR. The results compare with WHO. The data discovered that the ground water of study area is well for drinking and can be used for irrigation purpose.

Keywords: WHO standards, Drinking water, Groundwater quality, irrigation.

7. Engineering Sciences

ISCA-IVC-2016-7EngS-001

Licence Access Vehicle

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Abstract: My project is about license access vehicle. Now a day's you heard that most of the road accidents are caused due to rash drive by the school students of age below 18. Though there is a strong order of government that 18 years below are not allowed to drive the vehicle students not at all mind it they are driving the vehicle without the license. So to rectify this problem i have made a device called "license access vehicle " it will access only the people who are having the license it will works with a scanning device called license access . A license access will helps to start the engine. And, I also conclude that my project is not existing technology.

ISCA-IVC-2016-7EngS-002

Energy and Effluent Efficient Coloration of CDPET Fiber

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Abstract: Polyester contributes more than 40 % in the world textile fiber out puts in due to its specific excellent characteristics. It can be used as alone or in blend for various applications such as apparels, carpets, upholstery, sewing threads, technical textiles and more. In order to overcome certain limitations, namely, dyeing, antistatic, pilling, feel etc., various modifications both physical and / or chemical are well established. Cationic dyeable polyester (CDPET) is one of the polyester produced by incorporation of anionic groups in fiber structure during polymerization process. CDPET fiber is conventionally dyed at boil, with about 80 – 90 % exhaustion. The said fiber can be dyed with cationic dye, at 80^{o}C with more than 95 % exhaustion in presence of solvents. The type of solvent i.e. polar or non – polar characteristics also influenced significantly on the dyeing behavior of CDPET fiber. Effects of various solvents on different properties of CDPET fiber (treated with solvent and without solvent), namely, dye pick up, fastness properties of dyed fiber, strength of fiber etc are also evaluated. The outcomes of the results are very positive in terms of energy and effluent controls for the dyeing system.

ISCA-IVC-2016-7EngS-003

A Hybrid Power Source for Portable Electronic Applications

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Abstract: This paper proposes a hybrid power source for portable electronic applications. Providing AC main supply to the devices installed in remote areas is very difficult and expensive. Hence to avoid these difficulties, an alternate power source is proposed. This power source includes solar energy and fuel cell. As the solar panels can only provide electricity during daytime, the device won't get enough power during night. This condition is rectified by integrating fuel cell along with the solar. If the energy produced from the renewable sources is surplus, then the excess energy is stored in a battery, and if the energy is not enough, then the battery gives energy to the device. When the energy generated from the renewable sources are sufficient enough to meet the load demand, the battery is neither recharging nor charging. The power management unit is designed in such a way that the power supply only gives power to the load according to the load requirements and selects the apt source according to the climatic conditions.
Keywords: portable device, hybrid power supply, power management,

ISCA-IVC-2016-7EngS-004

Artificial Neural Network for Predicting Reference Evapotranspiration under Humid Region

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Abstract: Artificial neural network (AN) was used to assess the reference evapotranspiration under missing or limited climatic parameters as input variables. The climatic data from year 1991-2014 i.e. 24 years was used for study. The results

indicated that temperature based ANN architecture 2-2-1 and 3-4-1 found suitable for estimation of reference evapotranspiration under humid conditions. . For mass based ANN model 4-4-1 and 5-4-1 architectures found appropriate for forecasting of evapotranspiration. The ANN architecture 6-2-1 gives good outcome than other architectures when all climatic variables were considered in the input layers. The study found different ANN architectures can be used when climatic data was limited or missing data conditions. The different temperature based, mass based and combination based models can be used for estimation of evapotranspiration by selecting the optimum number of nodes in the hidden layer.

Keywords: FAO Penman-Monteith, Reference evapotranspiration, Artifical neural networks, Back propagation algorithm, MBE, RMSE, Correlation Coefficient.

8. Environmental Sciences

ISCA-IVC-2016-8EVS-003

Grouping of Significant Geomorphic Parameters Using Multivariate Technique

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Abstract: The hydrologic modelling play vital role in study of the hydrological behaviour of any watershed. Principal Component Analysis (PCA) technique is a dimension reduction technique which uses an orthogonal transformation to convert a set of observations of possibly correlated variables into a set of values of linearly uncorrelated variables called principal components. The PCA technique has been applied in upper and middle sub basins of Godavari river basins for 11 selected watersheds, Maharashtra (India). Thirteen dimensionless geomorphic parameters are considered in order to group the geomorphic parameters in different components on the basis of their significant correlations among them. Results of PCA clearly reveals that first two PC are strongly correlated with some geomorphic parameters. However, the third PC is not found strongly correlated with any of the parameters but is moderately correlated with length width ratio (L_b/L_w). The result clearly reveals that, due to poor correlation of the hypsometric integral and main stream channel slope with others could not be grouped with any of the component. The principal component loadings matrix obtained using correlation matrix of finally selected eleven parameters reveals that first three components together account for 94.283 % of the total explained variance. Hence it is concluded that PCA is very good tool for screening out the insignificant parameters in the study of watersheds hydrologic behaviour like runoff and sediment yield modelling.
Keywords: PCA, Multivariate, Data reduction, Geomorphic parameter, Watershed, Godavari.

ISCA-IVC-2016-8EVS-004

Environmental Pollutionand Sustainability: Its Effects on Life and its Remedies

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Abstract: Environment pollution is a wide-reaching problem and it is likely to influence the health of human populations is great. Today, all over the world there is a great concern and worry as to what will become of the earth, considering the inherent effect of the ever increasing environmental pollution. It presented what our environment is made up, its ever-increasing problems and challenges facing our environment from different perspective. This paper provides the insight view about the affects of environment pollution in the perspective of air pollution, water and land/ soil waste pollution on human by diseases and problems, animals and trees/ plants. Natural resources are depleting rapidly, creating scarcity problem for the next generation. A large number of population particularly poor segments of societies are suffering badly. On the one hand, every country is trying to increase economic growth to alleviate living standard of their people and on the other hand, environmental problems are becoming complicated due to excessive use of resources.The objective of this paper is to study the relationship between environmental pollution and sustainable economic development. Another objective is to achieve sustainable economic development and control environmental degradation.Sustainable development means attaining a balance between environmental protection present and future needs. It means equity in development and sectoral actions across space and time. This paper deals with the role of environment and climate change in sustainable urban development. Study finds that these kinds of pollutions are not only seriously affecting the human by diseases and problems but also the animals and trees/ plants. According to author, still time left in the hands of global institutions, governments and local bodies to use the advance resources to balance the environment for living and initiates the breathed intellectuals to live friendly with environment.
Keywords: Environment Pollution; Air Pollution; Water Pollution; Soil Pollution; Land Pollution; Remedies, Sustainability.

ISCA-IVC-2016-8EVS-005

An Overview of Species Extinction in India

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Abstract: India, being a place of diversified location for plants and animals, in a startling tone India has been facing with the extinction of its diversified plant and animal heritage.India is a home for different kinds of birds, fishes and animals which

include some essential cattle like goats, poultry, cows, buffaloes, pigs, oxen etc. The country is also providing shelter for many wild animals like Bengal tigers, pythons, deer, Indian lions, wolves, monkeys, bears, snakes, many more kinds of Indian bison, Asian elephants and antelope species. India is one of the mega diversified countries in the world out of a total of seventeen mega diversified countries. These seventeen mega diversified countries, including India, are the homes for about 60 – 70% of the world's biodiversity. The Eastern Himalayas, The Western Ghats, and Indo–Burma are the three biodiversity hotspots out of total 34 biodiversity hotspots in the entire world. India alone possess 6.5% of the world's total wildlife in accordance with a report which was brought under light by the United Nations Office on Drugs and Crime (UNODC), it describes that 7.6% of mammals and 12.6% of the bird species in India. According the reports published by the International Union for Conservation of Nature (IUCN) Red List in 2014, 12 species of mammals, 15 species of birds, and 18 species of reptiles and amphibians have been included in the critically endangered list.Here by in this article we have made brief description of the species facing extinction and the main reasons for their extinction in India.

Keywords: India, Species, Extinction, mammals, Animal heritage.

ISCA-IVC-2016-8EVS-006

Characterization of Carbonaceous Aerosols in Fine and Coarse particles at Agra, India

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Abstract: A continuous measurement of organic carbon (OC) and elemental carbon (EC) in $PM_{2.5}$ and PM_{10} was carried out at Agra situated in North central region of India. $PM_{2.5}$ and PM_{10} samples were collected from Jan to Dec 2012 and were analyzed for OC and EC using thermal optical transmittance (TOT) protocol. The results showed that the mass concentrations of $PM_{2.5}$ and PM_{10} ranged from 24.6 to 163.6 µg/m^3 and 45.5 to 490 µg/m^3 respectively. Both OC and EC exhibited a clear seasonal pattern with highest concentration observed in winter followed by summer and monsoon which may be due to the combined effect of changes in emission rates and different meteorology in various seasons. TCA accounted for an averaged 50.3% of $PM_{2.5}$ mass and 40.4% of PM_{10} mass. This indicates that the carbonaceous fraction nearly accounted for more than one third of PM_{10} mass and about half of $PM_{2.5}$ mass which shows that fine particles are enriched with carbonaceous species. The annual average OC/EC ratio was found to be 6.6 ± 2.8 and 6.9 ± 3.6 for $PM_{2.5}$ and PM_{10} respectively. This ratio is similar to the ratio reported for biomass burning emissions. The SOC and SOA concentrations were found to be higher during winter season in both $PM_{2.5}$ and PM_{10}. The SEM/EDX analysis revealed the dominance of carbonaceous particles during winter season which is also supported by back trajectory analysis which shows that the origin of these particles is mainly anthropogenic in nature.

9. Forensic, Medical, Dental and Nursing

ISCA-IVC-2016-9FMDN-002

Polarogrphic Determination of Cyanide in Blood Sample

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Abstract: Cyanide is a chemical compound having triple bonded carbon atom with nitrogen atom, a monovalent combining group CN.1cyanide is available in many forms; in inorganic it is a negatively charged polyatomic ion (CN-). These compounds are termed as salts of hydrocyanic acid and are highly toxic e.g. NaCN & KCN. Cyanide is the inhibitor of cytochrome C oxidase. Most hazardous compound is hydrocyanic acid that can be inhaled as gas at ambient room temperature. Oral ingestion of cyanide in liquid and solid form i.e. 200 mg or inhalation of 270 ppm in air causes death within minutes. Cyanide in body fluid can be determined using spectrophotometric techniques which are very time consuming and requires lot of sample pre-treatment. An attempt was made to determine cyanide in blood using dropping mercury electrode in Polarography/voltammetry. The major advantage of the techniques is that it is quicker, sensitive and simpler method with less interferences. This method utilizes the three electrode system including multi mode electrode as the working electrode while 3M KCl and platinum electrode as the reference and auxiliary electrode. 5, 10, 15ppm standard solution were run and 20 ppm spiked solution of blood was digested using microwave digestion system using 34.5% nitric acid. Determination of cyanide was done using standard addition method. Nitrogen gas was used for purging for 300secs. At -0.24V cyanide was determined. The quantity obtained for 5, 10, 15 and spiked 20 ppm solution was 4.28, 10.52, 14.42 & 18.14 respectively. Keywords:-cyanide, voltammetry, dropping mercury electrode, trace metal analyser.

ISCA-IVC-2016-9FMDN-003

Applications of nonwoven in Medical Textile: An Overview

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Abstact -The term medical textile literally means textile used for medical purposes. Textile apart from being a vital part human life is long since been used in medical field, though the term has been coined very recently. Textile materials have wide range properties such as flexibility, elasticity, strength etc. Textiles used for medical purposes should be non-allergic, non carcinogenic, non-toxic, and antistatic in nature, optimum fatigue endurance, biocompatibility, flame proof, dyes must be non-irritant. An important and growing part of the textile industry is the medical and related health care and hygiene sectors. The extent of the growth is due to the constant improvements and innovations in both textile technology and medical procedures. They are used in a number of separate and specialized applications.

10. Family, Community and Consumer

ISCA-IVC-2016-10FCC-002

Ergonomic Assessment of Office Chairs in Vadodara City, Gujrat, India

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Abstract: Statistics and studies reveal that ergonomic seating is something all employers should consider for their office staff. Every 15 seconds**,** a worker dies from a work-related accident or disease. Every 15 seconds, 153 workers have a work-related accident. Every day, 6,300 people die as a result of occupational accidents or work-related diseases – more than 2.3 million deaths per year. To assess the available office chairs as per the ergonomic standards in the market of Vadodara City, Gujarat. A market survey on the different office chairs available in the market of Vadodara was conducted. The office chairs were of different style and different price range starting from Rs. 2,000 – Rs. 28,000. The market survey revealed that good chairs which provide more comfort were expensive and not bought very often by the users. Thus, provisions should be made to have some economical options for the users so that they don't have to compromise on the comfort.
Keywords: office chair, comfort, ergonomic, back, armrest, lumbar support.

ISCA-IVC-2016-10FCC-003

Guidelines for Chair Design Based on Comparative Study of Ergonomic Features of Chairs used by the Government and Non-government Office Workers

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Abstract: Ergonomic design of office environment is a recent concept in India, and the sitting furniture is the most important component of office environment. Sitting furniture is an essential item of every office. On an average a working person spends three fourth of his/her time in sitting. So every person should be provided with a good seat to work efficiently, to prevent back problems, strain, fatigue and to keep good health of the spine.

ISCA-IVC-2016-10FCC-004

Ergonomic Evaluation and Redesigning of Sankheda Sofa Chair

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Abstract: Sankheda furniture is traditional furniture manufactured in small town called "Sankheda" located in Gujarat state. The distinct feature ofSankheda Furniture lies in skilled hand work and art work. Sankheda Furniture is famous for the lacquer work, colours and carvings. Sankheda furniture objects are being exported to countries like Canada, USA, Europe and West Asia. In today's time the population is still inclined to purchase and use the traditional "Sankheda Furniture" in the living room and other areas of home. The researcher wanted to evaluate Sankheda Sofa Chair ergonomically and redesign selected Sankheda Sofa Chair.In this study an ergonomic checklist was used for evaluation of Sankheda Sofa Chair. The dimensions of selected existing Sankheda Sofa Chair were also obtained. The researchers had suggested and redesign the Sankheda Sofa Chair with changes in dimensions to make it more comfortable and to provide leisure experience for the user. The modified functional design of Sankheda Sofa Chair was thus presented through Plan, Elevation, 3D- view.
Key words: ergonomic, assessment, Sofa Chair.

ISCA-IVC-2016-10FCC-005

Addition of Soy Powder to Increase the Nutritive Value of Rice Based Traditional Product –DEHRORI

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Abstract: Dehrori is traditional rice based sweet, commonly prepared and consumed by all local residents of Chhattisgarh, India. It is mostly prepared during festivals and social rituals. Rice based all products contain carbohydrate and energy in

sufficient amount but it contain protein less both in quality and quantity. The present study was aimed to improve the nutritive value of traditional rice based Dehrori by incorporating soy flour. Three different variations along with standard sample were prepared and evaluated for its nutritive value. Seven point Hedonic Rating Scale was used for sensory evaluation while nutritive value was calculated and compared using proximate analysis of the product. The results revealed that addition of soy powder enhances the Proteins content. Value added Dehrori was developed by incorporating soy powder at 10%, 20% and 25% levels for increasing nutrient content. Four different variations of Dehrori were prepared and evaluated nutritionally and organoleptically. 7- Point hedonic scales were used for sensory evaluation. Nutritive value of all three variations and standard product was calculated and compared using standard technique. The overall result reveals significant increase in nutrient contents. The energy content of dehrori was decreased by 325.33 to 312.66 kcal similarly the carbohydrate content was decreased by 57.19 to 47.26 gm, whereas the protein content was increased by 4.16 to 19.03gm. Fat content was almost same in both samples 8.83 to 8.86gm. The sensory evaluation indicates that 20% soy based product was best on the basis of overall acceptability on 7 point hedonic scale. The traditional rice based products can be enriched by the incorporation of soy flour but excessive incorporation of soy may not be acceptable due to its specific taste.
Key words – Soy, Traditional food, Proximate analysis, Sensory evaluation, Rice.

11. Material Science

ISCA-IVC-2016-11MatS-001

Biosynthesis of Silver Nanoparticles from (Tea Seeds) Reducing Method and Their Optical Properties

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Abstract: A silver nanoparticle (AgNPs) was synthesized by plant reduction method using *Tea seeds* extract in aqueous medium and $AgNO_3$ solution at different time interval. Reaction time of $AgNO_3$ and tea extract could accelerate the reduction rate of Ag^+ and affect AgNPs size and concentration of NPs. Surface plasmon resonance band centred at 420-440 nm was recognised as first exitonic peak of UV-Vis absorption spectra of AgNPs that used to calculate the particle size (30-50 nm). FTIR results seed supported AgNPs showed decrease in intensity of peaks at 3394, 1716 and 1618 cm^{-1} with respect to the pure tea indicating the involvement of O-H, carbonyl group and C=C stretching in formation of Tea-AgNPs aggregates. The C-O-C and C-N stretching suggested the presence of many phytochemicals on the surface of the NPs. tea extract reduce silver ions into silver nanoparticles (NPs) of size 10-50nm. Pronounce effect of the time on AgNPs concentration and particle size, was exhibited by the system these synthesized AgNPs are characterized using UV- Vis spectrophotometry (UV-Visible), Fourier transformation infrared (FTIR) and XRD.

Keywords: Silver nanoparticles (AgNPs), FTIR, XRD and UV-Vis absorption spectra etc.

12. Mathrmatics and Statestics

ISCA-IVC-2016-12MSS-002

Construction of Association Schemes and Coherent Configuration from Williamson's Hadamard Matrices and their Properties

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Abstract: In this paper we have constructed Association Schemes and Coherent Configurations from Williamson's Hadamard matrices. We have also described their properties.

ISCA-IVC-2016-12MSS-003

Vital Statistics: Types, Importance and Future Planing

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Abstract: Vital statistics are statistics on birth, death, fetal death, diseases, marriages, divorces etc. It is a numerical record by which community may be studied. It can be considered as a branch of biometry because it deals with numerical data of human birth, mortality, demography etc. It is very important aspect, because counting the death and analyzing the cause of death (COD) by age, gender and their social and economical status, disease or due to some other reason and geography is one of the best methods to study National / Global health status. Main types of vital statistics are birth rate, maternal mortality rate, infant mortality rate, prenatal mortality rate, expectation of life etc. National Centre for Health Statistics (NCHS) is a rich source of data to perform data analysis. Records are maintained at National level, State level as well as District level through registration and survey systems. To keep and analyze vital statistics is very useful for administrative purposes, in health program organizations, to plan for development of best community in future and study community health and to compare data etc.

13. Pharmaceutical Science

ISCA-IVC-2016-13PCS-001

Bioactivity Screening of Streospermum Suaveolens Leaves

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Abstract: Stereospermum suaveolens DC is a medicinal tree species native to India, Bangladesh and Myanmar. It is commonly used in the traditional systems of medicine against various ailments like heating, itching, worm disturbances, vomiting, piles, acidity, diarrhoea, gonorrhoea, loss of taste, malaria and other fevers. The present study gives first insight of anti-microbial, anthelmintic and anti-oxidant properties of the leaves of S. suaveolens. The ethanolic extract produced significant anti-bacterial, anti-fungal and anthelmintic properties in a dose-dependent manner. DPPH free radical scavenging assay exhibited IC 50 value of 61.6 ± 2.3 and super oxide anion scavenging assay showed 146.6 ± 3.6 IC 50 value. Preliminary phytochemical screening revealed the presence of alkaloids, steroids, flavonoids, terpenoids, tannins and phenols that may be the reason for its biological properties. This paper first reporting the medicinal property of leaves of S. suaveolens.

Key words: Areca, antimicrobial, anthelmintic, antioxidant, phytochemistry.

14. Physical Science

ISCA-IVC-2016-14PhyS-001

Application of Computer Technology to Design Virtual Experiments in Physics

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Abstract: This paper concerned an application of SCADA in the field of electronics. In this paper authors build up controlled simulation of Network Theorem in the interest of students. A Wonderware (Intouch 9.0 – Demo), SCADA system was used to build up simulation. Entire simulations build up in two separate parts in single combined application. One Part will provide experimental platform of actual circuit containing three resistors and one source. Second Part provides equivalent replaced circuit containing one source and one resistor. Simulation have all required components like Variable Power source, Voltmeter, Ameter, Cables, Resistors which were used in the actual experiment.
Keywords: SCADA, Thevenin Theorem, Simulation, Programming, Experiment Process Flow.

ISCA-IVC-2016-14PhyS-002

Interactive Learning of Physics Experiment using Computer Program

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Abstract: The manuscript contained simulation of common physics experiment named Rectifiers using MULTISIM (Evolution mode) program. In the current paper circuit models designed in the computer program and analyze their wave forms (I/P & O/P) within the simulation computer program. Students can perform experiments inside the model and take out reading by varying Load. Multimeters and Oscilloscope provided in the simulation model for analyze purpose. The result obtained from simulation is compatible with the actual experiments. It is concluding that students who go through this simulation before actual experiments do not need faculty attention during the laboratory work.
Keywords: MULTISIM, Rectifiers, Waveforms, Simulation.

15. Physical Education, Sports and Yoga

ISCA-IVC-2016-15PESY-001

Effect of All Fours Belly Breathing Exercise in individuals with Chronic Non-Specific Low Back Pain

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Universiti Tunku Abdul Rahman, Malaysia

Abstract: Low back pain (LBP) is one of the leading causes of disability and has a major socioeconomic impact. Despite a large amount of research in the field, there remains uncertainty about the best treatment approach for chronic LBP, and identification of relevant patient subgroups is an important goal. Exercise therapy is a commonly used strategy to treat chronic low back pain and is one of several interventions that evidence suggests is moderately effectiveness for improving function and work. But there is a chronic dearth in uniqueness in the area of back pain rehabilitation with a single form of exercise stimulating the core muscles namely diaphragm, abdominals, pelvic floor muscles and muscles of lower back thus this research work focused on stimulating the abdominals and diaphragm to achieve coordination of all the muscle of core in back pain rehabilitation.

16. Educational Science

ISCA-IVC-2016-16EduS-001

E-Evaluation in Virtual Environments: Automated Versus Personalized Methodologies

Stephen John Beaumont
Centro de Tecnología para el Desarrollo (CENTED), Buenos Aires, Argentina

Abstract: When designing any educational process, we must analyze all the variables involved in this process: curriculum design, didactic transposition, the learning environment, evaluation methodologies, etc. In particular, evaluation methodology is a key component and as such we must analyze it and try to optimize it in order to achieve a feedback to keep improving this educational process. Of course, this evaluation is not only applicable to students or course participants but to all these other variables we mentioned. Therefore, we must clearly define and implement a correct evaluation methodology when designing any virtual teaching process. In the particular case of e-learning pedagogical processes, we can find a wide range of methodologies, from automated to personalized ones. To illustrate this with examples, I would like to analyze two completely different models. First we analyzed the peer review methodology, where each participant in a virtual course, to complete the assessment of each module should evaluate at least a determined number of works from their peers. This methodology is popular in one particular scenario which is not present (at least in equal dimensions) in classroom teaching processes. This is the possibility of including, within one particular course, an enormous number of participants which would be impossible even to imagine in a classroom teaching process. This is where the concept of "mass education" appears, and with it, the concept of Massive Open Online Courses (MOOCs). On the other hand, we can see the results of personalized methodologies, in which the main instructor or a coordinator or assistant interacts directly with each student and performs feedback on each of the work, inquiries or suggestions from them.
Keywords: Educational Process, E-learning, Mass education.

ISCA-IVC-2016-16EduS-002

Teachers' Views on Values Education: A Qualitative Study

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[2]Tata Institute of Social Sciences, Mumbai, Maharashtra, India

Abstract: The aim of the current study was to examine teachers' perspectives on values education. Qualitative interviews with 50 teachers was conducted and analyzed. Values education was mostly about compliance with societal values and norms. The learning goals or values in values education were mainly on how to treat others and on self-responsibility. Teachers did not take a critical approach. A main method of values education reported by the teachers was to be a good role model in everyday interactions with students. Values education was largely described as an everyday practice embedded in the stream of social interactions. Furthermore, an everyday language was used when the teachers described values and values education. There was a lack of professional knowledge in this domain.
Keywords: Values education, Moral education, Ethics, Values, Teacher professionalism.

ISCA-IVC-2016-16EduS-003

Globalization and its Impact on Education

Jonaki Bhattacharya and Prasenjit Pal
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Abstract: One of the main focuses of economics of education is to explore the relationship between education and economic development. Education could be considered as consumer goods as well as investment. The idea of education as consumer good raises the question that whether it is public good or private good. Education involves positive externalities. The intrinsic and the instrumental role of education in economic development are important. It could be categorized as public good and the provisions of it should be ensured by the welfare state. If we consider education as a private good then education could be thought of as a big industry which produces educational goods and services that can be traded and marketed. Increase in production of educational industry will raise national income of a country and induces economic development. On the other hand education could be considered as investment which develops human resources and induces human capital formation and thus economic development. These are the economic bases of education. With the introduction of globalization, open economy, international trade in goods and services and the cross border capital movement the relationship between education and economic development has changed. Globalization has changed the economic basis of education. The following review

paper provides a bird's eye view on globalization and expresses different ideas on economic globalization, political globalization, technical and socio-cultural globalization. The phenomenon like trade in educational goods and services, private cross border investment in education and migration due to trade in educational goods and services which have aggravated the process of globalization is discussed. It tried to figure out the levels of education where globalization has emerged. The effect of globalization on schooling, vocational education, adult education, tertiary education and foreign education demonstrated remarkable changes. Next in order to synthesize the effect of globalization on education the present paper has enquired into demand and supply side of education at micro and macro level. The development in educational sector as a result of globalization was further demonstrated with the involvement of MNCs like WTO, WB and UNO etc in educational sector and with the introduction of world treaties like GATs and GATT etc. Finally the paper concluded by addressing the recent development in education that took place as a result of globalization in world as well as in India with the help of data on volume of trade in educational goods and services.

17. Commerce, Law and Management

ISCA-IVC-2016-17CLM-001

A Study on Customer Satisfaction in Banking Industry: An Empirical Study with Special Reference to SPSR Nellore District of Andhra Pradesh

A.M. Mahaboob Basha
Vikrama Simhapuri University, Nellore,

Abstract: As we know that service sector plays a very crucial role in India. In service sector one of the major considerable area is banking sector. The banking sector which aids to many different types of organizations, businesses and persons. There are many different types of banks which plays significant role while rendering services to customers. There are many commercial banks which provides services to society people. Here the study about customer satisfaction in banking industry. To this study the researcher has taken sample size 110 on the basis of convenience sampling. The study is restricted to SPSR Nellore District of Andhra Pradesh. The scope of the research work in terms of objectives restricted to identify the factors which impact on customer satisfaction in banking industry.
Keywords: Banking industry, Banking services, Banking assistance, Customer satisfaction etc.

ISCA-IVC-2016-17CLM-002

Challenges and Prospects of Indian Economy in Agricultural Development

K. Veerakumar
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Abstract: The Indian economy is the fourth largest economy of the world on the basis of Purchasing Power Parity (PPP). It is one of the most attractive destinations for business and investment opportunities due to huge manpower base, diversified natural resources and strong macro-economic fundamentals. Also, the process of economic reforms initiated since 1991 has been providing an investor-friendly environment through a liberalised policy framework spanning the whole economy. The growth and performance of the Indian economy in the world market is explained in terms of statistical information provided by the various economic parameters. For example, Gross National Product (GNP), Gross Domestic product (GDP), Net National Product (NNP), per capita income, Gross Domestic Capital Formation (GDCF), etc. is the various indicators relating to the national income sector of the economy. They provide a wide view of the economy including its productive power for satisfaction of human wants.
Keywords: Indian economy, agriculture, Market dynamics, Initiatives and challenges.

ISCA-IVC-2016-17CLM-003

Legal Proposal on Solid Waste Management in Modern India: A Critical View

Venudhar Routiya
School of Studies in Law, Pt. Ravishankar Shukla University, School of Studies in Law, Pt. Ravishankar Shukla University, Raipur-492010, CG, India

Absract: It is generally believed that laws are produced from the social environment and also affect the society. From the theoretical perspective of the Sociology of Law, the author would try to investigate the impact of the present penal system in the context of social change. For this purpose, the author would use empirical-research methods in to the enquiry of the legislative origin and the social background of Indian Reserve Waste Disposal Regulations which regulations are current to 04th March, 2013 and Draft Hazardous Materials (Management, Handling and Trans boundary Movement Rules, 2007, as well as how the penalties actually affect the society. That is, by examination of the penal system, author would try explaining how present society produces these penalties.

ISCA-IVC-2016-17CLM-004

Creating Valuable Impact of Academic Research

R.K. Motwani
Department of Management Studies, Government Engineering College, Ajmer, Rajasthan, India

Abstract: The aim of this paper is to emphasise the meaningfulness of academic researches in the area of commerce and business. Research on family value based Indian economics should be promoted and integrated withvarious fields of commerce. There must be a focus on interdisciplinary research in commerce in conjunction with other faculties like

Humanities, Management, Communication and Science & Technology. Many efforts have been made in this direction such as Make in India campaign, promotion of incubation centres, skill development programmes etc. The grass-root level ideas need to be supported, guided and mentored in a way so that it can be converted into an innovation which is recognized, documented and scientifically validated. A support system for obtaining patent on such innovations should also be developed. The research, particularly in the area of business, starts from an idea and ends with an outcome in the form of a product, service or an add-on to already existing product or service. These outcomes need to be brought to a level where it can be financially beneficial to researcher and the business / entrepreneur who commercialises the innovation. Beyond this, it should be socially relevant and must contribute in nation building.

19. Language, Literature and Culture

ISCA-IVC-2016-19LLC-001

Error Analysis of Punctuation Marks Amongst English Medium and Vernacular Medium Students as an Investigative Tool in Forensic Linguistics

Dabholkar A.
Institute of Forensic Science, Mumbai, Maharashtra, India

Abstract: Forensic Linguistics is the application of linguistic knowledge, methods and insights to the forensic context of law, language, crime investigation, trial, and judicial procedure. It is a branch of applied linguistics where, Forensic linguists focus on the theoretical position that every native speaker has their own distinct and individual version of the language they speak and write, their own idiolect, and the assumption that this idiolect will manifest itself through distinctive and idiosyncratic choices in texts. This study aims in analyzing the errors committed by students aged 16-24, while using punctuation marks in English writing; amongst a population of 50 English medium students having English as their first language in school and 50 Vernacular medium students having English as their second language in school. The purpose of this study is to provide an investigative tool for identification of anonymous writers in context of Questioned documents.
Keywords: Forensic Linguistics, Error analysis, Punctuations, Anonymous writers, Questioned Documents.

ISCA-IVC-2016-19LLC-002

An Approach to Souvenir Realities of Partition by Chamannahal'sazadi

Pooja Saxena
Radharaman Group of Institutions, Bhopal, MP, India

Abstract: My review on the novel Azadi, just to highlights the mixed realities that had been witnessed of the best and worst time, faced by the people of Sialkot.ChamanNahal has come close to answering the question of the slaughter of the innocent people in the compelling novel 'Azadi'. ChamanNahal explained in detail about different characters with their love, relation, bonding as well as suffering, looting, killing, fear, and trauma. Partition of India in 1947 was a historical event not only in Indian history but in the world's history. The origin of giant disaster was communal fire provoked after the declaration of partition. British have applied the policy of divide and rule to separate Hindu and Muslim. They left India but after dividing it into two sovereign countries India and Pakistan. Which resulted in the vast devastation of many lives in communal fire? Partition had become the process of dividing people according to their religions Hindus for India and Muslims for Pakistan. Population had migrated to their declared nation but leaving all their property and household behind. They had to begin with ruined social, political and economic background without any experienced government. About millions of people had to flee from their homeland, thousands of people had died in communal war, left were in trauma because their family member was brutally killed in the riots. No one had could expect mercy in the communal war, because Hindu and Muslim have been become a swear enemy to each other.
Keywords: Partition, Communal fire, Hindu, Muslim, History.

ISCA-IVC-2016-19LLC-003

An Overview on the Sensitive Condition Reflects Love, Sacrifice and hate in the Partition fictions-train to Pakistan and azadi

Pooja Saxena
Radharaman Group of Institutions, Bhopal, MP, India

Abstract: In this article I have tried to explain the love, sacrifice and hate as natural emotions which occurred at the particular place and time due to the particular situation. Love gives power to one to stand strong in the opposite conditions. It also increased the strength of sacrifice which not only saved the beloved but the lives of several innocent persons without knowing their religions. Hate could be seen very easily when the question had come about two communities the Hindu and the Muslim. In spite of love and sacrifice many innocent people have lost their lives in the communal fire. Because with respect they have lived together in majority peacefully.On the other hand they were not gratified and satisfied with the decision of government. I have attempted to look into the emotional condition which has changed due to the declaration of independence and partition. Sometimes people have changed their behavior towards others under the pressure and sometimes they have changed their behavior because they were not of same religion. But it has been also observed that communal war and fear of death were not enough to change the feelings of love towards the beloved or for those who were soul friends from the starting till the end. So that this was only love which empowered the man to commit sacrifice for their loved ones and others. Hate which cannot be vanished by the victims and their relatives as well as love and sacrifice of their friends and relatives which gives strength to victims to start lives again and it could not be removed by the mind of readers too.
Keywords: Partition, Communal, Love, Sacrifice, Hate.

20. Social and Humanity

ISCA-IVC-2016-20SH-001

Are We All *Risk Atheists*? Identifying Waste as a Technoscientific Risk in Kerala

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Abstract: As part of the technoscientific life, waste became a risk to the society which turned out to be a threat to the living organisms due to the pollution of water, air, soil etc. In the techno-scientific epoch, waste is considered as a risk (which has a boomerang effect), which has already occurred social and political place in the last decades.Unscientific disposal of waste is an obstacle for attaining the sustainable development of any state. In early days waste was not at all considered as a risk because there were mechanisms to consume it. However, the urbanisation process has broken the natural process of recycling to accumulation of garbage which challenged the ecology. In the present scenario of Kerala, waste—the by-product of technoscientific life—became one of the reasons for public controversy and formation of different kinds of publics.Certain publicsdo not believe in risks created by waste and became risk atheists. Risk divides, excludes, stigmatizes (Beck 2009) and threatens the fundamental rights of the public. Waste opened up the Pandora's Box. More than 50 waste related controversies exist in Kerala (Neelakandan 2012). The present crisis is that the risk of waste accumulation cannot be completely solved by the current waste management technologies; the waste keeps coming back in other forms as an irreducible 'excess' created by our technoscientific culture.This paper tries to outline the emergence of solid waste as a technoscientific risk in Kerala and risk atheism in Kerala. This paper also tries to understand how waste challenges the environment and development of Kerala.
Keywords: Technoscience, Solid waste, Environment and Sustainability, Risk Atheists.

ISCA-IVC-2016-20SH-002

Indian Women's Movement through the Ages: Pre-Independent to the Era of Globalisation

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Abstract: Indian women's movement down the ages—its implications, accounts of frustrated attempts to curtail patriarchic oppressions and sufferings, its mobility, dynamics, has been a subject of study among the Indian intellectuals, especially the feminists. And it is articulated differently, based on divergent ideals and realities of different groups, as Indian society itself is a society of diversities—though unity is the basis of Indian nation state. Different tribal groups, dalits, upper castes, Muslims have estimated differently, on the grounds of patriarchy of their kinds and stratifications, the women issues and its dynamics to unwrap the socio-economic and political and cultural status and position of women in the past and present in India. There is lack of unanimous views regarding women's movement, its natures and activities—one takes over one in expressions and articulations. Its an attempt to cover the rigorous accounts of Indian women's movement's triumphs and tribulations out of those prevailing explanations.
Key words: Women's movement, Feminism, Patriarchy and dalits.

ISCA-IVC-2016-20SH-003

Impact of Organizational Climate on Job Satisfaction among Garment Industry Workers

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Abstract: Job satisfaction is the level of contentment a person feels regarding his or her job. This feeling is mainly based on an individual's perception of satisfaction. Job satisfaction can be influenced by a person's ability to complete required tasks, the level of communication in an organization, and the way management treats employees. A study was conducted to analyze the role of men in garment industries. The effects of organizational climate on job performance and job satisfaction as well as the effects of interactions between climate and individual needs on performance and job satisfaction were examined for workers from ten organizations. The data was collected from hundred men workers from ten garment industries, administering a well structured interview schedule. It was found that climate was influenced by both the overall organization and by subunits within the organization. Climate was fairly strongly related to subunit performance, organizational facilities and to individual job satisfaction.

ISCA-IVC-2016-20SH-004

Perceived Social Networking in Ageing Adults

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Abstract: The current scenario as regards to elderly people clearly shows that their numbers have increased over the last few decades worldwide and tend to be so in the coming years. Urbanization, modernization and globalization have led to change, in the economic structure, erosion of societal values, weakening of social values and social institutions such as the joint family. In this changing economic and social milieu, the older generation is caught between the declines in traditional values on one hand and the absence of adequate social security system on the other. Social support is an important issue for older adults as common life events may jeopardize the support networks of this age group. The prevalence of each type of support varies according to socioeconomic status, gender, age and ethnicity. Family, friends and neighbours are important sources of support to agieng people. These social networks help to buffer stress and depression and enhance individual's morale and well being. Social support is closely related to social network, family ties, friends and neighbours. Four main categories of social support have been emotional,tangible, informational and companionship. Social networks and social support play cardinal role in the quality of life of ageing adults in all societies and specially where formal support and social protection programs are not available.
Keywords: Social Networks, Social Support, Aging Adults.

ISCA-IVC-2016-20SH-005

Impact of Chess Training on Cognitive Functions of Children

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Abstract: Chess is known to foster intellectual development and critical thinking skills. The study assessed the impact of chess intervention on the IQ scores of children and analyzed the cognitive functions that contributed to the IQ gain. 86 school children (boys & girls, aged between 4-15 years) undergoing chess training were assessed using Binet-Kamat Test of Intelligence. Chess training was provided by the chess coach who trained a cluster of 4 children within a particular level, analyzing their games and several case studies of tactics and end games. Paired t tests and regression analysis were carried out using SPSS. Significant increases were observed in IQ. Regression analysis indicated that non-verbal reasoning, language and memory significantly contributed to the dependent variable IQ. The increase in IQ could be attributed to the intensive chess training program where the child's cognitive processes were enhanced by improving the evaluation of the current positions, the pattern recognition ability and the decision making processes by choosing the right move. The game analysis ensured that the child thought about the moves played and was cognitively engaged in weighing options, evaluation outcomes and making decisions. Systematically learning chess appears to have a broad spectrum of outcomes. The educational implications are significant.
Keywords: Chess training, Cognitive development, IQ, Non-verbal reasoning, Language, Memory.

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Commercialization and use of Layering voice Analysis Technology in Insurance Industry

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Abstract: The crime called insurance fraud is committed not only by a person, who received money for which one was not entitled to, but crime is already an attempted fraud or co-operation on it. Imprisonment may be, based on the extent of damage, up to fifteen years. Insurance companies protect themselves from fraudsters by their own means, establish departments dedicated to their detection, co-operate as well with detective agencies and introduce, in their own ranks, a multilevel control at closing of insured events. On the other hand, they exchange information on suspicious cases and clients and use the central register of insured events. In the article, the authors present, based on an elaborated scientific study, new ways to address insurance frauds, to help Slovak insurance companies in the detection of insurance frauds.
Keywords: Insurance, insurance fraud, Layered Voice Analysis, detection technologies, phonoscope.

Problem description: Layering voice analysis technology (LVA) created by Israeli company NEMESYSCO is based on a patented set of vocal parameters identified by the research of correlations between key human emotions in various combinations, to be able to identify fraudulent intents in „real life". These parameters were identified vocally from bank sound files taken in various languages and several settings, including police interviews, call centers and controlled experiments. The reason for this development is the complexity and uniqueness of speech of men. Recording of speech enables not only to clearly identify a person just like by the DNA sample, but the latest technologies can as well detect what the person did not say and what was happening only in one's head.

Theoretica basis of the research project: Analysis of audio recording, i.e. phonoscope is done in the Slovak Republic mainly by the Forensic Expertise Institute. However, the working procedure of an forensic expert is essentially the opposite of an expert in audio. The audio expert has a goal and a process of preparing the recording, but a forensic expert aims to demonstrate how the recording was created or who was the author. One of the most important tasks of phonoscope is authentication of recordings, but it analysis as well for example the origin of recordings and place of their creation. It examines the technical side of recording, accompanying sounds, as well as speech of the person on the recording. Devices can measure the dynamics of speech, pitch and timbre of the voice or duration of sounds and pauses. Other factors are the pronunciation, intonation and the rhythm of speech etc. The expertise is focused as well on the content, type and determination of speech, stylistic features, phonetics, morphology, word-stock, sentence structure, language errors and the impact of foreign languages. In case of recording on a cassette tape, which is currently quire rare, much can be detected from the type of the cassette and the recorder. The layering voice analysis enables to understand mental states and feelings of individuals, provides insight into the ways the person thinks, what bothers the person, excites one, creates worries, what questions require more attention and which topics seem to be sensitive for the person. The technology as well enables to examine several levels of conscious and unconscious brain activity – thoughts and feelings, and thus reveal more layers of information, which would otherwise remain unavailable.

Layered Voice Analysis is adapted to the different needs of security-related activities, such as formal police investigations, security clearance, secure area access control, information gathering, etc. It its essence, it allows a better understanding of the mental state of the suspect at that moment by capturing emotional sensations in one's speech. The technology identifies various types of stress, cognitive processes and emotional reactions, which are reflected in different characteristics of the voice. These information provide an insight into human thinking, find out what bothers the person, or excites one, which question occupy the person more etc. LVA uses a unique mathematical process, which reveals the different types of patterns and disorders in speech and their inclusion in the levels of tension, excitement, confusion and other relevant emotional states.

LVA has two basic formulas consisting of unique signals of algorithms processing, which produce more than 120 parameters in all voice segments. These are further divided into nine main categories of basic emotions. The data can be further

processed using statisical algorithms designed to estimate the likelihood of deception or fraudulent intentions in a sentence or any other psychological analysis. For solving of insurance frauds, the subsystem RA 7 – Risk Assessment is designed, based on the LVA technology and providing automated digital or printed risk messages with accurate information for investigators, with minimal room for human error.

Objective and methods of research: The basic objective of the research project was to assess the potential of the LVA technology to solve insurance frauds in comparison with current investigation methods of insurance companies: i. Collection of research samples – voice recordings of insured events reporting, ii. Investigation of the insured events by the Nemesysco system; independently in parallel with the investigation of the insured events by means of standard methods of the insurance company Allianz – Slovenskápois•ovòa, a.s. Comparison of results of investigation by the Nemesysco system with the results of the insurance company.

Conclusion: Insurance frauds cause significant losses for insurance companies each year, wchi should be eliminated as much as possible. Insurance companies have technical and personal resources to fight insurance fraud perpetrators. On the other hand, it is necessary to develop new techniques and equipment to help capture as many potential fraudsters as possible.

Results of the analysis enable to conclude that the LVA system is an effective tool usable in security practice to verify the accuracy and reliability and thus efficiency in recognizing whether what an individual states is or is not in contradiction to reality. The LVA system can be used for prevention in the fight against frauds in insurance and financial companies. A prerequisite for an effective use of the LVA system in the fight against insurance frauds is to meet certain requirements defined in the text above – quality of recordings, related quality of the technical equipment and last but not least the quality of personnel with dominating communication skills.

Sustainable developments in globalization of health science research: Quest for an Eco-Friendly Approach

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Abstract: In advent of technological upsurge, commercial adventurism in health science researches has been intensified in the global scenario. Current political-economic change-driven societal transformations in the global periphery demands active involvement of professionals at all levels in pursuit of trend extrapolations in the contexts of health promotion and disease prevention. The general consensus on this issue is to campaign for individualistic responsibility for health and integration of several components, including nutrition, physical activity, stress management, and elimination of risk factors. While comprehensive research evidences lead to the conclusion that, health care costs are increasing by leaps and bounds, any attempts to ensure heath promotion and disease prevention, should focus on major health care reforms, with particular emphasis on early intervention, health promotion programs, and disease prevention because these efforts can lead to the reduction of health care costs. Being concerned with the changing demography, characterized by increase in life expectancy and declining birthrate; cultural diversity and changes in family structures, threats to the health and well-being of children and youth are increasing day-by-day. Hence, it should be the earnest responsibility of decision-makers to adopt an integrated approach for the well-being of children, to ensure the future of citizens of the country – named "World".
Keywords: Health care; Disease Prevention; Reforms; Demography; global Scenario.

ISCA-ISC-2014-Oral-1AFS-01

Crop Water Assessment of Rice Crop for Plain and Hilly Region

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Abstract: This paper investigates the potential of meteorological data to model the crop water assessment using field data. CROPWAT model is used in this study. A dataset consisting of 2007 to 2011 each for maximum temperature, minimum temperature, relative humidity, sunshine hour, wind speed and rainfall taken from Central Soil Salinity Research Institute, Karnal and Meteorological Centre, Dehradun for the plain and hilly region were used for this analysis. Besides, information on crop and soil were collected from different literature review. After putting all the input parameters it calculates reference evapotranspiration, crop evapotranspiration and irrigation requirement for the plain and hilly region. Comparison of crop water requirement is made between plain and hilly region for rice crop to meet the irrigation demand of crops for sustainable development of agriculture. Results were found that reference evapotranspiration of rice crop is more for the plain region as compared to the hilly region while crop evapotranspiration of rice crop is more for the hilly region as compared to plain region. Irrigation requirement of rice crop is more for the plain region as compared to the hilly region.

Keywords: CROPWAT model, reference evapotranspiration, crop evapotranspiration, irrigation requirement.

ISCA-ISC-2014-Oral-1AFS-02

Influence of Bio and Inorganic fertilizers on Growth, Yield and Nutrient uptake of Grain Amaranth (Amaranthus hypochondriacus Linn.)

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Abstract: A study was conducted to determine the effect of inorganic and biofertilizers on growth and grain yield and nutrient uptake of grain amaranth (Amaranthus hypochondriacus Linn.) at Forest College and Research Institute, Mettupalayam. The experiment was laid out in a Randomized block design with fifteen treatments and three replications. The treatments included application of recommended dose of NPK (40:40:20) in inorganic form (100%), inorganic NPK + VAM, inorganic NPK + Azospirillum, inorganic NPK + Phosphobacterium, inorganic NPK + VAM + Azospirillum + Phosphobacterium, 50% NPK in inorganic form, 50% NPK inorganic + VAM, 50% NPK inorganic + Azospirillum, 50% NPK inorganic + Phosphobacterium, 50% NPK inorganic + VAM + Azospirillum + Phosphobacterium, VAM alone, Azospirillum alone, Phosphobacterium alone and VAM + Azospirillum + Phosphobacterium. The study revealed that plant height, earhead length, 100% flowering, days to maturity and grain yield (864.00 Kg/ha) were significantly influenced by the application of NPK (40:40:20) in inorganic form (100%) + VAM + Azospirillum + Phosphobacterium. The maximum NPK uptake of the grain and post-harvest available NPK was recorded in the same treatment combination. The maximum crude protein (22.38%) content was recorded in application of Azospirillum alone.

Keywords: Grain Amaranth, NPK, VAM, Azospirillum, PSM, grain yield.

ISCA-ISC-2014-Oral-1AFS-03

Intimidation to Medicinal plants Biodiversity

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Abstract: Extremely increasing current rate of development, population growth and migration communities are increasingly unable to meet their sustained need. Growing demand for fuel and other forest and agricultural products, population due to industrialization, and make a market for rare medicinal plants have all threatened the biological diversity and there by hampered a sustainable human development. Further, the race for development and cultivation of improved verities in larger area has threatened biodiversity to a considerable extend. The biodiversity in India i. e. medicinal plants, forests, grasslands, wetlands, mountains, desert and marine ecosystem face many pressures. One of the major causes for the loss of biological diversity in India has been depletion of vegetative cover in order to expand agriculture. Since most of the biodiversity rich forests also contain the maximum medicinal wealth and also the best sites for its conservation. In this paper we discuss the threats and conservational strategies for some very important for humans use but they are under endangered situations in India.

Keywords: Biodiversity, Medicinal, Population, Threatened

ISCA-ISC-2014-Oral-1AFS-04

Impact of Tribal Development Scheme on Tribal Farmers

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Abstract: In order to bring about a change in the prevalent conditions of tribal, the State and Central Government has implemented various agricultural tribal development schemes. The schemes were in operation at Akola district in Vidarbha region of Maharashtra state under MADA pocket/ block, since the year of inception and have benefited a large number of tribal farmers from the area. The impact has been studied in term of per cent change in production, per cent change in productivity, per cent change in annual income and per cent change in cropping intensity. The tribal beneficiaries (54.00%) recorded increase in agricultural production upto 50 per cent category. The percent change in productivity observed that on the whole 54.67 per cent respondents exhibited 1 to 50 per cent increase in their productivity. The per cent change in cropping intensity was studied and it was noticed that most of (57.34 %) respondents exhibited no change in their cropping intensity. Up to 25 per cent increase was observed in case of 15.33 per cent respondents of pumpset supply scheme. Nearly 13.33 per cent of total tribal beneficiaries were found in case of 26 to 50 per cent increase in cropping intensity. The percent change in income due to pumpset supply scheme over the base year has revealed that the respondents (63.33%) have registered 1 to 50 per cent change in their annual income.
Keywords: Tribals, Tribal farmers, Pumpset supply scheme, Impact, Agricultural development scheme,

ISCA-ISC-2014-Oral-1AFS-05

Constraints of Tribal Development Scheme on Tribal Farmers

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Abstract: Utilization of tribal development scheme is prerequisite to conserve the natural resources out of improve the socio-economic status of tribals. Therefore, the constraints were directly or indirectly responsible for adoption as well as while using the pumpset supply scheme in tribal areas were studied. Efforts have been made to locate the constraints from grass root level to top level. Constraints refer to the difficulties / problems faced by the tribal farmers while utilizing tribal development programme i.e. supply scheme of pumpset. Constraints are the problems and hindrances in execution of the developmental activities or it is forceable restriction to an individual farmer in the use of technology. In the present study, the constraint has been operationally defined as the problem, difficulty and the hindrance that respondents have faced in adoption of pumpset supply scheme (tribal development programme). The constraints faced by the Government and non-government organization were studied. They faced in utilization of tribal development programme. The frequency and percentage of each constraint has been work out and used for interpretation of results. Low level of information sources utilized was due to the farmers constraints like literacy and poor extension contact at village level and poor quality of knowledge arises at village level (Wrong perception of tribals) as well as taluka level (poor extenson service).
Keywords: Constraints, Tribal farmers, Pumpset supply scheme, Agricultural development scheme, etc.

ISCA-ISC-2014-Oral-1AFS-06

Correlates of Impact of Tribal Development Scheme on Tribal Farmers

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Abstract: Various Agricultural Development Schemes are being implemented under ITDP for tribal farmers. Under Agriculture Development Scheme, various inputs, implements and funds are provided to tribal farmers for undertaking various objectives are some of the following Agricultural Development schemes were considered for the study. Especially in agriculture and allied sectors for the effective implementation of those schemes, Tribal development division was established at National level from May 1, 1989 (Rathod, 2001). Actual utilization of pumpset supply scheme it has been taken as a study year while before utilization of pumpset it has considered as a base year. The Pumpset Supply schemes is in operation at Akola district under MADA pocket/ block, since the year of inception and has benefited a large number

of tribal farmers from the area. It was found necessary to identify the characteristics influencing the impact of the said scheme and in line, this attempt was made. The coefficient of correlation was worked out to find relationship between selected characteristics and the impact parameters. It is observed that the selected personal, socio-economic communication and psychological characteristics of tribals farmers have explained very low variation in the change in developmental parameters. Hence it is necessary to undertake research on different psychological characters of tribals, their custom and beliefs and other social valves. The findings of the research should be seriously considered while planning the agricultural development scheme in tribal areas.

Keywords: Correlates, Tribal, Pumpset supply scheme, Impact, Agricultural development scheme, etc

ISCA-ISC-2014-Oral-1AFS-07

Study of efficiency of *Trichoderma harzianum* mutants in controlling Germination inhibition of Plant pathogenic fungi

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Abstract: *Trichoderma harzianum* is known to be highly active in reducing mycelia growth of many plant pathogenic fungi. In the present study *T. harzianum* was exposed to UV light of 254 nm wavelength for mutagenesis. Mutants obtained were checked for any alteration in amylase, cellulose, xylanase and chitinase enzyme activity. For studying effect of mutants on germination inhibition of fungal plant pathogens was checked by placing 8 mm agar disc of mutants. This disc was placed in centre of the Saboraud's agar plate having cellophane paper on the agar surface and incubated. After incubation colony diameter was marked and cellophane paper was removed. On this plate homogenate of plant pathogens *Rhizoctonia solanii, Sclerotium rolfsii* and *Fusarium oxysporum* was spread. Inhibition zone diameter of pathogens was measured from this percentage germination inhibition was obtained. Percentage germination inhibition of *Rhizoctonia solanii, Sclerotium rolfsii* and *Fusarium oxysporum* by auxotrophic mutant-2 was 86%, 70% and75% respectively. Thus auxotrophic mutant was found to be better in controlling germination inhibition of plant pathogenic fungi.

***Keywords**: Trichoderma harzianum,* germination inhibition*, Rhizoctonia solanii, Sclerotium rolfsii, Fusarium oxysporum.*

ISCA-ISC-2014-Oral-1AFS-08

Transport and accumulation of arsenic in rice- An overview

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Abstract: Arsenic poisoning with the progress of time has assumed the pinnacle of being termed as the largest poisoning in the history of mankind. Over 40 million people worldwide suffer from arsenic poisoning either through drinking arsenic contaminated water or by intake of such staple food as rice, the later being at the risk of getting contaminated due to heavy dependence of groundwater for its growth and development. Rice plant is considered to be an efficient accumulator of arsenic and as the reports suggest arsenic concentration in rice grain even in uncontaminated soils containing background levels of arsenic may be high enough which may be due to efficient arsenic assimilating capacity of rice plant compared to other cereal crops. Moreover, there may exit varietal differences as far as the arsenic accumulation in grains is concerned. The principal arsenic species found in rice grain in this subcontinent and in Southeast Asia is the inorganic ones and is thus considered to be more toxic than the organic arsenicals and even found to be the most potential human carcinogen. Thus the possibility of getting affected with arsenic poisoning even after being on arsenic free drinking water for a long period can not be ruled out because of entry of the poison through food and the obvious presence of high levels of arsenic in rice straw as reported from various studies is also a potential threat to cattle directly which consume them and indirectly to human beings presumably through contaminated meat and milk. The presentation seeks to look into the aspects of transport and accumulation of arsenic in rice plant as being the principal staple food crop and as the very mechanism would make us to go for its alteration and fabrication, if any in the plant system itself thereby bringing the desired change in the direction of lower arsenic content in both grain and straw. It has been reported that plants use phosphate transporter in aerobic soils to take up arsenate (As V) as the predominant species similar to that found in E. coli and Saccharomyces cerevisiae. In flooded soils, as it remains during most of the growing time in paddy, arsenite (As III) becomes the predominant species of arsenic, known to be more toxic than the pentavalent counterpart. In microbes aquaglyceroporins play an active role in arsenite uptake. Based on evidence it is also suggested that arsenite transportation in rice may also be facilitated by aquaporins. The fact that arsenic concentration in rice roots is very high compared to rice grains points

to understanding and investigating the mechanism of arsenic transport in rice plants. Two types of arsenite transporters have been reported to mediate transport of arsenite from external source to the xylem. Transporters of NIP subfamily and silicon efflux transporter have been identified in studies as the candidate transporters in rice and an insight into this mechanism would provide insight into the strategies to lowering the accumulation of arsenic in rice grain and straw for better food safety.

Keywords: Rice, arsenic, transporter, arsenite.

ISCA-ISC-2014-Oral-1AFS-09

Structural and Floristic studies on the Myristica swamp of Molaje in Belthangady Taluk, Dakshina Kannada Districts of Western Ghats Karnataka– An Endangered Ecosystem

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Abstract: Any patch of forest in the perennial swampy regions in the evergreen forests of the Western Ghats dominated either by Gymnacranthera farquhariana (Hook.f andThoms.) Warb. or Myristica fatua Houtt. var. magnifica (Bedd.) Sinclair. or both is considered as Myristica swamps. These ecosystems are virtually living museum of ancient life. These swamps have high watershed value. They have a unique floristic composition and are considered as endangered ecosystems. Sampling was done in one such forest using belt transects with quadrats of 10X10 m. GBH (Girth at Breast Height) were measured for all the plants having a girth of e" 10 cm. Fifty three species belonging to 30 families are recorded out of which 35 species are trees and 6 are climbers of which one is a gymnosperm. Dipterocarpaceae and Myristicaceae are the dominant families. Vateria indica is the dominant species with an Important Value Index (IVI) 64.28 and Gymnacranthera farquhariana (Hook.f.and Thoms.) Warb. is the important obligatory swamp species (IUCN Vulnerable)and main component of the fresh water swamps with an IVI 31.01. Myristica malabarica Lam. (IUCN Vulnerable), Garcinia morella (Gaertn.) Desr. Lophopetalum wightianum Arn. other dominant species with IVI 30.03, 22.55 and 19.16 respectively. The stand basal area of the plot is 73.47 m^2ha^{-1}. The studied swamp forest contains 69.78 % of endemic tree species and 82 % evergreen trees and some commercially important tree species in the study area, subjected to anthropogenic disturbance.

Keywords: Myristica swamp, Important Value Index, Western Ghats, Endemism, Evergreen forests.

ISCA-ISC-2014-Oral-1AFS-10

Morphological and Biochemical Changes Regulated By 24-Epibrassinolide in Nematode Infected Tomato Cultivar

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Abstract: Brassinosteroids are newly discovered group of plant hormones, which are universally present in plants and exhibit high growth-promoting activity. The present piece of work was undertaken to evaluate the effect of 24-Epibrassinolide (EBL) on morphological (% germination, plant height, plant biomass and number of galls) and biochemical parameters (antioxidative enzymes and antioxidants) of tomato plants during nematode infection. Uniformly sized, sterilized tomato seeds cv. Pusa Ruby were treated with different concentrations of EBL and then allowed to germinate in B.O.D. incubator at 24±2°C. After germination, seedlings were inoculated with second stage juveniles of an economically important nematode, Meloidogyne incognita. Morphological and biochemical parameters were recorded 5 days after nematode inoculation (5DAI). Results regarding morphological parameters revealed that percentage germination got enhanced with EBL treatment. The plant height got suppressed after nematode inoculation but plant biomass increased after inoculation whereas both these parameters were found enhanced after EBL treatment. Moreover, the number of galls was found to decrease with increase in EBL concentration. Regarding biochemical changes, the overall specific activities of all the enzymes (catalase, ascorbate peroxidase, glutathione peroxidase, glutathione reductase, guaiacol peroxidase and superoxide dismutase) were found suppressed after nematode inoculation which increased after EBL treatment. Also, for antioxidants, the activities of total phenolic content, total flavanoid content and total ascorbic acid content reduced after nematode inoculation but enhanced after EBL treatment whereas the activity of total glutathione content increased after nematode inoculation which further showed an increase in EBL treated plants.

Keywords: 24-Epibrassinolide, Tomato plant, Meloidogyne incognita, Morphological parameters, Biochemical changes

ISCA-ISC-2014-Oral-1AFS-11

Participatory evaluation of Women friendly Seed production Technologies for Improving quality of Farm saved Seed

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Abstract: Small and marginal women farmers, desirous of cultivating vegetables in nutrition garden, face acute shortage of quality seeds. For increasing their access to quality seed, seeds need to be produced in homestead garden. Participatory evaluation of women-friendly seed production technologies was done in four villages of Odisha involving forty farmwomen, considering their access to source-seed, resource availability and marketing scope. Constraints identified were less access to source-seed, farmland, skill, marketing facility and motivation. Technologies were selected based on knowledge gap and easiness. Appropriate technologies selected for intervention were, open-pollinated varieties of vegetables producing seed in one season like brinjal, chilli, tomato, french bean, amaranths, okra pumpkin etc., rouging, harvesting time, seed extraction, drying, storage, packaging and lebelling. Average quantity of seed produced per village was 20.76 Kg per year in homestead garden. Maximum seed was produced of amaranths (78.5%) followed by french bean (6.6%) and okra (5.4%). Farmer wise total seed production ranged from 0.49 to 5.89 Kg. Minimum germination requirement was fulfilled by 95% of seed samples after skill enhancement from 33% of samples before project intervention. Identification of constraints, motivation, hand holding and skill enhancement of farm women not only increased seed production, but also improved seed quality.

Keywords: Gender and seed Production, Farmwomen, Seed production, Vegetable, Skill training, Involvement of farmwomen, Seed quality, Constraints in seed production, Access of farmwomen to quality seed.

ISCA-ISC-2014-Oral-1AFS-12

Conservation Status of Reptiles in Mizoram, North East India

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Abstract: Reptiles are the animals having scales on their body. Reptiles include all crocodiles and alligators, turtles, lizards and snakes. These are cold blooded animals and flourish well where there are no extremes of temperatures. This study has been based on local observations in eastern part of the state and opportunistic encounters with reptiles including road kills and information gathered from well known people from areas. All together approximately 51 species of reptiles have been observed which includes 03 species turtles, approximately 15 species of lizards and 33 species of snakes, including poisonous ones. Some more needs identification. No crocodiles have been observed so far. Three species of turtles and Python have also been observed in captivity. Some of the reptiles have been reported to be in medicinal use in remote areas. Some Reptile trophies have also been observed for decoration. It has normally been observed that people are less aware about the endangered status of these reptiles and their significance to mankind. Awareness and involvements of local people would in fact support the conservation of reptiles and biodiversity as whole in this biodiversity hotspot region of the world. This report strongly recommends conservation awareness programmes at all the levels and strict conservation monitoring system, to maintain this rich bio-resource in nature.

Keywords: Reptiles, Conservation, Mizoram, North East India.

ISCA-ISC-2014-Oral-1AFS-13

Potassium Solubilizing Bacteria (KSB) As an Effective Biofertilizer

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Abstract: Potassium is the major plant nutrient next to Nitrogen and Phosphorus, which is essentially required for plant growth and development. Due to increase in price and depletion of non renewable natural resources made the availability of potassium fertilizer difficult to the poor farmers. Soil is a rich source of rock K minerals which are available in various forms such as mica, illite, orthoclases etc. but which cannot be directly taken by the plants. For this reason identifying a potential K solubilizer microorganism is required so that it can solubilise insoluble K minerals and can make it available

to plants. It also reduces the K fertilizer application up to 20-25%. In this way many research has been carried out by many workers to identify soil harbour potential K solubilizer which can reduce the chemical fertilizer application some of the Potassium solubilising organisms like Paenibacillus glucanolyticus isolated from rhizosphere soil of black pepper showed increased K uptake, dry matter content, root and shoot length and Potassium releasing bacterial strain like Bacillus edaphicus NBT strain was also showed increased root and shoot length of cotton and rape. As such there are so many K solubilizer isolated showed positive results in enhancing growth and yield parameters of agriculturally important crops. These finding reveals that the potential K solubilizer can serve as an important tool for sustainable agriculture and can become boon to the Indian farmers.

Keywords: Bacillus edaphicus, Paenibacillus glucanolyticus, KSB, Camellia sinensis

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Development of abiotic stress Tolerant rice cultivars by Manipulating the Overexpression of PDH47 Gene

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Abstract: As a sessile organism, a plant's ability to adapt to abiotic stresses is crucial for its survival. Plant responses to the abiotic stresses involve a complex variety of tolerance mechanisms that are activated and integrated by the expression of thousands of genes. DEAD-box helicases are reported to have an important biological role in the abiotic stress adaptation process by involving in nucleic acid metabolisms including replication, repair, recombination, transcription and translation in an ATP dependent manner. PDH47 is one of the DEAD-box helicase which is reported to be induced under abiotic stress conditions. Here we report the generation of abiotic stress tolerant rice cultivars by manipulating the overexpression of PDH47 gene, through particle bombardment as well as Agrobacterium-mediated genetic transformation using immature rice embryos as an initial explant. The chimeric plasmid pCAMBIA1301, harbouring the PDH47 gene was used for plant transformation which was driven by CaMV35S promoter and hptII as a selectable marker. A total of 58 T_0 transgenic lines were found to be presence of PDH47 transgene as evident by PCR analysis with gene specific primer. PCR positive transgenic lines were subjected to RT-PCR for semiquantitative transcript expression analysis. A total of 17 plants, out of 58 were found to be RT PCR positive. Initial screening of these transgenic lines showed some level of drought tolerance by overexpression of PDH47 gene in rice without affecting the crop yield.

Keywords: PDH47-Pea DNA Helicase 47; CaMV35S- Cauliflower mosaic virus 35S; hptII- Hygromycin Phosphotransferase II; RT PCR- Reverse Transcription PCR

ISCA-ISC-2014-Oral-1AFS-15

Possible Influence of Cosmic Rays on Indian Weather and Climate

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Abstract: Monthly, seasonal and annual data of Indian rainfall, a minimum and maximum temperature represents Indian weather and climate. The cosmic ray flux is modulated by the sun and solar activity at the earth on a various time scales ranges from a day corresponds to the short term, to the 11/ 22 years known as long term variation in cosmic ray intensity. Being predominantly an agriculture country, the Indian economy is highly dependent on rainfall. The present study deals to investigate the possible correlations/anti correlations between solar activity and Indian rainfall during 1964-2008. The whole span of the analysis is corresponds to various solar activity cycles. The length of each solar cycle is estimated from one solar minimum to next minimum year. Our observational results are different for different solar activity cycles. The physical basis to explain the observed correlations/anti correlations during various solar activity cycles is also proposed in this paper.

Keywords: Cosmic rays- Sun- solar activity, rainfall

ISCA-ISC-2014-Oral-1AFS-16

ACC (Amino Cyclo-propane Carboxylate) Deaminase Producing Bacteria Mitigate Moisture Stress In Chickpea

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Abstract: Accelerated production and accumulation of stress ethylene under low moisture conditions causes inhibition of seed germination, root elongation and senescence response in the plant. Stress ethylene also inhibits nodulation in

various legumes including chickpea and leads to poor grain yield under low moisture condition. Bacteria with ACC (Amino-cyclopropane carboxylate) deaminase can reduce ethylene level at rhizosphere under stressed environment by converting ACC, the immediate precursor in ethylene biosynthesis, into á-ketobutyrate and ammonia. Inoculation with PGPR containing ACC-deaminase was highly effective in removing the effects of water stress on growth, yield and ripening of pulses. In this investigation, ACC deaminase producing bacteria were isolated from chickpea roots through enrichment culture technique. Among the ACC deaminase producing bacterial isolates, ACC-68 recorded the highest enzyme activity of 1439.27nM of á-ketobutyrate/mg protein/h. Inoculation of ACC deaminase producing bacteria enhanced the root biomass in a range of 66.69-119.46% over uninoculated control. Yield variation due to inoculation of ACC deaminase producing bacteria is ranging from -11.9 to 80% over uninoculated control. The plot yield was compared with previous year chickpea yield from similar treatments. Five bacterial isolates with > 20% yield enhancement over uninoculated control during two consecutive years were selected and recommended for developing commercial bioinoculants.

Keywords: Deaminase, producing, bacteria, mitigate, moisture, stress, chickpea.

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Herbicide adoption pattern of cotton farmers in Vidarbha

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Abstract: A systematic extensive survey of 240 cotton growers on herbicide adoption was conducted in Vidarbha region of Maharashtra during 2013-2014. The study revealed that 48.17 % cotton growers have applied herbicides during 2013-14 for control of weeds in cotton crop. Knowledge about recommended per ha doses of herbicide is not known to 62.50 % farmers. Overall 52.90 % farmers have medium level of knowledge about selected 15 herbicide application practices for cotton crop. Out of the total 118 (48.17%) herbicide adopters in cotton 25 (21.18 %) farmers applied only single spray of post-emergence/selective herbicide, followed by 30.52 % herbicide adopter farmers applied two applications of herbicides, first applied post-emergence/selective herbicides and in second application they have used glyphosate as non-selective herbicide and remaining 48.30 % farmers had applied single spray of 'glyphosate' at 50 DAS in cotton. Majority herbicides users applied the recommended dose in cotton crop. Out of the total 118 (49.17 %) herbicide adopters majority 101(85.60 %) farmers have used knapsack sprayer in cotton. Cent percent (100%) farmers has not done the calibration of sprayer pump. Out of the total 118 (49.17 %) adopters 93 (78.81%) farmers have used non-selective herbicides in cotton and out of them majority 88.17 % farmers used the hood for protective application. Out of total 118 (49.17%) adopters only 27.97 % farmers used recommended 500 liters of water /ha in cotton crop. Overall cotton farmer's choice was pyrithiobac sodium (*Hitweed*) and glyphosate (*Glycel/ Round up/Mira 71*). Over half (62.50%) of the farmers expressed that they are not getting the proper information about herbicide applications from extension functionaries of the Government, hence this study implied that the State Department of Agriculture should organize regular trainings/workshops, demonstrations, preparation and distribution of printed material about use of herbicides before sowing season with the expertise of SAU scientists so that cotton cultivators in Vidarbha will get technical knowledge for effective use of herbicides.

Keywords: Cotton, efficacy, herbicide adoption pattern, knowledge, recommended dose, time,

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Value-addition to non-glutinous flours using indigenous traditional knowledge (ITK) in hills of Uttarakhand, India

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Abstract: Coarse cereals such as maize, jowar, bajra and small millets, and pseudo-cereals such as buckwheat and amaranth constitute an important component of diet of millions of people across the world. Absence of gluten in the flour of these crops prevents their *rotis* from puffing up like wheat *rotis* (Indian flatbread). Poor bread making quality of these crops is an important factor contributing to their declining production especially in states such as Uttarakhand where they are traditionally consumed in the form of *rotis*. The state of Uttarakhand is a leading producer of finger millet (*Eleusine coracana*) in the country. An ITK is traditionally practiced by farming communities in Uttarakhand hills to impart puffability to finger millet *rotis*. The ITK involves use of powder of bark of *Gethi* (*Boehmeria regulosa*) tree in a definite proportion with finger millet flour. The bark powder contains appreciable amounts of phenolics, flavonoids

and anti-oxidant activity besides Fe and Zn and, therefore, enhances nutritional value as well. The bark is also known to have medicinal value. *Gethi* powder-incorporated iron and zinc fortified flour of coarse cereals and pseudo-cereals holds promise as a potential means to enhance nutritional security of the populations dependent on these crops as their staple food.

Keywords: Non-glutionous, coarse cereals, puffability, indigenous traditional knowledge, *Boehmeria regulosa.*

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Leveraging Mobile technology for Farm Profitability: Case study from Trichy District, India

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Abstract: Out of 138 million Indian farm holdings, around 85 percent belongs to small and marginal farmers and their performance is essential for ensuring food security (NSS, 2003).The declining farm returns, scarcity of natural resources and widening technology divide have made farmers to quit farming or look for alternative livelihood activities. To accelerate the technology transfer and to bridge the information asymmetry, the Information and Communication Technology (ICT) tools such as Mobile phones, Computers and Internet have tremendous potential. Among the ICT tools, with increasing mobile ownership of 951.37 million, Mobile technology has many more advantages such as personalized information sharing, instant delivery of message, mobility of devices and cheaper cost for deployment than any other ICT devices such as computers, Internet etc., Mobile technology also facilitates reduced travel cost, market information seeking cost there by ensures transparent trade practices. The forward and backward linkages of farmers with markets and conglomeration of stakeholders is possible by leveraging Mobile Agro Advisory services. In this context a research study was conducted on farm profitability and value chain management of Tomato Growers in Trichy district of Tamil Nadu, South India. The majority of farmers (56 percent) were unaware of market intelligence advisories given through Mobile SMS and Farmer call centre. Along with the speedy technology transfer, bringing out horizontal integration of producers and vertical integration of all the members of the supply chain via digital initiatives is imperative. Hence seeking opportunities across the value chain in the year of farmer Producer Organizations - 2014 is timely and needs intervention of ICT tools especially Mobile technology viz., mobile SMS market advisory and Voice message services. Thus mobile technology will function as a key for accelerating the farm profitability of small growers in the present digital technology era.

Keywords: ICT (Information and Communication Tools), Agricultural clusters, Farmer Producer Organizations, market Linkage, Tomato value chain

ISCA-ISC-2014-Oral-1AFS-20

Towards Developing Climate Resilient Pearl Millet (*Pennisetum glaucum* L.) Cultivars

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Abstract: Pearl millet is an important crop of the semi-arid and arid regions in India and around the globe, grown mostly on less fertile soils under extreme weather conditions. Though the crop is able to survive under difficult climatic conditions, the yield potential is not fully realized. Therefore, it is imperative to develop cultivars that yield better under high temperature stress conditions. We have evaluated several inbred lines under kharif and summer conditions, identified inbred lines both tolerant (CZI 2004/8, CZI 2007/9, CZI 2010/11, CZI 2011/5, CZI 2011/7) and susceptible (CZI 2011/2, CZI 2011/3, CZI 2012/15, CZI 2012/16) to high temperature stress conditions. Data on important morphological, yield and yield-related characters was recorded and genetic diversity studies utilizing RAPD markers were carried out to identify relationships amongst the inbreds. Based on this information, mapping population studies involving multiple 'Tolerant X Susceptible' crosses have been initiated during kharif 2014 at CAZRI, Jodhpur. The developed population will eventually be very helpful in identifying 'quantitative trait loci (QTL)' responsible for high temperature tolerance in pearl millet and could be utilized in marker-assisted backcrossing of the QTL into locally adapted varieties enabling to develop better high temperature tolerant varieties.

Keywords: Towards, developing, climate, resilient, pearl millet, cultivars.

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Weedwiper – A boon for weed control and Resource Conservation in the mid hills of Northwestern Himalayas

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Abstract: In north-western Himalayas, fingermillet and horsegram (*Kharif*) and wheat (*rabi*) are the most important rainfed crops. Weed infestation is a major problem in these crops which lead to decrease in the crop productivity. In addition, broadcasting method of sowing and negligible use of post-emergence herbicides in these crops makes the situation more challenging. In general, weeding is done manually by women in hills which is time consuming and labour intensive. To reduce the labour and women drudgery, chemical weed control can be an option. For the control of all the weeds a non-selective herbicide need to be applied in line sown crops in a protected way. For this a device is needed which can apply the non-selective herbicide in between the crops rows by wiping out the weeds without any injury to crop plants. Keeping these points in view, the newly developed light weight weed wiper was evaluated and studies were conducted for calibration of herbicide dose, volume of water, weed control efficiency, yield and economics in these crops. Non-selective herbicide solution is applied through the weed wiper in between rows by direct contact with an impregnated absorbent surface without damaging the crops. The total dose of herbicide used was 1.975, 1.792 and 1.692 l/ha in fingermillet, wheat and horsegram, respectively. The corresponding values for volume of water used were 395, 358 and 338 l/ha, respectively. The capacity of weed wiper was observed 0.018, 0.024 and 0.031 ha/hour in fingermillet, wheat and horsegram, respectively with 55, 41 and 34 man hours/ha labour involvements and weed control efficiency of 39, 64 and 60 per cent after 7-10 days of herbicide application. The per cent increase in grain yield due to weed wiper was 297, 53 and 75.7 over control in fingermillet, wheat and horsegram, respectively. The cost of weeding in these crops with wiper was found 93.5, 84.6 and 91.3 per cent less as compared to manual weeding. The weed wiper resulted into highest B:C ratio (1.61, 1.99 and 3.12, respectively in fingermillet, wheat and horsegram) as compared to 0.91, 1.52 and 2.10 in manual weeding and 0.53, 1.50 and 2.12 in control. Hence weed wiper was observed drudgery reducing device saving labour and time and very effective in relation to yield and economics for weed control in between crop rows.
Keywords: Weed wiper, weed, control, resource, conservation, northwestern, himalayas.

ISCA-ISC-2014-Oral-1AFS-22

Detection of *Geminivirus* and *Geminivirus satellites* in important vegetable crops of Northeastern India

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Abstract: The lack of systematic study and proper diagnostic tools of viral disease detection in crops of northeastern India leads to high yield loss. Plant viruses, such as *Cucurbit mosaic virus, Mungbean yellow mosaic virus, Chili leaf curl virus, Tomato yellow leaf curl virus* (TYLCV) and Okra yellow vein viral disease had been reported from this region. Considering the reliability and convenience, we had used serological and molecular methods, such as, DAS-ELISA and PCR for detection of any *Geminivirus* and associated satellite(s), if any present. We had screened 31 samples positive using the said methods. Commercial antibodies against TYLCV, *Potyvirus* group, and for PCR-based detection both degenerate and Roja's universal primers were used. The cloning and characterization of the viral amplicons are in progress.
Keywords: Double antibody sandwich ELISA (DAS-ELISA), Tomato yellow leaf curl virus (TYLCV), PCR amplification, *Geminivirus*.

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Effect of Dose, Method and Mode of Potash Application on Potato (*Solanum tuberosum* L.)

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Abstract: The present investigation was carried out at Vegetable Research Centre, Govind Ballabh Pant University of

Agriculture and Technology, Pantnagar, Uttarakhand, during *rabi* season of 2013-2014. The objective of this investigation was to study the response of potato to various dose, method and mode of potash application. The experiment was laid out in Randomized Block Design with 3 replications and 11 treatments. The results showed a significant effect of potash doses, method and mode of potash application on grade wise number, grade wise yield, total number and total yield of tubers per hectare and total potash uptake by plant and tubers. The application of 112.5 kg potash as basal + 2% spray of K_2SO_4 at 30 days after planting gave maximum total tuber yield of 37.63 t/ha against a total tuber yield of 21.57 t/ha with no application of potash. Similarly, same pattern was found in terms of total potash uptake by plant and tuber.

Keywords: Potash, tuber number, tuber yield, potash uptake.

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Agrimarketing Extension Issues and Strategies

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Abstract: Agriculture is different from industry and plays a significant role in the economic development of a nation. India's prosperity depends upon the agricultural prosperity. There are many kinds of agricultural products produced in India and the marketing of all these farm products generally tends to be a complex process. Agricultural marketing involves many operations and processes through which the food and raw materials move from the cultivated farm to the final consumers. Agriculture provides goods for consumption and exports and manufacturing sectors. The suitable marketing system should be designed so as to give proper reward or return to the efforts of the tiller of the soil. Market information is a means of increasing the efficiency of marketing system and promoting improved price formation. It is crucial to the farmers to make informed decisions about what to grow, when to harvest, to which market produce should be sent and whether or not to store it. Awareness of farmers on different components of market information and its utility was very poor (11 to 37 %) as compared to that of traders (75%). Out of the expectations of farmers on grades, quality, prices in potential markets, price projections; only real time arrivals and prices were documented and disseminated with traditional approach. Hence there is a need to create awareness among the farmers through the agricultural extension agencies like the State Department of Agriculture, Krishi Vigyan Kendras so that the marketing information on agriculture commodities are incorporated in the extension services along with production aspects to the farmers. Beside this, reforms in Agricultural Produce Market Act (APMC) is also one of the step taken in this direction, it is felt that by itself it may not succeed in bringing in the desired results. India is a country of small producers with an average land holding of 1.6 ha. Most of these small and marginal farmers are not in a position to deal with the buyers on an equitable footing. Therefore, there is a crying need to empower the farmers by aggregation. Different organizational structures for aggregation have been tried in the past including Self- Help Groups (SHGs), Joint Liability Groups (JLG), Farmers Associations, Producers Company etc. So far they have not been very successful due to lack of support. There a need for the Government and financial institutions to support such farmers organizations through technical, managerial and financial help, atleast in the beginning till they become strong enough to stand by themselves. Innovative institutional structures such as the Lead Farmers Model, Public Land Bank etc should be tried out. Financial assistance can be provided through creation of Agriculture Risk Funds for small and marginal farmers, Venture Capital or Seed Capital assistance. Once a strong farmer organization is formed, they can be linked to retailers, producers or exporters.

Keywords: Agrimarketing, extension, issues, strategies.

ISCA-ISC-2014-Oral-1AFS-26

Extension Reform and Innovation in Technology dissemination

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Abstract: Extension reform is in flux, and the reforms are moving extension toward institutionally pluralistic rural knowledge and innovation networks. However, in most cases these networks are not conceived with a clear understanding due to broader implications of such a system. The move from a policy of food security to a strategy that focuses on agricultural diversification aimed at increasing farm income and rural employment, carries with it implicit risks for the small-scale farm households that are expected to benefit from this approach. The immediate challenge facing governments is to reform extension in ways that increase client-oriented services, while still responding to continually changing social goals and economic pressures. ATMA model which was introduced to replace TandV to overcome some of its weaknesses has been quite successful and for the first time, an attempt for convergence of extension by different service providers has been attempted through a legally-constituted body. In addition, ATMA's have developed a mechanism for participation of farmers in deciding priorities (through Strategic Research and Extension Plan), identifying and implementation programmes (through Farmer Advisory Committees-FAC's). This reform has brought some additional funding for

implementing demonstrations, trainings, exposure visits, and forming farmer groups and the groups are now facilitated in developing better links with agro-processors. Further, the reform has brought some publicity and goodwill and also generated some success stories for extension at a time when public funding and support for extension has been dwindling. They also provided space for seeding some new ideas such as public-private partnerships and user contribution for extension, though several challenges still remain in mainstreaming these ideas. The most critical output of this strategy will be that the current generation of farmers will learn new technical, management and organizational skills that will be passed on to the next generation as they seek employment outside of production agriculture. However, still there are several lacunae in the strategies. The reforms fall short in terms of increased accountability to farmers and being fully demand-driven. Inclusiveness of smallholder and marginal farmers has been achieved only partially. The group approach to extension remains weak and needs strengthening at the block and village levels. The huge gaps in organizational and human capacity suggest the need for long-term capacity development strategy. Hence, effective synergies need to be established with the ongoing agricultural interventions in the form of national missions for both sustainability and leveraging the limited resources available for extension. This will improve both allocative and operational efficiency of the extension system. Regular performance assessments and impact evaluations of the inherent components of any extension program should to be done by the program implementers and providers of extension service. Incentives for motivating and retention of human resources need further attention to strengthen the current fragility of the system. Finally, the financial dependence of the states on central government needs to be gradually reduced to enable the states, and ultimately the farmers, to take ownership of their reformed extension systems.

Keywords: Extension, reform, innovation, technology, dissemination.

ISCA-ISC-2014-Oral-1AFS-27

Diversification in Agriculture

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Abstract: Agriculture, the main source of livelihood in India, especially in the rural areas, is plagued with various problems. As a result, most of the rural households are poor and are beginning to diversify their livelihoods into off and non-farm activities as a relevant source of income. Agriculture diversification is so important to achieve economic prosperity and other development activities. Agricultural diversification that is, increases in the share of high value crops in agriculture. Agricultural diversification is an important mechanism for economic growth Agricultural diversification in India is steadily accelerating towards high value crops and livestock activities to augment farm income. Some of the factors that influence the nature and pace of agricultural diversification from staple food to high value crops are technological change in crop production, improved rural infrastructure and diversification in food demand. The nature of agricultural diversification differs across regions due to wide heterogeneity in agro-climatic and socio-economic conditions. Generally, the pattern of agricultural diversification shows a shift from crop production to livestock production during the 1980s to 1990s. The livestock sub-sector across different regions has grown as a result of the mounting demand for livestock products, namely, milk, meat, eggs, etc. Diversification in favour of horticulture and livestock commodities is more pronounced in rainfed areas. The focus of agricultural diversification relates to diversification of food production and consumption in both rural and urban areas of India. With rising incomes, the patterns of diet normally change from a basic cereal-based diet to non-cereal items. Agricultural diversification towards high-value crops can potentially increase farm incomes, especially in a country like India where demand for high-value food products has been increasing more quickly than that for staple crops. Indian agriculture is overwhelmingly dominated by smallholders and researchers have long debated the ability of a smallholder-dominated subsistence farm economy to diversify into riskier high-value crops. The role of agricultural diversification as a mean of diffusing price risk. Agricultural commercialization and diversification involve the gradual replacement of integrated farming systems by specialized enterprises for crop, livestock, and poultry and aquaculture products. Diversification in agriculture' has tremendous impact on the agro-socio-economic impact and uplifting of resource-poor farming communities. It generates income and employment for rural youth year round for the ultimate benefits of the farmers in the country. It implies the use of local resources in a larger mix of diverse cropping systems and livestock, aquaculture and other non-farm sectors in the rural areas. With the globalization of markets in the WTO era, diversification in agriculture is one means to increase the total production and productivity in terms of quality, quantity and monetary gains under diverse agro-climatic situations of the country.

Keywords: Diversification, agriculture.

ISCA-ISC-2014-Oral-1AFS-29

Correlation and Path Analysis for Curd Yield and its Traits in Early Cauliflower (*Brassica oleracea* var. *botrytis* L.)

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Abstract: Studies on correlation coefficients and path analysis were conducted for economic traits of early cauliflower at G. B. Pant University of Agriculture and Technology, Pantnagar, Uttarakhand in 2013-14. Correlation studies revealed that curd yield per hectare was highly positively correlated with marketable curd weight, net curd weight, curd diameter, number of leaves per plant, curd index, harvest index, curd depth and gross plant weight, while it was less but significantly and positively correlated with leaf length, leaf lamina length, plant height, plant diameter, leaf width, leaf stalk length and plant stalk length. Curd yield established negative and significant association with days to curd initiation and days to curd maturity. Path coefficient analysis indicated that marketable curd weight, leaf lamina length, leaf stalk length contributed maximum positive direct effect on curd yield per hectare. Leaf length and curd index exerted negative direct effect on curd yield.
Keywords: Correlation, path analysis, early cauliflower and curd yield.

ISCA-ISC-2014-Oral-1AFS-30

In silico Drug designing against Malaria caused by *Plasmodium falciparum*

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Abstract: Malaria represents a medical emergency because incidences of deaths are increasing especially due to the drug resistant malarial strains of *Plasmodium falciparum*. In this study, enoyl acyl protein reductase (Fab I), an oxidoreductase, was selected as the protein target based on unrelatedness to humans and essentiality in the parasite for proliferation in the human host. Compounds that have antimalarial properties were screened for its physio-chemical properties and toxicity and molecular docking of the protein to the selected compounds was performed to understand the mechanism of ligand binding and interaction. Among the compounds showing top hits in docking xylopinine, an alkaloid from the plant *Stephania rotunda* was significant resulting with better docking studies predicting the possible binding mode of the inhibitors to the protein. Thus, the promising drug candidate with further optimization strategies can be developed as commercial drug against the target organism with further validation by wet lab analysis and preclinical and clinical trials. As such, *in silico* approach will surely provide the production of drugs against this pathogen by targeting its vital proteins unrelated to humans which would help in eradicating the disease.
Keywords: Malaria, *in silico* approach, drug designing, docking, *Plasmodium falciparum.*

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In silico Proteomics study and tissue Specific expression Profiling of DXR gene from *Cymbopogon winterianus*

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Abstract: The 1-deoxy-D-xylulose-5-phosphate reductoisomerase (DXR; EC1.1.1.267), a NADPH-dependent reductase plays pivotal role in conversion of 1-deoxy-D-xylulose-5-phosphate (DXP) into methylerythritol 4-phosphate pathway (MEP). The sheath and leaf of Citronella (*Cymbopogon winterianus)* accumulates large amount of terpenes and sesquiterpenes with proven medicinal value and economic uses. This is the first ever report on DXR from Citronella where, full length DXR was characterised using *in silico* tools and tissue-specific expression studies to explain the structure-function mechanism, mode of cofactor recognition and differential expression. The active site of the three-domain architecture modelled DXR comprised of cofactor binding pocket and the substrate binding pocket. Molecular dynamics simulation studies indicated that DXR model retained most of its secondary structure during 10 ns simulation in aqueous solution. Although modelled DXR superpose well with its closest structural homolog but subtle variations in

the charge distribution over the cofactor recognition site was observed. Molecular docking study revealed critical residues for NADPH binding. Tissue specific differential expression analysis of DXR using semi-quantitative RT-PCR and quantitative real time PCR in various tissues of citronella plant revealed distinct differential expression. We believe further characterization of this gene will open up better avenues for metabolic engineering of important secondary metabolite pathway in near future.

Keywords: Silico, proteomics, study, tissue, specific, expression, profiling, Cymbopogon winterianus.

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Fly Ash: Adantages 7 Disadvantages in Sol Fertility and crops Productivity

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Abstract: Fly ash can used for soil improving quality and reducing problems and enhances the crop productivity upon the nature of soil and fly ash. It may improve chemical, physical, biological properties of polluted soil and increasing the available micronutrients for agriculture. The high concentration of micronutrients in soil increasing the crop production rapidly, for example Ca, Mg, Fe, Na, Zn etc. but sometimes increasing high concentration of micronutrients soil fertility decrease rapidly and this much affected on animal and plants. So, reviewers many intensions to utilize fly ash in agriculture and forestry sector to increase crop production, soil quality and maintaining soil fertility.

Keywords: Fly ash, crop production, soil fertility, soil properties, toxic metals.

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Marker-assisted selection- Special breeding method for Crop improvement

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Abstract: Typically, breeders improve crops by crossing plants with desired traits, such as high yield or disease resistance, and selecting the best offspring over multiple generations of testing. A new variety could take 8 to 10 years to develop. Breeders are very interested in new technologies to speed up this process or make it more efficient. Marker assisted selection (MAS) is the breeding strategy in which selection for a gene is based on molecular markers closely linked to the gene of interest rather than the gene itself. Here markers are used to monitor the incorporation of the desirable allele from the donor source. Marker means any genetic element (locus, allele, DNA sequence or chromosome feature) which can be readily detected by phenotype, cytological or molecular techniques and Marker assisted selection (MAS) refers to the indirect selection for a desired plant phenotype based on the banding pattern of linked molecular marker. It also refers to the identification of the genomic region that are involved in the expression of the trait of interest through molecular markers. Marker Assisted Selection (MAS) is a combined product of traditional genetics and molecular biology. MAS allows for the selection of genes that controls traits of interest, such traits are colour, disease resistance, etc, and it is applicable to all the three group of crop plants viz., self pollinated, cross pollinated and asexually propagated species. DNA-markers allow the breeder to introduce into their cultivated plant only the gene(s) of interest from a related species, While conventional breeding methods rely on the transfer of the whole genome (along the gene of interest, undesirable characters are also co-inherited and have to be eliminated through back crossing followed by selection). It is believed that MAS is a potential tool for crop improvement and hence it should be an integral part of plant breeding techniques. Selection based on molecular marker analysis specially when selection is to be done under unfavorable condition, if individual genes or QTLs significantly influencing specific target trait can be identified based on linkage to molecular markers. Molecular markers technology can benefit breeding objectives by increasing the efficiency and reliability of selection and by providing essential insights into how genes and QTL are identified.

Keywords: Marker-assisted, selection- Special, breeding, method, crop, improvement.

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Performance Evaluation of a Minor Irrigation Scheme

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Abstract: The study was conducted to assess the performance of Kalwande Minor Irrigation Scheme (KMIS) in Chiplun, Ratnagiri district of Maharashtra using various indicators such as output per unit cropped area and output per unit water

consumed, related to production with land and water. Relative water supply, relative irrigation supply and water delivery capacity, related to water supply from the system with crop water demand and financial self sufficiency related with collection of fees from water users in. In this study, the performance indicators in Kalwande Minor Irrigation Scheme were determined for year 2013-14; the results were discussed and evaluated. The analysis of agricultural performance indicators showed that the production value of different crops grown in command area were lower than that of the recommended package of practices. The analysis of water use indicators showed that relative water supply and relative irrigation supply were calculated as 2.49 and 1.27 respectively indicates the condition of water abundance. The value relative water supply and relative irrigation supply was more than one represents that the total water supply is enough to meet the crop demand. The water delivery capacity for whole Kalwande command was calculated as 7.1 represents the canal capacity was sufficient to meet the peak consumptive demand. The analysis of economic or financial indicators showed that the scheme had a serious problem about the collection of water fees i.e. revenue or irrigation charges collected from scheme were less than that of total operation and maintenance expenditures.

Keywords: Performance indicators, irrigation project, relative water supply, relative irrigation supply, command area.

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Optimal Cropping Pattern for Sustainable Water Use in Canal Command Area

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Abstract: The different proposed cropping pattern scenario was formulated for Kalwande Minor Irrigation Scheme based on the irrigable command area and volume of water required. The area and total depth of water required for different vegetables, pulses and horticultural crops were considered for proposed cropping pattern. The paddy crop is the dominant crop in the study area and grown in *kharif* season. Similarly in some of the areas, paddy is grown in *rabi* season. Therefore in the present study the *rabi* paddy was considered for developing the different cropping scenarios. The alternate cropping pattern suggested that the *rabi* paddy should not be encourage in the command area due high demand of water and low net returns. The cropping pattern based on combination of vegetables, horticultural and pulses showed potential in terms of maximum net returns and optimum utilization of available water. The area under only *rabi* paddy if more than 46 percent (51.06 ha) of irrigable command area, the available water in the reservoir will not meet the demand and the net returns obtained were less. The study found that the maximum net returns obtained under single crop i.e for vegetables were Rs.143.38 lakh. The maximum net returns obtained under double crop i.e. for horticultural + vegetables were Rs.139.3 lakh. The horticultural + vegetables +pulses cropping pattern on 5.50 ha, 5.50 ha and 100 ha respectively provides maximum returns under available water source. The study concluded that the *rabi* paddy should not be found feasible in terms of water availability and benefits obtained. The vegetable and horticultural crop showed potential in the command area with the available water source to get maximum net returns.

Keywords: Cropping pattern, command area.

ISCA-ISC-2014-ORAL-1AFS-36

Temporal and Spatial Trends of Meteorological Parameter's and Reference Evapotranspiration

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Abstract: The study was conducted for estimating the crop water requirement i.e. reference evapotranspiration by FAO Penman Monteith method and study of trends of different meteorological parameters on the basis of temporal and spatial for Harnai, Dapoli and Wakawali stations in Dapoli Tahsil. The analysis showed that, the average reference evapotranspiration for Harnai, Dapoli and Wakawali was 4.00 mm/day, 3.68 mm/day and 3.67 mm/day respectively which was always more at sea shore and uniformly distributed over the internal region. This may be due to aerodynamic and surface resistance. The wind speed at sea shore is always higher and vegetation at sea shore is less as compared to interior parts, Thus surface resistance at sea shore is less ultimately evapotranspiration rate is higher at sea shore. The seasonal analysis showed that the maximum contribution of reference evapotranspiration occurs in summer season at Dapoli and Wakawali, whereas it occurs in *rabi* season at Harnai. The reference evapotranspiration has linearly decreasing trend at Dapoli (3.2 mm per year) and Wakawali (14.53 mm per year), however it has increasing trend at Harnai (0.45 mm per year). The reference evapotranspiration was found to be decreasing at Wakawali this might be due to decrease in wind speed and sunshine hours and increase in minimum relative humidity while it was due to increase in maximum and

minimum relative humidity and decrease in sunshine hours at Dapoli. The ETo trend was found to be increasing at Harnai, this might be due to decrease in maximum and minimum relative humidity and increase in maximum temperature.

Keywords: Reference evapotranspiration, penman monteith method.

ISCA-ISC-2014-Oral-1AFS-37

Effect of Vermiwash on the growth parameters of Solanum melongena L. (Brinjal Plant)

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Abstract: Vermiwash is an organic fertilizer obtained from the unit of Vermiculture (*Eisenia fetida*), as drainage. Vermicompost also collected from the vermiculture unit. It is used both as foliar spray and is applied in the root zone of plant. Present study examines the effect of Vermiwash on the growth of *Solanum melongena* L., (Brinjal) plant. When Vermiwash was added in the soil as well as sprayed on the *Solanum melongena* L., the forty days observations showed a significant growth of plants i.e., length of shoot as well as number of leaves per plant. Vermiwash when mixed in the soil as well as sprayed on plants has increased the shoot length to 10 cms as compared to, Vermicompost 8.4 cms and control 7.4 cms, respectively. Similarly Vermiwash, has also increased another parameter, the number of leaves to 5.8 as compared to, Vermicompost 5.3 and control 5.0 respectively. It can be concluded that the growth of *Solanum melongena* L., showed much positive result when grown in Vermicompost. However, the results were even better, when the plants were treated with Vermiwash. The analysis of Vermiwash showed high P, K,Ca content as compared to Vermicompost and soil. The analysis of Vermiwash showed presence of high level of macro nutrients like P, K,Ca but low level of micro nutrients like Zn, Cu, Fe, Mn. Therefore it may be concluded that significant increase in the growth of Vermiwash treated plants was observed due to high level of macro nutrients available in the Vermiwash. Hence Vermiwash proves to be an effective fertilizer which contributes to the growth of plants.

Keywords: Vermiwash, organic fertilizer, vermicompost, brinjal, eisneia foetida.

ISCA-ISC-2014-Oral-1AFS-38

Optimal cropping pattern for Jaisamand command of Udaipur district in Raj., India

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Abstract: This paper presents an application of LINGO software to allocate the area for production maximization in Jaisamand command area of Udaipur district. The linear programming model was developed and solved in LINGO software. The area allocated for different crop activities in 9,18,21,24 and 30 canal running days and was obtained. The optimal food production for maize, soyabean, moong, wheat, mustard, gram and barley in 9,18,21,24 and 30 canal running days obtained as 33454.94, 70278.44, 68502.53, 71987.65 and 72082.02 tonnes with investment of 403.00, 773.78, 797.67, 845.09 and 851.22 million Rs. respectively. The net benefit obtained as 219.55, 58.02, 451.89, 456.06 and 455.43 million Rs. for 9,18,21,24 and 30 canal running days respectively.

Keywords: Optimal, cropping, pattern, Jaisamand, command, Udaipur district Rajasthan.

ISCA-ISC-2014-Oral-1AFS-39

Technological Gap in Wheat Cultivation in Akola District, MS, India

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Abstract: Agriculture is one of the largest and most important sectors in Indian economy. Many agronomical and horticultural crops, food, and fodder crops play important role in Indian economy. The wheat is staple food grains crop in India after rice. In the world, wheat (Tritium spp.) occupies the number one position. India is one of the principle wheat producing and consuming country in world. The notable wheat growing first five states in India are Uttar Pradesh (33.02%), Punjab (19.26%), Haryana (13.27%), Madhya Pradesh (9.67%), and Rajasthan (9.31%).The wheat crop not only gives food grains but also gives fodder for animals. Wheat is used mainly as a human food. It is nutritious, concentrated, easily stored and transported and easily processed into various types of food. Wheat contains gluten protein. The study entitled "Technological gap in Wheat cultivation in Akola District" was purposively conducted in Telhara Panchayat

Samiti of Akola district in Vidarbha region. For present study, 100 farmers were selected from ten villages by using random sampling. The main objective of the study- to study the extent of technological gap between recommended and adopted wheat cultivation technologies by the respondents, to ascertained the reasons for existence of technological gap in wheat cultivation practices was ascertained by using exploratory design of social research. Data from the respondents were collected by personally interviewing with the help of pretested and well structured interview schedule and data was subjected to appropriate statistical analysis. Majority of respondents reported medium level of technological gap in wheat cultivation, partial technological gap was observed in case of rate of weedicides, fertilizer application, plant protection, seed treatment, irrigation, spacing, FYM application, planking etc. Low technological gap was observed about sowing method, harrowing, period of sowing, harvesting and threshing. Non availability of labour, lack of knowledge about plant protection, lack of knowledge about seed treatment, non-availability of FYM, higher cost of insecticides, lack of knowledge about proper dose of weedicide and lack of knowledge about irrigation stages were major reasons expressed by the wheat growers for existence of technological gap in cultivation of wheat crop.

Keywords: Technological Gap, Constraints in adoption, Cultivation Practices in Wheat.

ISCA-ISC-2014-Oral-1AFS-40

Conservation of Biodiversity of Medicinal and Aromatic Plants

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Abstract: Plants are the most important source for preventive and curative medicinal preparations. WHO has estimated that at least 80 per cent of all the global inhabitants rely on these plants for curative medical systems for their primary health needs. Ancient Indian traditions of medicine viz; Ayurveda, Unani, Homeopathy, Siddha, Yoga, Naturopathy and now, even, Allopathy derive many of its curative tools from plant. South-Eastern part of Rajasthan is located at an altitude of 579.5 meter above mean sea level at 24º 35¢ N latitude and 74º 42¢ E longitude. The climate of the area is sub-humid to humid with average rainfall ranging from 500 to 900 mm and temperature from -3.4 in January to 43.8ºC in June. This climate favors the natural survival of many medicinal herbs, which cannot be grown everywhere. In this region many medicinal herbs are rare, endangered and threatened, while some are on the verge of extinction due to over exploitation, wild harvesting, deforestation, unscientific manner of harvesting, collection of fruits and seeds before maturity, unfavorable environments like erratic rainfall and repeated drought. This require urgent attention to database conservation of this biodiversity. The efforts are being under taken to database conservation of these biodiversity of medicinal herbs of south-east Rajasthan at Rajasthan College of Agriculture, MPUAT Udaipur. These herbs have been categorized on the basis of local name, botanical name, family, habit, active principles, planting material, propagation time, part used and medicinal use for treatment of ailments. Presently total 450 medicinal and aromatic plant species out of them 178 herbs, 182 shrubs, 52 climbers and 39 trees rare and endangered plant species are being maintained in herbal park.

Keywords: Conservation, biodiversity, medicinal, aromatic, plants.

ISCA-ISC-2014-Oral-1AFS-41

Scenario of Medicinal and Aromatic Plans in India

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Abstract: Medicinal, herbal and aromatic plants constitute a large segment of the flora, which provide raw materials for use by pharmaceutical, cosmetic, fragrance and flavour industries. India has a rich heritage and long history of using medicinal and aromatic plants in improving the quality of life.. The Indian system of medicines comprises of Ayurveda, Siddha and Unani are having their long root in our society. Ayurveda is about 5000 years old and predominantly use medicinal plants for their preparation and formulations. Modern pharamacopia also listed at least 25% of drugs derived from plants and vast majority although synthetic analogues built on prototype compounds isolated from plants. India is fortunate, perhaps, to have the richest reservoir of traditional herbal medicinal plants and prescriptions It is the home of about 8000 of all plant species on the earth many of which have not been fully explored and cultivated.

Keywords: Scenario, medicinal, aromatic plans India.

ISCA-ISC-2014-Oral-1AFS-42

Released a New High Yielding Variety of Babchi (*Psoralea corylifolia* Linn.)

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Abstract: Among the medicinally important crops, *Psoralea corylifolia* L. is an important medicinal plant of family Fabaceae and is called as Babchi /Bakuchi. Its seeds are used in indigenous system of medicine in the treatment of leucoderma, leprosy and psoriasis. The *Psoralen* is a principal chemical constituent of seeds. The efforts were made to develop high yielding variety for this economically important medicinal plant under marginal and water limited situations. Ten entries viz.;IC-111226, IC-111228, IC-111238, IC-111239, IC-111246, IC-111248, IC-111249, IC-111251, IC-111254 and IC-111256 were collected from National Bureau of Plant Genetic Resources (NBPGR) New Delhi India. These entries were tested during 1996-2000 to 2004-06 (111226 and IC-111256 only) at the Instructional Research Farm, Rajasthan College of Agriculture, Maharana Pratap University of Agriculture and Technology, Udaipur (Raj.) India. On the basis of mean data over the years, among the tested entries, IC-111256 (Pratap Babchi-1) exhibited high *Psoralen* content (1.37%) having highest *Psoralen* yield (38.4 kg/ha) which is 42% higher than the check IC-111226. The IC-111256 (Pratap Babchi-1) was released in the month of January, 2010 for the state of Rajasthan India for commercial cultivation. This is the first developed variety of *Psoralia corylifolia* L.for the state of Rajasthan.

Keywords: A New Variety, *Psoralea corylifolia* L.

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Bio-efficacy of Synthetic Insecticides against White fly (*Bemisia tabaci*) infesting Bt cotton

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Abstract: Cotton (*Gossypium*spp.) popularly known as 'white gold' is one of the most ancient important cash crop of india. Aparts from its value as fibre, it has great potential to be used as edible oil, food for animals and other byproducts like particle board and boxes. White fly (*B. tabaci)* is a major sucking pest on cotton crop, causing quantitative and qualitative losses to cotton. An experiment was conducted at agriculture research station ,sriGanganagar to evaluate the bio-efficacy of different insecticides against cotton White fly (*B. tabaci*). Maximum percent reduction was observed with Trizophos 40 EC (63.22%) followed by the Acetamiprid 20% SP (55.61%) and these were statistically at. par and significantly superior over rest of the treatment. The phytotoxic effect on crop could not be observed during the experimental period.

Keywords: Bio-efficacy, synthetic, insecticides, against, white, fly.

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Antioxidants as a safe alternate of pesticides to control of cumin wilt

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Abstract: Hazards nature of insecticide, antibiotics and fun-gicides is a big threat to public health and environment, Hence a relatively recent direction of biotic stress management has been introduced. Induced or acquired resistance in the host plant became a good target for minimizing disease incidence or severity with least cost and without environmental pollution. Antioxidants are safe for human and environment had been used successfully to control some plant diseases and is yet to be exploited in cumin wilt and blight management. In India, cumin is one of the most important seed spice crop mainly grown in the states of Rajasthan and Gujrat. Cumin wilt caused by *Fusarium oxysporum* f.sp. *cumini* is a major threat to cumin cultivation in arid and semi arid areas. The generation of active oxygen species (AOS) is a common event associated normal plant biochemical processes during biotic and abiotic stress. The reactive nature of AOS marks them potentially harmful to many cellular components. Antioxidants, which are natural and useful for human as well as plants will use for management of these diseases. Antioxidants which save to human and environment had been used successfully to control some plant diseases. An experiment was conducted to control wilt and blight disease in cumin with use of natural antioxidants cinamic acid, coumarin, gallic acid and thiourea at two levels i.e. 100 & 200 ppm. Two

varieties GC4 and RZ 209 were grown with these treatments in RBD design. cinamic acid @ 200ppm in decrease mortality of seedlings by 2.1 fold in comparison to control seedlings in cumin GC 4 while cinamic acid @ 100ppm decrease by 3.2 fold in RZ 209 genotypes. Germination percentage and seedlings health improves with the use of antioxidant treatments in compression to control. These antioxidants may be use to reduce the germination period in cumin. Overall plant growth and development observed with increased yield.

Keywords: Antioxidants, safe alternate, pesticides, control, cumin, wilt.

ISCA-ISC-2014-Poster-1AFS-01

Ecological study of the sites found positive for Entomopathogenic nematodes

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Abstract: Entomopathogenic nematodes belonging to two families- Steinernematidae and Heterorhabditis serve as important regulators of soil inhabiting insect populations. They possess symbiotic bacteria of the genus Xenorhabdus and Photorhabdus respectively and hence have been developed as biological control agents for a variety of economically important insect pests. The effectiveness of EPNs depends on insect host species, climate, soil conditions such as soil texture, pH, salinity, conductivity etc. Therefore, present piece of work was undertaken to evaluate habitat characteristics of positive soil samples collected from some places in Punjab. These include soil texture, organic content, pH, soil salinity, total dissolved solute and electrical conductivity. All the parameters were analysed using standard protocols.

Keywords: Entomopathogenic nematodes, biological control agents, symbiotic association, habitat characterstics.

ISCA-ISC-2014-Poster-1AFS-02

Antioxidant Assay and Quality Evaluation of Jamun Supplemented Unleavened Flat Bread

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Abstract: Jamun (Syzygium cumini) known as Indian blackberry has long been used as a traditional medicine to cure various lifestyle diseases such as diabetes, cardiovascular diseases, age related macular degeneration etc. The present investigation was done to determine the antioxidant potentials of syzygium cumini in unleavened flat bread (chapatti) and to determine the quality aspects of the developed product. Fresh jamun fruit was processed into pulp and incorporated in unleavened flat bread at different levels ranging from 5 to 15%. Bioactive composition of jamun supplemented chapatti depicted increased anthocyanin, total phenols and antioxidant activity (DPPH assay) with increased supplementation levels. Not much variation was observed with regard to the proximate components of raw and supplemented chapatti. However, fiber content increased with the addition of jamun pulp. Quality evaluation study revealed that at 15% supplementation level, dough became slightly sticky, however chapattis exhibited full puffing at all supplementation levels. Overall acceptability score was maximum for chapatti supplemented with 10% level of jamun pulp. It can be concluded that jamun supplemented chapattis can provide the benefits of jamun phytochemicals particularly anthocyanins and improved antioxidant status of chapatti.

Keywords: Antioxidant, assay, quality, evaluation, jamun, Supplemented, Unleavened.

ISCA-ISC-2014-Poster-1AFS-03

Effect of crude medicinal plant extracts against Spodoptera litura (Lepidoptera: Noctuidae)

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Abstract: Awareness of the environmental health hazards posed by synthetic pesticides, development of resistance to these chemicals leading to recurrent pest outbreaks and of toxic residues in the food, has led to search for safe and environment-friendly alternatives. The use of plant extracts is gaining importance as an alternative pest control strategy for minimizing the noxious effects of pesticidal compounds on the environment. Plants are a rich source of natural products. The secondary plant metabolites play a significant role in plant physiology and defense against insects. These modify the insect behavior such as feeding, development and growth, oviposition etc. leading to decrease in insect pest population. In light of this, the present study was conducted to evaluate the insecticidal potential of Phyllanthus emblica

and Glycrrhiza glabra , a medicinal plant, against Spodoptera litura (Fabricius). S. litura is an economically important polyphagous pest in India, causing considerable economic losses to many vegetables and field crops. In the present study, 2nd instar larvae were reared on artificial diet amended with different concentrations of both plant extracts. Different concentrations of P. emblica induced the 36.67 to 90.00% larval mortality. Whereas no significant influence of G. glabra extract was recorded on larval mortality. Larval development prolonged when larvae fed on P. emblica amended diet. Inhibitory effect of the plant extracts were also observed on adult emergence.

Keywords: Spodoptera litura, Phyllanthus emblica, Glycrrhiza glabra, plant metabolites.

ISCA-ISC-2014-Poster-1AFS-04

Response surface analysis and Process optimization of Maize-honey Extrudates

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Abstract: Processing conditions for development of maize-honey extrudates were optimized with the help of response surface methodology. Honey enriched extrudates from whole corn flour were prepared using co-rotating twin screw extruder at different processing conditions and evaluated for various properties (expansion ratio, bulk density, water absorption and solubility indices and texture). Processing conditions i.e feed moisture, barrel temperature and honey proportion were selected as independent variables. Response surface analysis revealed that feed moisture had negative effect on expansion ratio and water solubility index had positive effect on bulk density, water absorption index and texture. Barrel temperature was found to influence expansion ratio and water solubility index, positively. Increasing the level of honey proportion in feed beyond 10 per cent adversely affected the quality of extrudates. Honey was prone to suppress expansion ratio, increase the bulk density and hardness of the extrudates. The optimized conditions for preparation of extrudates with better properties were feed moisture-17 per cent, barrel temperature-150^{0}C and honey proportion-10 per cent.

Keywords: Maize, honey, response surface analysis, optimization, extrudates.

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Effect of Phloroglucinol on First Instar Larvae of Melon Fruit Fly, Bacterocera Cucurbitae (Coquillett)

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Abstract: The use of pesticides in an indiscriminate manner to eradicate insect pests had a negative effect on human beings and environment, beside causing insect resistance and resurgence. An increase in mortality observed in recent times has been attributed to insecticide and pesticide poisoning. Therefore, there is an urgent need to explore alternative eco-friendly pest control management strategies. Naturally occurring plant secondary metabolites are receiving a lot of attention for their use in the control of insect pests. Phloroglucinol is the naturally occurring secondary plant metabolite found in plants. Secondary metabolites have evolved in plants as a part of their defense mechanism to resist insect herbivory. This metabolite has not been explored much for its effect on insect pest. Therefore the present study was envisaged to study the effect of Phloroglucinol on various growth parameters of Bacterocera cucurbitae (Coquillett), a major pest of cucurbitae plants. The Ist instar larvae of B. cucurbitae were fed on various concentrations (5,25,125, 625 and 3125 ppm) of secondary metabolite incorporated in artificial diet as well as on control diet. The finding showed that the larval and total developmental period was delayed considerably with treatment. The percentage pupation and emergence decreased significantly with increase in concentration of Phloroglucinol, indicating a toxic and deterrent effect of the compound on the growth of the larvae B. cucurbitae.

Keywords: Phloroglucinol, first instar, larvae, melon fruit, fly, bacterocera, cucurbitae.

ISCA-ISC-2014-Poster-1AFS-06

Comparative Bio-efficacy of new Insecticides against Insect pests of Soybean in Tarai Region

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Abstract: Soybean, Glycine max (L.) Merrill is a fascinating legume crop with innumerable possibilities of not only improving agriculture, but also supporting industries. The low productivity of this legume crop in India is attributed to

variety of limiting factors, of which insect-pest and disease are most important. Soybean is attacked by 273 insect -pests, hampering the crop production. Thus it is necessary to control insect pests of soybean. The present investigation was carried out at Norman E. Borlaug Crop Research Centre, G.B. pant University of Agriculture and Technology, Pantnagar during 2011. In the present experiment we used different new insecticides viz. Thiamethoxam12.6+ Lambdacyhalothrin 9.5%ZC (Alika 247ZC) @ 22g ai/ha, Thiamethoxam12.6+ Lambdacyhalothrin 9.5%ZC (Alika 247ZC) @ 27.5g ai/ha, Thiamethoxam12.6+ Lambdacyhalothrin 9.5%ZC (Alika 247ZC) @ 33g ai/ha,, Thiamethoxam 25% WG Lambdacyhalothrin 49%CS, Ethion 50%EC, Imidachloprid17.8%SL , check against various insect-pests of soybean. Results showed that Alika247zc @ 33g ai/ha and Alika247zc @27.5g ai/ha successfully controlled the populations of defoliators. However Thiamethoxam 25%wg @25g ai/ha, Lambdacyhalothrin 4.9% @ 15g ai/ha, Ethion 50%EC @750g ai/ha and Imidacloprid17.8%SL @20g ai/ha show slight toxicity against this pest while Alika247zc @ 22g ai/ha showed very low toxicity towards defoliators.

Keywords: Soybean, insect-pests, alika, thiamethoxam, lambdacyhalothrin, ehtion, imidachloprid.

ISCA-ISC-2014-Poster-1AFS-07

Monitoring of wastelands of Faridabad district, Haryana through space technology

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Abstract: The increasing population pressure, urbanization and industrialization have put a great stress on our natural resources resulting in decrease in agricultural area. To cater the needs of ever increasing population explosion for food, fibre, shelter, fuel and fodder, the natural resources have been over exploited causing land degradation and ecological imbalance. So, there is an urgent need to identify and reclaim these degraded lands in the country. Therefore three seasons IRS-IC/ID LISS-III digital data was used to monitor the various wastelands on 1:50,000 scale in the Faridabad district.The Faridabad district is located between 28°23' N to 28°22' N latitudes and 77°20'E 77°32' E longitudes occupies an area of 764 sq. km. The data reveals that the total wastelands area in the district is 109.62 sq.km. i.e. 14.35 % in 2008-09 and it was 127.63 sq.km, i.e. 16.71% in 2005-06 of the total geographical area. Land with open scrub which is generally prone to deterioration and has scanty vegetation cover occupies relatively high topographic locations. Faridabad is having a huge area under Land with open scrub is 88.34 sq. km. i.e. 11.56 % which was 105.78 sq. km. i.e. 13.85% in 2005-06 of total geographical area.

Keywords: Monitoring, wasteland, Faridabad, Haryana, space technology.

ISCA-ISC-2014-Poster-1AFS-08

Impact of Cadmium on Growth and Photosynthesis in *Cajanus cajan* L.

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Abstract: Thirty days old pot sown plants were treated with 3mM and 6mM Cadmium. Plants were sampled at 7days intervals till its maturity for monitoring the parameters. Dry matter accumulation was severely affected, control plants accumulated dry matter at much faster rate during the vegetative phase, 53.2%, the corresponding values for cadmium treatments were much less i.e. 34.6% and 29.5% for 3mM Cd^{2+} and 6 mM Cd^{2+} respectively. Results of cadmium on the photosynthetic rates expressed on per plant basis were severely affected during the ontogeny of the plant however on per unit leaf area the results indicate that on long term basis, photosynthetic rate was affected initially and afterwards gets adopted the stress. The RuBP carboxylase activity in leaves of cadmium-treated plants was found to be sensitive to Cd^{2+}. The inhibition was maximum at 4 days after the treatment, after this period the recovery in the photosynthesis was observed. The reduction in activity was concentration, duration of treatment and stage of growth dependent. The maximum reduction of 38% was observed with 6mM Cd^{2+} at the flowering stage four days after treatment. The corresponding reduction at the flowering stage was 15%. Significant reductions of chlorophyll-a and chlorophyll-b were both observed. But the influence was short lived and observed only up to 60DAS.

Keywords: Photosynthesis, cadmium, chlorophyll, dry matter, RuBP carboxylase.

ISCA-ISC-2014-Poster-1AFS-09

Introduction of *Nothapodytes nimmoniana* Graham, a camptothecin producing plant to semi-arid region of North Western, India

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Abstract: *Nothapodytes nimmoniana* Graham, formerly known as *N. foetida* (Wight) Sleumer and *Mappia foetida* Meirs, is a small broad-leaved deciduous tree. It is distributed in southern India, parts of Assam, and in the Himalayan foothills in north India. It yields camptothecin (CPT), an alkaloid known for its anti-tumor activity. Derivatives of CPT, Irinotecan and topotecan, are used to treat colorectal and ovarian cancer. In recent years, because of the enormous demand for the chemical worldwide, there has been an indiscriminate harvest for trade and an estimated 20% decline in the population of this species over the last decade. The species has a threat status of endangered/vulnerable. With the ever increasing demand for camptothecin supply, it is essential to establish a feasible system not only for its conservation but also for a sustainable and economically viable large scale production of CPT. Translocations are increasingly used to aid in the recovery of threatened plant species. This is achieved by augmenting declining populations and supporting species recovery through the establishment of new populations. In the study translocated seedlings as well as locally seed germinated plants of *N. nimmoniana* were raised at Rohtak, in the south west region of Haryana. The climate of Rohtak is drastically different from the historical range area, with sever summer and winters. Comparable meteorological data has been presented. Survivability has been more than 90%. Flowering without seed setting has occurred after three years. Camptothecin the economically important compound in all plant parts is comparable to plants in historical range.
Keywords: *Nothapodytes nimmoniana*, camptothecin, translocation conservation, germination, layering.

ISCA-ISC-2014-Poster-1AFS-10

Variability Assessment in Forage Sorghum [*Sorghum bicolor* (L.) Moench]

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Abstract: The present experiment was carried out with 126 diverse genotypes of forage sorghum including checks i.e. SSG-59-3 and SMU-1, in Randomized Block Design with three replications during *kharif* 2013. Observations were recorded for 24 characters. It was concluded that, magnitude of GCV ranged from 7.10 to 37.19 per cent with 6.5 SD and was high (> "mean + SD" i.e. 20.92) for stem juiciness (37.19). The magnitude of PCV ranged from 10.23 to 50.57 with SD of 9.40 and was high (mean + SD, i.e. 34.2) for stem juiciness (50.57). Heritability (h^2) was high (mean +SD, i.e. 54.58) for number of leaves per plant (74.05) and medium (in between mean SD, 54.58 to 15.32) for stem juiciness (54.09). The expected genetic gain was high ("mean +SD", i.e. 29.22) for stem juiciness (54.35). Most selection responsive character was stem juiciness as it was having higher GCV, PCV and genetic gain and moderate heritability (h^2). On the basis of heritability and genetic gain selection criteria based on number of leaves per plant, leaf length leaf breadth, stem juiciness, protein per cent may be useful for further developing good quality and high yielding forage sorghum cultivars.
Keywords: Forage sorghum, variability, GCV, PCV, heritability, and genetic gain.

ISCA-ISC-2014-Poster-1AFS-11

Bio fortification and Bio fortified Crops; A tool of plant breeding to reduce Micronutrient Malnutrition

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Abstract: In the current era world's 3 billion peoples are affecting by micronutrient malnutrition including mainly womens and childrens. One sustainable agricultural approach is to reducing micronutrient malnutrition among people at highest risk globally is to enrich major staple food crops (e.g., rice, wheat, maize, beans, sweet potato and cassava) with micronutrients (iron, zinc, calcium and provitamin A) through conventional plant-breeding strategies or through the use of transgenic techniques, a process known as biofortification and the crops called biofortified. There are many needs, advantages and limitations of biofortification which creates space for its detail study. Three things must for biofortification to be successful- First, the breeding must be successful—high nutrient density must be combined with high yields and high profitability. Second, efficacy must be demonstrated—the micronutrient status of human subjects must be shown to

improve when they are consuming the biofortified varieties as normally eaten. Third, the biofortified crops must be adopted by the target consumars. Some bioavailability issues are there to be overcome. This is the time to do an initial investment on plant breeding relating biofortified crops which can generate high benefits and the biofortified varities with enriched micronutrient become available in world across time at low cost.

Keywords: Biofortification, biofortified crops, micronutrient malnutrition, plant breeding, transgenic, sustainability.

ISCA-ISC-2014-Poster-1AFS-12

Karanj: A Multidimensional Tree for Future

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Abstract: India ranks 6th in terms of consumption of energy, which is 3.5% of the total world's commercial energy. Future projections indicate that there will be a huge gap between demand and supply of fuels like petrol and diesel. It could be met through increasing fuel imports or increasing production of biodiesel through developing biodiesel plantations without sacrificing the food security of the country. There is a need to search for alternative sources of energy which are renewable, safe and non polluting. Amongst the many species, Pongamia pinnata has been found to be one of the most suitable species in India. It is tolerant to harsh climates. The success of P. pinnata as a sustainable source for the production of biofuels depends on the extensive knowledge of the genetics, physiology and propagation of this legume.

Keywords: Biodiesel, bioenergy, fuel, karanja, natural resources.

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Effect of culture filtrate metabolites of *Bipolaris maydis* isolates on maize and wheat seedlings causing maydis leaf blight of maize

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Abstract: Seven isolates of maydis leaf blight pathogen *Bipolaris maydis* were recovered from diseased maize leaf samples collected from six districts of Southern Rajasthan- Udaipur, Dungarpur, Banswara, Bhilwara, Chittorgarh and Kota. To test the production of toxic metabolites and negative effect of each isolates of *B. maydis* were separately grown on liquid "Asthana and Hawker's media" and were studied by artificially inoculating maize and wheat seedling using various bioassay techniques (Sandik *et al.,* 1983). Effect of culture filtrate on seed germination and inhibition, of elongation of primary roots and plumule of seedlings, surface sterilized seeds of maize cultivars PEHM -2 and Pratap Makka-5 were pre-soaked separately in culture filtrates of each isolates for 24 hr and grown by using standard blotter test method. Effect of culture filtrates on maize germlings (just after initiation of radical) and on 3-4 week's old maize and wheat seedlings were raised under sterilized condition with each isolates inoculations (Sandik *et al.,* 1983). Observations with respect to number of seeds germinated, length of radical and plumule, leaf chlorosis along with wilting and curling symptoms were observed and recorded in each case after 7 days of incubation on young maize and wheat seedlings. Results revealed that all seven isolates were found to produce toxic metabolites in liquid media and showed negative effect and variable pathogenic potential in all bioassay tests. Culture filtrates of isolate *B. maydis* from Udaipur -HKI-141and Banswara -white local were rapidly caused wilting and showed chlorosis symptoms with maximum disease rating (4.0) and maximum % reduction in weight 65.6% and 47.9% in maize and 50.0% and 44.5% on wheat respectively. The wilting and chlorosis in maize and of wheat seedling suggested that the culture filtrates had metabolites which are toxic in nature. It has been also reported that a low concentration filtrate of *B. maydis* race "T" produced toxin enhanced peroxidase activity in maize leaves and changes in peroxidase activities were related to the disease resistance in maize. (Zhai *et al.* 2004). These findings suggested that more isolates of *B. maydis* were tested for their toxin production properties and such toxins has been utilized to screen varieties against this pathogen in laboratory.

Keywords: Effect, culture, filtrate, metabolites, *Bipolaris maydis,* isolates, maize, wheat, seedlings, maydis, leaf blight, maize.

ISCA-ISC-2014-Poster-1AFS-14

The prospects of summer Mungbean cultivation in Punjab state, India

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Abstract: Pulses are important for nutritional security and for alleviating malnutrition among the poor masses. There are many pulses grown in India, however, Mungbean is an important pulse among them because of its high nutritious value

and protein content. In Punjab, the predominance of rice-wheat system has declined the area and production of pulses substantially. The present study focuses on the prospects of summer mungbean cultivation in Punjab state. A multistage sampling design was used to select 70 farmers from ten villages in five selected clusters for the study. The findings revealed that a little less than 50 per cent of the farmers were willing to keep the area constant under summer mungbean cultivation while 10 per cent of them wanted to discontinue summer mungbean cultivation. It was noted that there was a positive difference between the present status and willingness to go for value addition of summer mungbean produce. It was found that mass media exposure and family members engaged in summer mungbean cultivation were significantly associated with prospects of this crop. It was suggested that farmers need to be encouraged for this crop through contract farming, ensured procurement of the produce and establishment of small scale enterprises for grass root level value addition and processing of summer mungbean.

Keywords: Prospects, summer mungbean, mass media exposure, value addition, association, contract farming.

ISCA-ISC-2014-Poster-1AFS-15

Application of Conjoint Analysis in Extension Research

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Abstract: Extension research is basically non-experimental or descriptive in nature. Extension research in India mainly faces two major challenges, namely inadequacy of research and poor professional standards. Conjoint analysis has become one of the most widely used quantitative tools in marketing research. When used properly, it provides reliable and useful results. Conjoint analysis was first used to assess the commercial appeal of consumer goods in marketing and business research and was later adopted by environmental and agricultural economists and extension education. Conjoint analysis is a statistical method used for quantifying farmers' preferences of a particular technology. It estimates the farmers' "perceived utility" of a particular varietal attribute, and provides us with an ideal variety combining the preferred varietal attributes in a systematic way. Conjoint analysis has four data collection method like full profile conjoint, adaptive or hybrid conjoint, choice-based conjoint and menu based conjoint method. Among the alternative attributes few are selected in research study based on focus group discussion and discussion with experts. Attributes of the product are further classified in levels. Respondent are allow to give preference on card which have pictoral or attributes level description type of stimuli representation. Further data were analyzed by using different model like logit, probit model and part worth utilities model. It is used to estimate the utility of attributes and difference among the utility of most preferred and less preferred attributes. If someone wishes to conduct a farmers attribute preference study, they can directly employ the steps in conjoint analysis for conducting research.

Keywords: Attribute, Attributes level, ACA (adaptive conjoint analysis), MBC, CBC, Utility, Preference etc.

ISCA-ISC-2014-Poster-1AFS-16

Proteomics Approaches to Study Host Pathogen Interaction

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Abstract: Proteomics is the branch of functional genomics which deals with the study of proteins along with analysis that have genetic read out (mRNA analysis and Genomic analysis). Genomic studies integrated with protein studies confirm the existence of particular gene. Advances in Mass Spectrometry, Nucleotide sequencing information combined with computational algorithm, chip based approaches and genetic approaches lead to the emergence of proteomics as a field. Different approaches in proteomics include protein extraction and then separation of proteins either by Gel based method (Two Dimension Gel Electrophoresis, Two Dimensional Fluorescence Difference Gel Electrophoresis) or Non Gel based method (Isotope Coded Affinity Tags, Isobaric Tagging for Relative and Absolute Quantification, Stable Isotope Labelling by amino acid in Cell culture, Multidimensional Protein Identification Technique) and then quantification and identification using Mass Spectrometry and database comparison. Plant serves as a host for wide range of pathogen. On the basis of maintaining effective defence response towards pathogen, there are two types of plant-pathogen interaction namely compatible and incompatible interaction. In both type of interaction several defence related and biotic stress response proteins are induced but their extent to provide defence is different. Proteomics help in studying plant–virus, plant-fungus, plant-bacteria, plant-nematode interaction in detail to identify proteins produced in both compatible and incompatible interaction and to sort out the protein with differential expression.

Keywords: Proteomics, approaches, study, host, pathogen, interaction.

ISCA-ISC-2014-Poster-1AFS-17

Evaluation of Horticulture Supervisor Training (HST) Course Organized by Department of Horticulture, PAU, Ludhiana, India

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Abstract: Department of Horticulture is responsible for organizing HST course about various aspects of horticulture crops including fruits, vegetables and floriculture. The present study was conducted to know the gain in knowledge of the trainees after the HST course, problems faced by the trainees during the HST course and their suggestions for further improvement in the future HST course. A list of trainees of HST course was obtained from the department of horticulture, PAU Ludhiana for the year 2010-11, 2011-12, and 2012-13. All the trainees during this three year were the respondents of this study. A knowledge test was prepared to know the knowledge level before and after the HST course. The data were collected with the help of interview schedule which included the items to measure the problems faced by the trainees and their suggestions for future improvement in HST course. The findings of the study reveal that majority of the trainees gained knowledge between 60 to 80 per cent over their pre-training knowledge level. The major problems expressed by trainees during the training course were non-distribution of notes of the course content to be taught, insufficient seating arrangements during practical, poor transport facilities, the trainees also faced problem in speed and pitch of the presentation. Majority of the trainees suggested that there is need to increase in the duration of training, need to distribute the written materials before the lecture, and relevance of the course content to the field problems. Regarding audio visual aids trainees suggested that availability of soft copies of the slides used by the trainers while teaching the trainees, improvement needed in the quality of slides (clarity, simplicity and use of illustrations, Provision of mike in the classroom, Permanent availability of LCD projector in the class room.
Keywords: Evaluation, HST, gain in knowledge, problems, suggestions.

ISCA-ISC-2014-Poster-1AFS-18

Gene Pyramiding Approach for Improvement in Quality Traits and Resistance to Biotic Stress in Crop Plants

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Abstract: It is general article. Gene pyramiding is a commonly used method used in breeding to assemble multiple desirable genes into a single genotype. The main use of gene pyramiding is to improve an existing elite cultivar through introgression of a few genes from other sources. Traditionally, it is carried out by several methods like pedigree breeding, backcross breeding. But it is time consuming, having linkage drag and extremely difficult to achieve targeted objective. Genes are deployed in same plant one after other. These problems are fulfilled by modern technique in which Genes are deployed in same plant at a time. It is time saving process. Marker assisted selection and transgenic techniques are most common ways to accumulate multiple genes into single genotype. Marker-based selection eliminates extensive phenotyping, provides more effective options to control linkage drag, makes it with very similar phenotypic effects possible, and reduces breeding duration. It is used for traits which are simply inherited but difficult to measure phenotypically. It is used traits with low heritable. Success of gene pyramiding depends upon several critical factors like number of distance between target genes and markers, number of genotype selected in each breeding generation, nature of germplasm etc.
Keywords: Gene Pyramiding, conventional breeding, MAS technique, transgenic method, marker.

ISCA-ISC-2014-Poster-1AFS-19

Farmers' Rights- A boon to Indian farmers

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Abstract: India is among the first countries in the world to have passed legislation granting Farmers' Right in the form of the protection of plant varieties and Farmers' Right Act, 2001. India's experience is important due to its international contribution to negotiations on farmers' rights, its position as a centre of biodiversity and the complexities of agriculture in India within which the country is attempting to implement these rights. India's law is unique not only because of its far-reaching rights for farmers, but also in that it simultaneously aims to protect both breeders and farmers. Farmer's Rights refers to the rights arising from the past present and future contributions of farmers in conserving, improving and making available plant or animal genetics resources, particularly those in the centers of origin/diversity. The Act recognizes the farmer not just as a cultivator but also as a conserver of the agricultural gene pool and a breeder who has bred several successful varieties. There are provisions for such farmer's varieties to be registered with the help of NGOs or institutions so that they are protected against being scavenged by formal sector breeders.
Keywords: Farmers, rights, boon, Indian farmers.

ISCA-ISC-2014-Oral-2AVFS-01

Effect of dietary Supplementation with different Oils on Egg Quality of Japanese quail (Coturnix coturnix japonica)

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Abstract: This experiment was performed to investigate the influence of different oils in the diets of laying quail on their egg quality characteristics. One hundred and twenty 7-wk old Japanese quails (Coturnix coturnix japonica) were allocated to four groups with three replicates containing 10 quail each (30 quail per each treatment group). They were fed for 13 weeks (including one week of adaptation period) on diets containing 3% oil from different sources, viz. either sunflower (T1), linseed (T2), maize (T3), or fish oil (T4). Inclusion the diet of laying quail with fish oil (T4) and maize oil (T2) resulted in significant increase with respect to egg weight, yolk weight, albumen weight, yolk diameter, yolk height, albumen diameter, albumen height, shell thickness and Haugh unit during all periods of experiment and in total means of these parameters. However, the addition of different oil sources used in this experiment to quail diets did not significantly affect total means of shell weight, relative weight of albumen and relative weight of shell, while total means of relative weight of yolk, yolk index, and albumen index were higher in the birds receiving diets containing fish (T4) and maize (T2) oil than in other treatments (T1 and T3). The results of this experiment clearly demonstrated that supplementation the laying quail diet with fish and maize oil improved most criteria of egg quality. Therefore, incorporation of fish and maize oil into the diets of Japanese quail may have practical value in manipulating egg quality.
Keywords: Different oil sources, Japanese quail, egg quality.

ISCA-ISC-2014-Oral-2AVFS-02

Checklist of Ichthyofauna and socio-economic condition of fresh water reservoir Majalgaon Dam in Maharashtra State, India

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Abstract: Majalgaon Dam it's a second stage of Jayakwadi Project of Nath Sagar was constructed on the River Sindphana which is a tributary of River Godavari, in Beed District (Maharashtra, India) in 1987. The River Sindphana has been under constant threat of pollution by sewage and industrial wastes, disposal of dead bodies, deforestration, excessive use of fertilizers and pesticides, bathing and water development programmes. The dam has a catchment area is 3840 sq. km. It is of great Importance for the region because its water is used for human and cattle consumption, power generation, fish production and irrigation. A total of 24 species of phytoplanktons, 24 species of zooplanktons and 16 species of fishes were identified. i.e. Catalacatla, Cyprineus Corpio, Labeo Rohita, Silver Carp, Mrigal, Barbus, Ticto, Ophiocephalous, Mestembaleusarmatus, Wallagoattu Channamarulius, Labeocalbasu, Clariusbatracus, Mystuscavasius, Chnnapunctatus, Channaorientalis. etc. Water quality of the dam was also studied for physico-chemical parameters including total dissolved solids, dissolved oxygen, free CO_2, BOD, COD, and total hardness etc. for one year (June 2011 to May 2012). Results reveled that water quality is normal and favorable for the cultivation of fishes.
Keyword: Limnology, fish production and socio-economic condition of fisherman.

ISCA-ISC-2014-Oral-2AVFS-03

Acute toxicity of 4-nonylphenol on Haemotological profile of fresh Water Fish Channa Punctatus

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Abstract: The present study was done to evaluate surfactant induced stress symptoms in fish blood due to acute exposure of sublethal concentration of 4-nonylphenol. 4-nonylphenol is a non-ionic surfactant which is ubiquitous, persistent and bioaccumulative. The effect of 4-nonylphenol on various haematological parameters was evaluated by exposing Indian fresh water fish Channa punctatus to 4-nonylphenol. LC50 was determined in semi static system. Fish were exposed to sub lethal concentration of 4-nonylphenol 0.158mg/l (1/8 of LC_{50}) for 24, 48, 72 and 96 h of exposure periods. A significant decrease in haemoglobin (Hb) from 10.67 to 6.16 %, red blood cells (RBCs) from5. 75 to 4.52 × 10^6/ mm^3 and packed cell volume (PCV) from 35.33 to 24.50 after exposure. Sub lethal concentrations of this compound caused a dose dependent decrease in haemoglobin values coupled with a decrease in haemocrit value and red blood cell counts. The total white blood cells count (WBCs) increased from 4.15 to 6.73 × 10^3 and the increase was significant when

compared to control. So from the present study it can be concluded that NP alter the haematological parameters of fish Channa punctatus.

Keywords: Haematology, Channa punctatus, 4-nonylphenol.

ISCA-ISC-2014-Oral-2AVFS-04

Changes in the Histology of Oreochromis Niloticus Liver Fed Crude Extract of Azadirachta Indica Saponins

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Abstract: The effect of sub-lethal concentrations of crude extract of Azadirachta indica saponins on the liver of Oreochromis niloticus was investigated. One hundred and eighty fish were divided into 6 groups (represented by O, A, B, C, D and E) were fed for 56 days with varying sub-lethal concentrations of A. indica saponins (0.5, 1.0, 2.0, 4.0 and 8.0 g/kg with 0.0 g/kg as the control) incorporated into basal diet. The withdrawal effect of A. indica saponins was also investigated after 28 days of feeding all the fish with the control diet. Liver were sectioned into 6 µm using standard procedure for tissue sectioning. Fish fed varying concentrations varying concentrations of A. indica saponins, gradual increase in rodlet cells around the vein, dilation of the veins and thickening of the hepatocytes were observed in the liver, as the concentrations increase from 0.5 to 8.0 g/kg with. Withdrawal effects shows gradual decrease in the rodlet cells, gradual splitting of each vein into two and slight distortion in the wall of the vein were also observed. The changes observed in the vein as a result of withdrawal of A. indica saponins could be processes towards reverting to the normal shape. This study infers that, withdrawal of A. indica saponins may gradually reverse the effects on fish especially at lower concentrations.

Keywords: Effects, extracts, rodlet cells, saponins.

ISCA-ISC-2014-Oral-2AVFS-05

Assessment of Wild Ungulate Population and Their Conservationalthreats in the Thar Landscape of Rajasthan, India

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Abstract: Thar Landscape is a unique arid ecosystem and It also called the "The Great Indian Thar Desert" which is situated between 22°30' N to 32°05'N and 68°05' E to 75°45'E. It is a home to the endangered wild ungulate species Blackbuck (Antelope cervicapra) and Chinkara (Gazellabennetti) in Rajasthan. The populations of wild ungulates have been declining due to an alarming increase of anthropogenic pressure in their habitats over the last few decades. The field survey was conducted August 2009 and July 2010through road and line transects. During present study, the highest population density of Blackbuck 3.07 indivi /sq.km was found in Jodhpur district and followed by Nagaur district 2.33 indivi/sq. km and the highest population density of Chinkara (2.3 indivi / km²) was found in Jodhpur district and followed by Bikaner district (2.04 indivi / km²), which may be due to availability of good habitat but the feral dogs caused the highest blackbuck mortality about 45% and 35% chinkara death and the road accidents caused 24% chinkara and 15 % blackbuck mortality. Due to destruction of habitats, increase feral dog, human and livestock population in their habitatsconsequently the wild ungulates have being declined harshly.

Keywords: Assessment, wild ungulate population, conservationalthreats, thar landscape.

ISCA-ISC-2014-Oral-2AVFS-06

Chlorpyrifos-induced DNA damage in rat liver and kidney

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Abstract: Extensive use of pesticides in crop protection and for household purposes has resulted in their widespread distribution in the environment causing worldwide contamination. Chlorpyrifos is an effective organophosphate pesticide used heavily throughout the world for agriculture and domestic purposes. The main target of OP pesticides is acetycholinestrase (AChE), which hydrolyses acetylcholine (Ach) in cholinergic synapses. The present study was undertaken to test the in vivo genotoxic potential of CPF in rats. For the purpose LD_{50} was determined and 1/4 LD50 (38mg/kg b.wt) dose was selected for treatment. Brain and liver samples were taken from control and treated groups

after 24hrs, 48hrs and 72hrs. The result of the study clearly indicated that exposure to chlorpyrifos induces significant increase in DNA damage of rat brain and liver and response was time dependent. Thus, it can be concluded that CPF exhibits genotoxic potential in vivo.

Keywords: Chlorpyrifos, Genotoxicity, Comet Assay, DNA damage, Brain, Liver.

ISCA-ISC-2014-Oral-2AVFS-07

Growth performance of Guppy fry fed on diets contain Jack fruit seed meal as partial Replacement of Fishmeal

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Abstract: A 42 day feeding trial was carried out to evaluate the use of Jack seed meal as a partial replacement of fishmeal (FM) on the growth performance of Guppy (Poecilia reticulata) fry. Control diet (CD) contained 30% FM, whereas in the other four diets the fishmeal component was replaced by 3% (3JD), 6% (6JD), 9% (9JD) and 12% (12 JD) using Jack seed meal as the alternative feed ingredient. Guppy fry (0.15±0.00 g; 2.47±0.02 cm) (27 days old) were stocked in 15 glass tanks (60 × 30 × 30 cm) at a rate of 12 fry per tank and each diet was fed thrice a day. Total length, weight, Specific Growth Rate (SGR), Feed Conversion Ratio (FCR), Hepatosomatic Index (HSI), Food Consumption Ration (% body weight/day), Condition Factor (CF) and % survival rate were evaluated at the end of the growth trial. Fish fed with CD had significantly higher body weights (0.46 ± 0.02 g) and SGR (2.75 ± 0.14) compare to those of fish fed with other four diets. Comparing with substituted diets second highest body weight (0.43 ± 0.01 g) and SGR (2.47 ± 0.09) from fish fed with 6JD. The Food consumption ration, HSI and % survival rate among treatments were not significantly different. When comparing with the substituted diets fish fed on 6JD showed better growth. Therefore it can be suggested that replacing FM with 6% of Jack seed meal resulted in a comparable growth and feed performance of guppy without any adverse effect.

Keywords: Guppy, Fishmeal, feed intake, Jack seed powder meal, Condition factor.

ISCA-ISC-2014-Oral-2AVFS-08

Ameliorative Potential of cur cumin against Cadmium chloride induced Chromosomal toxicity in Swiss albino mice

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Abstract: Cadmium, a highly toxic heavy metal, is a known carcinogen, clastogen and a mutagen and it poses severe risk to human health. In contrast to the activity of cadmium, curcumin the yellow coloured polyphenolic super antioxidant derived from powdered rhizome of Curcuma longa is useful in various debilitating conditions , viz cancer inflammation, ulcers pain etc. Hence, the aim of the present experimental design was to assess the ameliorative potentialof curcumin against cadmium chloride induced genotoxicity.The first experimental group was administered only cadmium chloride (50mg/kg/animal). The subsequent experimental group was administered curcumin (10mg/animal/day) for 15 days and on the 16th day cadmium chloride (50mg/kg/animal) was administered. For each experimental group a parallel control group was maintained. It was observed that in animals treated with only cadmium chloride there was a significant decline in mitotic index. The aneugenic property of cadmium chloride was distinctly discernible, besides other chromosomal aberrations such as polyploidy, terminal deletions and breaks were also observed. In comparison an elevation in mitotic index equivalent to control group was discerned in animals pre- treated with curcumin.In the group treated with cur cumin and cadmium chloride, an overall decline in the mutation rate was discerned clearly indicating the ameliorative potential of curcumin.

Keywords: Curcumin, cadmium chloride, metaphases, chromosomal aberration, aneuploidy.

ISCA-ISC-2014-Oral-2AVFS-09

Isolation of Interleukin-8 of Asian Elephant by Polymerase Chain Reaction

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Abstract: Interleukin-8 (IL-8) is a CXC chemokine, produced by monocytes/macrophages, ûbroblasts, vascular endothelial

cells, mast cells, epithelial cells, and a wide variety of tissue cells, upon exposure to inûammatory stimulants. The development of molecular biology techniques have, recently enabled the identiûcation of cytokine genes. Although, the molecular structure of Interleukin-8 has been determined in many vertebrate species but no information is available about Asian elephant IL-8. The present study describes the isolation of IL-8, in elephant by polymerase chain reaction (PCR). For this investigation, PBMCs were isolated from elephant using Histopaque and cultured in RPMI 1640 medium containing 10% heat-inactivated fetal bovine serum, 100 U/ml penicillin and 100 ng/ml streptomycin. Cells were stimulated with Concanavalin A for 12 h. Total RNA was isolated from Con A-stimulated PBMCs and subsequently cDNA was synthesized by reverse transcriptase (ProtoScript M-MuLV First Strand cDNA Synthesis Kit). Primers were designed based on Bos taurus (cattle) Interleukin-8 sequence for specific amplification of Interleukin-8 gene of Asian elephant. The IL-8 gene was successfully amplified from cDNA using Taq DNA polymerase and was identified on size homology with that of ovine IL-8 gene in agarose gel electrophoresis i.e. 305 bp. The identification of this cytokine gene would be useful for the analysis of up and down regulation of cytokine genes in various infectious diseases of elephant. Further, this study on elephant IL-8 would give a valuable insight into the control of diseases.

Keywords: Isolation, Interleukin-8, Asian elephant, polymerase chain reaction.

ISCA-ISC-2014-Oral-2AVFS-10

Histopathological Study of Ptychobothriidan Tapeworm in Freshwater Fish Mastacembelus Armatus (Lecepede, 1800) from Aurangabad District, MS, India

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Abstract: The freshwater fish Mastacembelusarmatus (Lecepede, 1800) collected from Aurangabad districtduring the period of June 2013 to May 2014 and after dissection their intestinal passage was examined for cestodeparasite. The tapeworm Senga sp.(Dollfus 1934) was recovered from intestine. Histopathological study has been made to assess the extent of damage caused by the parasite. Histologicalchanges include destruction and extrusion of the intestinal villi, fibroblast cell and plasma cell.

Keywords: Histopathology, Senga sp., mastacembelusarmatus, intestinal villi.

ISCA-ISC-2014-Oral-2AVFS-11

Functional morphology of the Kidney in the Lizard *Eutropis carinata*

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Abstract: Histometrical and histochemical features of the kidney of the lizard, *Eutropis carinata,* were studied during breeding season (Oct.-Dec.) of the reproductive cycle. The histological picture shows Bowmans capsule (BC), a component of renal corpuscle with large capsular space lined by squamous epithelial cells; Proximal convoluted tubules (PCT) lined by cuboidal cells with well developed brush borders projecting towards lumen; Distal convoluted tubules (DCT) lined by columnar cells without brush borders and some of them modified into an accessory reproductive structure called renal sex segment(RSS) loaded with secretory granules and collecting ducts (CD) lined with low columnar cells with larger lumen. Histometrically, the diameter and epithelial cell height of BC, PCT, DCT and CD varies significantly suggesting their uniqueness in structural organization. Histochemically, the kidney tissue and the secretory granules of RSS show positive reaction for proteins and carbohydrates; and negative for lipids.

Keywords: Functional, morphology, kidney, lizard, *Eutropis carinata.*

ISCA-ISC-2014-Oral-2AVFS-12

Influence of Environmental Factors on Population Density of Insect Parasitic Nematodes

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Abstract: In nature the distribution and abundance of animals are determined by the combined effect of different components of the environment. The most striking feature of Parasitology is the diversity of parasites in the warm

tropical regions and the frightening levels of debilitation and misery they cause. It has been observed that weather components, such as temperature and moisture are the most important factors influencing the numbers and distribution of many populations and specific diseases. Studies on population dynamics and seasonal variation of nematodes parasitizing *Periplaneta* americana, *Stylopyga* and *Strategus (rhinoceros* beetle) have been carried out and the data was analyzed statistically and correlated with various environmental factors for determining the relationship of prevailing environmental conditions with population dynamics of insect parasitic nematodes. Statistical analysis revealed that population density and index of infestation are positively correlated with temperature and negatively correlated with relative humidity. Seasonal changes in the population density have also been observed which reached its peak during the autumn and was least during winter. Incidence and index of infestation increased with an increase in temperature up to a certain limit whereas the population density was highest at moderate environmental conditions and dropped down at both the extremes of temperature.

Keywords: Nematode, insect, parasite, seasonal variation, population dynamics.

ISCA-ISC-2014-Oral-2AVFS-13

Comparative Study of Karyotype of three species of *Funambulus (Trirtriatus, Palmarum and Pennanti)*

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Abstract: Genus Funambulus, made by Lesson 1835, Comprises the Indian stripped squirrels. This genus is mainly confined to Indian territory, How ever few species are also found in Sri Lanka, Northward to Baluchistan, Nepal Tarai and South East Pasria. The comparison of the Karyotypes of these three species will make it possible to trace the phylogeny and to discuss the interrelationship. This will also unalbe to propose the mechanisms involved in Karyotype variation and evolution of these species. For determination of somatic chromosome number (2N) of the individuals a minimum of 100 good somatic metaphase plates were observed. The metaphase spread having good morphology of chromosomes was photographed with Carl Zeiss photomicroscope at the initial magnification of 400X. The morphometric data were calculated from measurements of individual chromosome from five arranged Karyotype of each species. The somatic number of F.t. tristriatus and F.P. bellaricus were 2N = 46 with 13 pairs of meta and submetacentric chromosomes and 9 pairs of acrocentric chromosomes. On the other hand the somatic chromosomes number in F.p. pennanti was 54. Here the number of metacentric and sub-metacentric was 9 pairs. But the number of acrocentric pairs was increased, it was 17. The fundamental number of chromosome NF was 70 in all three species. It was speculated that chromosome rearrangement in few outosomes chromosome could result the variation in somatic chromosome number. The increase in chromosome number may be the result of Robertsonian centric fission of four biarmed pair of chromosome. This is supported by the corresponding increase of acrocentric chromosome. The Karyotype of F. Tristriatus, F. palmarum and F. pennanti also bring some interesting points of interrelationship of genus funambulus, F. tristriatus with 2n = 46 (NF 70) can be presumed as ancertral species which give rise to F.pennanti.

Keywords: Comparative, study, karyotype, three, species, *funambulus.*

ISCA-ISC-2014-Oral-2AVFS-14

Ichthyofaunal study of Satak reservoir from Bamandi village Kasrawad tehsi District Khargone, MP, India

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Abstract: In present survey was undertaken to study the Ichthyofaunal diversity of Satak reservoir Bamandi village. Ichthyofaunal survey was conducted from July 2013 to June 2014 by using different nets and gears with the help of local fishermen. About 26 fish species were recorded in this reservoir which are belongs to 5 orders and 9 families. The family Cyprinidae was most dominated group of fishes. The study of the Ichthyofauna in reservoir is useful for planning of fisheries development and our national economy.

Keywords: Bamandi village, Ichthyofauna, importance.

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Impaired mitochondrial Functions and Oxidative stress following Arsenic induced Neurotoxicity in Rats

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Abstract: The present study was undertaken to reveal the effects of chronic arsenic exposure (25ppm intragastrically for 12 weeks) on mitochondrial functions and oxidative stress in male Wister rats. Chronic arsenic exposure resulted in impairment in the activities of mitochondrial complexes. There was increased generation of ROS followed by decrease in MnSOD activity. The generation of oxidative stress was associated with increased protein oxidation and lipid peroxidation in rat brain as evident by FTIR spectra. The RT-PCR analysis revealed decrease in the genes associated with mitochondrial transcription suggesting decreased biogenesis following chronic exposure in rat brain. Thus, the findings of the present study reveal that arsenic induced decrease in mitochondrial biogenesis may be involved in the generation of oxidative stress in rat brain that is responsible for the progression of neurodegeneration.
Keywords: Impaired, mitochondrial, functions, oxidative, stress, following, arsenic, induced, neurotoxicity, rats.

ISCA-ISC-2014-Oral-2AVFS-16

Ultrastructure of *Cotylophoron Cotylophorum* (Trematoda) of Buffalo in Rajsamand District, Raj. India

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Abstract: *Cotylophoron Cotylophorum*is endoparasites cause paramphistomiasis disease causes loss of life of cattle, loss of productivity of buffalo and health of human being throughout the world. The *Cotylophoron Cotylophorum*were collected from infected parts of rumen of Buffalo at local zoo abattoir and various slaughtered houses in Rajsamand. The infected part of rumen from time to time was brought to the laboratory and *Cotylophoron Cotylophorum*were washed several times in the tap water and they were transferred into 0.9% physiological saline, fixed in hot AFA for species identical and few fixed 12 hrs at 4°C in glutaraldehyde in sodium cacodylate buffer at pH 7.2 fixative in fixative for electron microscopy. Electron microscopy has proved to be a very helpful instrument in the study of all type of parasite. Since it has been invented a lot of information has accumulated in different aspects of biology.The SEM photomicrograph revealed that the body of adult *Cotylophoron Cotylophorum*in conical shape and the anterior end narrow and the posterior being broad. It has two suckers, an anterior oral sucker and a posterior larger ventral sucker.The above result indicates that infection of *Cotylophoroncotylophorum*parasite in water buffaloes is major problem for the cattle farmers of Rajsamand.
Keywords: Ultrastructure, *Cotylophoron Cotylophorum,* Buffalo, Rajsamand.

ISCA-ISC-2014-Oral-2AVFS-17

Effect of mating behavior, body size variations and flight adaptations on sexual size in *Drosophila melanogaster*

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Abstract: Eight populations of *Drosophila melanogaster* were investigated for four behavioral traits (i.e. ovariole number, fecundity, copulation duration and mating latency) and three size related traits (i.e. thorax length, wing length and wing width). Wing loading was calculated by using wing and thorax dimensions. Wing loading and size dimorphism were found to be positively correlated with each other and both were negatively correlated with the latitude of origin. Copulation duration was also found to be positively correlated with the latitude of origin. Mating latency and copulation duration were negatively correlated with each other. It is assumed that the larger females were adapted along the latitude due to fecundity advantage whereas the small size of males was due to reduced male-male competition and higher wing loading leading to larger mating latency and shorter copulation duration.
Keywords: Sexual size dimorphism, copulation duration, mating latency, body-size variations, *D. melanogaster.*

ISCA-ISC-2014-Oral-2AVFS-18

16S rRNA sequence based Phylogenetic Relationships among Calyptrate Diptrans

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Abstract: Ribosomal genes have been studied intensively due to their critical role in protein assembly. As a result of their universal occurrence, abundance, sequence and structural conservation, they have been used for phylogenetic studies. Sequencing of 16S rRNA gene has been used as marker to unravel genetic relatedness among five calyptrate species *viz., Hemipyrellia pulchra* (Weidemann), *Lucilia cuprina* (Weidemann), *Chrysomya megacephala* (Fabricius), *Musca domestica* (Linneaus) and *Atherigona orientalis* (Schiner). 554 bp long 16S rRNA gene was amplified, sequenced and the sequences were aligned with Clustal X software. Nucleotide ratio, variable and parsimony informative sites and nucleotide pairwise distances were calculated by MEGA 5 software. The gene sequence of 16S rRNA amplicon revealed 61 variable and 31 parsimony informative sites. The average nucleotide composition was T=40, C=11, A=34 and G=15 and the transition bias was 0.45. Average nucleotide pairwise distance ranges from 0.022 to 0.085. The phylogenetic relationships derived from Neighbour Joining (NJ) and Maximum Parsimony (MP) methods, using *D. yakuba* as an out group indicated close genetic relationships among the five calyptrate dipterans and group *H. pulchra* and *L. cuprina* as a separate group of calliphorids along with *C. megacephala* while *M. domestica* and *A. orientalis* form another lineage of muscids.

Keywords: 16S rRNA, mitochondrial, calyptrates, phylogenetic, MEGA 5

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Asynapsis in polytene chromosomes of Sarcophagids

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Abstract: It is well known that the transposition of genes to a new location reflect the effect of its expression. The polytene chromosomes in dipterans provide an opportunity to assess the expression of genes in terms of puffing. Among dipterans in sciarids several examples of asynchronous puffing, asynaptic regions and band polymorphism have been observed. In the present study we report cases of asynchronous puffing and asynaptic regions in foot pad polytene chromosomes of *Sarcophaga ruficornis* (Sarcophagidae: Diptera). The findings in relation with the polymorphism will be discussed.

Keywords: Polytene chromosomes, asynchronous puffing, asynaptic region, diptera, *Sarcophaga ruficornis.*

ISCA-ISC-2014-Oral-2AVFS-20

Epidemiological Status of Fasciolosis in Domestic Ruminants in Punjab, India

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Abstract: The epidemiology is an integral part of the disease surveillance and monitoring. The complex factors may affect the epidemiology of the disease in certain areas. Fasciolosis occurs in domestic animals in several parts of the world and is particularly common in India, but even then our knowledge of the incidence and intensity of infection is far from complete as there are no figures for several states. Fasciolosis in domestic ruminants constitute a major group of disease of considerable significance in several areas of the country including Punjab. The disease is caused by massive infection of liver tissues and considerable mechanical destruction in hepatic cells which is characterized by the feeding of parasites on hepatic cells and haemorrhage with high morbidity and mortality in domestic animals. The waterlogged areas are more conducive for propagation of the disease. The snails occur during and after monsoon shed cercariae, which encyst on the grass and eaten by sheep, goats, cattle and buffaloes resulting into severe outbreaks in postmonsoon and winter months. A total of 2628 faecal samples (651 cattle, 1608 buffaloes, 213 sheep and 156 goats) were collected under DST sponsored project from different village(s)/area(s) of the district of Punjab (Amritsar, Bathinda, Faridkot, Fatehgarh, Ferozepur, Gurdaspur, Hoshiarpur, Jalandhar, Kapurthala, Ludhiana, Moga, Patiala, Ropar and Sangrur) and adjoining areas in Jammu (JandK). The samples were screened microscopically for *Fasciola* eggs by sedimentation

methods. The eggs were identified of *Fasciola gigantica* Cobbold parasite. Out of the total, 35 faecal samples (22 buffaloes, 8 sheep, 3 goats and 2 cattle) were found positive for *Fasciola* eggs with an incidence rate of 1.332%. The highest incidence was found in sheep (3.76%), followed by goats (1.92%), buffaloes (1.37%) and cattle (0.31%) in different district of Punjab and other adjoining states. The season wise prevalence rate during the year 2004-05 was highest during winter (2.25%) followed by summer (1.641%), post monsoon (0.59%) while 0.533% during monsoon period. The snail population collected from the bank of the river Satluj and its surrounding bet areas mainly consists of *Lymnea auricularia* and other species of snails. The habitat of these snails was observed mostly in ponds nearby tube wells, paddy fields, other local water bodies and ditches where the dairies are in operation. The paper discusses the epidemiology of fasciolosis in domestic ruminants in Punjab and the information gathered would definitely help in knowing the endemic zones, which may be helpful in formulating the preventive measures.

Keywords: Fasciolosis, epidemiology, ruminants, Punjab

ISCA-ISC-2014-Oral-2AVFS-21

Scenario of Cage Culture Practice in Reservoir/Wetland

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Abstract: India is blessed with an extensive wealth of riverine and lacusturine fishery resources, consisting of wetlands, lakes and reservoirs. Total reservoir area in India is about 31,52,000 ha. Out of this small reservoirs constitute an area of 14,85,000 ha where as medium and large reservoirs cover 5,27,000 and 11,40,000 ha area respectively. Majority of these water bodies are not scientifically managed for the fishery development because the primary objective of creating these reservoirs was to control floods, fulfilling irrigation requirements, generate hydroelectric power and conservation of water for domestic and industrial purposes. Compared to several developed countries and even some of the developing countries, the present fish yield from large and medium Indian reservoir in general is very poor (20 kg/ha/yr) against 88kg/ha/yr in USSR and 100 kg/ha/yr in Sri Lanka. The present fish production from small reservoirs is about 50 kg/ha/yr, which is also much lower than that reported in Sri Lanka (300 kg/ha/yr) and Cuba (100/kg/ha/ya). The reason of the low yield from Indian reservoirs/lakes/wetlands may be due to the low priority laid down on their fisheries development and unscientific technological management. However, over the years, there has been growing realization of the importance of these resources for substantially increasing the inland fish production. In comparison to the fish production from 100 to 300 kg/ha/yr through open water stocking, very high yields of fish even to a level of 100 to 200 tonnes/ha can be obtained by adopting cage culture technologies. Cage culture has become a lucrative business in developed countries such as floating and submerged cage culture of salmonids in Canada, Norway and Scotland; tuna and yellow tails in Japan and catfish in the southern USA. The state of Punjab holds more than 5000 ha of reservoir water bodies (Ranjit Sagar reservoir, Nangal Lake, Harike Barrage and Ropar Barrage). The State also harnesses some other ephemeral flashy streams under watershed development programme in the form of small reservoirs (eg. Dholbaha dam 132 ha, Maili dam 72.87 ha, Damsel dam 68.25 ha, Chohal dam 61 ha, Janauri dam 42 ha and Saleran dam 26.06 ha) to fulfill the demand for irrigation water. The other dam like perch and siswan has also been erected for irrigation purpose. Most of the fish production comes from aquaculture and least from reservoir/wetlands and culture based capture fishes. Theses water bodies particularly reservoirs/wetlands having tremendous potential (100-200 kg/ha/yr) for increasing fish production are still under exploited in respect of fish production. These water bodies can be profitably utilized for yield optimization and to provide environmental sustainability and social equity by adopting novel fish production enhancement technologies i.e. cage culture practice. The present paper discusses the scenario of cage culture practice of economically important species in reservoir/wetland for increasing fish productivity and to improve socio-economic status of fishermen.

Keywords: Cage culture, reservoir, wetland, Punjab.

ISCA-ISC-2014-Oral-2AVFS-22

Impact of Environmental Factors on the Socio-economic Status of Fishermen along the River Ganga at Patna, India

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Abstract: The river Ganga harbours variety of fish species, which have a great nutritive value and are the indicator of ecological condition of river ecosystem, which provides sustenance, and meet protein requirement to local fishermen as well as other riparian population. Degraded water quality, declining trends of commercial and migratory fishes in Ganga. (Viz: Sting ray, Feather back, Hilsa, Indian Major Carps, Gangetic goonch, Freshwater shark, Boal, Silund, Pungas and

Prawn), use of traditional nets and gears (viz: large Dragnet, simple dragnet, various types of Monofilament Gillnets, Lift net, Scoop net, Long-line, Bamboo-barrier trap, and Bachwa fishing with Dolphin oil) are adversely affecting the socio-economic condition of fishermen. Various developmental activities have been accelerated throughout the Ganga basin in recent years which have direct impact on ecology and the fishery and have overall direct bearing on the fishermen community. It appears from the preliminary market survey and recent investigations on the ten landing sites with the help of questionnaire and physical verification on the socio-economic status of fishermen that the fish production in Ganga has declined to lower ebb. The traditional fishing gears and nets are proving to be ineffective, as more manpower is required to get a poor harvest. The survey also indicated that lack of trained fishermen in fisheries sector resulted in low production level. The investigation is surprisingly indicating that some of the important factors viz: low opportunity, low educational level, high family size, scarcity of alternate employment opportunities, declining fish productivity in the Ganges, shifting course of the river, declining water level, total lack of fish culture practice, climatic condition, exploitation by the middle men, use of hired fishing equipments, lack of co-operative development and Government incentives, violation of fishery regulation are very seriously affecting the socio-economic status of fishermen community. The study provides baseline assessment of impact of degrading environment and other related factors on the socio-economic condition of fishermen along the River Ganga near Patna. Ameliorative steps for the rehabilitation of fishermen community has been discussed in the present paper.

Keywords: Socio-economic, fishermen, environment, Ganga.

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Incidence of epigeal Mound-building Termites in Crop fields of Udaipur, India

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Abstract: Termites are exopterygotous, social insects which belong to the order isopteran that build nests in the soil or wood. Termites play an important role in the soil macro fauna. There has been great concern in Udaipur on the part of farmers with regard to the high incidence of mound termites" in field, that is, species whose colonies build epigeal nests in the soil. Depending on the species of termite and the surrounding environment the mounds take on a variety of shape and size and that in colder regions mound may be underground and in arid regions mound may become smaller to reduce water loss. The type of the nest can be associated with the species of termite with such nests classified as ground mound, subterranean pole and tree wood nest. This study aimed to determine the number of epigeal nests, to establish a gradient of mound age and species biodiversity. Twelve Isoptera morphospecies were found within 5 genera, most of them of the Subfamily Macrotermitinae within the genera 1. *Odontotermes* sp.5, 2.*Microtermes* sp.3, Subfamily Amitermitinae within the genera 1.*Microcerotermes* sp.2, 2.*Spinitermes* sp.1, Subfamily Nasutitermitinae within the genera1.*Trinervitermes* sp.1. Distribution of mound were not consistent with most of the mounds are on the boundary of the crop field. The mounds are usually dome shaped, and reaches height up to max. 120 cm. and 11 cm. minimum, with the perimeter of 2m. - 9m.Mounds or the nest are the permanent centre of a colony containing fertile imagoes, eggs, nymphs, worker and soldiers. Mounds also have their own tubular runways which are made up of soil-coating tube, called galleries. In conclusion, this study revealed important termite species infesting crops, live and dead trees. It was also concluded that subterranean termites select field with high moisture level. The findings of this study are very important for termite control studies.

Keywords: Termite, macrotermitinae, *Odontotermes, Microtermes,*Amitermitinae *Microcerotermes, Spinitermes,* nasutitermitinae, *Trinervitermes.*

ISCA-ISC-2014-Oral-2AVFS-24

Diversity of Inland fish fauna of Gujarat, India

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Abstract: Ichthyodiversity refers to variety of fish species. Gujarat has tremendousfreshwater as well as estuarine potential in reference to fisheries.Present work is on Fish diversity. Gujarat is very rich in biodiversity of flora and fauna. Where, fish is one of the very diverse Fauna of Aquatic ecosystems however, documentation of such species is not done in systematic way so far. Documentation is required so that we can use resources and develop aquaculture practices based on knowledge of diversity. Certain fishes are bio-indicators of freshwater ecosystem hence, condition of such ecosystem can be assessed. Gujarat has diverse freshwater ecosystems like natural pond, reservoir, dams, rivers, tributaries; etc.Thefish diversityshowed presence of families like Cyprinidae, Channidae, Cichlidae, Siluridae, Percidae, Gobiidae, etc.where

the Siluridae and Cyprinidea were dominant.Family Siluridae is among the most species are catfishes and Cyprinidea includes carp and barbs. Based on IUCN categories, fresh water fishes are identified and their status as threatened/ endangered is marked. At the same time, detailed information of endemic and invasive species is carried out. The detailed taxonomic account of these fishes has been documented in this paper. To conserve diversity and to establish sustainable fishery and proper documentation is an urgent need.

Keywords: Diversity, Inland, fish, fauna, Gujarat.

ISCA-ISC-2014-Oral-2AVFS-25

Occurrence of Malabar spiny eel –*Macrognathus Guentheri* in Mahi River, Gujarat, India

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Abstract: *Macrognathus Guentheri* (Day, 1865), also known as the Malabar spiny eel, only found in the Indo-Pacific region and belonging to the family Rhynciiobdellidae (Order: Acanthopterygii) has been found in the waters of Mahi river. The eel, a rarely found species, was caught in the reservoirof Kadana Dam in Panchmahal district, Gujarat. The term *Macrognathus* refers to presence of big and strong jaws. The eel found its common name because of the presence of a pre orbital spine. The eel found is 35 cms in total length with black markings in its whole olive or greenish brown colored body and becoming dull yellow inferiorly. Belonging to the group of predatory fishes and also very swift swimmers, it usually feeds on small fishes. The snout is a little more than the head and has a fleshy prolongation tri lobed at its extremity. The vertical fins, i.e., dorsal, anal and caudal fins are confluent and begin from the post anal region. There are presence of small yet fine sharp edged spines all along the dorsal region.A pair of small pectoral fins is present at the lower end of the head. A fine light black band runs long the upper edge of the lateral line of the body. Though commonly found in Kerala, it has been reported for the first time in Gujarat.

Keywords: Occurrence, Malabar, spinyeel, *Macrognathus Guentheri*, Mahi River, Gujarat.

ISCA-ISC-2014-Oral-2AVFS-26

Temporal variation in Phase-Shift amongst Coral-Algal communities along the coast of Gujarat, India

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Abstract: Algaeare the most common inhabitants of coral reef, overgrowth of fleshymacro algae may be problematicto native coral colonies.Corals in Gulf of Kachchh are already under high pressure of sedimentation, desiccation and industrialization impact. Such overgrowing macro algae further increase the pressure on these coral colonies. Globalwarming has contributed towards disturbing the fragile balance between coralsand algae. Theover-growth of algae, when exceeds the equilibrium between corals and algae,can become a threat to coral colonies. Coral algal phase shift may beconsidered as a localphenomenon and may not be a threat at the global level howeverlocalized disturbance in the balance can cause major ecological problems in aspecific region. At Gujarat coast, the algal season is from October to March. The study was conducted at 2 major places: Gulf of Kachchh and Saurashtra Coast. These sites are found to be best suitable for coral growth. A gradual increase in *Ulva*and *Sargassum*dominance during the algal season was observed.The coral species marked for the study were Porites sp., Siderastrea sp. and Montastrea sp.The algae were observed covering the coral species, thus interfering the availability of nutrients and sun light for the physiological functioning. However, no distinct negative impact was observed for the status of corals.

Keywords: Temporal, variation, Phase-Shift, amongst, Coral-Algal, communities, coast

ISCA-ISC-2014-Oral-2AVFS-27

Standardising Smoking Treatments for Improved Organoleptic Quality and Storage Stability of Carppickle

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Abstract: A study was under taken in order to find out the effects of different smoking treatments on the sensory quality

and shelf life of carp pickle was studied in order to select a suitable treatment.Rohu (*Labeo rohita*) was used for the study as a representative of carps. Skinned fillets were marinating and given smoking treatment were subjected to a particular period and pickled.The major constraint which reduces consumer acceptability of carp are the presence of intramuscular bones, muddy flavour and the soft texture of meat. Keeping this in mind, an attempt was made to study the shelf life of the pickled product developed from rohu (*Labeo rohita*) for a period of 72 days at ambient temperature (30±2°C). Quality parameters proximate composition of raw meat, total volatile base nitrogen (TVBN), Peroxide Value, and microbiological parameterstotal plate count (TPC) and total fungal count (TFC) of pickle were analysed. TVBN and PV was in increasing trend 0-22.4 and 0.3-3.2 respectively, slight variation in pH 4.0-4.10. TPC and TFC count was $1.99\times10^4$and 4.36×10^3respectively. Sensory evaluations were conducted at interval of 12 days.Acceptability of smoke treated pickle was higher compared to the unsmoked sample. Finally marinatedsmoked fish pieces were used for pickling using vinegar-tamarind juice mixture. Packaging material were used glass bottle, pickle showed high acceptability till 72 days of storage studies.

Keywords: Rohu, pickle, smoking, pH, shelf life, sensory quality.

ISCA-ISC-2014-Oral-2AVFS-28

Colour enhancement Potential of selected local Flowers in Sword tail, *Xiphophorushelleri* through Dietary Incorporation

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Abstract: Ornamental fish keeping has been emerged as an important branch of aquaculture since a few decades with a trade value of more than 8 billion US$ per annum and supports millions of people for their livelihood. Along with other factors like shape, graceful movement, beauty etc., vivid colouration also helps to augment the market demand of the ornamental fishes. In general, the maintenance in captive conditions causes colour-fading in fishes which leads to lesser consumer acceptance and lower price levels. To overcome the problem, an attempt was made in Sword tail, *Xiphophorushelleri*-a much sought after freshwater aquarium fish-to assess the potential of two pigments derived from local plants *viz.* Marigold and*Ixora* (treatments M and I) through dietary incorporation. The experiment was conducted in the larvae of Sword tail for a period of 90 days. Ninety larvae were randomly exposed to two treatments in triplicates (10 fish per tank). A control was also maintained during the study in which the fishes were fed with a commercial feed. The carotenoid pigment sources were incorporated in the supplementary diets at 5% level of inclusion. Maximum growth was observed in treatment-M followed by treatment-I. Significant difference ($p<0.05$) was observed in the intensity of colouration between the fishes exposed to natural pigments and the control group which could be clearly visible through the naked eye-examination. It was further confirmed by the Spectrophotometer analysis. So, it can be inferred that the dietary incorporation of natural pigments have varying levels of impact on the colouration of *Xiphophorushelleri* while maintained in captivity. The experiment throws light on the possibility of utilizing other pigment sources for dietary incorporation towards augmenting the colouration in fishes. Developing region and species specific feeds utilizing various types of local ingredients have great potential in the contemporary feed research in the world.

Keywords: Aquarium fish, *Xiphophorushelleri*, colouring pigments, carotenoids, market demand.

ISCA-ISC-2014-Oral-2AVFS-29

Exploring the Possibility of Dietary inclusion of Vegetable waste in the Feed of Nile Tilapia, *Oreochromis niloticus*

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Abstract: Aquaculture is the fastest growing food production sector in the world and Tilapia is a major species contributing to the freshwater aquaculture production. Further expansion of aquaculture demands an adequate supply of efficient, nutritious and inexpensive fish feed because feed contributes significantly to the cost and efficiency of fish production. It is estimated that feed costs can account for up to 70% of the total operating cost in aquaculture. Fish nutritionists all over the world are trying to develop cost effective feeds without compromising on the efficacy towards claiming better

production levels thus by increasing the profitability.It is a fact that waste generation is a major problem in the vegetable production and marketing sector. The volume of wastes generated and its resultant environmental impacts necessitate the need of utilizing these wastes effectively. Developing cost effective fish feeds from the vegetable wastes have great relevance at present. The current study aims at the utilization of vegetable wastesin the feeds for Nile tilapia, which is a popular species in freshwater aquaculture. Thepossibility of incorporating vegetable waste in the fish feed was tried through an indoor study in the species comparing the test diets against the fish meal based and clam meal based control feeds. The experimental diet was formulated keeping the overall protein content at 30%.Feeding was done @5% of the body weight per day. Proximate composition of vegetable waste, test diet and the carcaswas recorded during the study. FCR,FCE, SGR and % survival were also recorded. Most important water quality parameters were checked on a daily basis and the other factors were analyzed fortnightly. There was significant reduction ($P<0.05$level) in the weight and length attained by the fish fed with the test diet during theexperimental period of 90 days.Organoletptic quality of the raw fish and boiled fish after the rearing period was assessed using Hedonic Scale Scoring method. The results of the study indicate that there is a possibility of incorporating vegetable wastes in the Tilapia-feed though it does not perform as good as the other expensive feeds with fish meal and clam meal. But while considering the cost factor, the inclusion of vegetable waste has real sense. More nutritional studies are warranted in this line especially using other herbivorous fishes like Indian Major Carps towards attaining concordant results.

Keywords: Tilapia, growth, vegetablewaste, nutrients, quality of flesh.

ISCA-ISC-2014-Oral-2AVFS-30

Quantitative Estimation of Carbohydrate in Different Developmental Stages of Bombyx *mori* L.

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Abstract: The carbohydrate form the most common and essential part of the protoplast. It also act as source of energy. The newly laid eggs possessed 12.6% carbohydrate. The level of carbohydrate was regressively decreased during embryogenesis in both HCl treated as well as hibernated eggs. In 1st instar larva % of carbohydrate was 5.6 which varies from 6.6 to 4.05 in 2nd and 3rd instar larva respectively. In 4th and 5th instar larva the amount of carbohydrate was increased through mid and late stages as the larva growth proceeds. The highest amount of carbohydrate was found in 4th and 5th instar late stage larva. The level of carbohydrate declined in pharate pupae. The 12 days old female pupae and adults contained 3.9% and 1.5% carbohydrates respectively. While the amount of carbohydrate was slightly higher in male pupae (12 days old) and adults (8.1% and 7.5% respectively).

Keywords: Quantitative, estimation, carbohydrate, different, developmental, stages, Bombyx *mori* L.

ISCA-ISC-2014-Oral-2AVFS-31

Mobile Advisory Services for enhancement of Farmers knowledge in Dairy Farming

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Abstract: In an era of globalization accompanied by rapid technology change, a country's competitiveness and relevance in the global economy is increasingly determined by its capacity to effectively use information for design, production and marketing. Many factors may contribute to differences in productivity, including lack of access to credit to invest in more productive technologies, insurance to manage natural calamity risk, low genetic potential and small farm size. Another possibility is that farmers lack information about how to increase their livestock productivity. Many developing country governments fund large-scale agricultural extension programs to spread information about agricultural practices and technologies that can improve productivity, like improved seeds, fertilizer, planting and harvesting techniques and very little attention pad for information on animal husbandry scientific practices/ technologies . The traditional model of agricultural extension consists of agents visiting farmers individually or in groups to demonstrate agricultural best practices. Yet, this model can be costly to administer and maintain. It can also be difficult to ensure the quality and consistency of the information delivered. One potential alternative is to deliver agricultural information to farmers via low-cost information and communications technologies like mobile phones. The mobile phone enables the veterinarian to move from a static location and makes him/her mobile. The cell phone enables the veterinarian to plan providing services and maintain animal records. If a Geographical Positioning System (GPS), which can locate where his/her services are needed, the veterinarian can save considerable time, cost and improve the range of the services. Good animal records enable a

veterinarian to consult specialists, made easier by the use of the cell phone. With imaging, capacities of the wireless access protocol based internet using cellular telephony and cheap digital cameras, veterinary consultancy, low feeding regimes using locally available feed ingredients and monitoring nutritional status of animals can further be improved. The major issues in dairy extension has been the inability to provide one to one communications for individual farmers who each have a unique problem with their animals, livestock owners required emergency services and most animal products are perishable. The establishment of call centers at veterinary hospitals and Institutions is a largely ignored aspect of providing veterinary services especially extension. Considering the importance of mobile phone technology in transfer of dairy technology, a SMS based service was introduce at NDRI. The application have integrated with SMS to send bulk SMS to farmers and other stakeholders on vital information on curative services, production services, preventive services and diagnostic services.

Keywords: dairy farming, farmers, knowledge, ICT and Mobile phone

ISCA-ISC-2014-Oral-2AVFS-32

Vegetable processing wastes as Dietary ingredients for the Striped catfish *Pangasianodon hypophthalmus* - A Case Study

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Abstract: All food / food processing industries generate wastes of varying nature in significantquantities. Managing these wastes so as to minimise the impact on the environment is a prime concern. The concept of waste has undergone much change in recent times, with the focus being on utilising the waste materials as inputs for generation of new or reusable products. Vegetable wastes are generated in significant quantities and are easily available at minimal charge.The possibility of utilising vegetable waste as a dietary ingredient was assessed employing the striped catfish as the test species. The study was conducted over a period of 90 days. Vegetable waste was incorporated at inclusion levels of 5, 10 and 15 % in formulated diets.The three test diets were designated T_1, T_2 and T_3 respectively. A clam meal based diet devoid of vegetable waste served as the control (T_0). Feeding was done once daily @ 5% of the body weight. The water quality parameters DO, ph, Total alkalinity, NH_3, NO_3^-, NO_2^- and water temperature recorded. Better growth response was recorded in the T_1 treatment containing 5% level of vegetable waste. Utilisation efficiency was also found to be superior in the T_1 diet as evidenced by the best food conversion ratio of 1.81. Fish fed with T_3 diet recorded the lowest FCR of 2.35. Specific growth rate showed (SGR) better performance of *Pangasianodon hypophthalmus* fingerling fed on control diet. Survival rate of Pangasius was unaffected by vegetable waste meal supplementation. Organoleptic quality of fish was not affected adversely by vegetable waste incorporation in the diet. The results suggest the possibilityof utilising vegetable waste meal in diets for the striped catfish at low levels of incorporation. Further studies on the useof ensiled vegetable waste in diets for the striped catfish are warranted.

Keywords: Vegetable processing waste, formulated diet, *Pangasianodon hypophthalmus,* SGR, FCR, organoleptic quality.

ISCA-ISC-2014-Oral-2AVFS-34

A Study on Milk Producers Knowledge about Dairy Entrepreneurship and co-relation of Variables towards their Training Need

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Abstract: The present study was carried out to assess the knowledge level of dairy Entrepreneurs of Patna District and to find the co-relation between the socio-economic variables and the training needs. This study was conducted by personally interviewing 100 dairy farmers, sent for training at B.V.C. Patna by different Agencies. Majority of the respondents (58.20%) had medium level of knowledge flowed by 26% respondents with high level of knowledge, while some of the respondents (15.80%) had low level of knowledge about dairy entrepreneurship. The study of co-relation between socio-economic variables and training need of the respondents showed that variables like education (0.469), social participation (0.500) and the knowledge (0.734) were significantly and positively co-related with the training need. Whereas variables like age (0.063) family size (0.193) and land holding (0.072) were found to be positively but non-significantly co-related with the training needs while, the caste (-0.093) was found to be negatively and non-significantly co-related with the training needs at 0.05% level of probability. Therefore it is imperative on the part of change agency to utilize the variables gainfully so as to give needed push to knowledge level in the area of Dairy entrepreneurship development.

Keywords: Knowledge level, relationship, training needs, dairy entrepreneurship.

ISCA-ISC-2014-Oral-2AVFS-35

Managing accessible Information to small Dairy Farmers – An ICT Intervention

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Abstract: Dairy farming being an integral part in Indian agricultural activity having highly positive impact on income and employment of resource-poor and small farmer's households. Dairy farmingis more egalitarian compared to land and plays a significant role in improving the economic growth of small farmers. India is endowed with 57.3 per cent of the world's buffalo (105.30 million) and 14.7 per cent of cattle (199.08 million) population, making it as highest milk producer (127.3 million tonnes) in world. Dairy sector major challenge is to increase milk production to meet out its people need and presumably growth of income of farmers. This can be achieved by improving the productive, management, feeding and by upgrading the genetic potential of dairy animals. Various educational methods had being tried like field demonstration, group meeting, pashuchaupal, exhibitions and dairy mela to improve the knowledge and awareness level of farmers. But the rapid technological advancement and continuous changing farming system have highlighted the need of effective transfer of knowledge and skill to farmers through various media. Information Communication Technology (ICT) has long been viewed as to spread a greater quantum of information having potential for improving decision making in dairying and agriculture. The silent revolution had empowered the farmers in getting desired information just by dialing a number. To improve the wider scope of accessible information on dairying by farmers it is required to design and develop information modules that are more interactive, low cost, need based and effective in improving knowledge of farmers but also help them to learn the skills. There is need to develop Information dairy module in specific areas like scientific dairying farming practices, identifying symptoms of disease, in prevention of disease, use of disinfectants, vaccination and management. The dairy module should be thoroughly validated not only by framers but also by other stakeholder about it effectiveness on information and other audio-visual qualities and primarily on willingness of farmers to pay for it. Thus the challenge is to improve the accessibility of farmers to reliable, scientific need based ICT module in local language information and its relevance in their condition is prerequisite for success of accessing ICT application in dairying by small holder farmers.The use of ICT are fraught with several constraint which is hindering to taps its potential in the country need to be focused.
Keywords: Managing, accessible, information, small dairy farmers.

ISCA-ISC-2014-Oral-2AVFS-36

Predation of livestock by leopard (*Panthera pardus*) in Lower Shivalik Hills area of Himachal Pradesh, India

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Abstract: The Present study was done on the predation of leopards in lower Shivalik Hills areas of Himachal Pradesh since 2001 to 2013. During this period of study a total of 632 incidences of attacks on animals were reported in which 1016 domestic animals were killed, out of which highest attacks were on small animals (83.9%) and very few attacks were observed in large animals (16.1%). The difference in attacks among large and small animals were found to be statistically significant ($P<0.05$). The numbers of attacks (632) were positively correlated ($r=0.81$) with number of animal killings (1016). Most attacks occurred mainly in the night hours only. The maximum number of livestock killings occurred in cow shed (68.03 %) followed by pastures, while grazing (30.85 %) and forest area (1.10 %), which differ significantly between groups ($P<0.05$). The highest number of animals were attacked during the winter season (40.9%) followed by rainy (32.6%) and summer season (26.4%). In conflict area the highest attacks were reported in the Hamirpur range (81.80 %) followed by Aghar range (12.34 %), Barser (2.68 %), Bijri (1.74 %), and Nadaun (1.42 %) of the District Hamirpur. The differences in attacks among different ranges were found to be statistically significant ($P<0.05$). From the present study it can be concluded that the incidence of leopard attacks is related with size of the animals, habitation of the animal, season and geographical area/forest range.
Keywords: Livestock, Predation, leopard (*Panther pardus*), Shivalik Hills

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Prevalence of Nematode parasite infection and immune response in Fresh water fish *Glossogobius giuris* at Lower Manair Dam

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Abstract: The prevalence and intensity of infection of nematode parasites in fresh water fish *Glossogobius giuris* have studied at Lower Manair Dam, it is clear that water temperature have no clear cut impact on the occurrence of nematode parasites. Nematode Parasites migrate to host intestine to response immune system has not yet reached or where it is not strong enough to kill them. They accommodate their life cycles to the various seasons or the size in which the host fish immune system is down-regulated. Parasites secrete or excrete mucus substances which modulate the internal organs of host immune factor to their own benefit. Maximum and minimum value of prevalence and intensity of infection were found both in male and female *Glossogobius giuris,* the months of higher and lower physical parameters. The seasonal occurrence of helminth parasites in the *Glossogobius giuris* may also be due to the age and size of fish host and life cycle of the parasites. Ecological factors have been held widely responsible for the occurrence of the small size and adults. The seasonal variations and prevalence of the nematode parasites *Rhabdochona garuai* in the Lower Manair Dam was highest (26.01%) in monsoon period, medium (24.43%) in winter and lowest (16.16%) in summer seasons.
Keywords: Infection, Immune System, Mucus Substances, Seasonal Variations

ISCA-ISC-2014-Poster-2AVFS-01

Study of Mammals near Indira Gandhi Canal in Thar Desert of Rajasthan, India

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Abstract: The study was undertaken to assess the impact of changes in land use pattern on relative abundance of mammals in the Indira Gandhi Canal Area of Thar Desert of Rajasthan. The ecology of Thar Desert in Rajasthan is fast changing due to availability of good quality water through the Indira Gandhi Canal. Thar region of canal also affecting the fauna of Rajasthan. Study carry out intensive research work to assess the impact of canal on the status of carnivorous mammals in the IGNP region. The Thar Desert is the most populous deserts of the world. Presently with arrival of very good quality water through Indira Gandhi Canal the region has opened up for colonization. The mammal species namely; wolf, Canis lupus pallipes; Jackal, Canis aureus aureus; Desert fox, Vulpes vulpes pusilla; Bengal fox, Vulpes bengalensis; Desert cat, Felis silvestris; Wild boar, Sus scrofa cristatus; Black buck, Antilope cervicapra; Chinkara, Gazella bennetti; Blue bull, Boselaphus tragocamelus; Desert hare, Lepus nigricollis dayanus; and Porcupine, Hystrix indica, were studied in Sri Gandhinagar, Hanumangarh, Bikaner and Jaisalmer districts. The availability of green food increases the reproductive potential of most of the animals. The impact of this factor has been observed very carefully through the abundance of species.
Keywords: Impact, Indira Gandhi canal, Thar Desert, mammals.

ISCA-ISC-2014-Poster-2AVFS-02

Status and feeding ecology of the striped hyena (Hyena hyaena) in Sundha Mata wildlife century Area, Jalore, Rajasthan, India

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Abstract: The study carried out in Sundha Mata wildlife century Area, Jalore. Sundhamata wildlife area was declared Sanctuary by Govt. of Rajasthan. It is about 900 years old temple of Mother goddess situated on a hilltop called 'Sundha', Sanctuary located at Longitude 72.367°E and Latitude 24.833°N, in Jalore. In Sundha Mata wildlife century Area, Jalore total 13 sites were selected for study near villages Bhadrajun, Aakoli, Siyana, Mandoli, Dorrda, Javiya, Jashwantpura, Bugav, Golana, Cekhla Ahodeshver Mahadev Mandir, Panseri, Vannar Pooran. During present study the data on their social population structure, diet and foraging behavior were collected. In study area, I recorded the position from which each bearing was taken by GPS. Livestock population is an important food source for the hyenas. Hyena is depending on carcasses of domestic livestock, resulting in their increased proximity to human habitats. But human presence and

harassment affects their behaviour and routine. Food habits of striped hyena were studied by scat analysis method. The scats were collected randomly from October 2013 to June 2014. Each scat was crushed very carefully avoiding any mix-up and indigestible prey remains such as hairs, bones, claws, hoofs, teeth, feathers and other materials were used for identification of prey species. In diet of striped hyena a variety of food items were identified during study.

Keywords: Feeding ecology, striped hyena, Sundha Mata wildlife century, Rajasthan.

ISCA-ISC-2014-Poster-2AVFS-03

Production of fish value added items helping in livelihood Enhancement of Fisherwomen of Poompuhar, Sirkazhi Taluk, Nagapattinam district in Tamil nadu – India

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Abstract: The fish for all Research and Training centre of poompuhar was established with the support from Jamsetji Tata trust and Tata educational trust and has been conceptualized in response to the felt need of the costal communities along Tamil nadu coast as a result of the interactions held after the Tsunami of 2004. The long time strategy of the centre aims at bringing about a collective and holistic approach for the coastal community in the field of natural resources management, training and capacity building and also sustainable livelihood options. With this idea in mind a few self help groups of fisherwomen were formed and given training on various aspects of hygienic preprocessing of fish and preparation of value added items. The activities of the self help groups in preparing various value added items of fish such as shrimp idly powder, ready to cook fish ,dry fish ,masala dry fish ,fish pickles, prawn pickle and how these activities have helped to enhance the livelihood of the women are described in this presentation.

Keywords: Community, Livelihood, fish, Dry fish, Value added.

ISCA-ISC-2014-Poster-2AVFS-04

Effect of Bactospeine on growth of Diacrisia oblique (Lepidoptera: Arctiidae)

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Abstract: Diacrisia obliqua walker (Lepidoptera: Arctiidae) is a phytophagous insect causing great loss to different crops. To control this pest different concentrations of Bactospiene were administered by leaf Dip method (LDM) and topical method (TM). It was observed that Bactospiene reduces the biomass accumulation in larva, pupa and adults. It was also found that Bactospiene is more effective under LDM.

Keywords: Diacisia obliqua, Phytophagous, Bactospiene, Leaf Dip Method, Topical Method.

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Avifaunal biodiversity conservation of Lakh Bahosi Pakshi Bihar district Kannauj, UP, India

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Abstract: Lakh Bahosi Pakshi Bihar of Uttar Pradesh is a unique natural bird watching site of district Kannauj UP. We can reach here via Tirva tahsil near Indergarh. The distance of this bird watching site from Kannauj is aprox 38 km. It is also representing the ecosystem of ganges flora and fauna. It include different type of 19 species of mammals, 191 species of birds,16 species of reptiles, 16 species of amphibians and 93 species of invertebrates.Some important species of medicinal plants are also found in this natural area. Every year many migratory birds are coming here including Grey leg geese, Pintail, Common teal, Shoveller Coot, Brahmini duck etc. some residential species are also present here like Openbill stork, Pianted Stork, Black nacked stork,White ibis etc.

Key words- Biodiversity, Lakhbahosi, Conservation, Natural resources.

ISCA-ISC-2014-Poster-2AVFS-07

Production of plant (*Spinach*) using Aquaculture waste waters with Nutrient harvEsting through Aquaponics

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Abstract: The experiment with varied stocking at the rate having 200 (T_1), 400 (T_2), 600 (T_3) and 800 (T_4) numbers of fingerlings of *Labeo rohita*. A control (without any fish) was run simultaneously for comparison for periods of 60 days. The plant (*Spinach*) growth (production) was highest (175 g) in T_4 having highest stocking density of fish fingerlings showing high nutrient availability followed by T_3, T_2, control and T_1 with 158, 137, 60 and 75 g respectively. The percent gain in weight and per day growth in percent body weight were 144.4 percent and 2.40 percent respectively. The FCR was best (1.125 g) and the SGR was highest (5.946 %) in T_1. The *Spinach* production was not significantly different between control and T_1 as well as between $T_2$and T_3 and $T_3$and T_4. There was significant positive correlation (r) between plant growth and NH_4-N. The results indicate significant effect of stocking density of fish on nutrient release and plant growth in aquaponics system.
Keywords: Aquaponics, spinach, nutrient status, lebeorohita, specific growth rate.

ISCA-ISC-2014-Poster-2AVFS-08

SEM studies on erythrocyte alterations in *Ctenopharyngodon Idellus* (Cuvier and Valenciennes) induced by fenvalerate

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Abstract: The contamination of aquatic ecosystem with pesticides is one of the important consequences of industrial and agricultural revolution. These chemicals enter freshwater bodies through surface runoff and adversely affect their natural flora and fauna. Pyrethroids, a class of broad-spectrum pesticides, are becoming increasingly popular in agricultural, veterinary, medical and home use over the past two decades. Alteration in morphology of erythrocytes is one of the most sensitive indicators of toxic impact of various environmental pollutants. Keeping this in view, present investigation have been made to assess the detrimental effects of fenvalerate on the structural alterations of erythrocytes of a freshwater fish, *Ctenopharyngodon idellus* (Cuvier and Valenciennes) after exposure of the fish to two sublethal concentrations of the pesticide (1.2 µl/L and 1.9 µl/L) for 15, 30 and 60 days. The erythrocytes of the exposed fish exhibited various morphological alterations such as appearance of echinocytes, spherocytes, acanthocytes and fusiform cells and clumping of cells, shrinkage and serration of cell membrane, lobopodial projections etc. which were analysed by scanning electron microscopy. These alterations were found to be directly proportional to the toxicant concentration and exposure period.
Keywords: *Ctenopharyngodon idellus*, pyrethroid, fenvalerate, erythrocytes, SEM, toxicity.

ISCA-ISC-2014-Poster-2AVFS-09

First record of *Rhodactis sp.,* Corallimorpharian from the coast of Gujarat, India

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Abstract: Corallimorpharians are benthic marine coelenterates (Order: Corallimorpharia) found on the coral reefs worldwide. They are often mistaken with the hard corals, but unlike hard corals they lack calcareous exoskeleton and show rapid growth than that of the hard corals. Thus, the corallimorpharians are one of the leading space competitors in the reef environment and pose a threat to the resident corals as with rapid growth ability they have been often reported to encroach living coral colonies. Here, we present the first report of occurrence of *Rhodactis sp.,* a Corallimorpharian from Narara island and Dwarka reef. The coral reefs of Gulf of Kachchh are one of the four major coral reef regions of Indian subcontinent. The reefs in Gulf of Kachchh are susceptible to extreme environment and are the least studied amongst other Indian coral reefs. Along with the areas of GoK, we also report the observation of the same species from the rocky intertidal zone of Dwarka. With this first time report of *Rhodactis sp.*, it is expected to better understand the inter-specific dynamics of the corals and reef associates from the Gulf of Kachchh and Dwarka.
Keywords: First, record, *Rhodactis sp.,* Corallimorpharian, coast, Gujarat.

ISCA-ISC-2014-Poster-2AVFS-10

Potential of Freshwater resources of Gujarat, India

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Abstract: Gujarat is northern state of the west cost of India. The state has five different geographical region viz., Central and north Gujarat, south Gujarat, peninsular Saurashtra and desert marshy Kutch. There are plenty of fresh water recourses like rivers, manmade reservoirs, lakes, tanks, ponds, wet lands, delta regions, and estuaries covering 2.43 lakh hectare areas. Out of this length of river 3865 Km,reservoir 3.48 lakh ha, ponds and tanks 0.22 lakh ha, and area of brackish water 3.76 lakh ha.Water quality refers based on salinity where less than 5 ppt is considered as fresh water, 5-30 ppt considered as brackish water. The water resource available has potential for drinking, industrial, irrigation, and fisheries etc. Gujarat has potential to feed fish food to entire country as it has huge potential in freshwater aquaculture due its vast such natural resources. In fresh water, carps, catfishes and cichlids are cultured whereas,brackish water aquaculture also can be generated where mainly shrimps are cultured. Ecological importance of fresh water should be taken into consideration before using it for aquaculture or any other developmental activity.
Keywords: Potential, freshwater, resources, Gujarat.

ISCA-ISC-2014-Poster-2AVFS-11

Larval Trematode Fauna in Freshwater Gastropod Snails of Udaipur, India

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Abstract: In order to survey the larval digeneans of the snails occurring in the water bodies (lotic and lentic) the survey of snails was conducted. It was found that as many as 15 snail species belonging to five different families of gastropoda abound the water bodies. The present study revealed that the twelve species of snails harbour six different types of cercariae *viz.*, monostome, amphistome, gymnocephalous, xiphidio, echinostome and furcocercous cercariae. Surface and bottom dwelling behaviour and lentic and lotic habitats of the snails have been found to determine the cercarial incidence of infections. The magnitude of snail infection depended upon the lentic and lotic water habitats. Maximum infection was found to be in lentic water snails and minimum in lotic habitat. Moreover, surface dwellers (snails) of lentic or lotic water were found to be conducive for maximum infection than their counterparts at the bottom. The present survey reveals that abundance of different larval digenean species such as monostome, amphistome, echinostome, gymnocephalous, xiphidio and furcocercous cercariae in different size of water bodies depend upon the population of intermediate and final hosts of the habitat concerned.
Keywords: amphistome, cercariae, echinostome, furcocercous, gymnocephalous, larval digeneans.

ISCA-ISC-2014-Poster-2AVFS-12

Temporal Variation in the Hydrobiology of Vembanad Lake at Panangad-Kumbalam Region of Kochi, Kerala, India

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Abstract: The present investigation (June 2012 to May 2013) scrutinized the hydrobiological status of Vembanad Lake at Panangad-Kumbalam backwater (PKB). Distinct variations of hydrographic state and its influence on zooplankton abundance were observed. Salinity showed wide fluctuation (1.70‰ to 30.5‰).Average salinity was 19.74‰ indicated mesohaline nature. The average annual water temperature was comparatively normal (28.94°C). Transparency showed lowest value during July (39.3 cm). The average pH during the study period was (7.38) on alkaline side. Dissolved oxygen was high (7.7 mg/l) during October compared March (3.9 mg/l). The average alkalinity of about was 95.83 mg/l.Nitrate values ranged from 2.40 ìg /l (June) to 35.90 ìg /l (August). The phosphate value ranged between 0.90 ìg /l (June) and 9.0 ìg /l (August) with an average of 3.0 ìg /l. Primary productivity showed an average of 1337.08 mg C/m^3/h indicated backwater is productive. Total number of copepods ranged from 2013 numbers/m^3 (June) to 5347 numbers/m^3 (October). Total number of cladocerans ranged from 8 numbers/m^3 (October) to 471 numbers/m^3 (April).Total number of rotifers ranged from 306 numbers/m^3 (December) to 1263 numbers/m^3 (September).Onset of monsoon appeared to be

major factor influencing the hydrography, primary productivity and zooplanktons abundance in the backwater.

Keywards: Hydrography, primary productivity, zooplankton abundance, Panangad-Kumbalam backwater.

ISCA-ISC-2014-Poster-2AVFS-13

Growth response of Catla (*Catla catla*) fed with Vegetable and Fruit processing Waste based Diets

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Abstract: A feeding trial was conducted for 90days in outdoor circular cemented cisterns to evaluate the utilization of vegetables and fruits processing wastes as feed ingredient in the diet of *Catla catla* fingerlings. Four different experimental diets were prepared by replacing clam meal with either fruit waste@10 % (T2), vegetables waste @10% (T3), combination of fruit waste (5%) and vegetables waste (5%) (T3) to the basal diet along with the control (T1, without any fruit and vegetable wastes) keeping the CP level at around 30%. Each treatments were subjected to three replications. A total numbers of six Catla fingerlings were distributed randomly in each cisterns. Feeding was done @ 5% of body weight daily.The water quality parameters like DO,pH, total alkalinity, ammonia, nitrite, nitrateand water temperature were recorded within the optimum range.The present experiment indicate best growth of catla in terms of average weight gain(29.99g), SGR (1.87), FCR (2.58) in diet T3 containing 5% fruit waste and 5% vegetables waste than the other groups. Survival rate was good in all the treatments with mean survival value ranging from83.33% to 100%.Organoleptic quality of fish was not affected adversely by fruits and vegetable waste incorporation in the diet. The results suggest the possibilityof utilizing fruits and vegetable waste meal in same proportion each at 5% level in the diets of Catla. Further studies on the use of fruits and vegetable waste in the diets of Catla are warranted.

Keywords: Fruits waste, vegetables waste, formulated diet, Catla(*Catla catla*), SGR, FCR, organoleptic quality.

ISCA-ISC-2014-Poster-2AVFS-14

Growth potential of Pacu, *Piaractus brachypomus* in different culture approaches

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Abstract: The study was conducted to evaluate thegrowth potential of Pacu, *Piaractus brachypomus* in monoculture and polyculture system with feeding, fertilization and substrate addition. The experiment was carried out for 120 days in outdoor circular cement cistern of 380 litre capacity. The culture strategies/treatments employed are monoculture of Pacu with feeding alone (T_1), monoculture of Pacu, with fertilization alone (T_2), polyculture of Pacu with Indian Major Craps with feeding alone (T_3), polyculture of Pacu with Indian Major Carps with fertilization alone (T_4) and polyculture of Pacu with Indian Major Carps in periphyton based system (T_5). Each treatment were subjected to three replication. In case of monoculture a total numbers of 10 fishes were stocked in each cistern. Whereas in case of polyculture Pacu, Catla, Rohu and Mrigal were stocked in the proportion 3:2:3:2 respectively. In treatment involving feed, feeding was done with locally available conventional feed with overall protein content of 30% and given at the rate of 10% of body weight daily. In the treatments involving fertilization, and substrate all tanks were initially fertilized with raw cow dung of 150g in combination with 2 g of urea. Subsequent fertilization of 1/4th of the initial level was done fortnightly. Coconut spadix in mat form was used as a substrate for periphyton growth. Fish were sampled every fortnightly for weight gain measurements. All the waterquality parameters were within the desirable range. Mean weight gain of Pacu in monoculture was 29.58g (T_1) and 17.33g (T_2). In polyculture mean weight gain of Pacu, was 27.13g (T_3), 16.48g (T_4) and 18.29g (T_5).Meansurvival rate of pacu was good in all treatment with average value ranging from 83.33 % (T_1) to 100% (T_5). Inclusion of Pacu along with Indian Major Carps does not have any impact on the survival rate of Catla, Rohu and Mrigal. Highest mean specific growth rate of Pacu was recorded in T_3. The result of this experiment indicate that the best growth performance of Pacu was in monoculture with feeding. In polyculture the best growth performance of Pacu was obtained with feeding alone followed by periphyton based system. Thus the experiment indicate that Pacu can be included as a candidate species under monoculture as well as polyculture system with Indian Major Carps.

Keywords: Growth potential, Pacu (*Piaractus brachypomus*), monoculture, polyculture, feeding, fertilization, periphyton, outdoor cement tank.

ISCA-ISC-2014-Poster-2AVFS-15

Effect of Heavy metal on the Growth and reproductive Potential of *Eisenia foetida*

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Abstract: Earthworms are important biological resources that have a tremendous potential in agro systems. The accumulation of heavy metals in the tissues of earthworms is a potential indicator of environmental pollution. The degree of contamination can be evaluated by studying the growth and reproductive potential of earthworms. So, experiment of 28 days was carried out to study the effects of two heavy metals i.e. Zinc and cadmium on the growth, cocoon and hatchling production of earthworm *Eisenia foetida* Sav. The study showed that Cadmium contamination adversely effects the growth and reproductive potential than that of Zinc contamination. The strongest impact of Cadmium contamination was observed in cocoon and hatchling production.
Keywords: *Eisenia foetida*, growth, reproduction, cocoon, heavy metals.

ISCA-ISC-2014-Poster-2AVFS-16

Measurement of Soil Loss and Runoff from Priyadarshini Watershed

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Abstract: *Water is the source of life and soil is the root of existence. Water and soil resources are the most fundamental materials on which people rely for existence and development. The development of society is determined by its capacity to use its resources. Some of these resources may in time become exhausted or deteriorate.* Soil erosion is one of the natural processes that would cause many constrains to the environmental and regional planners. Erosion on farm fields reduces potential crop production and sediment which leaves the field can result in subsequent sedimentation problems which, results into environmental problems. When water level reaches certain level, the float moves up and switches ON the total system into live condition from its sleeping mode. A float is attached at one end of the string and counter weight at the other end. The sensor head is to be fixed over the gauging weir such that the float can move freely. The sensor produces electrical signal in relation to the water level recorded by data logger. The silt sensor, which kept much below the water surface, senses the silt content in the water only when it is fully submerged. The corresponding signals are transmitted through the cable to the data logger. Data logger has the required control to activate the system on receiving the commands from the float switch and wakes up signal from the memory module and activates the total system. The signals received from all the sensors are processed for indication in their respective units. Total rainfall recorded during the monsoon period i.e. from June to November total rainfall occurred was 720mm in the month of June followed by 1804 mm, 724.7 mm, 859.6 mm, 130.2 mm, 125.2 mm in the month of July, August, September, October and November respectively. In the month of July runoff carried 3.12t/ha of silt, 2.67 t/ha in the month of August and 3.48 t/ha in the month of September. In the month of July runoff depth was 1018.54 mm, 545.19 mm in August and 410.29 mm in September were observed. The observed runoff was 48 per cent of the total rainfall.
Keywords: Rainfall, runoff, suspended sediment, erosion.

ISCA-ISC-2014-Oral-3BS-01

Influence of ethanolic extractives of leaves of mulberry, Morus alba (L) on 7, 12-dimethylbenz (a) anthracene (DMBA) induced buccal pouch carcinoma in Syrian hamster, Mesocricetusauratus (L)

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Abstract: The study deals with investigation of thechemopreventive potential and antilipidperoxidative effects of ethanolic leaf extract of mulberry, Morus alba (L) (TpEt) on 7,12-dimethylbenz(a)anthracene (DMBA)- induced buccal pouch carcinoma in Syrian hamster, Mesocricetusauratus (L). Oral squamous cell carcinoma was developed in the buccal pouch of Syrian golden hamsters, by painting with 0.5% DMBA in liquid paraffin, thrice a week, for 14 weeks. The tumor incidence, volume and burden were determined. Oral administration ofTpEt at a dose of 300 mg/kg, body weight, to DMBA (on alternate days for 14 weeks)- painted animals significantly prevented the incidence, volume and burden of the tumor. TpEt showed potent antilipidperoxidative effect, as well as enhanced the antioxidant status in DMBA- painted animals. TpEt has potent chemopreventive efficacy and significant antilipidperoxidative effect, in DMBA-induced oral carcinogenesis. The active principle of mulberry leaf may have the abilities of induction of apoptosis, which involve disruption of mitochondrial membrane potential, release of cytochrome C and activation of caspase. With it's bioactive compounds, mulberry, Morus alba (L) may open a new avenue in the cancer prevention and treatment.
Keywords: Syrian hamster, buccal pouch carcinoma, mulberry.

ISCA-ISC-2014-Oral-3BS-02

Role of Malaria secretory Proteins in Modulation of Immune Responses of Host

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Abstract: Malaria is one the major cause of socio-economic loss to developing countries. Millions of malaria cases are reported annually, hint of major public health problem. Plasmodium is the causative agent of the disease. Even with the availability of drugs against malaria, foremost concern remains are the brisk development of drug resistance in malaria parasites. Therefore, there is an urgent need for the identification and development of potential inhibitors against the key proteins of the malaria parasite. Secretory proteins of malaria parasite are one of the most lucrative anti-malarial targets. Here we show that parasite tyrosyl-tRNA synthetase (PfTyrRS), is one of those secretory proteins and it is also a housekeeping protein translation enzyme. It induces pro-inflammatory responses from host immune cells. PfTyrRS exits from the parasite cytoplasm into the infected red blood cell (iRBC) cytoplasm, from where it is released into the extracellular medium on iRBC lysis. Using its ELR peptide motif, PfTyrRS specifically binds to and internalizes into host macrophages, leading to enhanced secretion of the pro-inflammatory cytokines TNF-á and IL-6. PfTyrRS-macrophage interaction also augments expression of adherence-linked host endothelial receptors ICAM-1 and VCAM-1. Our description of PfTyrRSas a parasite-secreted protein that triggers pro-inflammatory host responses provide a novel platform for targeting PfTyrRS in anti-parasitic strategies.
Keywords: Role, Malaria, secretory, proteins, modulation, immune responses, host.

ISCA-ISC-2014-Oral-3BS-03

Quantitative Analysis of Carbon Monoxide in Frozen Foods

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Abstract: Carbon monoxide is used to treat foods in order to retain its freshness for a longer period of time. Carbon monoxide is not harmful at small concentrations for humans but repeated exposure to Carbon Monoxide can have harmful effects like headaches, dizziness, nausea, vomiting, fatigue, unconsciousness, collapse and finally death. As the frozen foods are regularly consumed worldwide and frozen fish, frozen chicken, etc being the common and most preferred foods, the consumption of frozen foods is abundant. Hence the study was undertaken to quantitatively analyse the Carbon Monoxide present in frozen food using Gas Chromatography. The results showed that the normal samples of food had approximately 145-150ng/gm of Carbon Monoxide while the levels of Carbon Monoxide in frozen food samples was found to be slightly above 1µg/gm.
Keywords: Frozen Foods, Gas Chromatography.

ISCA-ISC-2014-Oral-3BS-04

Plasmid Encoded Â-Lactamases in Multi-Drug Resistant Enterobacteriaceae Species

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Abstract: Enterobacteriaceae (gram negative bacteria) are the new breed of multidrug-resistant pathogens responsible for wide array of infectious diseases normally encountered noscomially. Members of the Enterobacteriaceae family express plasmid-encoded â-lactamases, which are of different types, TEM-1, SHV and CTX-M are the most common ones. In the present study various clinical samples (blood, urine, burn sepsis and pus) were collected and analysed for multi-drug resistant Enterobacteriaceae bacteria. Antibiotics of different classes (first – fourth generation) were tested for sensitivity and resistivity pattern. Isolates showing high resistivity against different antibiotic classes were charecerized further. Later, characterization was done to investigate the responsible plasmid-encoded â-lactamases genes using specific primers. Another aspect of this study included molecular docking to study antimicrobial activity of Eugenol molecule against these isolates.

Keywords: Enterobacteriaceae, â-lactamases, multi-drug resistant, molecular docking, Eugenol.

ISCA-ISC-2014-Oral-3BS-05

Expression Profile of â - defensin in Capra Hircus

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Abstract: â - defensin is an antimicrobial peptide, which is the part of the innate immune system and found in all classes of life. They are cysteine rich peptides with 4 to 12 KD molecular weight. Purification and expression of goat â defensins (GBD) was studied in trachea, lung and heart. Primary culture of trachea, lung and heart cells were treated with heat killed Methicillin Resistant Staphylococcus aureus (MRSA), further mRNA was isolated from both treated and untreated culture. Expression was studied by semi-quntitative PCR for â defensin gene using specific primers. The present study also concluded the ability of antimicrobial peptides to undergo oligomerisation innately.

Keywords: â- defensin, Capra hircus, Primary culture, MRSA, Semi-quantitative PCR.

ISCA-ISC-2014-Oral-3BS-06

Antimicrobial potential of Hitherto lesser known Bryophytes against different Pathogens

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Abstract: The antimicrobial activity of two bryophytes, Anaectangium thomsonii Mitt (moss) and Marchantia sp. (liverwort) collected from Kumaon Himalaya were studied by extracting them in three different organic solvents. The present in vitro study was investigated against both bacteria (Escherichia coli, Staphylococcus aureus, Pseudomonas aeruginosa, Salmonella enterica) and fungi Aspergillus sp. by using disc diffusion assay. The plants showed varied degree of potent antimicrobial activities comparable to the standard drugs against all microorganisms except P. aeruginosa. The highest degree of antibacterial activity was shown by ethanolic extract of moss against S. enterica and S. aureus with MIC (1.5-100µg/mL) and highest antifungal activity was shown by ethanolic extract of liverwort against Aspergillus sp. with MIC (3- 50 µg/mL). Significant morphological and ultrastructural alterations due to the effect of liverwort extract on Aspergillus sp. have also been observed by scanning electron microscope (SEM). The chemical composition of the bryophyte extracts was determined by gas chromatography mass spectrometry (GC-MS). The high content of peculiar compounds suggest their role in survival of the plant in direct contact of soil surface where the occurrence of microbial contamination is found high. Future optimisation of these compounds may allow the development of novel antimicrobial agents as a substitute of conventional antibiotics.

Keywords: Anaectangium thomsonii, Marchantia sp., disc diffusion method, SEM and GC-MS.

ISCA-ISC-2014-Oral-3BS-07

New dimensions in ethnobotany of Bombax ceiba L. – Need for Conservation and sustainable Commercialization

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Abstract: Bombax ceiba L. (Silk Cotton Tree, Semal); a multipurpose tree species, has a rich ethnobiological history. Almost every part of the tree is useful to treat various ailments of humans and animals. It is well known for treatment of gastro-intestinal diseases, gynecological and urino-genital disorders, debility, diabetes and impotence among various tribal communities. The last decade has witnessed many ethnobotanical researches from field to laboratory and to field again and based on this knowledge; many of its properties have been scientifically validated, few have been commercialized and many pharmacologically active phytochemicals have also been isolated from its different parts. B. ceiba is also a part of many socio-cultural customs deporting both as auspicious and inauspicious tree. However, few of these traditions along with extensive exploitation for collection of medicinal parts have raised questions for its conservation. Besides that, commercial use of its wood for match-stick preparation has also jeopardized its existence in country. The present paper will discuss impact of these new dimensions of ethnobotany on eco-system as well as throw light on approaches towards sustainable commercialization and conservation of B. ceiba.
Keywords: Silk cotton tree, ethnomedicine, scientific validation.

ISCA-ISC-2014-Oral-3BS-09

Toxic Effect of Heavy Metals on Filamentous Fungi Isolated From Contaminated Soil of Kasur

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Abstract: It is well-known that certain varieties of metals are necessary for plant growth and for varieties of biological actions. However, whether the metals are essential or non-essential, they are noxious or toxic to certain levels. The metals become toxic or hazardous when their limit exceeds from permissible limits or standards set by EPA. Sixteen fungi were isolated from heavy metal polluted sites of peri-urban areas of Kasur. Filamentous fungi isolated belonged to the genera Aspergillus sp, Aspergillus nidulans, Aspergillus ochraceus, Geotrichum sp, Rhizopus sp., Curvularia sp, Fusarium sp., Aspergillus niger, Penicillium sp, Acremonium sp. and Aspergillus fumigatus. The heavy metal resistance development of Aspergillus sp., Aspergillus nidulans, Geotrichum sp., Rhizopus sp., Curvularia sp., Fusarium sp., Aspergillus niger, Penicillium sp., Acremonium sp. and Aspergillus fumigatus strains in the presence of $Pb(NO_3)_2$, $Cd(NO_3)_2$, $Cr(NO_3)_2$ and $CuSO_4.6H_2O$ was studied up to concentration of 100ppm. The adaptive performance was measured from the development frequency of the strains with time. The effect of metal type, the metal concentration and the type of strains on this adaptive performance was examined. The results discovered that the Penicillium sp., Acremonium sp., Curvularia sp. and Aspergillus fumigatus were highly tolerant/resistant towards the metal ($Pb(NO_3)_2$, Cd $(NO_3)_2$, $Cr(NO_3)_2$ and $CuSO_4 .6H_2O$) concentrations. In future, the same fungal species will be verified with other metals for the clear understanding of tolerance.
Keywords: Filamentous fungi, bioremediation, metal tolerance, soil and water fungi, tolerance index

ISCA-ISC-2014-Oral-3BS-10

Bioenergy generation through Enzymatic hydrolysis and production by Saccharication and Fermenation by Immobilized Yeast

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Abstract: Increasing concern about the environment, food and feed shortages and hike in the price of petroleum have stimulated interest in new ways of producing biofuels. The interest is rapidly increasing towards converting agricultural wastes to commercially valuable products. Bioethanol made from waste biomass can offer immediate and sustained greenhouse gas advantages. Citrus processing waste, a byproduct of juice manufacture, which contains high amount of flavonoids and polysaccharides. There is a considerable industrial interest in the enzymatic transformation of flavonoids to hydrolysis products; that offers a pathway to bio-energy generation. Rhamnosidase of bacterial origin are very few and thus are potentially subject for research. Important sugars from the processed citrus peel waste were recovered by enzymatic hydrolysis ans dilute acid tratment of the waste substrate further utilized for bioethanol production.

Sacchromyces cerevisae was immobilized and used for simultaneous saccharification and fermentation. Bioethanol production was optimized ans estimated by HPLC. Pectin was recovered as byproducts after the process. Solid remains were recovered and used as compost. The present investigation is an effort to develop an enzymatic treatment which would facilitate the economical processing of citrus waste for bioenergy generation. The process also holds the potential to reduce the environment threats by replacing the non renewable fuel and waste disposal issues

Keywords: Bioethanol, enzymatic hydrolysis, fermentation.

ISCA-ISC-2014-Oral-3BS-11

In-vivo study of Antibiotics against Mango Bacterial Canker Disease (MBCD)

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Abstract: Mango bacterial canker disease (MBCD) caused by Xanthomonas campestris pv. mangiferaeindicae (Xcmi) is one of the important diseases of mango affecting a number of commercial cultivars. The pathogen affects different plant parts like leaf, stem and fruit. Favorable environmental conditions cause severe loss to the crop. The in vivo studies were performed on immature fruits of mango. An attempt was made for the management of Mango Bacterial Canker Disease (MBCD) using antibiotics. Fruits inoculated with Xcmi strains then antibiotics were applied on it. The fruits were incubated in laboratory at room temperature and the results were recorded after 7 days. Out of various antibiotics tested, four antibiotics viz. Chloramphenicol, Tetracycline, Gentamicin and Streptomycin were selected for in-vivo experiment. Tetracycline showed maximum activity against MBCD. The ultimate aim of the research work was to develop a compatible management of MBCD by using suitable antibiotic.

Keywords: In-vivo Study, Antibiotics, Mango Bacterial Canker Disease (MBCD), Xanthomonas campestris pv. mangiferaeindicae (Xcmi)

ISCA-ISC-2014-Oral-3BS-12

Determination of antibacterial activity of Datura inoxia against Xanthomonas campestris pv. mangiferaeindicae

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Abstract: Mango bacterial canker disease (MBCD) caused by Xanthomonas campestris pv. mangiferaeindicae (Xcmi) is one of the important diseases of mango affecting a number of commercial cultivars. The pathogen affects different plant parts like leaf, stem and fruit. Favorable environmental conditions cause severe loss to the crop. Leaf extract of 37 plants were tested against Xcmi; out of them, leaf extract of Datura inoxia Mill. gave promising results. Hence, fresh leaf extracts of D. inoxia were screened for its antibacterial activity against 25 strains of Xcmi collected from different parts of Maharashtra. The in vitro studies have been performed by using cup-plate method to examine the activity. Cup cavity filled with sterile distilled water was used as control in all the experiments. All experiments were repeated for four times (Experiment A, B, C and D). The maximum activity was recorded against Xcmi.15 (Mean activity zone – 19.69 mm) followed by Xcmi.09 (Mean activity zone – 19.65 mm) and comparatively minimum activity was recorded against Xcmi.02 (Mean activity zone – 16.56 mm). The ultimate aim of the research work was to develop economically and technically viable field formulations for the farmers, which will be Bio-ecologically compatible for management of plant bacterial diseases.

Keywords: Antibacterial activity, Xanthomonas campestris pv. mangiferaeindicae, Datura inoxia.

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Beneficial effect of Withania somnifera against bromobenzene-induced acute hepatic injury in rats: Invivo and insilico evaluation

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Abstract: Bromobenzene (C_6H_5Br, aryl halide) is a widely used industrial solvent that is biotransformed in the liver to form reactive metabolites, which bind reduced glutathione causing oxidative stress. The objective of the present study was to investigate theprotective effect of Withania somnifera root powder against bromobenzene-induced hepatic injury in female albino Wistarrats. Administration of bromobenzene (10mmol/kg body weight, orally) to rats caused marked hepatic damage, characterized by oxidative stress and a significant ($p<0.05$) increase in liver function markers,accompanied by a decrease inmitochondrial enzyme activities. Pre-treatment with aqueous suspension ofW. somniferaroot powder (250 and 500 mg/kg body weight, orally) not only significantly attenuated the increase in liver function markers and

restored the mitochondrial enzyme activities, but also reduced oxidative stress in a dose-dependent manner. Also, pre-administration of W. somniferawas effective in ameliorating the bromobenzene-induced histopathological lesions. The interactions of NF-™B and TNF-á with various active components of W. somniferawas also studied, which further supported our results. This study suggests that W. somniferais a potent hepatoprotective agent that could protect againstbromobenzene-induced acute hepatic injuryand this ability can be attributed to its antioxidant potential.

Keywords: Oxidative stress; Glutathione; Bromobenzene; Antioxidant; Withania somnifera; Hepatoprotective

ISCA-ISC-2014-Oral-3BS-14

Studies on fungi from Lonar Lake of Buldhana District of Maharashtra, India

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Abstract: Lonar Lake is a saline soda lake located at Lonar in Buldana district, Maharashtra, India, which was created by a meteor impact during the Pleistocene Epoch. This lake, which lies in a basalt impact structure, is both saline and alkaline in nature. Geologists, ecologists, archaeologists, naturalists and astronomers have reported several studies on the various aspects of this Lonar Lake is a saline soda lake located at Lonar in Buldana district, Maharashtra, India, which was created by a meteor impact during the Pleistocene Epoch. This lake, which lies in a basalt impact structure, is both saline and alkaline in nature. Lonar Lake has a mean diameter of 1.2 kms (3,900 ft) and is about 137 metres (449 ft) below the crater rim. The meteor crater rim is about 1.8 kms (5,900 ft) in diameter. Geologists, ecologists, archaeologists, naturalists and astronomers have reported several studies on the various aspects of this crater lake ecosystem, However Microbiological aspects remain unexplored. By considering this in the present study, five different fungi were isolated from soil sediments of Lonar lake, Isolates were identified up to genus level using cultural, biochemical, morphological characters and spore morphology. Isolates were studied for their ability to produce Protease, Amylase and Lipase enzymes. Result indicated that out of five isolates four produced maximum protease enzyme, all fungi produced amylase enzyme and only one produced lipase enzyme. Study indicated importance of these fungi for enzyme production and their use in detergent industry.

Keywords: Lonar lake, protease, amylase, lipase, fungi.

ISCA-ISC-2014-Oral-3BS-15

Studies on Actinomycetes from Lonar Lake of Buldhana District of Maharashtra, India

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Abstract: Lonar Lake is a saline soda lake located at Lonar in Buldana district, Maharashtra, India, which was created by a meteor impact during the Pleistocene Epoch. This lake, which lies in a basalt impact structure, is both saline and alkaline in nature. Geologists, ecologists, archaeologists, naturalists and astronomers have reported several studies on the various aspects of this Lonar Lake is a saline soda lake located at Lonar in Buldana district, Maharashtra, India, which was created by a meteor impact during the Pleistocene Epoch. This lake, which lies in a basalt impact structure, is both saline and alkaline in nature. Lonar Lake has a mean diameter of 1.2 kms (3,900 ft) and is about 137 metres (449 ft) below the crater rim. The meteor crater rim is about 1.8 kms (5,900 ft) in diameter. Geologists, ecologists, archaeologists, naturalists and astronomers have reported several studies on the various aspects of this crater lake ecosystem, However Microbiological aspects remain unexplored. By considering this in the present study, fifteen different actinomycetes were isolated from soil sediments of Lonar lake, Isolates were identified up to genus level using cultural, biochemical, morphological characters and spore morphology. Isolates were studied for their ability to produce Protease, Amylase and Lipase enzymes. Result indicated that out of fifteen isolates four produced maximum protease enzyme, all actinomycetes produced amylase enzyme and only two produced lipase enzyme. Study indicated importance of these actinoycetes for enzyme production and their use in detergent industry.

Keywords: Lonar lake, protease, amylase, lipase, actinomycetes.

ISCA-ISC-2014-Oral-3BS-16

Enumeration of Floristic Diversity of Invasive Alien Species in Pantnagar Region

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Abstract: The present study deals with the study of Invasive Alien Species (IAS) in the flora of Pantnagar, Uttarakhand.

The collection of plants has been carried out in Pantnagar since January 2012 till date. Collected specimens were identified with standard taxonomic literature and also compared with authentically identified specimens housed at the herbarium of Botanical Survey of India, Northern Circle, Dehradun (BSD) and NBRI, Lucknow. The results indicated presence of 110 species of IAS of angiosperms belonging to 79 genera under 38 families. Out of total 110 IAS maximum number was contributed by Asteraceae and the dominant genera were Ipomoea, Alternanthera, Cassia. In terms of nativity the American elements were found to be dominant among invasive alien flora represented by 85 species (77%), followed by Africa (13 spp.), Europe (8 spp.), Australia (2 spp.) and Asia (2 spp.). The life form analysis of invasive alien flora indicates dominance of the herbs (91 spp.) followed by shrubs (11 spp.), grasses (6 spp.), tress (2 spp.), There is an urgent need of better planning for early detection, eradication before their establishment, identification and enlisting of weeds and public awareness to minimise their effects on local flora.

Keywords: Invasive alien plants, noxious weeds, alien plants, flora, Pantnagar.

ISCA-ISC-2014-Oral-3BS-17

Phylogentic Analysis and Characterization of Major Pesticide Degrading Enzymes: an in Silico Approach of Bioremediation

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Abstract: Pesticide application is responsible for socio-economic upliftment of farming communities around the world. Besides undisputed advantages of synthetic pesticide, its strong disadvantages also came into existence as very lesser percentage (0.1-2%) of applied pesticides reaches to the target organisms. Rest of the amount enters into the different parts of environmental components (soil, air, water bodies, flora and fauna), and creates adverse effects all around. There are numerous research are going on for the degradation of various pesticides in laboratory, benefitting the environment from their hazardous effect. Till date there are only few reports on the in silico study of pesticide Bioremediation. In the current research we focus on development of the In silico Bioremediation approach for the removal of pesticides from the environment. Sequence of different enzymes having capability to degrade the pesticides are taken from the database, and the structure of the pesticides are also taken from the chemical database. We interact the pesticides and enzymes with help Of Bioinformatics tool. Phylogenetic study among proteins showed the differences between reported proteins and their functions. By this approach we have find the possible and high throughput approach of Bioremediation which can be beneficial in laboratory as well as field conditions also. This is unique study for the degradation and illustration of novel microbial pathway.

Keywords: Pesticides, enzymes, bioremediation, silico, phylogenetic.

ISCA-ISC-2014-Oral-3BS-18

Attributes of Endophytic fungi isolated from an Indian Medicinal plant as source of Antimicrobial compounds for Therapeutics

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Abstract: Endophytic microbes have been gaining the momentum for bio prospecting of natural compounds having therapeutic value. According to widely accepted definition"endophytes are the microbes that reside symbiotically inside the plant without causing any apparent symptom to the host plant. Looking over the application of natural products, endophytes are considered as prolific producer of various metabolites including of host origin. Present investigation deals antifungal and antibacterial activities of endophytic fungi isolated from Rauwolfia serpentina. In search of host specific metabolite and compounds of pharmacological importance Rauwolfia serpentina, a medicinal plant has been selected. Since a number of chemical compounds such as reserpine, azamaline, deserpidine, rescinnamine and serpentinine have been discovered from this host, therefore, a good number of compounds may be expected from its endophytes. Rauwolfia serpentina is used to treat blood pressure, insect bite and mental disorder. A total of 14 different endophytic fungi belonging to different group have been isolated from the root, leaf, fruit and stem of targeted plant following a proper method of isolation. Among 14 cultures total six endophytic fungi had shown antibacterial and antifungal activities. Initially, endophytic fungi isolated were identified microscopically as Phomopsis sp., Phoma sp., Aspergilus niger, Fusarium sp. and Colletotrichum sp., and Penicillium sp. Endophytic fungi Rs-3, Rl-1, Rf-4, Rs-4, Rs-2 and Rf-4 had exhibited antibacterial activity against S. aureus, S. flexeneri and E. fecalis. Endophytic fungi coded as Rl-4, Rs-1, Rs-3 Rl-1, Rf-4, Rs-2 and Rr-4 had been found to possess antifungal activity against Curvularia lunata, Fusarium oxysporum and Alternaria alternata. Apart from this, approx 90% endophytes were found to have B glucosidase and cellulase activity

which could be a specific player in above co-relation. Endophytic fungi Rf-4 had shown maximum zone of inhibition and percentage inhibition against the clinical bacterial pathogens and fungal plant pathogen respectively.

Keywords: Attributes, endophytic, fungi, isolated, medicinal plant, antimicrobial, compounds, therapeutics.

ISCA-ISC-2014-Oral-3BS-19

Characterization and Partial purification of Chitin deacetylase Enzyme from *Aspergillus sp*

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Abstract: Chitin deacetylase (CDA) enzyme converts chitin, a polymer of N-acetyl glucosamine, into chitosan by deacetylation. The present study was carried out for production of CDA using Aspergillus sp under submerged fermentation. The crude enzyme from fermentation was characterized in terms of stability towards pH, temperature and metal ions. CDA was partially purified by precipitation of protein. The enzyme is stable in pH range of 5-8, temperature 50-70 ^{0}C. The enzyme activity can be enhanced in the presence of 1mM Co^{2+}, EDTA while inhibited by Mn^{2+}, Fe^{2+} and Zn^{2+}. Degree of deacetylation was measured using NMR spectroscopy with partially purified CDA and its potential for deacetylation of chitinous and chitosanous substances for further utilization in industrial applications is to be determined.

Keywords: Chitosan, deacetylation, submerged fermentation, protein precipitation, NMR spectroscopy, degree of deacetylation.

ISCA-ISC-2014-Oral-3BS-20

To study the effect of high Decibel sounds (Noise Pollution) on the behaviour of Albino Rats

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Abstract: Sound is an inevitable component of our surrounding, but, it becomes highly hazardous to our health when exposed in high decibel in an uncontrolled manner. Exposure to this traffic noise on a regular basis can lead to stress. This stress brings in changes in the hormonal input of the animal because it is observed that continuous exposure to high decibel noise pollution causes stress. The stress causes release of hormones like cortisol which are usually released in the body to manage the glucose levels in the body. Hence, when observed under stress due to noise pollution the glucose levels are high in experimental rats. Persistent high levels of glucose leads to diabetic conditions in the animal. Hence, the present study emphasis on stress induced by loud noise on rats effecting the blood sugar levels and inducing diabetic conditions in them.

Keywords: Noise pollution, stress, cortisol, melatonin, dogs.

ISCA-ISC-2014-Oral-3BS-21

Isolation, Screening and Characterization of the Polyhydroxybutyrate (PHB) producing Microorganisms from the different soils of Madhya Pradesh region and the Quantitation for their Production of PHBs

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Abstract: Polyhydroxybutyrate (PHB) is a biodegradable and biocompatible thermoplastic, accumulatedintracellularly as reserve granules by many microbial species under carbon richand nutrient starvation conditions. Poly-ß-hydroxybutyrate (PHB) belongs to a family of microbialenergy/carbon storage compounds collectively known as poly hydroxyalkanoates. In the present study, differentmicroorganisms producingPHBs have been isolated, identified and quantified for their maximum production. Few of the bacterial and fungal species have been isolated. Among all the isolates, the bacterial species were found to accumulate high amount of PHBs in them. The high accumulators of PHB identified were from Bacillus, Serratia and Actinomycetes genus.

Keywords: Polyhydroxybutyrate, biodegradable, biocompatible, thermoplastic, polyhydroxyalkanoates, microorganisms.

ISCA-ISC-2014-Oral-3BS-22

Microbial Enrichment of Vermicompost as a tool in the Reduction of Bio-fertilizer Volume

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Abstract: The present investigation was aimed at preparation of vermicompost using vegetable waste and cow dung in the ratio of 9:1 with the addition of earthworms after 3 weeks and the enumeration of beneficial microorganisms. Microbial analysis for the partially decomposed material as well as vermicompost was carried out by standard pour plate method to enumerate total and specific physiological groups of micro-organisms using Nutrient agar, Czepek's Dox and Actinomycetes isolation agar. The isolates were screened for their efficiency of nitrogen fixation (Jensen's media for Azotobacter and Doberginer medium for Azospirillum) and phosphate solubilization (Sperber's medium). Of the total 53 isolates five isolates of nitrogen fixers (Azospirillum) were grown in the selective broth and was subjected for the determination of the percentage nitrogen content by the standard Kjeldhal's method. Three isolates were selected based on the efficiency of nitrogen fixed SAZP1, SAZP2, SAZP3, SAZP4 was SAZP5. Two isolates SPSB1 and SPSB3 of the phosphate solubilizers were screened based on the maximal zone of clearance of phosphate on the selective media. A total of 3 isolates of both were used to enrich the vermicompost. A study on nitrogen fixing and phosphate solubilizing microorganisms was conducted which showed abundant growth in terms of both population and variety in the compost. As Azospirillum isolates were more than Azotobacter, it was selected as the enrichment organism. The analysis of nitrogen fixing Azotobacter exhibited that the number of colony forming units increased four folds in vermicompost when compared to that of the partial decompost. It was observed that in enriched sample, there was an exponential increase in both nitrogen fixers and phosphate solubilizers as compared to the non-enriched sample. This indicates that vermicomposting along with enrichment can be used as tool to reduce the cost of basic volume of biofertilizer per acre of land.

Keywords: Vermicompost, azotobacter, azospirillum, nitrogen fixers, phosphate solubilizers.

ISCA-ISC-2014-Oral-3BS-23

Isolation and Quantification of Hydroxycinnamic Acid Derivatives from Solanum Lycopersicum

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Abstract: Phenolic compounds are secondary metabolites of plants widely distributed in food and beverages of plant origin. They have been widely studied due to their influence on food quality. They are constituted by a large amount of substances, among them hydroxycinnamic acids, is rich in antioxidant properties. Hydroxycinnamic acids have been reported to possess a wide variety of biological properties such as anti-inflammatory, anti-tumor, and neuroprotective activities. A low intake of fruits and vegetables are associated with increased risk for oral and other cancers. There is gathering evidence that antioxidant phytonutrients in fruits and vegetables have health promoting effects. Several epidemiological studies suggest that the consumption of tomatoes reduces the risk of chronic diseases such as cardiovascular disease and cancer. Hydroxycinnamic acids are the largest class of phenolic compounds, represented by caffeic, p-coumaric and ferulic acids. This paper illustrates the isolation and quantitative estimation of Hydroxycinnamic acid in the fruit of Solanum lycopersicum by HPLC analysis. The Rf values of the peak for the aqueous extracts were determined.

Keywords: Hydroxycinnamic acids, polyphenols, tomato.

ISCA-ISC-2014-Oral-3BS-24

Phytochemical Screening of Root Extract of Phyllanthus Fraternus Webster

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Abstract: Phyllanthus fraternus Webster, originated from western India, belongs to family Euphorbiaceae. It is a medicinally important plant species used by tribal of Gujarat to cure certain diseases like asthma, cough, diarrhea, diabetes, skin diseases and scabies. The preliminary phytochemical study of extract of root was investigated. For the preliminary phytochemical screening methods of Trease, Sofowara and Harbone are followed. The root extract using

methanol as a solvent revealed the presence of tannins, alkaloids, saponins, flavanoids, terpenoids and steroids. Quantification of isolated compounds of root extract were made using HPTLC and HPLC. Extract of isolated compound PF-1 and PF-2 were dissolved in chloroform and methanol. Methanol extract containing isolated compound PF-1 and PF-2 were scanned at 254 nm and 366 nm. Present study reveals that isolated compounds contain medicinally important bioactive ingredients. Extract of isolated compounds exhibited highest zone of inhibition Pseudomonas aeruginosa and Salmonella typhi B. There is no report found on isolated compound of this plant species.

Keyword: Methanol, root extract, HPTLC, alkaloids, HPLC, zone of inhibition.

ISCA-ISC-2014-Oral-3BS-25

Carotenoid and Antibacterial analysis of Thuja occidentalis

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Abstract: Carotenoid are secondary metabolite included in class of tetraterpenoids. This study conducted for analyze the carotenoid content of methanol and ethanol leaf extract of Thuja occidentalis. It revealed to determine the amount of total carotenoid in each leaf extract in addition to this study compared the effectivess of leaf extract against both gram positive and negative bacteria and related to total caretenoid content to antibacterial activity.Thuja occidentalis Leaves shows a good antibacterial activity against these selected bacterial species such as Bacillus subtilis, Bacillus megaterium, Bacillus amyloliquifaciens, Proteus vulgaris and Salmonellatyphi. But the more effective against Bacillus subtilis, Bacillus megaterium, Bacillus amyloliquifaciens, Proteus vulgaris and Salmonella typhi. The total carotenoid content of leaf extract was measured using this method of Tao etal. This result revealed that methanol and ethanol leaf extract have 11.25617 ug /gm, 8.9881 ug /gm of total carotenoids respectively. Methanol extract which has the highest total carotenoid content also exhibited highest zone of inhibition observed in Bacillus amyloliquifaciens and Salmonella typhi.These results revealed that there might be some secondary metabolite which are present in the Thuja occidentalis plants which have more potent antibacterial activity than other parts of Thuja occidentalis plant as compare to the leave extract. There is no report found on carotenoid and antibacterial analysis of Thuja occidentalis.

Keyword: Carotenoid, Secondary Metabolite, Biodiversity, Medicinal Plant, Thuja occidentalis

ISCA-ISC-2014-Oral-3BS-26

Present Status of Bacterial Blight on Pomegranate from Pune District of MS, India

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Abstract: Pomegranate (Punica granatum L.) is very important fruit in international market as table fruit because of its medicinal uses and nutritive values. Pune district is well known for cultivation of Pomegranate in Maharashtra state. Cultivation of Pomegranate popular varieties viz. Bhagawa, Ganesh, Mrudula is reported from Pune district. The most destructive bacterial disease Bacterial Blight of Pomegranate caused by Xanthomonas axonopodis pv. punicae (Xap), observed and recorded from various regions of Maharashtra state. Under favorable environmental conditions 60-80 per cent losses are reported in India. A survey has been undertaken for the report of Bacterial disease of Pomegranate in Pune District and observed that major part of the district under cultivation showed the incidence of the disease. The disease was recorded from Talukas viz. Shirur, Baramati, Indapur, Purandar and Daund. The disease was found severe at Mengalwadi (Shirur), Malegaon (Baramati), Gulunche (Purandar) and Patas (Daund). The Disease symptoms were recorded on leaves, flowers and fruits of the plant and the results are discussed in context with relevant literature.

Keywords: Pomegranate, bacterial blight, xanthomonas axonopodis pv. punicae (Xap), Pune.

ISCA-ISC-2014-Oral-3BS-27

Role of Adinine-Uridine Rich element Binding Proteins in Viral RNA stability

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Abstract: RNA binding proteins play a major role in post transcriptional regulation of RNA. Post transcriptional regulation of mRNA is an area in molecular biology which has been less explored. But in recent years there is growing interest in this field. A lot of focus is on the RNA binding proteins that regulate mRNA stability. One group of such proteins called

AU-Rich Element Binding proteins (ARE-BPs) bind to a specific RNA motif called Adinine-Uridine Rich element (ARE) and regulate the stability of the mRNA and/or translation of the mRNA that harbors them. Some ARE-BPs target the ARE-mRNA to degradation, others repress translation and some ARE-BPs stabilize mRNA and even promote translation of certain cellular mRNAs. Apart from cellular mRNAs stability of viral RNAs are also modulated by ARE-BPs. The translation and stability of RNAs of a range or viruses are regulated by ARE-BPs. Though both DNA and RNA viruses harbor AREs this paper will discuss the role of ARE-BPs on stability of the RNAs of positive sense RNA viruses.

Keywords: AU-Rich elements, AREBP, RNA turnover, P-bodies, exosomes.

ISCA-ISC-2014-Oral-3BS-28

Molecular Characterization of t(8;21) in FAB classified M2 Acute Myeloid Leukemia Patients

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Abstract: The t (8;21) of acute myeloid leukemia is a heterogeneous subset characterized by a common disease-specific molecular translocation. This subtype is referred to as core-binding factor in AML. The cytogenetically identified AML subsets show several different biological and clinical differences. The disease is characterized by ectopic expression of B-cell associated molecules and additional genetic abnormalities. The leukemic cells show specific global gene expression and micro RNA profiles. Despite the common fundamental cytogenetic characteristics, it should always be remembered that this specific cytogenetic abnormality identifies a heterogeneous subset of patients. The RNA of 26 FAB-M2 subtyped patients was amplified by using primers for AML1/ETO fusion transcript and analyzed. Patients with acute myeloid leukemia (AML) standard cytogenetics were compared with RT-PCR for the detection of t(8;21). RT-PCR detected 18 patients (12 male; 6 female) with t(8;21). In rest of 8 patients the RNA was not amplified and t(8;21) could not be detected. In conclusion, RT-PCR confirmed t(8;21) karyotype AML were FAB-M2 subtype AML patients. The morphology of blast cells (presence of Auer rods) and karyotype of AML may define distinctive subtype of AML with t(8;21)/AML1/ETO fusion. Therefore, cytogenetic analysis provided information about the aberrations present in acute myeloid leukemia. In consequence presence of specific cytogenetic aberration supports the diagnosis and classification of the involved subtypes of leukemia.

Keywords: Acute myeloid leukemia, clinical features, FAB- subtype, t(8;21).

ISCA-ISC-2014-Oral-3BS-29

Isolation and Characterization of Cellulase Producing Bacteria from Garbage Waste

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Abstract: Microbial cellulose utilization is responsible for one of the largest material flow in the biosphere. Therefore the aim of this research was to isolate cellulose producing bacteria from soil sample collected from Garbage waste, Ganpat University, Mehsana, India. We used Carboxymethyl Cellulose as substrate in submerged production medium. Total 30 isolates were obtained by primary screening technique from which 5 isolates showing maximum cellulose hydrolysis ranging from 32 to 48 mm. Potential isolates will be used in saccharification process for bioethanol production.These five isolates were evaluated by secondary screening for enzyme production. Among these 5 isolates, P2 were selected as most efficient enzyme producer and their specific enzyme activity in crude sample was found to be 3.083 IU/ml. Isolates were characterized on the basis of their morphological and biochemical tests, were identified to be *Bacillus* species. The maximum enzyme producing isolates P2 will used to check bioethanol production at laboratory scale.

Keyword: Cellulase, carboxymethyl cellulose, *Bacillus*, bioethanol, cellulose.

ISCA-ISC-2014-Oral-3BS-30

Isolation of Lactic acid Bacteria from *allium cepa* var. *Aggregatum* and Study of their Probiotic Properties

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Abstract: The shallot (*Allium cepa* var. *aggregatum* or the *A. cepa* Aggregatum Group) is a botanical variety of the species *Allium cepa*, to which the multiplier onion also belongs. Shallots are called "small onions" in South India and are

used extensively in cooking. The scientific use of shallots as a source of Lactic Acid Bacteria (LAB) has not yet been examined. Indigenous knowledge revealed shallots as a good health source. An attempt has been made to find out the possibilities of LAB in fresh shallots. Four isolates were identified on the basis of their morphological, cultural, physiological and biochemical tests and their probiotic properties were evaluated. These isolates were screened for resistance against bile salt, different NaCl concentrations, acidic pH, ability to inhibit pathogens, as well as survival under different storage temperatures. Isolated strains *Bacillus coagulans* (*Lactobacillus sporogenes*), *Lactobacillus brevis, Lactobacillus delbrueckii* subsp. *bulgaricus* and *Lactococcus lactis* showed satisfactory probiotic potentials.

Keywords: Allium cepa var. aggregatum, Bacillus coagulans (Lactobacillus sporogenes), Lactic Acid Bacteria, Lactobacillus brevis, Lactobacillus delbrueckii subsp. bulgaricus, Lactococcus lactis, probiotics.

ISCA-ISC-2014-Oral-3BS-31

Isolation and biochemical Characterization of epididymal Proteins in the Lizard *Eutropis carinata*

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Abstract: The epididymal lumen is a complex biochemical microenvironment which harbors various proteins, enzymes and factors that helps spermatozoa to gain motility and fertility. The present study focuses on the isolation and tracing biochemical features of epididymal luminal proteins. One dimentional electrophoretic profile of epididymal luminal proteins carried out both during breeding (Oct.-Dec.) and non-breeding (Apr.-Jun.) seasons of the reproductive cycle, reveal a total of 14 and 11 protein bands respectively. The molecular weight of three protein bands specific to breeding seasons were 72KDa, 66KDa and 7.8KDa. 2D electrophoretic profile also shows three protein spots that appeared during breeding season based on their PI. The proteins specific to breeding season were further purified by Size exclusion chromatography technique, the fractions were further run on SDS gel and silver stained. The purified protein profile shows high molecular weight proteins which are specific to breeding season, of which the protein with the molecular weight of 72KDa shows positive reaction for PAS which suggests its glycoprotein nature.

Keywords: Isolation and biochemical characterization of epididymal proteins in the lizard *Eutropis carinata*

ISCA-ISC-2014-Oral-3BS-32

Light microscopy and ultrastructure of the efferent ductules in the lizard, *Eutropis carinata*

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Abstract: The efferent ductules are small, convoluted tubules that conduct sperm from rete testis to the epididymis. The present study shows histological, ultrastructural and histochemical features of the efferent ductules of the lizard *Eutropis carinata*, during breeding (Oct.-Dec.) and non breeding (Apr.-Jun.) seasons of the reproductive cycle. During breeding season, histologicaly the epithelium of efferent ductules is lined by pseudostratified cuboidal non-ciliated cells and ciliated cells. Ultrastructural features of the nonciliated cells reveal the role of endocytosis and secretion where as long cilia of the ciliated cells helps in the movement of spermatozoa. During nonbreeding season the ciliated cells and noncilliated cells were regressed. Histochemically, the epithelium is positive to PAS and bromophenol blue during breeding season indicating that they secret glycoproteins and during nonbreeding season the epithelium is negative to PAS and bromophenolblue. Histometrical parameters exhibit increased epithelial cell height during breeding season and reduced epithelial cell height and shrunken lumen during nonbreeding season.

Keywords: Light, microscopy, ultrastructure, efferent, ductules, lizard, Eutropis carinata.

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Purification and biochemical characterization of the kidney proteins in the lizard, *Eutropis carinata*

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Abstract: The Renal Sex Segment (RSS) found only in male squamate reptiles is a modified portion of the nephrons of the kidney. The cells of the RSS are highly secretory in nature and the secretions have high reproductive significance.

One dimensional electrophoretic profile of the kidney proteins were carried out both during breeding (Oct.–Nov.) and nonbreeding seasons (Jun.-Jul) of the reproductive cycle. The profile yield 27 and 24 protein bands during breeding and nonbreeding seasons respectively. Three protein bands specific to breeding season have a molecular weight of 93KDa, 69KDa and 63KDa. The RSS of the kidney is secretory only during breeding season, hence the proteins appeared only during breeding season were secreted from the RSS. These three proteins were further purified by gel permeation chromatography technique and the elutes were further run in SDS-PAGE gel and silver stained. One of these protein with molecular weight of 93KDa is PAS positive. The activity of the enzymes Acid phosphataes and Alkaline phosphatase were confirmed by running the purified elutes in native gel, the bands of Acidphosphataes and Alkalinephosphatase that appeared on the gel shared the position of high and low molecular weight of the proteins that appeared during breeding season which suggest that one of the purified protein may be an enzyme or has a subunit that supports the enzyme.

Keywords: Purification, biochemical, characterization, kidney proteins, lizard, *Eutropis carinata.*

ISCA-ISC-2014-Oral-3BS-34

Adsorption studies on Toxoids

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Abstract: Vaccines often contain preservatives, adjuvants in addition to pathogen specific immunogen. It contains inactivated bacterial toxin. Vaccines also contain preservatives that prevent bacterial or fungal contamination (Eg. Thiomersal). Adjuvants that enhance antigen specific immune responses (Eg. Aluminium Phosphate Gel). Although Alum is the most commonly used vaccine adjuvant it has some limitations for use with the next generation recombinant antigens. The present study envisages the adsorption rate of Diptheria toxoid on Aluminium Phosphate gel at different pH (5-7), also other parameters like Gel sterility aluminium content, Thiomersal content, Formaldehyde content, Lf values of Diptheria Toxoid and adsorption rate were studied in the formulated Toxoid. In addition to the above abnormal toxicity of the formulated batch was studied in Guinea pigs and Mice. Aluminum Phosphate gel showed the increased efficacy of the Diptheria Toxoid and did not show any adverse effects. This main conclusion drawn from the experiments is that the acidic pH favours high adsorption rate than Neutral pH.

Keywords: Toxoid, adsorption, aluminium phosphate gel, DTP vaccine.

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Application of Acidothermophiles in Biomining Technology

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Abstract: Extreme environments are the environments in which the normal life cannot exist effortlessly. Extremophilic microorganisms are able to survive at the point of ecological balances such as high pH, high salt concentrations, high temperatures and high pressure. Some of the extreme microorganisms are known since many years and their extreme-enzymes are applied in many fields. Extreme acidothermophiles are found in acidic hot springs, water holes, and mud holes that contain elemental sulfur. The genus *Sulfolobus,* which belongs to the family *Sulfolobaecae,* contains microorganisms that live in such type of habitats, and this genus was the first acidothermophilic genus of archaea. Members of this genus grow aerobically at low pH values and high temperatures in the company of elemental sulfur. Conventional methods for extraction of pure metals from multi metal ore -mines causes pollution and increase in temperature at the mine site. The microbial separation of metals from low grade ore is highly valuable as it solves the never ending issue of pollution. Microbiological processes such as biomining are of much interest in recent state of affairs in mining industry. 'Biomining' and 'Bioleaching' are the two major fields in which microbiological systems which are currently applicable. Biomining - is the use of living micro organisms to extract pure metal compounds from mutli metal ore. The process is more eco- friendly than time-honored extraction methods. Screening, isolation and adaptation of metal sulphide solubilising microbes were carried out from samples collected from industrial area, where many heavy metals are processed since long. Gradually increasing concentration of multi heavy metal solution containing Ag, As, Bi, Cd, Cr, Co, Cu, Hg, Li, Mo, Pb, Sn and Zn was a procedure to make them tolerant and adaptable for better biosolubilizing activity of chalcopyrite and pyrrohoitite at pH 2.5 and temperature 55 to 60 ^{0} C. In case of chalcopyrite 83.82% and in pyrrohoitite as high as 93.5% sulphide solubilization occurred in presence of 10 M multi-heavy metals on 8th day at 55 ^{0}C and pH 2.5 by the isolate *ATh-21v*. Chemical analyses were carried out by inductively coupled plasma spectroscopy (ICP) for metal absorption. The selected highly potential isolate *ATh-DD*$_2$ showed maximum adsorption of

Ag 61.42 %, followed by Pb 52.18 %, Zn 40.57 %, As 60.55 %, Ni 39.03 % and Cr 45.72 % in chalcopyrite. The results of *ATh-22v, ATh-6v* and *ATh- DD*$_2$ are discussed in paper with optimization results. Few selected isolates are to be studied for their metagenomics as these are unculturable chemoautotrophic isolates. They are potential candidate for biomining at acidic and high temperature environment.

Keywords: Screening, biomining, acidothermophiles, chemoautotrophic, *Sulfolobus,* metagenomics.

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Impact of Dimethoate on Neuroendocrine System of an Earthworm Eudichogaster Kinneari (Stephenson)

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Abstract: Earthworms are important organisms of soil, they helps in maintaining soil structure and soil nutrition. When agrochemicals used in agricultural fields for betterment of agricultural yield, these agrochemicals ultimately find their way to the soil and disturb the population of earthworms and other beneficial organisms. Pesticides produce morphological changes in the vital organs, such as nervous, reproductive, and respiratory and osmoregulatory organs etc. of different non-target animals. There is an intimate correlation between nervous system and reproductive system; both systems are disturbed due to insecticidal effect as the disturbed nervous system may affect the release of gonadotropins, which are essential for gametogenesis in Eudichogaster kinneari. In present study adult Eudichogaster kinneari were exposed to a safe concentration (0.06 ppm) of Dimethoate for twenty days to evaluate the drastic effects on neurosecretary cells (NSCS) of cerebral and sub-pharyngeal ganglion.Chronic exposure of above insecticide severely affect the nervous system causing vacuolization in nucleoplasm and cytoplasm of NSCS of both the ganglion, vacuolization also seen in neurosecretary material (NSM) and in neuropile. The NSCS lost their normal shape due to irregular thickened lining of cell membrane and nuclear membrane, clumping and liquification of nucleoplasm and cytoplasm. Mostly cells denuded of NSM and became empty, ultimately whole structure became necrotic. Increment in cell length and axon length (P>0.001) were observedsignificantly.

Keywords: Eudichogaster kinneari, Dimethoate, Neurosecretary cells (NSCS), Neurosecretary Material (NSM), Neuropile.

ISCA-ISC-2014-Oral-3BS-37

Impact of Global Warming on Aquatic Life and in their Ecosystem

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Abstract: Temperature has been increase due to global warming on the last few decades. Entire environment affected as well as aquatic animal and their ecosystem ,with global climate change researches forecast changes occurs in fish habitat decreasing water quality of natural water resources, aquatic ecosystem are quite vulnerable to climate changes. Climate changes devastating to salmon, trout and many species of aquatic plant and animals'. The biota of Lakes seriously affected by the global warming trend. Temperature is one of the most important factors of the water bodies and necessary for growth, breeding, spawning of fish's .risen temperature in any water body influenced physiology activity, breeding and spawning also.

Keywords: Global warming, aquatic ecosystem, climate changes.

ISCA-ISC-2014-Oral-3BS-38

Algae: A source of Future fuel Hydrogen and its Prospects for energy Security

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Abstract: Worldwide demand for energy is growing at an alarming rate rising from 82.2 to 86.7 MBD (million bards perday) DAS (2014). Continuos and non judicions use of fossil fuels for rapid industrialization and urbanization has threatend our environment and ecosystem by increasing co_2 and other GHG in atmosphere. Energy demand across the transport sector is growing rapidly. In India, road infrastructure is used to transport over 60% of total goods and 85-88% of total passenger traffic. Currently, diesel alone meets an estimated 73% of transportation fuel demad followed by petrol at 20% and their combined demand is expected to grow by more than 5% over coming years. India is importing 80% of its crude oil needs, hydrogen is being promoted as a future fuel. Hydrogen is considered as a clean and renewable source of energy for future. Molecular H_2 has the highest energy content per unit weight among the known gaseous fuel (143GJ/ Tonne). Dark fermentative hydrogen production is economically feasible because of higher hydrogen production rate

and lower doubling time of microbes than in photo fermentation and biophotolysis. Algae through anaerobic digester or by bio photolysis, pyrolysis and gasification process. It is environment friendly as it generates relatively lesser amount of carbon dioxide for each unit of heat that is released. Therefore it will be future fuel for developing countries.

Keywords: Algae, source, future fuel hydrogen, prospects, energy security.

ISCA-ISC-2014-Oral-3BS-40

Identification and characterization of homologous microsatellite markers in ESTs and GSSs of *Musa* Groups

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Abstract: Paucity of efficient molecular marker is one of the major hindrances in genetic improvement of Musa. Mining of microsatellites from expressed sequence tags (ESTs) and genomic survey sequences (GSSs) has provided a rational approach for development of competent markers. We report a total of 800 and 41 homologous microsatellite repeats from ESTs and GSSs respectively from six different groups of *Musa*. Functional annotation identified 55 putative functions, 177 functional domain markers and 84 GO terms. Out of 423 compound microsatellites, only (CT)6g(AT)8 and (GAA)6gag(GAA)5 were found to be conserved.The markers developed in this study can be efficiently exploited to get into the genetic structure of *Musa* and can also be used as cross-transferable markers across species for improvement through molecular breeding.

Keywords: Expressed Sequence Tags (ESTs), Genomic Survey Sequences (GSSs), Simple Sequence Repeats (SSRs), Functional Domain Markers (FDM), Musa.

ISCA-ISC-2014-Oral-3BS-41

Study of fungal Diversity on different types of Finished leather and leather Articles

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Abstract: Finished leather and leather articles, manufactured from the animal skin are highly Susceptible for fungal attack. The animal skin contains a great variety of microorganisms which are derived from air, water, soil, manure and extraneous filth, while the animal is still alive, most of these organisms have little effect on the skin. But after the removal of the skin from the dead animals, during finishing operation the flesh side also become contaminated, then organisms find themselves in a perfect medium for the growth and almost immediately start multiplying at an enormous rate. The observations of many types of samples will give a large number of fungi which grow and infest the various types of finished leather and cause deterioration The present study deals with the collection of various types of finished leather samples and infested leather articles from different places. Isolations were made from such samples to know about the qualitative and quantitative spectrum of fungi to deteriorate the collected samples. In all leather samples and leather articles total 52 fungal forms belonging to 19 different genera were isolated. The present investigation provides impetus to develop certain preventive measures to make these finished leather free from infestation of fungi under the conditions of high R.H. and optimum temperature, the knowledge of specific microflora and their relative capacity to infest leather is necessary for solving this problem.

Keywords: Finished leather, leather articles, fungi, infestation, relative humidity.

ISCA-ISC-2014-Oral-3BS-42

Electrostatically Functionalized Graphene oxide Based Enzymatic Biosensor for Lactic acid Detection in Serum

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Abstract: A novel strategic fabrication of graphene oxide(GO)bound lactate oxidase electrode to construct a highly sensitive and selective amperometric lactic acid biosensor. GO was functionalized by non-chemical and dry-process using corona discharge tube method, i.e., electrostatical approach with oxygenated functional groups on its surfaces and transferred onto flexible polyfilms by thermal embedding technique,which acts as a working electrode. Lactate oxidase from Pediococcus species has been immobilized through glutaraldehyde coupling onto the working electrode.The electrocatalytic activity of the modified electrodes towards lactic acid was investigated by cyclic voltammetry.The electrode

showed good electrocatalytic activity and optimum response at 35ºC in 0.05M, sodium phosphate buffer at an applied potential of 0.4 V,pH 7 for 60s.A linearity (R=0.99554) with the lactic acid concentration range from 0.1 to 6mM/L and sensitivity 0.1202 ìA/mM/l with detection limit of 0.1mM/L was observed.The serum values in healthy and diseased persons were ranges from 0.51mM-2.9mM and 4.4mM to 8mM, respectively.The analytical recovery of added lactic acid was 84%.Among the various serum samples tested only glycine and ammonium molybdate caused 31 and 33% inhibition.The biosensor sustained its stability for more than 25 days at 4ºC with 150 times of reusage without depreciation.The electrode significantly enhances detection limits, stability and is also inexpensive.

Keywords: Lactate, lactate oxidase, immobilization, graphene oxide, lactate biosensor.

ISCA-ISC-2014-Oral-3BS-43

Identification of *Pseudomonas* using Probabilistic identification of bacteria (PIB) software

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Abstract: The genus Pseudomonas is a group of gram-negative, motile, rod-shaped bacteria known for their metabolic versatility. They are common soil-dwelling aerotactic gram-negative proteobacteria with the unique ability to utilize exotic carbon sources for energy. Some members of the genus Pseudomonas are able to metabolize chemical pollutants in the environment, and as a result can be used for bioremediation. Therefore, characterization of various species of Pseudomonas is of significant importance. In the present study four isolates HMR1, HMR4, HMR7 and HMR16 were characterized on the basis of morphological and biochemical characteristics aided with Probabilistic identification of bacteria (PIB) software. For the isolates, HMR1 and HMR16 identification threshold reached to 1.0 and for the isolates, HMR4 and HMR7 identification threshold reached to 0.98906. Isolate HMR1 and HMR16 were identified as Pseudomonas aeruginosa and isolate HMR4 and HMR7 were identified as Pseudomonas putida.

Keywords: Pseudomonas, HMR, PIB software, Biochemical characterization, Bioremediation

ISCA-ISC-2014-Oral-3BS-44

Glycolytic Inhibition mediated by 2-DG modulates the expression and biological activity of VEGF through a NAD^+ dependant Sirtulin-1 directed mechanism and PAR modification

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Abstract: Reprogramming of energy metabolism particularly switching over of cells to aerobic glycolysis is a hallmark of cancer which causes accumulation of lactate which in turn can act as an inducer of angiogensis. Angiogenesis is the formation of new blood vessels from the pre existing vasculature and tumors cannot grow beyond 1-2 cubic millimeter without neo blood vessels due to the lack of oxygen and nutrients. Tumor specific microenvironment especially the hypoxic condition induces the expression of VEGF, the principal mitogen which regulates angiogenesis. The biological activity of VEGF is regulated at transcriptional, post-transcriptional, translational and post translational levels. The present study was designed to examine if blocking glycolytic pathway in tumor cells can affect its angiogenic potency with respect to VEGF. The results of this study suggest that 2-DG at sub-lethal concentration can alter expression as well as biological activity of VEGF. Mechanistic studies suggested that 2DG alters the redox status ie NAD+/NADH ratio, and thus reduce the expression and secretion of VEGF in a SIRT-1 dependant manner and the biological activity of secreted VEGF by enhancing PAR modification of VEGF in a SIRT-1 independent manner.

Keywords: Angiogenesis, VEGF, PAR modification, SIRT-1

ISCA-ISC-2014-Oral-3BS-45

Hypoglycemic activity of extracts of *Gymnema sylvestre* leaves in streptozotocin-induced diabetic rats.

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Abstract: The prevalence of diabetes mellitus is increasing with ageing of the population and life style changes associated with rapid urbanization and westernization. Diabetes mellitus is a disease results from abnormality of carbohydrate

metabolism and characterized by absolute or relative deficiencies in insulin secretion or receptor insensitivity to endogenous insulin, resulting in hyperglycemia. Diabetes mellitus is a complex disorder that characterized by hyperglycemia resulting from malfunction in insulin secretion and/or insulin action both causing by impaired metabolism of glucose, lipids and protein .The chronic hyperglycemia of diabetes is associated with long term damage, dysfunction and failure of various organs. Despite the presence of known antidiabetic medicine in the pharmaceutical market, diabetes and the related complications continued to be a major medical problem. Recently, some medicinal plants have been reported to be useful in diabetes worldwide and have been used empirically as antidiabetic and antihyperlipidemic remedies. Antihyperglycemic effects of these plants are attributed to their ability to restore the function of pancreatic tissues by causing an increase in insulin output or inhibit the intestinal absorption of glucose or to the facilitation of metabolites in insulin dependent processes. Plants, a therapeutic source are a prehistoric knowledge. Present study from south east Rajasthan have indicated effective hypoglycemic properties of *Gymnema sylvestres* Leaves in streptozotocin induced Wistar rat model. Histology of Pancreatic tissue reveals restoration and regeneration of insulin producing Beta cells of Langerhans.

Keywords: Antidiabetic, streptozotocin, histology, Pancreas,hypoglycemic and *Gymnema.*

ISCA-ISC-2014-Oral-3BS-46

Effect of *Azolla* as organic compost on dry matter yield and Chlorophyll content of Sarpagandha and safed musli plants

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Abstract: Sarpagandha *(Rauvolfia serpentine* L.) and Safed Musli *(Chlorophytum tuberosum*) are both well known medicinal plant of plant kingdom. Present study deals effect of *Azolla* as organic compost on growth and composition of Sarpagandha (*Rauvolfia serpentina* L.) and safed musli (*Chlorophytum tuberosum* L.) plants. Both plants were grown on soil pot culture conditions and treated with different doses of *Azolla*. After 180 days of cultivation both plants were studied for dry matter yield and chlorophyll contents. Thus, *Azolla* can be better organic compost for the growth and composition of Medicinal plants.

Keywords: Organic compost, *Azolla*, Sarpagandha, *Rauvolfia serpentina* L., safed musli, *Chlorophytum tuberosum* L.

ISCA-ISC-2014-Oral-3BS-47

Further Studies on Taxonomy of Genus Aegocera Latreille from Western Ghats of India

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Abstract: Lepidoptera comprising moths and butterflies is the third largest order in the class Insecta. Their numerical strength has been estimated to be about more than 35,000 described species referable to 4,200 described genera. They are usually dull coloured moths with drab forewings, although some have brightly coloured hindwings. They have thicker abdomen and robust body structure. The Noctuid moths can be easily distinguished on the basis of venation of the hindwing, where $Sc+R_1$ is separated from R_s and is connected with the discal cell at base. Principally they are defined by the presence of tympanum on metathorax. The overwhelming majority of Noctuids fly at night and are almost invariably strongly attracted to light. Taxonomists have used various morphological attributes for the diagnosis of numerous insect taxa described, so far. One of the most important and reliable taxonomic characters in insects are external genitalia because they are highly species specific. A large number of taxonomic revisions are taking place on the basis of these characters in different groups. A lot of work has been done on external genitalia in different groups of insects since last eight decades. Further studies were conducted on genus *Aegocera* Latreille from Western Ghats of India. |Both male and female genitalic attributes of two species have been studied and illustrated in detail for the first time.

Keywords: Lepidoptera, moths, noctuidae, western ghats, genitalic attributes.

ISCA-ISC-2014-Oral-3BS-48

Down regulation of Exosomal miR503 in Cellular hypoxic Condition

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Abstract: Hypoxia is the reduction in tissue oxygen tension, is associated with various pathophysiological events, particularly hypoxia activates genetic programs that facilitate cellular adaptations by changing cell signaling and gene

expression to promote cell survival, migration, angiogenesis, cancer cell invasion, metastasis and resistance to chemotherapy .MicroRNA are small non-coding RNAs that participate in post-transcriptional gene regulation in plants and humans plays an important role in hypoxia and cancer angiogenesis. In the present study we analysed the expression level of secretory miR 503 during deferoxamine induced hypoxia. We found that miR-503 expression were down-regulated and it was confirmed by Real Time PCR Expression Studies. Further cellular miR503 levels were also down regulated during this conditions. From 3'UTR analysis miRNA-503 was found to have targets in angiogenesis regulating genes such as VEGF, VEGFR2, NFKB and FGF1.so miR 503 can be used as a target for further cancer studies.

Keywords: Hypoxia, angiogenesis, micro RNA, VEGF.

ISCA-ISC-2014-Oral-3BS-49

Profiling changes in rancidity determinants in stored pearl millet [*Pennisetum glaucum* (L.) R. BR.] flour

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Abstract: Pearl millet is economically valuable and nutritionally superior to other cereals; however, development of off odour and flavour is an old and unresolved problem associated with pearl millet flour during storage and is the major hindrance to wider acceptability by the consumers. The present investigation was carried out on 21 pearl millet genotypes. Two genotypes G 73-107 (High) and HBL 11 (Low) were selected on the basis of fat acidity. The flour was stored at 37 °C at 40% relative humidity for 0,1,2,3,4,5,10 and 15 days in an incubator. Changes in fat acidity and activities of peroxidase, lipoxygenase, and polyphenol oxidase in control and stored flour along with change in pH of water extract of flour in these two pearl millet genotypes were monitored. Increase in fat acidity, change in pH and activities of peroxidase, lipoxygenase and polyphenol oxidase were low in HBL 11 in comparison to G 73-107. Fat acidity was increased and pH along with enzyme activity decreased continuously. Strong correlation was found between activities of these enzymes. Decrease in pH indicates formation of water soluble acidic compounds. These might be low molecular weight aldehydes, ketones or alcohols. Investigations are underway for determining volatile compounds and correlate the chemical changes.

Keywords: Pearl millet, rancidity, fat acidity, storage, enzyme activities, pH of water extract.

ISCA-ISC-2014-Oral-3BS-50

GC-MS Analysis of Essential Oil from the Leaves and Fruits of *Artemesia Campestris* from Algeria

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Abstract: The chemical composition of the essential oils obtained by hydrodistillation from *Artemisia campestris* L (family Asteraceae) collected in Djebel Amour (Sahara Atlas, Algeria). Aerial parts were also evaluated by gas chromatography (GC) and gas chromatography coupled to mass spectrometry (GC-MS). The analyses for leaves and fruits of *A. campestris* resulted in the identification of thirty-one compounds, representing 91.8 % of the total oil and the yields were 0.33% (v/dry weight). The main components were â-pinene and sabinene (25.6% and 17% respectively) followed by á-pinene (9.9%), limonene (6.6 %) and p-cymene (4.1%).

Keywords: Essential oil, GC-MS, Artemesia Campestris, Algeria.

ISCA-ISC-2014-Oral-3BS-51

Seasonal Diversity of Order Araneae at Shoolpaneshwar wild life Sanctuary, Gujarat, India

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Abstract: Spiders are ectothermic show sensibility towards the external temperature. The study observed the diversity of spiders' species at riverside habitat, the observation data mainly collected from arboreal and ground habitat included rocks and grass land during three seasons January to April, May to August and September to December. This gives rise enormous results to behavioral characteristic of spiders. The major difference found in richness of spider fauna during these seasons in Gujarat. Surprisingly three families Oonopidae, Tetragnathidae and Uloboridae are found absent during

May to August, Whereas Araneidae found abundant during all three seasons. This was also observed that the major families are found abundant in monsoon and winter seasons. The Salticidae and Gnaphosidae are become low populated during late winter. The results shows non significance for Simpson index because of it found more diverse 0.83 during January to April than rest of two seasons i.e. 0.77 and 0.79. Shannon index but it is more significant for Shannon, Richness and Evenness Index in all the seasons.

Keywords: Araneae, Diversity, Richness, Evenness.

ISCA-ISC-2014-Poster-3BS-01

Determination of the free Radical Scavenging Properties as Indices for Evaluating the anti Cancer Effects of of Vigna Sesquipedalis

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Abstract: Vigna sesquipedalis was assayed to determine its content of essential minerals and vitamins that are commonly associated with the ability to neutralize the damaging effects of free radicals and consequently help prevent the development of cancer. Selenium, zinc, manganese, copper and iron which have antioxidant capability were determined among other minerals. The antioxidant vitamins, A, C, and E were also assayed among other vitamins. Appropriate colorimetric and titration methods were used for assay of vitamins while the minerals were determined by means of atomic absorption spectrophotometer. The results of the analyses showed that the seeds have significant concentrations of vitamins A and C while vitamin E concentration was relatively low. Also the minerals zinc, iron and manganese were significantly present while selenium and copper were of relatively low concentrations. However, the antinutrients namely trypsin inhibitor, haemagglutinin, and glycosides were found to be present. The results show that Vigna sesquipedalis has significant concentration of substances that are effectively involved in free radical scavenging and which can consequently enhance the body's protection against cancer development. The consumption of natural foods should be highly encouraged to reduce the chances of development of cancer associated with increased consumption of industrially processed foods.

Keywords: Vigna sesquipedalis, free radicals, antioxidants, vitamins, minerals.

ISCA-ISC-2014-Poster-3BS-02

Some Edible Plants of Bundelkhand Region of India

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Abstract: This paper deals with the survey of some edible plants of Bundelkhand region of India. The areas were visited with the most important edible plants. During the survey 90 plant species of angiosperms were enumerated which are being used as vegetables, drinks, fruits, dry fruits, pickles, foods, chutney, confection and curry. Their local names, botanical names, families, plant parts used by the people are being presented through this paper.

Keywords: Edible plants, Bundelkhand, village community, schedule caste, schedule tribe.

ISCA-ISC-2014-Poster-3BS-03

Development of Nanobiosensor for the Detection of Asparagine Levels in Leukemic Patients

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Abstract: L-asparaginase is an enzyme of therapeutic value and is mainly used for the treatment of Acute Lymphoblastic Leukemia, acute myelomonocytic leukemia, lymphosarcoma, melanosarcoma, reticlesarcoma and Hodgkin disease since 1922. Cannabis sativa L. is a widely used plant of therapeutic and industrial importance. It produces two pigments: cannabinoids and tetrahydrocannabinol (THC), THC is responsible for its psychoactive properties which make its use important in medical field. The enzyme was extracted from the fresh leaves of Cannabis sativa for the development of biosensor which can be used for the detection of asparagine levels in leukemic serum samples. The present study also encompasses the development of biosensor using the crude enzyme. The enzyme was immobilized on nanoparticles of BSA and Gelatin. Phenol red indicator was coimmobilized with L-asparaginase from Cannabis sativa and color visualization approach was optimized for varying concentrations of asparagine. Thus, it was found that biosensor developed using nanoparticles gave faster response time and was far more sensitive, reliable and can be stored for longer duration.

Keywords: leukemia, immobilization, asparagine, tetrahydrocannabinol.

ISCA-ISC-2014-Poster-3BS-04

Extraction of L-Asparaginase from Catharanthus roseus and development of Asparagine Biosensor

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Abstract: L-asparaginase is a medically important enzyme found in microorganisms as well as plants. In plants L-asparaginase accumulates under stress conditions and serves as the nitrogen source. In the present study the fresh leaves of Catharanthus roseus were used to extract the enzyme which was then immobilized using various techniques. L-asparagine biosensor was developed using immobilized biocomponent for the detection of L-asparagine level in leukemic serum samples. The enzyme was immobilized and different kinetic parameters such as pH, temperature, substrate concentration were optimized. Fluorescent dyes were used as the indicators to detect the response time. The biosensor developed gave the faster response time as compared to the earlier developed biosensor.
Keywords: Leukemia, biocomponent, asparagine, biosensor.

ISCA-ISC-2014-Poster-3BS-05

Pathogenicity of Bacteria Isolated from gut of Spodoptera Litura (Lepidoptera: Noctuidae) and its Effect on Growth and Development of Insect

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Abstract: Gut microbiota contribute to the health of their hosts, and alterations in the composition of this microbiota can lead to disease. The insect gut may provide a suitable habitat for symbiotic bacteria, and these symbioses range from pathogenic to mutualistic, and from facultative to obligate (Tada et al., 2011). An enteric bacteria Enterobacter cloacae was isolated from Spodoptera litura which is the most destructive pest of different crops like cruciferous vegetables, cucurbits, groundnut, cotton, maize, potato, soybean, tobacco and some pulses (Qin et al. 2004). S. litura has been extensively subjected to chemical insecticides belonging to various groups. However, extensive use of chemicals has resulted in development of resistance in this insect (Arivoli and Tennyson, 2013). In search of alternative eco-friendly strategies for the management of insect pests, the potential of E. cloacae as biocontrol agent of S. litura was assessed in the present study. The results revealed significant higher larval mortality and adverse effects on growth and development of S. litura due to E. cloacae.
Keywords: Gut microbes, enterobacter cloacae, microbial control, pathogenicity, spodoptera litura.

ISCA-ISC-2014-Poster-3BS-06

Bio-efficacy of Endophytic Fungus Aspergillus Flavus against Polyphagous pest, Spodoptera litura

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Abstract: Spodoptera litura (Fabricius), commonly known as the tobacco caterpillar has emerged as a serious and dominant pest on many agricultural crops causing enormous losses ranging from 25.8-100 percent. It defoliates about 150 host species including tobacco, cotton, groundnut, maize, rice, soybeans, tea, cauliflower and cabbage. Due to overgrowing awareness of hazardous side effects of synthetic chemicals more emphasis is being laid on use of eco friendly strategies. To tackle the insecticide resistant population of S. litura microbial pesticides are one such alternative. In the present studies endophytic fungus, Aspergillus flavus isolated from Acacia arabica was evaluated for its insecticidal potential against S.litura. Different concentrations (45,35,25,15,5 µl/ml) of ethyl acetate extract of the fungus were incorporated into artificial diet of S.litura. Larval feeding on amended diet resulted in adverse effects on survival and development of S. litura. These adverse effects could be attributed to the toxic biomolecules of the endophytic fungus that can be further be used for the development of novel biopesticides.
Keywords: Spodoptera litura, Polyphagous pest, Acacia Arabica, Endophytic fungus, Aspergillus flavus

ISCA-ISC-2014-Poster-3BS-07

A feeding deterrent effect of ethyl acetate extract of cultivar of Broccoli (Brassica oleracea L. var. italica) on Spodoptera litura (Fab.)

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Abstract: Plants produce defensive secondary metabolites in response to insect herbivory. The secondary metabolites e.g. glucosinolates, phenolicsetc. reduce the palatability of plant tissues to the herbivores. Glucosinolates exhibit potential biopesticidal and anticarcinogenic activities. The present study pertained to studying the effect of ethyl acetate extract of Palam samridhi(PS) seeds, cultivar of Broccoli (Brassica oleracea L. var. italica) onSpodoptera litura (Fab.) (Lepidoptera: Noctuidae). The toxicity of extract was checked by feeding second instar larvae of this pest on artificial diet supplemented with different concentrations (5ppm, 25ppm, 125ppm, 625ppm, 3125ppm) along with control. The extract showed no significant effect on pupal weight but observations made on larval mortality and adult emergence revealed varied effect at lower concentrations but at highest significant inhibitory effect was observed. At highest concentration, larval mortality increased and adult emergence decreased with treatment indicating toxic effect of extract on larvae of S. litura.
Keywords: Glucosinolates, biopesticidal, palam samridhi, broccoli, spodoptera litura.

ISCA-ISC-2014-Poster-3BS-08

Effect of methanosl extract from Acacianilotica (Linn.) on the development of Spodopteralitura (Fab.)

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Abstract: In agriculture, pests pose a major threat to economically important crops. The intensive reliance on pesticides has resulted in undesirable effects on environment. There is a need to implement alternate ecofriendly compounds for pest control.Plant's secondary metabolites e.g. alkaloids, phenolics have been reported to show repellent effect on insects. Phenolic compounds from bark of important medicinal plants have been implicated in resisting insect herbivory. Thus, in the present study toxicity of methanol extract from bark of medicinal plant Acacia nilotica (Linn.) was evaluated against Spodoptera litura (Fab.) (Lepidoptera: Noctuidae). The artificial diet amended with various concentrations of methanol extract (5ppm, 25ppm, 125ppm, 625ppm, 3125ppm, 15625ppm) and control was fed to second instar larvae for evaluating their antibiotic effects against S. litura. Adverse effects, in form of increased larval mortality, decreased adult emergence, prolonged development period, were recorded with increase in concentration. The findings indicated that the methanol extract of A. nilotica has considerable insecticidal potential.
Keywords: Secondary metabolites, Phenolics, Acacia nilotica, methanol extract, Spodoptera litura.

ISCA-ISC-2014-Poster-3BS-09

Floristic survey of Caesalpinioideae R. Br. And Mimosoideae R.Br. in Pantnagar

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Abstract: Angiosperms or Anthophyta constitutes the largest chunk of biodiversity known and documented on this earth. Within angiosperms, the family Fabaceae is the third largest family and traditionally divided into three subfamilies. The sub family Caesalpinioideae comprises of 150 genera and 2700 species while Mimosoideae contain 40 genera and 2500 species. The Pantnagar University complex was surveyed where these two subfamilies Caesalpinioideae and Mimosoideae are represented by 34 species. Caesalpinioideae is represented by 19 species belonging to eight genera and four tribes (Cercideae, Caesalpinieae, Cassieae and Detarieae) whereas Mimosoideae is represented by 15 species belonging to 10 genera and three tribes (Acacieae, Ingeae and Mimoseae). Among different genera, the genus Senna is represented by 6 species followed by Bauhinia (4 species); Cassia, Acacia, Albizia (3 species) and Mimosa (2 species.). The rest of 13 genera represented by one species each. Out of these 34 species, only 5 species belongs to Caesalpiniaceae (Senna alata, S. occidentalis, S.tora, Cassia fistula and Tamarindus indica) and 9 species to Mimosaceae (Acacia farnesiana, A.nilotica, Albizia lebbeck, A.stipulata, A.procera, Mimosa pudica, Mimosa rubicaulis, Prosopis juliflora and Leucaena latisiliqua) are wild while. This indicates that most of the species (20 species) of these 2 sub families are either planted/ cultivated species.
Keywords: Caesalpinioideae, Mimosoideae, diversity, nativity.

ISCA-ISC-2014-Poster-3BS-10

Antibacterial activity of Lactobacillus plantarum CM 1 against pathogenic bacteria

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Abstract: Lactobacilli can produce antimicrobial substances to inhibit the growth of pathogenic organisms. The antimicrobial effect exerted by lactobacilli is due to the production of lactic acid and various antimicrobial compounds such as hydrogen peroxide (H_2O_2), carbon dioxide (CO_2), diacetyl and bacteriocins. Lactobacillus plantarum CM 1 was isolated from cow milk and was already characterized by biochemical and molecular methods. Lactobacillus plantarum CM1 was screened for antibacterial activity against gram-negative such as Serratia marcescens, Enterobacter aerogenes, Proteus vulgaris, Pseudomonas aeroginosa, and gram-positive bacteria Micrococcus luteus. Lactobacillus plantarum CM1 showed zone of inhibition against all the indicator organisms used in the experiment. Lactobacillus plantarum CM1 showed highest inhibition zones against M. luteus. Lactobacillus plantarum CM1 possess antibacterial activity and therefore it could be used as a biopreservative in food industry.

Keywords: Antibacterial, activity, Lactobacillus, pathogenic, bacteria.

ISCA-ISC-2014-Poster-3BS-11

Isolation and structure Elucidation of Karanjin from seeds of Pongamia Pinnata, a Multipurpose Oleaginous legume

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Abstract: The present investigation deals with the structure elucidation of "karanjin", bioactive compound isolated from seeds of Pongamia pinnata, a multipurpose oleaginous legume. Karanjin, a furanoflavone, well known for pharamocological properties, was isolated from seed oil extracted by Soxhlet extractor and purified by column chromatography on silica gel. Purified compound was eluted with increasing polarity of hexane-ethyl acetate eluent systems and chemical structure elucidated with one or more hypothesized structures and verified with the experimental spectra of the compound. A detailed spectroscopic analysis of Karanjin has been carried out by FT-IR, UV-Visible, Fluorescence spectroscopy, HRMS and Raman spectroscopy. In addition, computational calculations were carried out at B3LYP/6-311G (D,P) level using Gaussian 09 software. The scaled computational wave number is in very good agreement with the experimental values. This compound shows antibacterial activity so these theoretical and experimental aspects can provide a path for research in future.

Keywords: Antibacterial, bioactive compounds, Karanjin, spectroscopy.

ISCA-ISC-2014-Poster-3BS-12

Genome size of four Biofuel Crops

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Abstract: Environmental and economic factors have stimulated research in area of energy crops and many plants have been identified as potential biofuel crops. As researchers attempt to exploit and improve the traits of significance, genome information is critical. In this study genome size of four potential biofuel crops viz; Pongamiapinnata, Jatrophacurcas, Ricinuscommunis and Mesuaferrea were evaluated by flow cytometry and stomatal cell analysis.The genome size were in the order of J.curcas (0.86 pg/2C DNA) <R.communis (1.01 pg/2C DNA)<M.ferrea (1.52 pg/2C DNA)<P.pinnata (2.49 pg/2C DNA). There was a negative relationship between genome size and guard cell length and a positive relationship with stomatal density. The relationship was growth form dependent (non-significant result within trees and shrubs), although trees has the greater genome size/stomatal density and small cell size. These results confirm the generality of the genome size/cell size relationship.

Keywords: Biofuel crops, flow cytometer, genome size, stomatal size.

ISCA-ISC-2014-Poster-3BS-13

Heavy metal tolerance of filamentous fungi and yeast isolated from Yamuna water, Delhi India

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Abstract: The chemical methods of heavy metal removal from industrial effluents are expensive and inefficient. Fungi may serve as cost effective bio-remediation tools for heavy metal removal from water. The present study was envisaged to isolate and characterize heavy metal tolerant fungi from contaminated water samples and quantify their metal tolerance. Water samples were collected downstream from Yamuna Okhla Barrage, Delhi and inoculated in Czapek Dox (CD) Broth (25ÚC; 48 hours). Serial dilutions of enriched samples were plated on CD agar and YEPD agar supplemented with metals (Nickel, Cadmium, Arsenic and Copper; 12.5mg/l-1000g/l). The plates were incubated at 25ÚC for 5 days. The isolates were identified by morphological, microscopic and biochemical analysis. Further, selected isolates were sub-cultured on metal supplemented plates (12.5 mg/l-1000 g/l) and maximum tolerance concentration (MTC) was determined. The selected isolates were screened for their co-metal resistance and antifungal resistance. The heavy metal tolerant filamentous fungi were identified as Penicillium sp., Aspergillus sp. and Fusarium sp. Nickel tolerant strains were identified as Penicillium sp. and Fusarium sp. (MTC: 100 mg/l). Cadmium tolerant Penicillium sp. was isolated with MTC of 100 mg/l. Aspergillus isolates were found to be resistant to Copper (MTC: 10g/l), Nickel (10g/l) and Cadmium (2.5 g/l). An isolated Yeast strain was found to be tolerant to Cadmium (MTC: 250 g/l). Penicillium sp. and Aspergillus sp. demonstrated a varying degree of co-metal tolerance i.e. tolerance to multiple heavy metals. Antifungal resistance was also observed in isolated strains of Penicillium and Aspergillus. The isolated fungal strains have potential use in removal of heavy metals from contaminated effluents before discharging in river waters.

Keywords: Heavy metal pollution, fungi, yeast, maximum tolerance concentration, co-metal resistance, bioremediation

ISCA-ISC-2014-Poster-3BS-14

Antagonistic Bioactivities of endophytic Actinomycetes

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Abstract: Out of seventy endophytic actinomycete isolates, 11 isolates (6 from Azadirachta indica A. Juss, 3 from Emblica officinalis, 1 from Aloe vera and 1 from Ocimum sanctum) were displaying antagonistic activity against Alternaria alternata, Fusarium oxysporum and Rhizoctonia solani. All the isolates were screened for hydrolytic enzyme production, out of which 47 isolates produced amylase, 25 produced protease and 16 were having ability to produce chitinase. The extracellular chitinase activity of two selected isolates i.e. AR3 and O9 came out to be 0.083 and 0.080 U/ml with 0.6% colloidal chitin, which was better as compared to 1% colloidal chitin concentration. Scanning electron microscopy revealed rupture of the F. oxysporum mycelial cell wall at the area of interaction with AR3 and O9. The endophytic actinomycete strain O9 was identified as Streptomyces rochei strain KMB-1 by 16S rDNA sequencing. Both the isolates were found to be promising in terms of seed germination and wilt control under green house conditions. Therefore these isolates may be used as potential biocontrol agents against Fusarium wilt caused by F. oxysporum.

Keywords: Endophytic actinomycetes, Phytopathogenic fungi, Chitinase, Biocontrol, Scanning electron microscopy, rDNA sequencing.

ISCA-ISC-2014-Poster-3BS-15

Isolation of Endophytic actinomycetes from Syzygium cumini and their Effects in Biocontrol Activity

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Abstract: Endophytic actinomycetes isolation is an important step for screening of antimicrobial compounds to meet the increasing threat of drug-resistant strains of human pathogens. A total of 60 endophytic actinomycetes were recovered on Starch Casein Agar from surface sterilized root, stem and leaf tissues of Syzygium cumini of family Myrtaceae. All the isolates were screened for antimicrobial activity against Staphylococcus aureus, Escherichia coli, Yersinia sp., Klebsiella sp., Candida albicans, Aspergillus fumigatus and Aspergillus niger with dual culture bioassay in vitro. In biological screening for antibacterial activity by agar well diffusion method, concentrated culture supernatants were used. Twenty-five percent of the isolates exhibited antimicrobial activity with an average zone of inhibition varying between 10-

30mm, and the largest zone was of 30mm Staphylococcus aureus. Among the 15 isolates tested isolate J-5 exhibited activity against maximum number of test organisms. These 15 isolates were investigated for their chitinase and protease production potential. The results provide an insight into an untapped endophytic environment yet to be explored which might be a promising source of lead antimicrobial agents.

Keywords: Syzygium cumini, Endophytic actinomycetes, Antimicrobial activity, Chitinase production, Protease production.

ISCA-ISC-2014-Poster-3BS-16

Isolation, Screening and Characterization of Amylase Producing Bacteria from Soil of Potato Dump Sites from Different Regions of MP, India

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Abstract: Among all the industrial enzymes, amylases are the most widely used in industries as well as on commercial basis. Amylase production from bacteria is economical as the enzyme production rate ishigher in bacteria as compared to other microorganisms and it offers an ease of manipulation. The aim of the current study was to isolate amylase producing bacteria from the soil samples collected from potato dump sites of different regions of Madhya Pradesh. The isolation was done by serialdilution and plating method. Total 35 bacterial colonies were isolated from the collected soil samples. All isolateswere screened for amylolytic activity by starch agar plate method. Among 16 bacterial isolates, only 7 isolatesshowed the amylolytic activity. After this characterization and identification of the isolates was done on the basis of morphology and biochemical tests. Out of these, the isolate selected on the basis of maximum hydrolysis will be used for furtherstudy.

Keywords: Amylase, bacteria, starch agar.

ISCA-ISC-2014-Poster-3BS-17

Radiation sensitization of Yeast cell using MPA capped CdTe quantum Dots

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Abstract: Water-soluble fluorescent CdTe quantum dots (QDs) have been synthesized by using Te, $NaBH_4$, and $CdCl_2$ as precursors and Mercaptopropionic Acid (MPA) as surface stabilizer. Thus grown CdTe QDs were used for present study. Non selective fluorescent labeling and radiation sensitization effect of CdTe quantum dot in yeast cell were studied. QD uptake by yeast cells became more prominent after 8 hours of incubation in 30 ---^{0}C. Cytotoxicity study shows that QD concentration more than 250 nM found to be lethal to cell survivability. Radiation sensitization of QD treated yeast cells were assessed using survival analysis to utilize the benefit of QD as a cell marker and sensitizers. Cells were treated with three different concentrations of QDs and irradiated. Multi target model was used to analyze this survival response of irradiated cells. Yeast cells became more sensitive to irradiation after treating with QDs. This work demonstrates use of quantum dot in bio imaging and electron beam induced sensitization of cell, which can be beneficial in photodynamic and radiation therapies.

Keywords: Radiation, sensitization, yeast, cell, capped, quantum.

ISCA-ISC-2014-Poster-3BS-18

Diversity of Chytridiomycota in Agricultural Soil of India

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Abstract: Fungal species are especially important component of biodiversity on earth. India has been the cradle for such fungi but still only a fraction of its total fungal wealth has been subjected to scientific scrutiny and mycologists have to unravel the unexplored and hidden wealth. One of such challenging and least understood group of fungi is Chytridiomycota that contains over 80 genera, which are poorly described; the families and genera in this group are not phylogenetically delimited. Therefore in the present study, the diversity and distribution of underexplored Chytridiomycota often referred to as chytrid were investigated from agricultural soil of India. The samples of agricultural soils were collected from different locations of India to study the biodiversity of chytrid (Chytridiomycota) and standard bait - culturing techniques were used for the recovery of chytrid. Water cultures of 500 agricultural soil samples from different collection sites were baited with cellulose, chitin and keratin substrates. The substrates were examined microscopically for the presence of chytrid, and thirty-one taxa records were identified belonging to 5 of the 7 recognized orders. While fourteen records

were not be assigned to a currently described taxon. Rhizophydium, Nowakowskiella and Rhizophlyctis were the dominant genus and Rhizophlyctis rosea was ubiquitous and dominant species. Many of the species isolated are rarely or never recorded from India. This result demonstrates that chytrid diversity in India, as elsewhere, are composed of a few common and many uncommon to rare taxa and physicochemical fluctuations of agricultural soil affects their diversity.
Keywords: Chytridiomycota, biodiversity, agricultural soil, chytrid, taxa

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Volatile oil of Tagetes minuta enhances growth of Vigna Radiata

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Abstract: Tagetes minuta L. is an aromatic plant native to tropical America. Along with its important role in pharmaceuticals, it creates nuisance for agricultural land as well. This can be attributed to its allelopathic properties which affect the growth of plants in vicinity. Therefore, present study investigated allelopathic potential of volatile oil of T. minuta against Vigna radiate (L.) R. Wilczek., mung-bean. Volatile oil of T. minuta significantly inhibited the germination and growth of test plant in solution form under laboratory conditions. Higher concentrations of oil augmented in soil also inhibited growth of mung-bean seedlings. However, at lower concentrations, seedling growth enhanced significantly as observed after one and two weeks of treatment. Thus, present study clearly revealed the hormetic effect of T. minuta oil which can be administered for improved health, stress tolerance and growth of V. radiate plants.
Keywords: Allelopathy, tagetes minuta, vigna radiata, germination, hormesis.

ISCA-ISC-2014-Poster-3BS-20

Effect of Salt, Temperature and pH on the growth and Sporulation of Trichoderma spp.

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Abstract: Trichoderma species are filamentous fungi with teleomorphs belonging to the Hypocreales order of the Ascomycota division. Trichoderma strains are of great importance as biocontrol strains should have better stress tolerance levels than the plant pathogens against which they are going to be used for biological control as the abiotic factors deteriorate the antagonistic properties of Trichoderma. In the present study, Trichoderma spp. were isolated from rhizospheric soil of various cultivated plants and identified as Trichoderma harzianum, T. viride, T. hamatum and T. asperellum and tested in vitro for their salt, temperature and pH tolerance. The growth and sporulation of all the four spp. of Trichoderma was greatly affected by salt, temperature and pH. The most favourable temperature for growth and sporulation of T. harzianum and T.viride was found in between 25-30°C, followed by 35°C.Where as, the optimum temperature for growth and sporulation of T.asperellum and T.hamatum was found in between 28-30°C. Similarly, the most favourable range of pH that supported good growth and excellent sporulation was between 4.6-7.6 for all the four spp. of Trichoderma. None of the concentration of Nacl greatly affected the growth and sporulation of Trichoderma spp. Only at 1000 mM concentration of salt, growth and sporulation both was very poor.
Keywords: Trichoderma, salt, temperature, pH, growth, sporulation.

ISCA-ISC-2014-Poster-3BS-21

Metabolite Profiling of Trichoderma harzianum by HPLC

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Abstract: Trichoderma have created ecofriendly, safe and non-chemical disease management system which have great importance in inorganic agriculture and is one of the efficient biocontrol agent that is commercially produced to prevent development of several soil-borne plant pathogenic fungi. Several mechanisms have been suggested as being responsible for their biocontrol activity, including competition for space and nutrients, secretion of chintinolytic enzymes, mycoparasitism and production of inhibitory compounds. Trichoderma harzianum has been shown to be particularly effective in the control of Rhizoctonia solani, which is the major plant pathogen causing "damping off" of seedlings and root rot diseases. HPLC analysis of methanolic extracts of phenolic acid present in Trichoderma harzianum showed seven different Phenolic acids (Benzoic acid, Caeffic acid, Cinnamic acid, Ferulic acid, Gallic acid, Salicylic acid and Tannic acid). The results of the study provide scientific basis for the use of the Trichoderma harzianum in the future development as antioxidant, antibacterial, antifungal and anti-inflammatory agent.
Keywords: Trichoderma harzianum, Phenolic acids, Antagonism, HPLC, Rhizoctonia solani.

ISCA-ISC-2014-Poster-3BS-22

Palms of Ahmedabad: Diversity, Distribution, Identification and Status

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Abstract: Palms (Arecaceae or Palmae) are a diverse group of plants confined to the tropical and subtropical regions of the world. Today new varieties are introduced in India because of the beautification in both indoor and outdoor gardens landscaping. The morphological variation in Palms is so diverse which increase the aesthetic values in gardening and landscaping beside these it also used for foods, oils, fruits, timber, etc. Till 2008, 2400 species belonging to 183 genera reported in the world wide. India has 20 genera and 96 species among which 9 genera and 24 species are endemic to India; these are restricted to the Eastern Himalaya, Western Ghats and Nicobar Islands. In Gujarat less work has done on diversity of Palms, G. L. Shah has reported 7 species in the flora of Gujarat State in 1978. The city of Ahmedabad situated on 23.01° N Latitude and 72.61° E Longitude in 8,086.81 sq. km area with 197 gardens, on the bank of Sabarmati River. In the present study 38 genera and 71 species with 7 varieties were recorded among them 25 genera and 61 species were not reported in earlier literature in Gujarat state. There is no forest area in Ahmedabad; most of Palms are introduced from other country as well as India. Vegetative growth and Sexual reproduction of Palms are very slow; hence the identification is very though. At the growing stage of Palms can be identified only through morphological character. This is the first attempt to explore the diversity of Palms in Ahmedabad.
Keywords: Palms, Ahmedabad, diversity, identification, morphological character.

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Evaluation of Fruit and Vegetable Waste Extracts for Antioxidant Activity by the Use of Dpph Free Radical Method

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Abstract: All parts of vegetable and fruit are not considered useful. Few parts, generally peels and seeds are thrown away as waste material. But, nature has not created any waste and if this waste can be investigated for some useful purpose it will be beneficial for the society. The present investigation was undertaken to appraise the antioxidant properties of fruit and vegetable parts which are normally considered as waste. Radical attenuating abilities of 18 plant waste extracts were ascertained by 2, 2-diphenyl 1-picryl hydrazyl (DPPH) radical scavenging assay. The IC-50 value of each extract was also calculated. Ascorbic acid was used as standard. The results show that the methanolic extract possesses more antioxidant activity than ethyl acetate and hexane extract. The results confirm that the wastes are also an important source of antioxidants.
Keywords: Antioxidants, fruit and vegetable waste, DPPH.

ISCA-ISC-2014-Poster-3BS-24

Moringa oleifera: A miracle tree with versatile utilities

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Abstract: Moringa oleifera Lam. belongs to family Moringaceae. Moringa tree benefits are known since time immemorial. The traditional scriptures also suggest the use of Moringa tree parts for curing various diseases. Moringa is a well adapted tree to the tropics and subtropics. This tree has cure for ailments ranging from gout to various inflammations and fevers. Moringa can act as cardiac and circulatory stimulants, possess antitumor, antipyretic, antiepileptic, anti inflammatory, antiulcer, antispasmodic, diuretic, antihypertensive, cholesterol lowering, antioxidant, antidiabetic, hepatoprotective, antibacterial and antifungal activities, and are being employed for the treatment of different ailments in the indigenous system of medicine. Moringa is reported to be the vegetable with highest nutrition value amongst vegetables. Hence, the paper aims to study the antioxidant potential of the leaves of Moringa oleifera Lam. The antioxidant activity was studied using the standard DPPH assay on the methanolic extract of Moringa. From the results obtained, it could be concluded that the leaves have good antioxidant potential. The leaves and flowers can thus, be utilized as food additives and teas. The oil has long being valued by the Egyptians and valued as cosmetic oil because of its ability to hold the scent of added fragrances. Infusions of Moringa oil with (Jasmine, Lavender, etc.) can thus be used to enhance value. Moreover, the planting of trees, including the planting of the Moringa tree, can play one important role in mitigating the effects of climate change.
Keywords: Moringa, nutrition, leaves, antioxidant activity, value, etc.

ISCA-ISC-2014-Poster-3BS-25

In vitro Quality Enhancement of Mentha arvensis L. by various Synthetic PGRs

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Abstract: Corn mint (Mentha arvensis L.) has been one of the popular herbs known since antiquity for its distinctive aroma and medicinal value. The herb has a characteristic refreshing cool breeze sensation on taste buds, palate and throat when eaten. This unique quality of mint is due presence of menthol**,** an essential oil. A protocol for high yielding in vitro mass multiplication of Corn mint is developed using node, shoot and leaf parts as an explant. Different explant obtained from field grown plants of corn mint were used to initiate multiple shoots on Murashige and Skoog (MS) medium supplemented with different PGRs NAA, BAP, GA_3, IAA, Kn, 2,4-D and IBA in different concentration and combination. High efficiency of shoot, leaves and root formation was observed in MS Supplemented with BAP (1.2 mg/l) and NAA (0.2 mg/l) medium. Nodal explants was capable than other explants for direct and in direct multiplication. The regenerated plantlets were hardened and successfully transferred to soil and grown to maturity.
Keywords: Mentha arvensis L., In vitro multiplication, PGRs, Hardening.

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Extending the Vase Life of Tithonia rotundifolia Blake with Different Preservatives

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Abstract: Keeping quality is an important parameter for evaluation of cut flower quality, for both domestic and export markets. Addition of chemical preservatives to the holding solution is recommended to prolong the vase-life of cut flowers. Vase life of Tithonia rotundifolia Blake is usually short. Cut flowers wilt and the floral axis becomes bent below the flower head. The development of such symptoms is considered to be caused by vascular occulation, which inhibits water supply to the flowers. The major form of vascular occlusion is the blockage of xylem vessels by air and microorganism. Tithonia rotundifolia Blake flowers were harvested when all the florets opened fully and were perpendicular to the stalk. The flowers were harvested early in the morning and were immediately placed in water for pre-cooling. Two treatments 1% sucrose and 100ppm citric acid of holding solutions were used and the experiment was conducted in completely randomized design with three replications. The control registered the minimum number of days (4) for petal fall. A very high level of turgidity is necessary for continuation of normal metabolic activities in the cut flowers. Sucrose helps in maintaining the water balance and turgidity. Hence, addition of sucrose to the holding solution might have lead to increased uptake of the holding solution. Citric acid is a widespread organic acid in the plant kingdom and makes a weak acid in water. Citric acid is used to adjust water pH and to control the growth of microorganisms. Citric acid reduces the risk of vascular blockage in cut flowers through its anti- embolism trait.
Keywords: Tithonia rotundifolia Blake, Sucrose, Citric acid, Vase Life, Cut flower.

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Rhizospheric Actinomycetes as Biocontrol agents of Soil-borne Fungal Plant Pathogens

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Abstract: Soil-borne fungal diseases pose serious constraints on agro-productivity and biological control is non-hazardous strategy to control plant pathogens and improve crop productivity. A total of 180 isolates from rhizospheric soil of medicinal plants (Azadiracta indica, Bauhinia variegate and Emblica Officinalis) were screened in vitro for their antagonistic activity against soil-borne fungal pathogens viz., Rhizoctonia solani, Fusarium oxysporum, Sclerotium rolfsii, Macrophomina phaseolina and Alternaria alternata. In primary screening (dual culture assay), 70 isolates antagonised one or more test phytopathogenic fungi. Out of these, 7 isolates (A2, A28, A60, A70, K2, K8 and E35) exhibited antifungal activity against maximum number of phytopathogenic fungi ranging from 12.5 to 58.4%. Maximum zone of inhibition was shown by Emblica officinalis isolate E35 (58.4%) against Macrophomina phaseolina, followed by Rhizoctonia solani (50.0%), Alternaria alternate (37.5%) and Fusarium oxysporum (25.6%). Thus, these promising rhizospheric actinomycete isolates could be potentially used as biocontrol agents to prevent several soil-borne fungal pathogens.
Keywords: Medicinal plants, rhizospheric actinomycetes, antagonism, biocontrol.

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Assessment of Alternaria alternata isolates for Metabolite production and their Toxicity in Tomato Plants

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Abstract: Alternaria species are known to produce several metabolites which are toxic to plants and animals, and are designated as phytotoxins and mycotoxins. The metabolites produced by Alternaria exhibit a broad variety of biological activities ranging from phytotoxic, cytotoxic, and antimicrobial activities. Twelve isolates of Alternaria alternata were isolated from various vegetable crops and weeds grown in different locations of Varanasi. There colony and conidial morphology on culture medium exhibited complete resemblance with Alternaria alternata. Each isolate was found positive for the production of a secondary metabolite in liquid medium. For the detection and quantification of the secondary metabolites produced by Alternaria alternata in broth culture TLC and HPLC studies have been very widely and efficiently used. In the present study also the identification of the metabolites revealed that the isolates produced several metabolites in the culture filtrate as was evident from TLC analysis and the same was supported by HPLC chromatograms. These metabolites induced cell death that was more related to a toxic effect leading to necrosis. This study includes the role of metabolites, including phytotoxins, produced by phytopathogenic fungi during plant infection. Pathogen infection and culture filtrate infiltration triggered H_2O_2 production in tomato leaves within 12 h of treatment, followed by necrosis of the treated leaves. In particular, APx activity was higher in pathogen treated plants at 48 h. The activities of CAT, GR, and GPx reached their maximum levels after 48 h of pathogen challenge in all the treatments.
Keywords: Alternaria alternata, metabolite, TLC, HPLC, H_2O_2.

ISCA-ISC-2014-Poster-3BS-29

Comparison of Breast Cancer Awareness among Rural and Urban Women

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Abstract: The aim of this study was to assess the knowledge of breast cancer, their perception towards its treatment outcomes and anxiety concerning breast cancer among women. A total of hundred women of rural areas and hundred of the urban areas were selected for this study. A well structured questionnaire was prepared to collect the complete information on awareness of breast cancer. The mean age of the participants counted as 29.7 (SD=1.9) years. Only 35% rural and 59% urban participant women were well informed about the risk factors and symptoms of breast cancer. Whereas 39% rural women and 28% of urban did not had any kind of information of the breast cancer risk factors and symptoms while remaining participants had little information on some aspects of breast cancer. Overall 17% rural participants and 35% urban participants knew about the complete idea about how to remain safe from breast cancer. Awareness about the breast cancer risk found higher in urban women as compare to rural participants. In conclusion, results suggest the need for educational programs as tools for improving the current knowledge of breast cancer, targeting women through the mass media. The programs should also emphasize the need for prevention of breast cancer by avoiding exposure to potential carcinogens such as frequent X-rays exposure and cigarette smoke and promoting healthy diets rich in fiber, in addition to physical exercise.
Keywords: Breast cancer, awareness, risk factors, symptoms.

ISCA-ISC-2014-Poster-3BS-30

Antibacterial Activity of Stem Extract of *Tinospora cordifolia* M.

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Abstract: *Tinospora cordifolia* M. is commonly known as Guduchi is used in Ayurveda, "Rasayanas" to improve the immune system and general body resistance against infections. The root of this plant is known for its general tonic, anti-periodic, anti-spasmodic, anti-inflammatory, anti-arthritic, anti-allergic and anti-diabetic properties. In this research project we have evaluated antibacterial effect of methanol extract of stem of *T. cordifolia* was done by using by Disc Diffusion method against different gram positive and gram negative bacteria. Its results showed maximum antibacterial activity against *Bacillus subtilis, Salmonella spp., Pseudomonas aeruginosa* and minimum antibacterial activity against *Escherichia coli* and *Proteus vulgaris.* It indicates that antibacterial activity is due of presence of secondary metabolites. Over preliminary phytochemical screening of methanol extract of *T. cordifolia* it has been confirmed the presence of secondary metabolites such as Alkaloids, Saponins, Tennins, Phlobatannins, Flavonoids, Glycosides etc (Trans, Evans

and et al). Therefore the parts of this plant can be used to discover bioactive natural product that may serve as lead in development of new pharmaceutical anti-inflammatory and antibacterial drug. There is no report found on stem extract of *T. cordifolia.*

Keywords: *T. cordifolia,* guduchi, disc diffusion, antibacterial, *Escherichia coli.*

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In- vitro Evaluation of the Antimicrobial activity of different Solvent extracts of *Strigaorobanchioides*

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Abstract: Aravalli hills of southern Rajasthan are very rich in ethnomedicinal plants which are used by these communities for the treatment of various ailments in humans and animals. The present study was undertaken to investigate the antimicrobial activity of various solvent (petroleum ether, chloroform, ethyl acetate, acetone, methanol and hexane) extracts of *Strigaorobanchioides*against bacteria (*Bacillus subtilis, Escherichia coli, Staphylococcus aureus, Klebsiellapneumoniae, Proteus mirabilis)* and fungi (*Candida albicans*, *Aspergillusniger).*The fresh plant material was collected at the end of the flowering season from thePhulwari Ki Naal Wildlife Sanctuary located in Southern Aravalli Hills of Rajasthan India. To make stock solution of 10 mg/ml of each extract (crude drug) the appropriate amount is weighed and dissolved in DMSO.The stock solution was passed through 0.2 ìmpyrogesic filter to sterilize the solution and further concentrations of 5 mg/ml, 2.5 mg/ml and 1.25mg/ml was made by diluting with DMSO.The antimicrobial activity of the crude extracts was determined in accordance with the agar-well diffusion method. All the extracts showed different degree of inhibitory potential against all the tested bacteria. The methanolic extract showed significant antibacterial and antifungal activity against all the tested bacteria and fungiwith the zone of inhibition ranging from 12 17mm and 12 19 mm respectively. The MIC and MBC of methanolic extract against the entire tested microorganism were observed to be in a range of 0.078 to 2.5mg/ml. The present investigation showed the effectiveness of crude extract of this plant against tested bacterial strains. This study further imparts the use of whole plant extract in treating disease caused by tested microbial organisms.

Keywords: Ethnomedicinal, antimicrobial, *Strigaorobanchioides,*Aravalli hills.

ISCA-ISC-2014-Poster-3BS-32

Nutritional Composition of *Momordica Dioica* Fruits Collected From Jhadol Tehsil of Southern Rajasthan

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Abstract: Samples of *Momordica dioica* fruits were collected from Jhadol Tehsil of southern Rajasthan. The fruits were washed, ground into powder and analysed for the proximate, vitamins, mineral and Fatty acid compositions. The values (%DW) of moisture, ash, crude protein, crude fiber, crude fat and carbohydrate available were 87, 14, 52.06, 15.36, 4 and 14.58, respectively. Levels (g/100g DW) of vitamins A, B1, B2, B6, H and K were 2.5, 1.8, 3.5, 4.3, 6.5 and 15 respectively. The values (mg/100g DW) of minerals potassium, sodium, calcium, zinc, Copper and magnesium were 370, 58, 26000, 8.5, 1.7 and 14000 respectively. Comparing the mineral and vitamin composition with recommended dietary allowances (RDA), the result indicated that *Momordica dioica* fruits could be good supplement for vitamin B1, B2, B6, B9, Ca and Mg. The values (% DW) of fatty acids i.e. Oleic acid, Palmitic acid, Linoleic acid, Myristic acid and Stearic acid of fruits were 56.253, 12.157, 22.511, 3.589 and 3.547 respectively. The results indicated that *Momordica dioica* fruits could be a good supplement for some nutrients, minerals and fatty acids such as fiber, protein, carbohydrates, calcium, magnesium, Oleic acid, and Linoleic acid. The fruit could be promoted as a mineral and vitamin supplement for cereal-based diets in poor rural communities.

Keywords: *Momordica dioica*, micronutrients, proximate, vitamins, mineral and Fatty acid composition, southern Rajasthan.

ISCA-ISC-2014-Poster-3BS-33

Constructing interspecies miRNA regulated PPI network for characterization of *Arabidopsis thaliana-Botrytis cinerea* interaction

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Abstract: *Botrytis cinerea*, is an aggressive fungal pathogen that infects more than 200 plant species. It is known that

this fungus develops resistance against many fungicides. Many studies on host-pathogen interaction predominately reside on either host or pathogen separately rather than concurrently. Here, we have drawn miRNA directed inter-species protein-protein interaction (PPI) networks of *Arabidopsis thaliana- Botrytis cinerea* using domain based approach. A total of 96546 possible interactions were predicted, which composed of 85 *A. thaliana* miRNA family, 1783 *B. cinerea* proteins and 13194 *A. thaliana* proteins. Among interacting host proteins nearly 2004 proteins are miRNA targeted of which 33 are immune responsive proteins. Seven NBS-LRR proteins which are essential for innate immunity were also predicted to be targeted by pathogen and down regulated by miRNA. Thus, advancement from intra-species network to inter-species network could be useful in developing network medicine for infection.

Keywords: *Botrytis cinerea*, immunity, inter-species, miRNA, protein-protein interaction.

ISCA-ISC-2014-Poster-3BS-34

Metabolic Engineering in Plants

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Abstract: Metabolic engineering considers metabolic and cellular system as an entirety and accordingly allows manipulation of the system with consideration of the efficiency of overall bioprocess, which distinguishes itself from simple genetic engineering. Microbial production of natural products has been achieved by transferring product-specific enzymes or entire metabolic pathways from rare or genetically intractable organisms to those that can be readily engineered. Metabolic engineering in plants involves the modification of endogenous pathways to redirection of one or more enzymatic reactions to produce new compounds or improve / retard production of known compounds.It is redirection of one of more enzymatic reaction and manipulation of the biochemical, genetic and regulatory pathways of the plant cells to produce new compounds in an organism, impoving production of existing compounds, or mediate the degradation of compounds. Recent advances in the identification of the genes and enzymes responsible for the biosynthesis of volatile compounds has increased the feasibility of the metabolic engineering to a great extent. This paper reviews the current status of metabolic engineering and explores enormous potential for plant improvement in terms of metabolite production by metabolic engineering.

Keywords: Metabolic engineering, biosynthesis, genes.

ISCA-ISC-2014-Poster-3BS-35

Effect of epigenetic modulators in regulating the expression of ZRF1 and BCL2 genes in MCF-7 cancer cell line

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Abstract: Zuotin related factor 1(ZRF1) is a newly discovered transcriptional activator that helps in de-repression of polycomb repressor mediated silenced genes. In this present investigation, we have shown for the first time in breast cancer cell line that how ZRF1 is regulated in presence of AZA, TSA and SFN. We have also suggested a possible mechanism by which this factor drives the expression of apoptosis-related gene BCL2. A better understanding of the molecular network of ZRF1 regulation in breast cancer can help us to develop new drugs that would potentially inhibit ZRF1 expression and hence helps in therapeutic intervention against cancer. To achieve this goal, first cytotoxicity of drugs were determined by the means of the MTT assay. The IC_{50}value of epigenetic modulators obtained after MTT assay were further used to study the RNA and protein expression of ZRF1 and BCL2 by RT-PCR, immunofluro-cytochemistry and western blot analysis. Our results demonstrates that decrease in level of ZRF1 is co-related with decrease in BCL2 expression both at RNA and protein level.

Keywords: Breast Cancer, ZRF1, BCL2, Apoptosis, Epigenetic drugs.

ISCA-ISC-2014-Poster-3BS-36

Bioprospecting Potential Probiotics from Home-Made curds of Odisha, India

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Abstract: Lactic acid bacteria (LAB) are generally recognized as safe (GRAS) and used to produce fermented foods and beverages from milk, vegetables, cereals, etc. The application of certain LAB strains as probiotics and nutraceuticals have created new perspectives for research and consumption, attracting both food scientists and health professionals. The present study is focused on various in vitro tests to screen potential probiotic strains from curd samples collected in Rourkela, Odisha, India. Selection of candidate probiotics for consumption is based on their ability to withstand stress conditions of stomach and small intestine in gut microenvironment simulation. Among the six isolates, OC1 and OC2 were highly resistant while OC3 and OC4 exhibited slight resistance in free form, further OF3 and HM2 turned resistant only after encapsulation. OC1, OC4, OF3 and HM2 were not producing any toxic biogenic amines, hence fit for utilization as starter culture or adjuncts. OC1, OC3 and OC4 were susceptible to common antibiotics ascertaining negligible risk of transferable antibiotic resistance. While OC4 and HM2 could tolerate temperature as high as 80°C others were tolerant upto 70°C. Along with other tests for health risks, OC1 and OC4 would also be studied for possible health benefits.
Keywords: Probiotics, LAB, fermentation, biogenic amines, resistance.

ISCA-ISC-2014-Poster-3BS-37

Regulation of miR-193a by RAS/MEK Signalling pathway in Prostate Cancer

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Abstract: Prostate cancer is one of the commonly diagnosed cancers in men. In this cancer, the RAS/MEK signalling pathway plays a crucial rolein its progression, development, chemo-resistance and metastasis. In recent years, role of miRNA in prostate cancer progression has emerged predominantly. In this study we havetried to discover the significance of miR-193ain prostate cancer progression and its regulation by RAS/MEK pathway. RT-PCR analysis of miR-193ahas been evaluated by using Erastin (Era, RAS inhibitor) and U0126 (MEK inhibitor). This demonstrated thatmiR-193a expression is regulated by RAS/MEK pathwayin PC3 and DU145 prostate cancer cell lines.Treatment by Era and U0126 inducedautophagosome formation and apoptosis in both PC3 and DU145 cells. To confirm the importance of miR-193a in prostate cancer, both cell lines weretransfected with miR-193a mimics.Results revealedthat miR-193a mimic transfected cells exhibited increasedapoptosis, autophagosome formation and inhibited cell migration. These findings indicate that miR-193a has a significant role in cancer progression which is regulated by RAS/MEK pathway.
Keyword: Prostate Cancer, miRNA, mir193a, RAS/MEK pathway, Erastin.

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Biofortification of Rice cv. Jayamati by integration of Iron Homeostasis Genes

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Abstract: Rice is the staple food for billions in the developing countries but it is deficient in many key micronutrients like iron (Fe) and zinc (Zn), most of which is lost during grain processing. Iron deficiency is a major problem worldwide and production of iron-biofortified rice to some extent help to ameliorate this problem. Iron-biofortified indica rice (*cv. Jayamati*) was developed by introduction of iron homeostasis genes like ferritin and metal chelator nicotinamine and iron regulated transporter1 (*IRT1*) genes. A total of 13 T_0 putative transgenic lines showed presence of IRT1 and soybean ferritin gene and 14 T_0 putative transgenic lines showed presence of *NAS1* gene as evident by gene specific primers with a transformation efficiency of 3.67%. One of the T_0 transgenic lines, AK 14/1 was found to be positive for all the three transgenes (Soybean ferritin, *IRT1* and *NAS1*) when subjected to PCR analysis. Efforts are being made to identify prominent transgenic lines with single copy transgenes with high expression in terms of iron deposition in the rice endosperm.
Keywords: Endosperm, Grain processing, Iron biofortified rice, Iron homeostasis genes, Micronutrients

ISCA-ISC-2014-Poster-3BS-39

In Silico Study of Intron Containing Genes of Solanaceous Plastomes

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Abstract: Solanaceae is an economically important family of angiosperms. Chloroplasts are essential cellular organelles with in plant cells possessing the enzymatic machinery for the process of photosynthesis. The availability of complete nucleotide sequences of chloroplast genomes of ten solanaceous species provided us with an opportunity to conduct *in silico* study of their intron-containing genes with respect to number of introns and sizes of exons and introns. Genbank files of chloroplast genome of each species were carefully studied to observe intron containing genes and the number of introns they contained. Among the eighteen intron-containing genes, ycf3, clpP and rps12 contained two introns whereas other 15 genes contain only one intron. The rps12 gene is divided such that its 5' end exon is located in the LSC region whereas second and third exons are located in the IR region. Genes rpl2, ndhB, trnI-GAU and trnA-UGC are located in IR region whereas trnK, rps16, trnG-UCC, atpF, rpoC1, ycf3, trnL-UAA, trnV-UAC, clpP, petB, petD, rpl16 are located in LSC region and ndhA is located in SSC region. trnL-UAA gene intron belongs to the self splicing group I intron whereas all other introns belong to group II. Generally, the size of exons was shown to be conserved and variability was observed in the intron regions however ndhB was found to be highly conserved for both exons and introns.
Keywords: Chloroplast, solanaceae, genome, intron, *in silico*.

ISCA-ISC-2014-Poster-3BS-40

Antagnostic effect of Lactobacilli of Camel Milk against *Aeromonas veronii* isolated from Pichola lake, Udaipur, Raj., India

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Abstract: Water microbiology is concerned with the microorganisms that live in water. Water may harbour many pathogenic bacteria, viruses, protozoa and parasites responsible for the emerging most widespread infections which are leading cause of death worldwide. Aeromaonas veronii is commonly found in freshwater systems. Aeromonas is gram negative, facultative anaerobes which causes aeromonasis in humans and are also pathogenic for aquatic and terrestrial animals. Pichola lake is one of the most beautiful lake of Rajasthan, India. It is an important source of potable water supply for the city. In the present study, an attempt has been made to isolate the lactobacilli from camel milk and detect the antibacterial activity of lactobacilli against previously isolated and identified Aeromonas veronii from lake Pichhola. A total of 10 lactobacilli were isolated and subjected to agar well assay for detection of antibacterial activity. Out of them, 2 isolates showed demonstrable antibacterial activity against Aeromonas veronii. On the basis of biochemical and molecular characteristics these two isolates were identified as Lactobacillus rhamnosus CMU 14 and Lactobacillus fermentum CMU 17. Further investigation may reveal that these lactobacilli isolates could be used as potential probiotics for aquaculture and to manage aeromonasis.
Keywords: Aeromonas veronii, Pichola lake, lactobacilli, antibacterial activity.

ISCA-ISC-2014-Poster-3BS-41

Antagonistic Effect of *lactobacillus* isolates from cow Milk on selected Pathogenic Bacteria

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Abstract: Probiotics are viable microbial food supplements which beneficially influence the health of humans. Antibacterial activity is one of the important probiotic properties for a strain to be a functional probiotic. The three *Lactobacillus* strains namely *Lactobacillus plantarum* CM1, *Lactobacillus fermentum* CM4 and *Lactobacillus casei* subsp. *casei* CM6 were isolated from cow milk samples collected from Udaipur city. Their antagonistic activity was tested against five pathogenic bacteria such as *Serratia marcescens* NCDC 108, *Enterobactor aerogens* NCDC 106, *Proteus vulgaris* NCDC 73, *Pseudomonas aeruginosa* NCIM 5029, and *Micrococcus luteus* NCDC 131 using agar well assay method. The results showed that the *Lactobacillus* strains namely *Lactobacillus plantarum* CM1, *Lactobacillus fermentum* CM4 and *Lactobacillus casei* subsp. *casei* CM6 were able to inhibit the growth of all the pathogenic bacteria in varying degrees. All the three *Lactobacillus* isolates were found to be the most sensitive against *Micrococcus luteus* than the rest

of the pathogenic bacteria used in the study. The inhibition recorded in the case of all the isolates that have antagonistic effect may be due to the production of organic acids as well as other compounds such as bacteriocins, hydrogen peroxide etc.

Keywords: Probiotics, *Lactobacillus* isolates, antagonistic activity, pathogenic bacteria.

ISCA-ISC-2014-Poster-3BS-42

Elucidating the role of Ectopic CAV1 expression in the lights of Epigenetic regulation: A New breaking dawn in Colon Cancer inhibition

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Abstract: Caveolin1 (CAV1) is essential for diverse cellular physiology and function. Different research groups reported that aberrant stage specific CAV1 expression is frequently observed in cancer and its acts both as tumour suppressor and oncogene. In our study we have found that, CAV1 is down regulated in primary tissues and over expressed in metastasis colon tissue samples. Further, *in-vivo* studies strongly show that CAV1 expression is not only higher in tissue samples but also profoundly higher in distance metastasis cell line HCT15 than lymph node metastasis cell line COLO205. Therefore, we hypothesize that CAV1 may have epigenetic regulation in colon cancer. To test our hypothesis, we analyzed CAV1 expression with two cell lines in presence of epigenetic modulators (AZA, SAM, TSA and SFN). We observe that colon cancer inhibition is associated with increase in CAV1 expression. Ectopic CAV1 overexpression is also associated with increase in apoptosis and G2/M phase cell cycle arrest and decrease in colony formation. Moreover, Bisulphite sequencing and methylation specific PCR (MS-PCR) and ChIP analyses also confirmed that reduced level of promoter DNA-methylation, H3K9me3 level and H3K4me3, H3K9AcS10 enrichment conjointly affect CAV1 expression in colon cancer.

Keywords: Caveolin1, colon cancer, DNA methylation, histone 3 lysine 4 trimethylation, histone 3 lysine 9 trimethylation, histone 3 lysine 9 acetylation Sarine10 phosphorylation.

ISCA-ISC-2014-Poster-3BS-43

EST-SSRs reveal Molecular diversity for Galactomannan content in Clusterbean Genotypes of Haryana, India

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Abstract: Clusterbean [*Cyamopsis tetragonoloba* (L.) Taub.], a *kharif* forage legume, has now gained the status of an industrial crop, due to the presence of galactomannan in its endosperm. As a viscosity builder, galactomannan has been intensively used in textile, paper, petroleum, mining, cosmetic, pharmaceuticals and food industries. Thus, to support its increasing demand, clusterbean breeders are interested in improving commercial genotypes for galactomannan content. For this purpose, molecular markers offer a promising tool for supplementing conventional plant breeding efforts. SSRs are highly valued molecular markers for molecular breeding in crop plants. Unfortunately, clusterbean is a genomic resource poor crop as no genomic SSRs have been developed. We used EST database to identify EST-SSRs for studying molecular diversity for galactomannan content. Sixty six sequences related to galactomannan content were identified from EST database of *Cyamopsis tetragonoloba* out of which 36 SSR primers were designed and used for molecular diversity analysis of selected genotypes. Galactomannan content from seeds of 16 Haryana clusterbean genotypes alongwith two wild genotypes *i.e.*, *C. serrata* and *C. senegelensis* was estimated and was found to be in the range of 18.32 to 36.68 per cent. These genotypes were then raised and DNA isolation in leaf tissue was done using CTAB method. PCR and PAGE analysis revealed DNA polymorphism for this trait among the genotypes. The diversity analysis using NTSYS-PC revealed two separate groups (high and low) relevant to galactomannan content with similarity coefficient of 0.66, while HG365 and HG3-2, which were observed to have high galactomannan content, did not go with the high group.

Keywords: Clusterbean, galactomannan, EST-SSR, diversity, polymorphism.

ISCA-ISC-2014-Poster-3BS-44

Phytochemical and Antioxidant Properties of some common Medicinal Plants

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Abstract: The present study investigate the qualitative and quantitative analysis of the major bioactive constituents of some medicinally important plants viz., *Diplocyclos palmatus, Hemidesmus indicus, Passiflora foetida , Ricinus communis, Lantana camara, Elephantopus scaber, Cardiospermum halicacabum, Hyptis suaveolens, Rauwlfia serpentina* collected from different localities and plant parts are extracted using ethanol, methanol and distilled water. Alkaloids, saponins, tannins, steroids, terpenoids, phlobatannins, flavonoids, coumarins, and cardiac glycosoides were analyzed qualitatively where as total phenolic content (Folin-Ciocalteu assay at 760nm); the antioxidant activity of the extracts was evaluated by DPPH (517nm), reducing power assay and Phosphomolybdenum assay. The results obtained in the present study suggest that preliminary phytochemical analysis detected the presence tannins, alkaloids, saponins, steroids, terpenoids, phlobatannins and flavonoids. Maximum phenolic content was observed in water, ethanolic and methanolic extract of *Hemidemus leaves* (11.2mg/g), and in methanolic extract of *Elephentopus* leaves (11.2mg/g). All the crude extracts showed significant antioxidant activity ranged from 40-94%. Also the significance of these plants in traditional medicine and importance of the distribution of these constituents were discussed.
Keywords: Antioxidant property, medicinal plants, phytochemicals, DPPH.

ISCA-ISC-2014-Poster-3BS-45

Impaired Metabolic response following Chronic Arsenic exposure in Rat Liver

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Abstract: Present study was undertaken to reveal the effects of chronic arsenic exposure (25 ppm intragastrically for 12 weeks) induced reactive oxygen species (ROS) mediated hepatic metabolic changes in Wister rats. Level of ROS generation was measured along with catalase activity, superoxide dismutase activity (MnSOD), total glutathione level, mitochondrial complexes I, II and IV activities and fourier transform infrared spectroscopy (FTIR) analysis in liver tissue. There was increase in ROS level followed by decrease in activities of mitochondrial complexes I, II and IV, catalase and MnSOD as well as increase total glutathione level. Moreover, FTIR spectra have shown significant differences in intensities and areas between control and arsenic exposed rat liver tissues. This variation in FTIR spectra suggests alteration in biochemical contents like proteins and lipids in the liver tissues due to chronic arsenic exposure. Thus the results of present study revealed arsenic mediated metabolic alteration in rat liver.
Keywords: Arsenic, oxidative stress, hepatotoxicity, mitochondria, spectrum.

ISCA-ISC-2014-Poster-3BS-46

Biodiversity of Arboreal plants of Narnala Wildlife Sanctuary, Maharashtra, India

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Abstract: Narnala is an ancient fort in the hills in the north of AKOT taluka at a point where a narrow tongue of Akola District runs a few miles in to the Melghat. This area is Southern part of Melghat Tiger Reserve. The area is well known for its richness of flora and fauna. The Sanctuary area has special historical, biological, mythological, archaeological, scenic and recreational values and is a point of attraction for the tourists and the people of Maharashtra. The plants are studied from Narnala Fort and the vicinity of the Fort. This area is rich in plant diversity. The sanctuary consists of a wide range of vegetation growing at different locations. A survey of the Narnala Wildlife Sanctuary was carried out during 2011- 2013. The present investigation deals with the taxonomic enumeration of tree plants recorded from Narnala sanctuary of Maharashtra. Altogether 53 species belonging to 45 genera and 38 families are reported form this region in the present study.
Keywords: Biodiversity, arboreal plants, wildlife sanctuary.

ISCA-ISC-2014-Poster-3BS-47

A Taxonomic Study on Rainy Season Weeds in Chaubeypur Block of Kanpur Nagar District, UP, India

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Abstract: Weeds are self-grown unwanted plants which grow out of place and time. Presence of weeds creates many problems like decreased crop production, reduced crop quality, loss of animal products, loss of animal health, harmful effect on human health, adverse effect on industrial areas, aquatic ecosystem etc. They are self-grown plants which occur in gardens, fields, agricultural lands, roadsides, moist and water logged places especially in rainy season. Present study is based on taxonomic enumeration of rainy season weeds of Chaubeypur block of Kanpur Nagar district. A total of 61 rainy season weeds belonging 54 genra of 33 families were identified and analyzed with their botanical names, families, local (Hindi) and English names, habits and habitats etc.
Keywords: Weeds, taxonomic studies, Kanpur Nagar self-grown Plants.

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Macrobenthic Fauna and its Ecology in Kolayat Lake in the Indian Desert

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Abstract: Kolayat (27°50'32"N, 72°57'10" E) is situated 51 kms on south-west of Bikaner. It is situated in the middle of the Indian desert and is characterized by typical arid conditions. Despite ecological stresses the surface water bodies in far and wide stretches of barren lands of the Thar desert harbour wide range of flora and fauna. The present study was undertaken from September, 2012 to February, 2013 to explore the Macrobenthic fauna in Kolayat lake near Bikaner. Physical chemical limnology revealed that the lake was shallow with turbid, alkaline hard, slightly saline and well oxygenated water. The adult macrobenthic fauna displayed a diversity of 19 species belonging to the three phyla Annelida, Arthropoda and Mollusca besides the different larval forms. Phylum Annelida was represented by Class Oligochaeta (2Species) and Class Hirdunea (2Species) Phylum Arthropoda was represented by Class Insecta (12Species). Mollusca was represented by Class Gastropoda (5Species).
Keywords: Macrobenthic fauna, Indian desert, physical chemical limnology, ecological stress, diversity.

ISCA-ISC-2014-Poster-3BS-49

Diversity and Population Turnover of Insect Fauna in Pushkar Lake in the Aravalli Region of Rajasthan, India

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Abstract: Anthropogenic pressures, holy rituals and tourism have adverse impact on the water quality of the sacred lakes. Physico-chemical parameters are directly affecting to diversity of insect fauna of the water bodies. The present communication deals with the year round study on of insect fauna and its ecological aspects in the Pushkar lake, Ajmer from April, 2012 to March, 2013. Physical-chemical limnology revealed that the lake was shallow with turbid, alkaline, hard, slightly saline and well oxygenated water. The adult insect fauna displayed a diversity of 18 species belonging to families namely Dytiscidae (4), Helodidae (1), Hydraenidae (1), Hydrophilidae (4), Psephenidae (1), Corixidae (1), Gerriidae (2), Nepidae (2), Notonectidae (1) and Velidae **(1)** besides the larval forms of aquatic and terrestrial insect. The data on population turnover and periodicity of occurrence is viewed upon to adjudge the sensitivity of species to environmental condition.
Keywords: Aquatic insects, physical-chemical limnology, Sacred lake, diversity, population turnover.

ISCA-ISC-2014-Poster-3BS-50

RNA Estimation in various Developmental Stages of Silkworm B. mori L.

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Abstract: Nucleic acids are biochemical constituents which play main role in the development of insects. Changes in the level of RNA during embryogenesis and post embryonic development play an important role in the process of

differentiation. The beginning of embryogenesis is always triggered by nucleic acids. The amount of RNA in newly laid eggs was 202.21%. (mg / 100gm). RNA increased linearly until hatching and showed 237.59% and 289.39% in 4 and 8 days old HCl treated eggs respectively. h. e., diapauses eggs did not show any elevation in RNA content but infact showed a small drop on fourth day 195.36%. The RNA content was steeply increased in first instar newly hatched larvae (423.71%), which was very high. A rapid increase in RNA concentration was found in rest of the larval stages, which decreased after molting (as reported in fifth instar newly ecdysed larvae). A rapid increase was observed in fifth instar mid and late stage larvae and highest amount of RNA was found in 5th instar late stage (9 days old) larvae (845.91%). During early development in the puparium the total amount of RNA decreased steeply. 4 and 8 days old pupae contained 669.08% and 639.19% RNA respectively. An increase in total RNA was found prior to adult emergence. The increase in RNA was constituently higher in 12 days old female pupae (708.37%) than that of male (698.07%). In the adult stage the level of RNA again declined. The amount of RNA in adult male was 567.29% and adult females showed slightly higher amount of RNA in comparison to males i.e. 593.65%.

Keywords: Estimation, developmental, stages, Silkworm.

ISCA-ISC-2014-Poster-3BS-51

A Review on *Anogeissuslatifolia* Wall

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Abstract: *Anogeissuslatifolia* Wall. (Combretaceae) commonly known as Axle wood (English), *Dindal, Dhau, Dhawa, Dhawra, Bakli* (Hindi), *takhian –nu* (Thai) and *raam* (Vietnamese). It is a small to medium sized tree native to the India, Nepal, Mynmar and Sri Lanka. This plant is economically, ecologically, pharmacologically and ethnomedicinally important. It yield good charcoal and firewoodof energy value 17600-20500 kJ/kg. The tree is good survivor on eroded land and also used in river bank stabilization.Its leaves contain large amount of gallotannins so used in tanning industries. The leaves are also fed on by the Antheraeapaphia moth which produces the "tassar silk". It is one of the important medicinal plant since Ayurveda in cardic disorder.The plant is useful in UTI infections, skin diseases, liver complaints, fever, epileptic fits, etc. It is rich in pharmacologically active phenolic phytoconstituent- Ellagic acid.It posess healing potential, microbicidal activities, antiulcer potential, hypolipidemic activities and hepatoprotective potential.Ghatti gum tapped from *Anogeissuslatifolia* is used to improve lactation, prevent post- delivery backache, diabetes and diarrhea. Gum ghatti has a potential application as a release modifier for controlled drug delivery. It has long been used in non - food applications such as calico printing, explosives, varnishes, car polishes, ceramics, cosmetics and in pharmaceuticals, textile, paper, petroleum and mining industries. Also, this biopolymer aids in various photoelectric determinations.

Keywords: Review, Anogeissuslatifolia Wall.

ISCA-ISC-2014-Poster-3BS-52

A study of Protocorm- like- Bodies induction using Seeds of *Dendrobium Moschatum* sw.

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Abstract: The seeds of *Dendrobium moschatum* sw. are used in this study to induce protocorm like bodies (PLB). The seeds were cultured on full strength Murashige and Skoog (MS) basal medium with 3% sucrose and 0.9 % agar, P^H was adjusted into 5.7 before autoclaving. Various types of plant growth regulators such as Indole-3-acetic acid (IAA), 6-benzylaminopurine (BAP), 1-Naphthaleneacetic acid (NAA) and kinetin are used in combination and alone with different concentration. Combination of IAA and kinetin with concentration 0.5mg/L and 2mg/L show better result in PLB formation. Moreover PLB induction is also observed in the plant PGR free MS medium. There was very less PLB formation observed in PGR free medium.

Keyword: *Dendrobium moschatum* sw. MS media, PLB, NAA, IAA, BAP, Kinetin.

ISCA-ISC-2014-Poster-3BS-53

Seasonal diversity and Habitat characteristics of Algae of Wetlands in the West Garo Hill, Meghalaya, India

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Abstract: Meghalaya has 135 wetlands in addition to 167 smaller wetlands while the total wetland area has been estimated

at 29,987 hectares. The West Garo Hill, has the highest area under wetland. Seasonal diversity and habitat characteristics of algae of wetlands in West Garo Hill were investigated in three seasons in the year 2013. The wetlands were found to be highly fluctuates with season. The water showed slightly alkalinity. DO was found normal as prescribed by WHO. COD and TSS were found beyond the permissible limit. The BOD was slightly higher than permissible limit. About 36 algal species belonging to *Chlorophyceae, Cyanophyceae, Bacillariophyceae, Desmidiaceae, Euglenophyceae,* species have been identified. Chlorophyceae and bacilariophyceae were found maximum number than other class of algae. The species of spirogyra *was* most frequent among *Chlorophyceae*. The *Bacillariophyceae* members were dominated by *Pinnularia* and *Navicula.* Among *Cyanophyceae, Nostoc, Anabaena* and *Oscillatoria* were abundant. Large number of species cyanophyceae was observed in monsoon season. Desmids were represented by a large number of *Cosmarium* and *Closterium.* There was a seasonal variation of algal types, count and that mostly depending on pH value, clearity of water, and amount of nutrients of water.

Keywords: west garo hill, seasonal diversity, algae, water quality.

ISCA-ISC-2014-Poster-3BS-54

Identification of Zoanthid morphs using Morphology and Molecular techniques

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Abstract: Zoanthids are marine benthic animals distributed in all marine environments. In last two decades unremitting increase in diversity and growth of zoanthids has been observed at the coast of Saurashtra, Gujarat. Despite their relative abundance, it has been overlooked by scholars. The species diversity of this order has historically been poorly known because of the complicated identification based on morphology**.** However, Zoanthid polyps do not have many useful diagnostic morphological characters, as they show incredible similarity within the order. Numbers of colour morphs are present within the zoanthid species. Various colour patterns in tentacles and oral disc has been observed within the same species of zoanthid. It is often difficult to observe the internal morphology of Zoanthid as they have unique character of encrusting sand particles into their body wall. These hard particles often make histological observation altered. In recent years molecular techniques have helped advanced the taxonomy and phylogeny of marine invertebrates. Here by using molecular marker i.e. mitochondrial Cytochrome oxydase subunit 1 (COI) and 16S rDNA and by using traditional classification, various colour morphs of zoanthid species particularly of the genus *Palythoa* and *Zoanthus* have been identified. The mtDNA-COI and 16S rDNA genes were sequenced and submitted to BOLD (Barcode of Life Data Systems) database and NCBI. species were confirmed by using alignment and phylogenetic analyses.

Keywords: Identification, zoanthid morphs, morphology, molecular techniques.

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Chromosomal Diversity in Wild Oat (*Avena Fatua* Linn.) Populations from North India

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Abstract: *Avena* is a genus of the tribe Aveneae of family Poaceae. *A. fatua* Linn. is a annual species and is cultivated in the lower hills and plains as fodder and grain. It is commonly known as Wild Oat and is a nuisance weed in the wheat fields. It has medicinal value also and is used as diuretic, emollient and refrigerant. The base number in general in the tribe Aveneae is x=7 and chromosomes are large sized. Meiotic studies were performed on forty seven populations of *A. fatua* L. from North West India. All the populations are hexaploid (2n=42). All the populations presently studied were found to have 21 bivalents. Majority of the bivalents are ring shaped with 2 chaismata. In some PMCs (Pollen mother cells) interbivalent connections were present between two bivalents. There is high frequency of PMCs with non oriented bivalents (1-3 bivalents / PMC) at equatorial plate at Metaphase-I. The frequency of such PMCs varies from 4.9% (Ppln-3) to 27.3% (Ppln-38). In majority of the populations (in 32 populations), PMCs show meiotic abnormalities such as presence of laggards (0-6) and bridges (0-4) during anaphases and telophases. These abnormalities are present in all the 32 populations but the frequency of these abnormalities shows significant inter-population differences. The phenomenon of cytomixis showing clear cut chromatin connections between microsporocytes at different stages of Meiosis-I and chromosome stickiness at M-I was quite prevalent in nineteen populations. In spite of the normal tetrad formation in all the populations, relatively high pollen sterility was reported in some populations only whereas in the remaining populations the pollen fertility was quite high i.e. Ppln-41 (97.4%), Ppln-43 (97.4%), Ppln-45 (93.4%) etc. Different populations showed some differences in pollen grain size. Thus, the species shows lot of genetic diversity in the different geographical areas and has opted for high recombination through cross over formation.

Keywords: *Avena*, chaismata, interbivalent, cytomixis and chromosome stickiness.

ISCA-ISC-2014-Poster-3BS-56

The Study of Antibiotic Resistance Trend and its issues among Clinical Isolates at a Tertiary Care Hospital

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Abstract: Antibiotic resistance can reverse Medical progress. The following diseases are already in the list of attaining the drug resistance: Tuberculosis, Malaria, Sore throat and Ear Infections. From most reason behind antibiotic resistance first is the haphazard use of antibiotics and second is the level of infection control in hospitals in India is quite low, according to a global finding which says hospitalised patients acquired 11-83 % of these infections. Currently, Methicillin Resistant Staphylococcus aureus, Vancomycin Resistant Enterococci, Clostridium difficile and Multi Drug Resistant Gram negative bacilli are the most important examples of antibiotic resistant organisms and they represent the larger problem of antibiotic resistance in general. It is essential to halt the development and spread of antibiotic resistance among hospital pathogens. The relationship between antibiotic use and the development of antibiotic resistance in microorganisms is a subject of ongoing controversy and research. This calls for infection control strategies in hospitals where heavy use of antibiotics due to high infection rate is leading to growing drug resistance.
Keywords: Antibiotic resistance, infection control, clinical isolate, nosocomial infection, gram negative bacilli.

ISCA-ISC-2014-Poster-3BS-57

Antioxidant activity in various Solvent extracts of Fennel (*Foeniculum vulgare* Mill) Seeds

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Abstract: There has been a growing interest in phenolic components of fruits and vegetables which may promote human health or lowering the risk of disease. *Foeniculum vulgare* Mill. (Apiaceae family) commonly known as fennel, is one of the widespread annual or perennial plant with aromatic odour. Aqueous extract of fennel fruits contains rich phenolic compounds. Some flavonoids such as quercetin arabinoside were identified from *F. Vulgare.* Fennel was known as excellent sources of natural antioxidants and contributed to the daily antioxidant diet. In a study at NRCSS, Ajmer crude seed extracts of five fennel genotypes were prepared with methanol, hexane, DMSO and distilled water. Extracts were subjected for the measurement of total phenolic content (TPC) by Folin-Ciocalteu method as well as flavonoid content and antioxidant/radical scavenging activity [1,1-diphenyl-2-picryl-hydrazyl (DPPH). Total phenolic content in all the genotypes were maximum in distilled water extract being observed 65.871 mg/l (Hisar Swaroop), 58.623 mg/l (Rajendra Saurbha), 58.452 mg/l (RF-101), 57.631 mg/l (GF-2), 55.99 mg/l (AF-1) respectively. Total flavonoid contents were however, more in hexene extract of all the genotypes being observed 25.56 mg/l (RF-101), 24.64 mg/l (AF-1), 24.60 mg/l (Rajendra Saurbha), 24.01 mg/l (Hisar Swaroop), 23.71 mg/l (GF-2). Antioxident content was higher in distilled water extract of all the genotypes which ranges from a minimum of 25.14 (AF-1) to a maximum of 35.02 mg/l in 100000 ppm crude seed extract of genotype RF-101. Results reveal that all extracts of the fennel exhibit antioxidant activity but maximum phenolic content, and antioxidant activity was observed in distilled water extract while flavonoids content were maximum in hexane extract. Findings suggested that the fennel extracts could act as potent source of natural antioxidants.
Keywords: Antioxidant activity, crude seed extract, fennel, total phenolic content, flavonoid content.

ISCA-ISC-2014-Poster-3BS-58

Antibacterial activity of *Lactobacillus fermentum* isolated from Raw Camel Milk

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Abstract: Lactic acid bacteria (LAB) can produce antibacterial substances with capacity to inhibit the growth of pathogenic and food spoilage microorganisms. Lactic acid bacteria exert strong antagonistic activity as a result of the production of organic acids, hydrogen peroxide, diacetyl, inhibitory enzymes and bacteriocins. Present work was conducted to evaluate

the antibacterial potential of lactic acid bacteria isolated from raw camel milk against various pathogenic bacteria. Previously characterized *Lactobacillus fermentum* CM23 was used for the detection of its antibacterial potential and it showed demonstrable antibacterial activity against both the gram positive pathogenic bacteria namely *Bacillus subtilis*, *Bacillus cereus* and *Staphylococcus aureus* and gram negative pathogenic bacteria namely *Escherichia coli*, *Pseudomonas putida* and *Proteus vulgaris*. *Lactobacillus fermentum* CM23 showed highest zone of inhibition against *Staphyloccocus aureus* (17mm). Results revealed that *Lactobacillus fermentum* CM23 posses antibacterial potential and it can be used as a potential probiotic in improving human health.

Keyword*: Lactobacillus*, Camel, Antibacterial activity, Probiotic.

ISCA-ISC-2014-Poster-3BS-59

Extraction of lipid, Protein and Micronutrients heavy metals from Barnayard Millet (*Echinocloa colona* (L.)

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Abstract: Barnyard millet is the fast growing millet and its origin is probably in eastern India. It is also called by several others name e.g.; Japanese barnyard millet, ooda, sawan, sanwa and sanwank, nutritionally too. In this experiment biochemical characterization of different varities (VL21, VL29, VL172,VL181,VL146) of barnyard millet taken under study due to its nutritive value. Lipid content estimated by titration methods. The amount of free fatty acids can be determined volumetrically by titrating the sample with potassium hydroxide. Proteins were estimated by the methods of Lowry's et al. (1951). Atomic absorption spectrophotometer (AAS) was chosen to measure to measure total Zinc, Iron and Lead concentration.

Keywords: Barnyard millet, estimation of lipid, estimation of protein, extraction of micronutrient heavy metal.

ISCA-ISC-2014-Poster-3BS-60

Analysis of the role of miRNAs in the process of Endothelial Mesenchymal transition during Angiogenesis

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Abstract: Pathologic angiogenesis is a prominent feature of a number of diseases, including rheumatoid arthritis, psoriasis, proliferative retinopathy and tumor. Endothelial to mesenchymal transition (EndoMT), a type of cellular trans-differentiation is an important source of myofibroblasts like cells during the process of pathological angiogenesis. Several studies have shown that regulatory pathways including the Wnt pathway, the HIF-1a hypoxia induced pathway participate in the regulation of EndoMT. Taking into consideration that Endo MT is one of the most important early and essential events in the process of angiogenesis and that miRNAs play important gene regulatory role, the present study was designed to identify the miRNAs associated with Endo MT, if any. For this HUVECS in culture were maintained in a proangiogenic environment to induce Endo MT. It was found that there is a significant up regulation of mesenchymal markers at 8 th hour of culturing. The expression of some of the important angiogenic associated mi RNAs like miR21, miR-146a, miR146b, miR 126, miR 221, miR 106a, miR 107 and miR-145, showed a significant elevation in their relative expression. The result thus suggest that these miRNAs can play a major role in the trans differentiation of endothelial cells to mesenchymal phenotype, a process which marks the onset of angiogenesis.

Keywords: Angiogenesis, EndoMT, HUVECs, mesenchymal, miRNAs,

ISCA-ISC-2014-Poster-3BS-61

miR106b Mediated Acquisition of Cisplatin Resistance by Regulating SIRT1, PTEN and VDAC1

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Abstract: Most of the drug resistance mechanisms involves regulation of certain genes involved in apoptosis, cell cycle check points, DNA repair etc. and these mechanisms have recently been shown to be targeted by micro RNAs. The present study was designed to analyse, whether acquisition of cisplatin resistance in cancer cells is mediated by miRNAs.

Some important genes dysregulated during the process of drug resistance used in this study are SIRT1, PTEN and VDAC1. In this study, cisplatin resistant A431 cells were generated based on the IC_{50} value and. the expression levels of SIRT1, PTEN and VDAC1 were analysed by Real time PCR. SIRT1 and VDAC1 was found to be significantly overexpressed, whereas PTEN showed significant downregulation. Further In silico analysis was performed to screen for the candidate miRNAs of these target genes and found that 3'UTR of SIRT1, VDAC1 and PTEN have miR106a/106b response element in common. The expression levels of these miRNAs analyzed by Real time PCR showed that mi106a and miR106b was decreased by 20% and 50% respectively. Therefore the results obtained here suggests that mi106b play a major role in conferring drug resistance to cells during the initial stages itself by regulating the genes like PTEN, SIRT1 and VDAC1.

Keywords: Drug resistance, cisplatin, IC_{50} value, 3'UTR, miR106b.

ISCA-ISC-2014-Poster-3BS-62

Implication of Monochromatic Lights to Enhance Biosynthesis of Steviosides in *Stevia rebaudiana* Cultures

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Abstract: *Stevia rebaudiana* is a natural sweetener plant having medicinal (Antidiabetic) and commercial importance. SteviaŒ§s leaves are estimated to be 300 times more sweeter than cane sugar due to the presence of active principle secondary metabolites, Steviosides (Steviol glycoside), which are also of pharmaceutical value. Plant Tissue Culture technique is used as an important tool for micropropagation via organogenesis or embryogenesis and for the production of secondary metabolites. The abiotic factors like light in quality and quantity play a very important role, in callus induction, organogenesis and accumulation of primary metabolites in *in vitro* cultures. In our study monochromatic lights (Blue, Yellow and Red) were used as physical factors for enhance production of Steviosides in *in vitro* cultures raised by leaf explants of *Stevia rebaudiana.* Among all lights, Red light significantly influenced callus induction and proliferation as maximum fresh weight of callus (1.556gm) was obtained in tissues grown under Red light conditions. The Red light also influenced shoot induction and proliferation where maximum eleven shoots/explants were obtained from single nodal section in one month of culture period. In this treatment a remarkable multifold increase in total steviosides content (191%) over natural plant system was also obtained from callus grown under similar light conditions. Hence Red light photo receptors that are Phytochromes, seem to play a very crucial role in elevated production of steviosides in *Stevia* leaf derived cultures. We report here for the first time a unique cost effective approach to produce steviosides for commercialization and medicinal use.

Keywords: Implication, monochromatic, lights, enhance biosynthesis, steviosides, *Stevia rebaudiana* cultures.

ISCA-ISC-2014-Poster-3BS-63

A Review on Nanoparticles: Their Synthesis and Types

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Abstract: Nanotechnology relates to the design, creation, and utilization of materials whose constituent structures exist at the nanoscale; these constituent structures can, by convention, be up to 100 nm in size. Nanotechnology is a growing field that explores electrical, optical, and magnetic activity as well as structural behavior at the molecular and submolecular level. It is highly interdisciplinary as a field, and it requires knowledge drawn from a variety of scientific and engineering arenas. Nanotechnology has the real potential to revolutionize a wide array of medical and biotechnology tools and procedures so that they are more personalized, portable, cheaper, safer, and easier to administer. Nanoparticles are being used for diverse purposes, from medical treatments, using in various branches of industry production such as solar and oxide fuel batteries for energy storage, to wide incorporation into diverse materials of everyday use such as cosmetics or clothes, used in various fields such as optical devices, catalytic, bactericidal, electronic, sensor technology, biological labelling and treatment of some cancers. In recent years, nanoparticles have attracted considerable attention due to their exceptional properties including antibacterial activity, high resistance to oxidation and high thermal conductivity. Nanoparticles can be synthesized chemically or biologically. Metallic nanoparticles that have immense applications in industries are of different types, namely, Gold, Silver, Alloy, magnetic etc. This study aims to present an overview of nanoparticles, with special reference to their mechanism of biosynthesis and types.

Keywords: Nanoparticles, silver, bactericidal, thermal conductivity, optical devices.

ISCA-ISC-2014-Poster-3BS-64

Values of Uric Acid during Reproductive Cycle in Megachiropteran Bat *Rousettus Leschenaulti* (Desmerest)

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Abstract: Variable values of uric acid in the male and female were registered throughout the reproductive cycle and therefore all over the three major seasons of the year. The mean range of uric acid recorded in the male was from 0.63 to 1.49 mg/dl. The higher values recorded were during June, May, February and April but significant decline was noted during September and October. Insignificant decline was registered during March, July, January and August. Variable results were obtained during November and December. The mean range of uric acid recorded in the female was from 0.72 to 1.48 mg/dl. The higher values recorded in declining manner as follows – May – June – March – February – April – January – August – July. Significant decline was noted from September and November. Variable results were obtained during November and December. In the present work Uric acid count was found to be variable according to the reproductive status of the male and female.

Keywords: Rousettus leschenaulti, uric acid, reproductive cycle.

ISCA-ISC-2014-Poster-3BS-65

Distribution of Anopheline mosquito species in LoonkaransarTehsil (Bikaner) of Western Rajasthan: Impact of irrigation?

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Abstract: Malaria has remained a major threat to public health and economic development of tropical and subtropical regions of the world. It is also endemic in whole of India and periodic epidemics occur in one or the other part of country, desert region being no exception today. Although fifty eight Anopheline species of mosquitoes have been identified in India, Malaria has been reported to be transmitted by nine vectors. They differ greatly not only in their biology and behaviour but also in breeding and distribution habitats. The present study was carried out in Loonkaransar tehsil of Bikaner district (western Rajasthan). A part of Thar desert, the land in now under irrigation due to introduction of IGNP (Indira Gandhi Nahar Pariyojana) and can be demarcated into irrigated, semi irrigated and non-irrigated areas. The prevalence of Anopheline vector in different habitats associated with irrigation was studied during various seasons viz. winter, monsoon and summer. Only two species *Anopheles subpictus* and *Anopheles annularis* were documented from the region, while both the species were reckoned from the irrigated area. Only *Anopheles subpictus* was noted in semi-irrigated and non irrigated areas, *Anopheles annularis* showing complete absence in the region. The two species were observed throughout the study period although the population density of both the species was low during winter as compared to summer and monsoon seasons, suggesting temperature as a regulating factor for population build up. The introduction of canal water for irrigation seems to have altered the physiography of the region, providing breeding grounds for *Anopheles annularis* and thus its prevalence in the irrigated area.

Keywords: Distribution, Anopheline, mosquito, species, Loonkaransar, Western, Impact, irrigation.

ISCA-ISC-2014-4CS-Guest Speaker-01

Global Research: Material Needs for Human Society and Changing Scenario

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Acquired and natural needs of human society are fulfilled through a variety of materials. In the early days a civilization almost all materials needs of humans were met through natural resources-air, land, plants, trees, water, animals and minerals. Using science and technology, humans starting exploiting minerals resources on increasing scale and also developed scores of new materials using appropriate physical and chemical processes. The impact of materials on human society has been s profound that periods of human civilization have been named after the most common material of the period. The war driven needs during and after the World War II led to the development and production of several of today's common metallic and non-metallic materials in the large amount. During the second-half of the 20th and the first-decade of 21st Century requirements for new materials with better qualities increased ateadily for biomedical, electronic and space applications. Ceramic insulators, polymers, semi-conductors , silicon wafers and special alloys are now being produced and used in bulk. Several new materials-high tech-materials, smart materials etc in different shapes have also been developed. Active surfaces and devices, coatings, complexes, particles, tubes and wires are now being exploited on the micro and nano scale. Some of these materials are being produced in medium or small scale for experimental studies, but their potential applications are enormous. During 21st Century these materials will be needed in larger amounts and several new and exotic materials will also be development.
This talk presents a brief account of the human quest of materials since pre-historic times and highlights to role of chemistry in ensuring the availability of various old and new materials.

ISCA-ISC-2014-4CS-Guest Speaker-02

Nanoporous materials and their applied applications

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Materials of specific length scale belong to 1-100nm are called nanomaterials which are diverse in nature e.g. carbon nanotubes, fullerenes, nanowires, quantum dots, nanoparticles, photonic crystals, nanoporous materials and many more. Such nanomaterials have extensive applications in molecular catalysis, sensors, targeted drug delivery, bio-filtration, tissue engineering, power applications, agriculture science, environmental science, and communication technology. Recently, nanoporous materials have got special attention owing to their specific properties like low density, considerable thermal conductivity and provide places for piece full sitting of specific guest inside. Crosslinked gels of polysaccharides e.g. alginate, dextran, carboxymethycellulose with di or trivalent cations are safe and non toxic provide a suitable matrix to encapsulate various nanoparticles for diverse soft matter technology. On the other hand, porous scaffolds of Ag, Au, CuO, TiO_2 with suitable surfactants modified by structural directing agents have also been taken into consideration.
In this lecture, some porous materials with green synthesis, characterization and applications will be discussed.

ISCA-ISC-2014-Oral-4CS-01

Methylation Technique used for the Identification of degraded gum Polysaccharide structure from Agathis australis Plant

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Abstract: Agathis australis plant belongs to Araucariaceae family and known as Kauri. It is a native of South Australia and planted in FRI Dehradun and Southern India. Gum of plant contains a water soluble polysaccharide as L-arabinose and D-galactose in 1:4 molar ratio with traces of L-fucose. Present investigation mainly deals with the methylation of degraded gum polysaccharide alongwith degraded gum polysaccharide structure. Degraded gum polysaccharide was methylated by Brown and Purdie's method which yielded degraded methyl sugars as : 2,4,6-tri-O-methyl-D-galactose; 2,3,4-tri-O-methyl-D-galactose; 2,4-di-O-methyl-D-galactose and 2,3,4-tri-O-methyl-D-glucuronic acid in the molar ratio of 1:6:2:3. The isolation of four cleavage fragments from the methylated degraded gum polysaccharide structure from Agathis australis plant which indicated its branched chain character and also demonstrated that all D-galactose and D-glucuronic acid units are of pyranose structure.
Keywords: Degraded methyl sugars, Agathis australis gum polysaccharide.

ISCA-ISC-2014-Oral-4CS-02

Comparative Thermoacoustic Properties of Amino Acids with Urea (Aq) and Maltose (Aq)

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Abstract: Measurement of density, viscosity and sound speed has been done by established experimental procedures using pre-calibrated bicapillary pyknometer, pre-calibrated Ostwald's viscometer and Ultrasonic interferometer respectively for the solutions of amino acids viz. Glycine and L-Arginine with Urea (aq) and Maltose (aq) as solvent. Physical properties like density, viscosity and sound speed are useful for computing the derived parameters viz. Apparent Molal Volume (ϕ_v), Adiabatic Compressibility (â), Apparent Molal Compressibility (ϕ_k), Relative Association (R_A), Hydration Number (H_n), Viscous Relaxation Time (ô), Specific Acoustic Impedance (Z), Intermolecular Free Length (L_f), Limiting Apparent Molal Volume (ϕ_v°), Limiting Apparent Molal Compressibility (ϕ_k°), Experimental Slope (S_v^* and S_k^*), A and B coefficient of Jones-Dole Equation, Free energy of activation of viscous flow per mole of solvent ($\Delta\mu_1^{\circ\#}$) and Free energy of activation of viscous flow per mole of solute ($\Delta\mu_2^{\circ\#}$) which throw light on interactions between unlike components of multicomponent mixtures. Molar Refractivity (R_D) has also been computed from Refractive Index data using Lorentz-Lorenz equation. The results are recorded at 298, 308 K to assess the influence of temperature on interactions between the components.
Keywords: Apparent molal volume, apparent molal compressibility, viscosity B-coefficient, solute-solvent interactions, association, dissociation.

ISCA-ISC-2014-Oral-4CS-03

New method development for Hydroxyzine determination: Application in stability Studies, pharmaceutical Formulations and Humane serum

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Abstract: This article pertains to development and validation of an economically fast, sensitive and accurate Rp-HPLC method for quantitative analysis of HZ. A Hibar® ìBondapak® C_{18} column as stationary phase and acetonitrile: methanol: buffer (500:200:300) as mobile phase were used to accomplish the separation, when drawn at a flow rate of 1.0 mL/min, with 235 nm as monitoring wavelength. Linearity was established by studying the drug over the concentration range of 10–10000 ngmL^{-1}, correlation coefficient of r = 0.9993, drug recovery (98 to 102%) and high reproducibility in serum samples (less than 2.5% R.S.D) displayed excellent linearity, accuracy and precision. Force degradation studies of the drug under various stress conditions (acid, base, oxidation, photo and thermal) proved the stability indicating power of the method. Substantial method validation study was carried out inline with ICH guidelines and was applied successfully to quantify the amount of HZ in bulk, pharmaceutical formulations and blood serum samples.
Keywords: Hydroxyzine, HPLC UV, dosage formulation, blood serum.

ISCA-ISC-2014-Oral-4CS-04

Synthesis, Characterization and Pharmacological evaluation of some novel Nitrogen and Sulfur containing Heterocycles

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Abstract: 4H-1,4- Benzothiazines constitute an important class of sulfur and nitrogen heterocycles. It is the pharmacophore of phenothiazines which are well established anti-psychotic drugs in having a fold along the nitrogen- sulfur axis and can

be anticipated to possess pharmacological activities similar to phenothiazines. Benzothiazines are known for their utility as dyestuffs, photographic developers, u.v. light absorbers and antioxidants. With respect to biological applications, these derivatives are found potent anti-inflammatory, analgesic, anti-pyretic, anti-microbial, anti-viral, herbicidal, fungicidal, anticancer, anti-diabetic, anti-hypertensive, immunostimulating, neuroprotective and anti-oxidant agents. These derivatives have also been reported as synthetic intermediates for other drugs, as stabilizers in rubber vulcanization, corrosion inhibitors, and fading preventers. Besides the above applications, these derivatives have been found useful during organ operations, metabolism activation, gastrointestinal toxicity reduction and have been synthesized with the aim to exhibit the high vasorelaxant potency as Potassium Channel Openers (KCOs).

Keywords: Benzothiazine, DPPH, antioxidant activity, sulfones.

ISCA-ISC-2014-Oral-4CS-05

Potentially Biodynamic Tetradentate Macrocyclic Complexes of Bivalent Tin: Synthesis, Spectral, Antimicrobial and Antiinflammatory Approach

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Abstract: The field of research not only serves as a means for exploiting knowledge frontiers and helping to solve issues facing humankind but also constitutes a basis for world's wealth and power.Macrocyclic complexes of metals play a dominant role in bioinorganic chemistry for biochemical, industrial and agricultural purposes.Studies on polydentate macrocycles have increased considerably. From such a viewpoint, new tetradentate macrocycles of tin(II) have been derived from diammines and dicarboxylic acids. The structural features of the compounds were examined by elemental analyses, molecular weight determinations, infrared and multinuclear NMR studies (^{1}H, ^{13}C and ^{119}Sn NMR). The spectral studies are in good agreement with proposed framework of new macrocyclic complexes and supported an octahedral geometry around tin. The complexes have been evaluated for their antifungal, antibacterial and anti-inflammatory activities. Antifungal and antibacterial activity of the ligand and its metal complexes revealed that the metal complexes are highly active compared to the standard drug. The macrocyclic ligands and their complexes also displayed promising anti-inflammatory activity.Metal complexes showed enhanced activity compared to the ligand, which is an important steptowards the designing of macrocyclic drug candidates.

Keywords: Macrocycles, Tin (II), spectroscopic, anti-inflammaory, tetradentate, antimicrobial.

ISCA-ISC-2014-Oral-4CS-06

Biodiesel from Jatropha Curcas oil: A comparative study between Chemical and Bio catalytic Transesterification

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Abstract: Alternative energy sources are supposed to be the most challenging job of today's world. Among the alternative energy sources, biodiesel attracts considerable attention as it is renewable, non toxic, biodegradable and environmental friendly. Biodiesel is produced from different vegetable oils by transesterification method with alcohol in the presence of catalyst but Jatropha Curcas oil is supposed to be the most promising due to its higher oil content, non edible nature and possible cultivation of Jatropha Curcas plant in any land including barren land even in adverse environment. In the present investigation, a comparative study has been made between chemical (base) catalytic and enzymatic method using Novozyme 435 (Candida antarctica) for the preparation of biodiesel from Jatropha Curcas oil. Studies show that enzymatic method is more effective than base catalytic method with regard to eco-friendly, selective nature, purity of the product, minimum purification stage, low temperature requirement and reuse of catalyst. Moreover, recycling of enzyme is done in our experiment which reduces the cost of the transesterification process for the production of alternative energy sources. Our process may be implemented in industrial scale with an alternative solution of scarcity of energy resources in the near future.

Keywords: Biodiesel, novozyme 435, jatropha curcas oil, alternative energy, transesterification.

ISCA-ISC-2014-Oral-4CS-07

Modification of the properties of PVC by full IPN formation with Polybutyl acrylate

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Abstract: Interpenetrating polymer networks (IPNs) of polyvinyl chloride (PVC) and polybutyl acrylate (PBA) were produced using diallyl phthalate(DAP) and ethylene glycol dimethacrylate (EGDMA) as the cross linkers of PVC and PBA respectively. Butyl acrylate, the monomer was polymerized in the presence of PVC which was premixed with the heat stabilizer, TBLS (tribasic lead sulphate) and plasticizer (dioctyl phthalate). The two polymers were simultaneously cross linked with their respective cross linkers and full IPNs were generated. Four distinct sets of IPNs were prepared by varying the composition ratio of the constituent polymers. The IPNs were characterized with respect to their physico-mechanical and thermal properties and an endeavour had been made to investigate the influence of PBA on PVC matrix. The properties revealed significant effect of the cross linked rubbery PBA polymer on cross linked PVC. The tensile strength showed a decrease but the elongation displayed significant improvement over unmodified PVC. The thermal behavior was also modified in the full IPNS as evidenced from the DSC results. The changes in glass transition temperature and degradation temperature indicate stability of the samples over unmodified PVC. The morphological properties as observed by scanning electron microscopy were in corroboration with the changes in mechanical properties observed.
Keywords: Polyvinyl chloride, Polybutyl acrylate, mechanical properties, thermal properties, morphology.

ISCA-ISC-2014-Oral-4CS-08

Synthesis and Thermal Investigation of Binary Oxovanadium (IV) Complexes Derived From Various Hydrazone Ligand

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Abstract: We have synthesized ligand HPMAc-X-BHz from HPMAc (where HPMAc= 1-Phenyl-3-methyl-4-acetyl-2-pyrazoline-5-one and X = -Cl, -NO_2, -OH, -H). These ligands were characterized by elemental analysis, ^{1}H-NMR, FT-IR and mass spectroscopy. Two moles of these ligand is reacting with 1mole of $VOSO_4 \times 5H_2O$ and it gives hydrazone complexes of VO(II). All the complexes were characterized on the basis of their elemental analysis, molar conductance, magnetic moment, electronic, FT- IR, ^{1}H – NMR, TGA/DTG and ESR spectra. The electronic spectra indicate the square pyramidal geometry of complexes. Further the geometry and bonding parameters are confirmed with ESR. The metal lignad bond is partial covalent. The room temperature magnetic moment of complexes exhibit in the range of 1.63 – 1.69 B.M. is almost equivalent to spin only value of 1.73 B.M. (s = ½). From TGA/DTG study revels that there are no coordinated water molecule remain in complexes. In addition to that thermal parameters are reported.
Keywords: Synthesis, thermal investigation, binary oxovanadium, complexes derived, various, hydrazone ligand.

ISCA-ISC-2014-Oral-4CS-09

A Spectrophotometric Method for the Micro level determination of Nitrite and Nitrate by coupling of tetrazotized Benzidine and N, N-dimethylaniline

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Abstract: A simple and rapid spectrophotometric method for the determination of nitrite and nitrate has been described. Determination of nitrite is based on the reactions involving tetrazotisation of Benzidine, followed by coupling with N,N-dimethylaniline and determination of nitrate is based on their reduction to nitrite in the presence of Zn/NaCl. The produced nitrite is subsequently tetrazotized the Benzidine, which is then coupled with N,N-dimethylaniline to form pinkish red colored an azo dye in acidic medium. The absorbance of such colored dye is measured at 538 nm. Amount of reagents required and tolerance limit of other ions was studied. The range of linearity for Benzidine- N,N-dimethylaniline couple was found to be 0.05 to 0.3ìg/mL of nitrite with molar absorptivity $3.475 \times 10^4 Lmol^{-1}cm^{-1}$ and sandell's sensitivity 3.3152×10^{-4}ìgcm^{-2}. The detection limit and quantization limit of the nitrite determination are found to be 0.00348ìgmL^{-1} and 0.0105 ìgmL^{-1} respectively. This method is useful for the determination of trace amounts of nitrite and nitrate in soil and water samples.
Keywords: Benzidine, Tetrazotization, N, N-dimethylaniline, Nitrite, Nitrate, Spectrophotometry.

ISCA-ISC-2014-Oral-4CS-10

a-Diazocarbonyls in the Synthesis of Spirooxindoles

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Abstract: The synthesis of spiro-cyclic compounds has always been a challenging endeavour in organic chemistry because it often requires synthetic design based on specific strategies. Steric strain associated withspiro-fused carbon atom may induce easy rearrangements that lead to different cyclic compounds. Several spiro-fused oxindoles have been isolated from plants and are considered as compounds of potential biological interest. Several synthetic spirooxindoles have shown promising biological activity. The reactions of a-diazocarbonyls with isatin and its derivativesoffer a useful method for the synthesis of spirooxindoles. a-Diazocarbonyls may undergo [2+3]-dipolar cycloaddition, [2+2]-cycloaddition through ketenes, and cyclization via carbenoids with isatin to form spirooxindoles. To the best of our knowledge, we reported the first synthesis of spiro-oxindole-2-azetidinones in the mid eighty by ketene-imine cycloaddition. Later on this work was extended to the synthesis of several spiroazetidinones. With resurgence of interest in spirooxindoles during the last decade, we are investigating the reactions of metal carbenoids, generated in situ from ethyldiazoacetate and from azibenzil, with isatin to get an entry into new spirooxindole derivatives. The results of this investigation and characterization data will be presented.
Keywords: Spirooxindoles, azibenzil, ethyl diazoacetate, isatin, carbenoids

ISCA-ISC-2014-Oral-4CS-11

Preliminary Screening, Phytochemical investigation and Anti - Microbial activity of Methanolic extract of Rhododenderon arboreum

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Abstract: Rhododenderon arboretum belongs to family Ericaceae is an evergreen tree or shrub widely distributed all over the world, chiefly in the cooler and temperate regions of the tropics. Rhododenderon is a national flower of Nepal and state tree of Uttarakhand locally called Burans. It is widely popular for the processed juice of its flowers which have gained market popularity as rhodojuice or sarbat. Various parts of the plant exhibited medicinal properties and is used for the treatment of various ailments. The flowers of R. arboretum have been reported as a excellent source of natural eco friendly dyeing as well as presence of poly phenolic compounds. A phytochemical screening of various parts of plant using conventional natural products identification tests indicated the presence of different type of secondary metabolites such as flavonoids, anthraquinones, saponins ,xanthones, alkaloids, steroids, terpenoids, glycosides, tannins and reducing sugars. These secondary metabolites vary in type in different parts of the plant. The presence of these secondary metabolites signifies the potential of Rhododenderon arboretum as a source of therapeutic agent. The present paper deals with preliminary screening, phytochemical investigation and anti - microbial activity of methanolic extract of flowers, leaves, stem. roots and bark of the plant. Structures of all isolated compounds were elucidated by spectroscopic methods.
Keywords: Preliminary screening, phytochemical investigation, anti - microbial activity, whole plant, Rhododenderon arboretum.

ISCA-ISC-2014-Oral-4CS-12

Removal of Fluoride from Drinking Water by Quarternary Aminised Resins from Saw-Dust

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Abstract: Safe drinking water is a severe problem in many parts of the various countries including India a fast developing country. Authors have used some low-cost materials and their products as one of the best adsorbents for the removal of fluoride from water mainly used for drinking and other domestic purposes. Results are appreciable to be applied in large scale purposes. Several defluoridation methods based on the adsorption, precipitation and ion exchange has been developed during last four decades, however none of these could solve this problem at a completely acceptable level. The materials used includes lime and related compounds, trivalent metal oxides, hydroxides and carbonates, activated alumina, activated carbon and ion exchangers etc. Attempt has also been made to tackle this problem by Government agencies, NGO's,

medical experts, Center of Community Economics and Development Consultant Society, Department of Science and Technology etc. Rajasthan Government had a program to transfer and propagate a domestic defluoridation technology called Nalgonda Technique (NA) in selected villages. A more recent process of defluoridation is KRASS, which is said to be simpler and effective, however the claims have not been substantiated.

Keywords: Fluoride, removal, resins, saw-dust, water analysis.

ISCA-ISC-2014-Oral-4CS-13

Optimization of Voltammetric Conditions for Analytical Determination of Ultra Trace Indium

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Abstract: A differential pulse polarographic method is described for the determination of trace quantities of indium in presence of glutamic acid in ammonium chloride medium. The presence of common metal ions copper, lead and zinc did not interfere. A limit of determination of 0.002 µg/ml was achieved. The method has been successfully applied for the determination of indium in samples of mirror coat and industrial wastes.

Keywords: Differential pulse polarography; $E_{1/2}$; indium; industrial wastes; mirror coat.

ISCA-ISC-2014-Oral-4CS-14

Physico-Chemical Analysis of Two Seeds Oils from Plants Belonging to Zygophyllaceae Family

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Abstract: In present study, physico-chemical properties and fatty acids composition of Fagonia indica and Tribulus terestris both belonging to Zygophyllaceae family were determined. The oil contents were 13.96% and 10.87% in Fagonia indica and Tribulus terestris respectively. The oil of Fagonia indica consists of 84.1 % unsaturated fatty acids and the main fatty acids are linoleic acid (49.8%), palmitic acid(9.7%), oleic acid(27.5), stearic acid(7.0) and Linolenic acid(6.8%). The oil of Tribulus terestris consists of 75.0 % unsaturated fatty acids and the main fatty acids are linoleic acid (18.6%), palmitic acid(10.6%), oleic acid(35.5%), stearic acid(8.3%) and Linolenic acid(20.9%).The saponification value for the oil of Tribulus terestris was found to be higher than that of Fagonia indica but vice versa for the Iodine values of both the oils.

Keywords: Physico-chemical properties, fatty acids, Fagonia indica, tribulus terestris, zygophyllaceae.

ISCA-ISC-2014-Oral-4CS-15

Limiting Molar Conductance, Association Constant and Thermodynamic Parameters of some Alkaline Earth Metals in Various Solvent at Different Temperatures

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Abstract: In this paper the interaction of Barium chloride, Barium nitrate and Calcium Chloride with methanol, 50% methanol – water and water have been studied by using conductance properties. Limiting molar conductivity (Λ_o), association constant (K_A) ,Walden product ($\Lambda_o \eta_o$), fluidity ratio (R_x), association constant (K_A), dissociation constant (K_D), degree of dissociation (α), triple ion association constant (K_3), thermodynamic parameters , activation free energies and its related thermodynamic parameters were calculated from conductance measurements at different temperatures from (293.15 K – 308.15 K). All values are discussed.

Keywords: Association constant, thermodynamic parameters, activation free energies, barium chloride, barium nitrate, calcium chloride and methanol.

ISCA-ISC-2014-Oral-4CS-16

Organic ionic Conducting Material for Solid State Dye Sensitized Solar Cell

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Abstract: Dye Sensitize Solar Cells (DSSCs) received much attention as a next generation photovoltaic devices. Till today, the efficiency of DSSCs has achieved ~12% by combining co-absorber with dye. Because of the flexibility and good stability towards intensity of light, DSSCs are useful in military, building integrated photovoltaic, etc. Despite of high efficiency in DSSC, the commercialization of same has been hampered due to the major issues related to leakage of liquid electrolyte etc. Therefore, solid state DSSC (ss-DSSC) composed of organic ionic conductor received great attention due to their stability and comparable efficiency. Herein, we report the novel organic conducting material, piperidinium iodide (PipI) synthesized by a single step reaction. The structural characterization of PipI has been carried out using ^{1}H-NMR and mass spectroscopy. The diffusion coefficient, activation energy, conductivity, redox potentials were determined from various electrochemical techniques. The Cyclic Voltammetry study shows complete reversible behaviour and the alignment of HOMO–LUMO level of PipI with metal free dye which makes it promising candidate for DSSC. The ss-DSSC with piperidinium iodide as an ionic conductor is fabricated and characterized by electrochemical methods like I-V, tafel polarization, EIS. The ss-DSSC with single component ionic conductor, PipI shows good stability and efficiency.
Keywords: Dye sensitized solar cell, organic conducting material, piperidinium iodide, tri-iodide, solid state electrolyte.

ISCA-ISC-2014-Oral-4CS-17

Oxidation of Organic Sulfides by Imidazolium fluorochromate: A Kinetic and Mechanistic Approach

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Abstract: The oxidation of organic sulfides by imidazolium fluorochromate (IFC) resulted in the formation of the corresponding sulfoxides. The reaction is first order with respect to IFC. A Michaelis-Menten type kinetics was observed with respect to the reactants. The reaction is catalysed by toluene-p-sulfonic acid (TsOH). The oxidation was studied in nineteen different organic solvents. An analysis of the solvent effect by Swain's equation showed that the both cation and anion solvating powers of the solvents play important roles. The correlation analyses of the rate of oxidation of thirty four sulfides were performed in terms of various single and multiparametric equations. For the aryl methyl sulfides, the best correlation is obtained with Charton's LDR and LDRS equations. The oxidation of alkyl phenyl sulfides exhibited a very good correlation in terms of Pavelich-Taft equation. The polar reaction constants are negative indicating an electron deficient sulfur centre in the rate determining step. A mechanism involving formation of a sulphenium cation intermediate in the slow step has been proposed.
Keywords: Correlation analysis, halochromate, kinetics, mechanism, oxidation

ISCA-ISC-2014-Oral-4CS-18

Batch Process for Cleaning Validation methods of Active Pharmaceutical Ingredient (API)

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Abstract: Cleaning validation is the most important activity in API (active pharmaceutical ingredient) manufacturing process. The objective of cleaning validation is to ensure the reactors are completely cleaner not with respect to previous API batch manufactured. Cleaning procedure is monitored is generally by UV or HPLC. However both the techniques are not specific and have less sensitivity. Also usually the previous batch is only monitored, but there are contamination chances of previous to previous batches. To overcome the above challenges a most sensitive and specific method is developed in MRM (multiple reaction monitoring modes) by QQQ LCMS/MS for multiple compounds. Appropriate API samples were chosen for analysis. The samples of API batches were manufactured in the same reactors one after another. For the above molecule a single HPLC method is first developed and the molecules were tuned to give the best optimum response. Detection limit up to 50ppt is developed and checked the accuracy and linearity in the real time sample during manufacturing process, before coming to market. Same samples of drugs were chosen for validation of analysis method and for characterization.
Keywords: API, Sensitive, specific and common method, LCMS/MS QQQ and HPLC.

ISCA-ISC-2014-Oral-4CS-19

Design, Spectral and Therapeutic Activity of a new series of s-Triazines-clubbed Pyrimidine

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Abstract: 4, 6-Dimethoxypyrimidin-2-amine condensed with trichloro s-triazine. Finally various aromatic amines derivatives were allowed to react and the product were characterized by conventional and instrumental methods. Their structures were determined and important biochemical properties were studied.
Keywords: Design, Spectral, *s*-Triazine derivatives, 4, 6-dimethoxypyrimidin-2-amine and Therapeutic Study.

ISCA-ISC-2014-Oral-4CS-20

Synthesis, Characterization and Biological Evaluation of 2-(4-methyl-7-hydroxy coumarin)-4-(4-flouro-3-chloroamino)-6-(arylamino)-s-triazine

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Abstract: A simple and efficient synthesis of characterization and biological evaluation of 2-(4-methyl-7-hydroxy coumarin)-4-(4-flouro-3-chloroamino)-6-(arylamino)-s-triazine have been synthesized. The novel compound's structure has been established on the basis of their substituted arylamine derivatives. All the compound were characterized by spectroscopic and elemental analysis. The new compounds were evaluated in vitro antibacterial activity.
Keywords: *S*-triazine, spectral data, elemental analysis, 7-hydroxy coumarin, vitro antibacterial activity.

ISCA-ISC-2014-Oral-4CS-21

Synthesis, Characterization and Biological investigation of Schiff bases of Retigabine base

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Abstract: In the present investigation some of new Schiff base derived from the condensation of Retigabine base (API Drug) and with various aldehydes. Structural assignment of these compounds has been made on the basis of UV-Vis., FTIR,^{1}H NMR, ^{13}C NMR and Mass spectral studies and subjected to study their antimicrobial efficacy against bacteria. The in vitro antibacterial efficacy performed against Gram-positive bacteria together with Staphylococcus aureus, Bacillus subtilis, and Gram negative bacteria together with Escherichia coli, Pseudomonas aeruginosa. Fungi Candida albicans were used to investigate antifungal activity. All the compounds have been found to be satisfactorily antimicrobial activity.
Keywords: Schiff base, API drug, efficacy, antimicrobial, structural assignment.

ISCA-ISC-2014-Oral-4CS-22

Design and synthesis of carbon coated Hydromagnesite as a novel Recyclable Heterogeneous Catalyst

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Abstract: Hydromagnesite (HM) is a hydrated basic magnesium carbonate mineral with formula $Mg_5(CO_3)_4(OH)_2.4H_2O$ with three dimensional framework of MgO_6 octahedra and triangles of carbonate ion.[1] HM has found applications in rubber, plastic and fire retardant industry,[2] but the catalytic potential was seldom discovered.[3] We have been investigating the morphology controlled synthesis of nano hydromagnesite and its applications as a novel solid base catalyst for multi-component organic conversions.[4] Recently, we found that HM has shown excellent catalytic activity for one-pot Wittig

reaction. But the spoiling of active sites of HM catalyst was observed, it may be due to presence of in-situ generated acid environment during the formation of Wittig reagent in the reaction mixture. To overcome this problem, we have designed and synthesized carbon coated hydromagnesite as a truly recyclable antiacid catalyst for one-pot Wittig reaction. We presumed that the carbon coated HM have inner dense carbon layer to protect the HM from being dissolved in acid environment because its dense structure can inhibit the hydrogen ions to get through. The morphology and catalytic activity depends on the ratio of precursors such as Mg salt and glucose. The catalyst was showed excellent activity for stereoselective synthesis of olefinic products via one-pot Wittig reaction and recycled successfully.

Keywords: Hydromagnesite, antiacid, heterogeneous, recyclable, carbon coating, Wittig reaction.

ISCA-ISC-2014-Oral-4CS-23

Pesticides Found in Farmgate Vegetable in Western Rajasthan, India

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Abstract: Western Rajasthan is one of the most important areas of Rajasthan from vegetables production point of view. The majority of vegetables in western Rajasthan are found contaminated with pesticides residue. A total 50 samples of chilly were collected for pesticide residue analysis from different agricultural fields of western Rajasthan using gas chromatography and multiple residue method. 36% of samples were found to be contaminated with various organo chlorine pesticide residues. The amount of pesticide detected in chilly was higher than the maximum residue limit (MRL) values.

Keywords: Pesticides, Contamination, Multiple Residue Method, Gas Chromatography, MLR Values etc.

ISCA-ISC-2014-Oral-4CS-24

Synthesis and Biological Evaluation of Some new 1, 5-benzodiazepines Using Acetic acid in PEG-400

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Abstract: Heterocyclic compounds are often considered privileged structure in medicinal chemistry due to their biological effects. Benzodiazepines are the important class of compounds used as a drug having effect on central nervous system for examples clozapine, olanzapine and quetiapine are used in the clinic for treating schizophrenia while clonazepam, diazepam, lorazepam, nitrazepam and oxazepam are used as antianxiety drugs. Clobazam, a 1, 5-benzodiazepine has displayed anticonvulsant action in a variety of experimental models. In addition, the benzodiazepine nucleus is a pharmacophoric scaffold and represents a class of heterocycles with a wide range of biological applications. Many of them are widely used as anticonvulsant, antianxiety, sedative, antidepressive, hypnotic and neuroleptic agents. Some heterocycles containing benzodiazepines moiety were reported to possess anti inflammatory, antiviral, anti-HIV-1, antimicrobial and antitumor activities. In this present communication, we report the synthesis of new 1,5-benzodiazepines containing novel hetero cyclic moiety using acetic acid in polyethylene glycol (PEG-400) as reaction solvent. These newly synthesized compounds were tested for in vitro antimicrobial activity.

Keywords: Chalcones, O-PDA, 1, 5-benzodiazepines, PEG-400, Antimicrobial activity.

ISCA-ISC-2014-Oral-4CS-25

Synthesis and Characterization of 2-amino 4-phenyl Thiazole based bisazo Disperse dyes and their dyeing Performance

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Abstract: Diazotized p-toludine was coupled with 2-amino-4-(4'-chlorophenyl) 1, 3-thiazole to give the monoazo dye. This monoazo dye was diazotized and coupled with various substituted 3'''-amine to give corresponding various bisazo dyes (D_1-D_{10}), which were characterized by elemental analysis, UV, IR and ^{1}H NMR spectras. These bis azo dyes were applied on polyester fabric and their dyeing performance as well as fastness properties were evaluated.

Keyword: 2-amino 4-(4'-chlorophenyl) 1,3-thiazole, p-toludine, 3'''-amine, dyeing performance, fastness properties.

ISCA-ISC-2014-Oral-4CS-26

Diphenic Acid: An Effective Engineering Plastic and Heat Resistant Resin

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Abstract: This paper describes a process for the preparation of diphenic acid from phenanthrene which comprises heating phenanthrene and glacial acetic acid, adding drop-wise a pre-determined amount of 30% hydrogen peroxide, heating the resulting mixture after completion of drop wise addition of hydrogen peroxide, distilling the resulting mixture under reduced pressure to make the volume half, cooling the mixture till diphenic acid crystalises out, filtering the cooled mixture and boiling the residue after adding 10% solution of sodium carbonate and activated charcoal, filtering and discarding the residue; acidifying the filtrate with hydrogen chloride; cooling the resultant mixture till more diphenic acid crystallises out; repeating filtration till pure diphenic acid is obtained. Diphenic Acid is used in production of hightemperature heat resistant resins, engineering plastics, liquid crystalline polymers, pharmaceuticals, agro-chemical industries etc. This method produces an acceptable poly-(amide-imide) resin with adequate thermal stability having good impactresistance, tensile strength or elongation properties and can be drawn as long fibres. Diphenic acid residues act as chain terminators on reaction with the aromatic diamine
Keyword: Diphenic, effective, engineering, plastic, heat resistant resin.

ISCA-ISC-2014-Oral-4CS-27

An efficient synthesis of propargyl amines bearing 4-(3-phenyl-1H-1, 2, 4-triazol-5-yl) piperidine via A_3-coupling C–H activation catalyzed by Cu (I)

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Abstract: Propargylamines are synthetically versatile key intermediates for the preparation of many nitrogen containing biologically active compounds such as â-lactams, oxotrimorine analogues, conformationally restricted peptides, isosters, natural products, and therapeutic drug molecules. [1] In recent years, propargylamines were synthesized by the direct addition of alkynes to carbon nitrogen double bond (C=N) either from prepared imines or from aldehydes and amines in one-pot procedure by noble transition-metal[2] catalysts via C-H activation of terminal alkynes. Since many literature reports reveals that the preparation of propargylamines from simple secondary amines. Herein, we report the synthesis of novel propargylamines bearing 4-(3-phenyl-1H-1,2,4-triazol-5-yl) piperidine. Further the reaction conditions like optimization of catalyst and solvent were carried out.
Keywords: 4-(3-Phenyl-1H-1,2,4-triazol-5-yl) piperidine, Mannich reaction, A_3coupling.

ISCA-ISC-2014-Oral-4CS-28

Synthesis, Characterization, biocide and Toxicological studies of Organ Metallic complexes of 1-Phenylethyl-2-methyl-5-hydroxy Indole

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Abstract: Indole and its hetrocyclic fused derivatives are found to be a potential for anticancer, antimicrobial, antioxidant, antitumor activities. Keeping in view of this, it was considered worthwhile to synthesize 5-hydroxy indole derivatives and Schiff base of 1-phenylethyl-2-methyl-3-ethoxycarbonyl-5-hydroxy Indole and its metal complex with Cu (II), Co (II), Ni (II) complex have been synthesized and all the schiff base compounds and their metal complex were characterized by IR, [1]HNMR, Mass spectral studies. These complexes were soluble in organic solvents. The citations of metal ions in the chelation centre were assigned to all metal complexes. The complexes along with parent ligands were screened for anti-bacterial and anti-fungal activates by minimum inhibitory concentration (MIG) method. The free radical scavenging activities of newly synthesized complexes have been determined at different concentration range. The results show that transition metal complexes of indole derivatives are possesses excellent potential for antimicrobial and antioxidants activities.
Keywords: Indole, Schiff base, metal complex, biocides, toxicology.

ISCA-ISC-2014-Oral-4CS-29

Electrocatalysis of Graphene-supported Bimetallic Nanoparticles

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Abstract: Development of efficient bimetallic based electro-catalysts is gained much interest in the scientific community because of their excellent physicochemical properties and catalytic activities towards the electrooxidation of methanol, formic acid, ethanol and electroreduction of molecular oxygen.[1,3] These reactions constitute the major power generating platforms in fuel cell devices. In order to achieve better electro-catalytic activities and stabilities, bimetallic nanoparticles are usually loaded onto carbon-based supports like carbon nanotubes, Vulcan XC-72 and graphene.[4-6] In this presentation, we will discuss the fabrication of graphene-supported Pt-Pd bimetallic nanoparticles by following a chemical reduction method. The synthesized catalyst is characterized in terms of their particle size and morphology and the results will be discussed. The electrochemical activities of the synthesized catalyst towards electrooxidation of methanol and formic acid will also be presented.
Keywords: Graphene oxide, bimetallic nanoparticles, electrocatalysis.

ISCA-ISC-2014-Oral-4CS-30

A Comparative study of the Oxidation rates of some Aliphatic and cyclic Perfumery alcohols using Potassium periodate in Acidic medium

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Abstract: The quantitative conversion of alcohols to the corresponding carbonyl compounds has been exhaustively reported but there are few reports of the kinetic aspects of the oxidation of alcohols. Organic oxidants have been routinely used for the oxidation of alcohols but inorganic salts have rarely been used.In this paper we report the kinetics of controlled oxidation of 1) aliphatic alcohols-2-propanol,2-butanol and 3-methyl-2- butanol and 2) secondary cyclic alcohols-borneol,isoborneol and menthol using potassium periodate(KIO4) in acidic medium.The bicyclic stereoisomers, borneol and isoborneol are extensively used in the manufacture of perfumes. Menthol, found in mint (*Menthol piperita Lamiaceae*) also finds use in medicine.The aliphatic alcohols are used as diluents in perfumery formulations. The oxidation was studied under first order kinetic conditions with respect to the oxidant and the reaction was monitored by iodometric estimation of the unreacted oxidant at regular time intervals during the course of the reaction.For all the alcohols studied the oxidation rate increased with alcohol concentration but decreased with increasing [KIO4].The effect of ionic strength on the oxidation rate was studied by using K2SO4 in dilute solution.The oxidation rate of alcohols was found to be independent of ionic strength as borne out by the reaction mechanism suggested for the oxidation of alcohols.From the effect of temperature on the oxidation rate, the energy of activation and other important thermodynamic activation parameters were determined and explained in terms of the dynamics of the oxidation process. The oxidation rates of the perfumery alcohols followed the sequences: i. aliphatic alcohols: 2-propanol>2-butanol>3-methyl-1-butanol, ii. secondary cyclic alcohols: rneol>isoborneol>memthol. The comparative rates have been explained in terms of steric hindrance, isomeric and structural features and chain length of the perfumery alcohols under study.
Keywords: Aliphatic alcohols, cyclic alcohols, inorganic oxidant, kinetics, ionic strength, energy of activation, entropy of activation.

ISCA-ISC-2014-Oral-4CS-31

Synthesis of some novel Nucleosides and their study of as Antifungal Agents

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Abstract: In an effort to develop antifungal agents, numbers of Nucleosides are synthesized by condensation of Oxadiazolethiones with b-D-1,2,3,4,6-penta-O-acetylglucopyranosyl, followed by deacetylation. The synthesized compounds were characterized by means of their IR, 1H-NMR spectral data and elemental analysis. The compounds have been screened for antifungal activity against *Cephalosporium saccharii* and *Colletotrichum falcatum*.
Keywords: Oxadiazolethiones, glucopyranosyl, *Cephalosporium saccharii* and *Colletotrichum falcatum*.

ISCA-ISC-2014-Oral-4CS-32

Microwave assisted Synthesis spectral and Biological properties of Gd (III) complexes with Quinoline derivatives

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Abstract: The importance and versatility of derivatives of quinolines is well established in many forms of drugs, potential use of lanthanide complexes as diagnostic molecule have also been reported in literature but studies on biological aspects of complexes of lanthanides related with bioactive species are lesser. The constructions and characterizations of lanthanide complexes are currently of great interest because of their unique physico-chemical properties and various applications in medical field. The present work describes the synthesis, spectral and biological investigations on the complexes of quinoline derivatives with Gd (III) ions in agreement to Green chemistry approach. The magnetic moment of Gd (III) complexes showed slightly higher-values which originated due to low J-J separation leading to thermal population of next higher energy J levels and susceptibility due to first order Zeeman effect. For various peaks of Gd (III) Intensity (Judd Oflet T_2,T_4,T_6 and oscillator strength $P_{obs}\times10^{-6}$), Bonding $b^{1/2}$, Symmetry ($T_4/T_{6)}$ and Cordination (T_4/T_2) RMS deviation ó parameters have been computed using partial and multiple regression methods. In this research investigations on micellar doped Gd(III) systems have been reported first time. Antimicrobial activities of compounds have also been determined.

Keyword: Quinoline, Gd(III), antimicrobial activity, bonding parameters.

ISCA-ISC-2014-Oral-4CS-33

Curcumin derivatives: Anticancer Studies through QSPR Approach

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Abstract: Curcumin has been studied extensively for its anticancer properties, though the bioavailibilty of the same is reported to be a hinderance. We have studied some structural properties of the curcumin analogues, through QSPR approach. It gave significant results. The logP, Polarizibility, Refractivity, values were directly proportional to their molecular weight and their hydration energy was inversely proportional to their molecular weights. But the models generated showed significant bioactivity with increase in their molecular chain lengths. Curcumin analogues with R^2 values 0.937generated a good model.

Keyword: Curcumin, derivatives, anticancer, studies, approach.

ISCA-ISC-2014-Oral-4CS-34

Antibacterial properties of Polyurethane polymer as a Surface modifier on Wood Product

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Abstract: The antimicrobial effect of the polyurethane polymer was investigated Antimicrobial properties were evaluated against. *Escherichia coli, Salmonella typhi Bacillus subtilis* and *Staphylococcus aureus*.and two strain fungi. By the "pour-plate" test. Polyurethane with Acetone .The prepared polyurethane varnishes were deposited the as coating on standards wood samples having size of10x4cm. In this work the role of Polyurethane polymer in possible. Antimicrobial activity was investigated in toxicity test with the four bacteria. (*Escherichia coli, Salmonella typhi Bacillus subtilis* and *Staphylococcus aureus*) Well diffusion method was performed to confirm the result of experiments performed on wood strips. In this assay 4 samples were taken Containing polyurethane prepared in acetone with varying concentration. Result show that pours plate methods found to be more effective for bactericidal activity of polyurethane. Polyurethane exhibited their effectiveness against gram negative bacteria.

Keywords: Polyurethane, Acetone, Bacteria, Wood strips, and Antibacterial activity.

ISCA-ISC-2014-Oral-4CS-36

Synthesis and Characterization of Nanoparticles of Zinc Sulphide

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Abstract: Semiconductor nanocrystals have got significant attention due to their distinctive structural, electronic and optical properties originating from their large surface/volume (S/V) ratio and quantum confinement effect. Cubic ZnS, a semiconductor with a wide band gap, has attracted much attention for the reason of its electroluminescent applications due to its stability, low cost and low toxicity. The present work deals with the synthesis and characterization of nanoparticles. The nanoparticles of ZnS are prepared by chemical co-precipitation method at room temperature. The samples was characterized by XRD and UV-visible spectroscopy. The average particle size was determined from the X-ray line broadening and by using Debye-Scherrer equation.
Keywords: ZnS, Nanoparticles, Preparation, characterization.

ISCA-ISC-2014-Oral-4CS-37

Synthesis and Characterisation of 4,4'-(1E,iE)-(2,5-dichloro-1-(4-substiruted phenyl)-1H-pyrrole-3,4-diyl)bis (Methane-1-yl-1—ylidene) bis(azan-1yl-1-ylidene) bis(5-(pyridin-4-yl)-4H-1,2,4-triazole-3-thiol)

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Abstracts: Succinic acid was converted to 1-(3-substituted phenyl)-pyrrolidine-2,5-dione 1. Their formylation was carried out by using Vilsmeier-Haack reaction and offorded halovinyl aldehyde 2. The isonicothinohydrazine was treated with carbon disulfide and KOH furnished potassium 2-isonicotinoyl hydrazine carbodithiate. This intermediate underwent ring closure with hydrazine hydrate and furnished 4-amino-5-(pyridine-4-yl)-4H-pyrrole-3-thiol 3. The 4-amino-5-(pyridine-4-yl)-4H-pyrrole-3-thiol on condensation with halovinyl aldehyde 2 in presnce of piperdine and ethanol afforded 4,4'-(1E,1E)-(2,5-dichloro-1-(4-substiruted phenyl)-1H-pyrrole-3,4-diyl)bis (Methane-1-yl-1—ylidene) bis(azan-1yl-1-ylidene) bis(5-(pyridin-4-yl)-4H-1,2,4-triazole-3-thiol) 4.
Keywords: 1-(3-substituted phenyl)-pyrrolidine-2,5-dione, Vilsmeier-Haack Reaction, Isonicothinohydrazine, 4-amino-5-(pyridine-4-yl)-4H-pyrrole-3-thiol.

ISCA-ISC-2014-Oral-4CS-38

Oxidation of essential oil of Chloroxylon swietenia (Roxb. corom)

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Abstract: Hydro distilled essential oil from the leaves of C. swietenia is of unpleasant odor and cannot be marketed but it has medicinal importance. If oxygen content present in this is increased, then not only its odor will turn into pleasant fragrance but also its quality will be improved for medicinal purposes. With this intention it was oxidized using HNO_3, $KMnO_4$, $K_2Cr_2O_7$ and H_2O_2 as oxidizing agent. H_2O_2 was found best suited for oxidation. Antimicrobial activity of oxidized essential oil was found better as compared to un oxidized essential oil which proved improvement in its quality after oxidation.
Keywords: Hydro distillation, essential oil, antimicrobial.

ISCA-ISC-2014-Oral-4CS-39

Analysis of Oil Refinery Emissions Impact around the Gujarat Refinery Area at Vadodara, Gujarat, India

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Abstract: The absolute necessity of compulsory fuel utilities, no matter small or big has resulted into substantial high

chemical hazards pollutants. Air pollution problem created is the emissions of toxic compounds to the ambient air, especially from oil Production in refineries industry. Petroleum refineries are major industrial installations that are necessary for providing the best suited fuel for various necessary utilities, but are responsible of the emission of several hazardous pollutants into the atmosphere. Hydrocarbons, SPM, NOx, SOx, are the main air pollutants that are emitted from almost all refining processes in petroleum refineries. Every day leaks and gaseous discharge from belief valves and liquid discharge, which are often directed to knock-out drums, are flared to minimize the impact of hydrocarbons emissions. But these flares are not that efficient and result into partial discharge of pollutants that have severe impact on the industrial area and urban localities in the vicinity of industrial refining complex. High volume sampler is used to monitor air quality parameter around refinery. In the present study, a thorough investigation has been completed to estimate the emissions of Hydrocarbons, SPM, NOx, SOx, to assess their impact on the air quality in industrial and suburban areas of Gujarat refinery at vadodara (Gujarat state). Total study area in the vicinity of refineries that had substantially high concentration of these pollutants.

Keywords: Oil refinery, air pollutants, high volume sampler, emissions, imapct.

ISCA-ISC-2014-Oral-4CS-40

Screening of Phytochemical constituents of ethanolic extracts of aerial parts of *Euphorbia hirta* (Linn.) and *Acorus calamus* (Linn.)

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Abstract: The plants Euphorbia hirta belongs to the family Euphorbiaceae and Acorus Calamus from Araceae family are evaluated and equated for the distribution of phytochemical constituents of medicinal importance like alkaloids, flavonoids, tannins, saponins, terpenoids, fatty acids, resins, phenols, steroids and glycosides in their various aerial parts. The individual plants part are investigated phytochemicaly, by undergoing various testing viz Alkaloids, glycosides, Resins, Saponins, steroids,tannin, terpenoids. The individual ethanolic extracts of leaves, stem and roots of Euphorbia hirta and roots, rhizome and leaves of Acorus calamus, are found to contain all these phyto constituents qualitatively either in high (+++), moderate (++) and low (+) concentrations in all the describe part of both the plants. These results indicate that these plant parts have most of the compounds of medicinal values. The qualitative analysis elucidated that all the plant extractshave medicinally active phyto-constituents. The roots of boththe plants, Euphorbia hirta and Acorus calamus are the best parts owing tothe presence of excellent phyto-constituents in them. Out of thetwo, the roots of Acorus calamus can be said to have more medicinalimportance. The phyto-constituents identified in this study have earlier been reported to be bioactive and have therapeutic aswell as physiological properties by various workers. Plantextracts could consequently be seen as the potential source ofvaluable drugs. These plants are often used and therefore shouldbe encouraged as traditional medicine. Further, study on theseplants should be suggesting their use in treatment of commondisorders.

Keywords: Medicinal plants, natural products, phytochemical constituents.

ISCA-ISC-2014-Oral-4CS-41

Studies in Kinetics and Mechanism of oxidative Transformation of 2- amino butyric acid by Manganese (III) in pyrophosphate Medium

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Abstract: Oxidation of 2- amino butyric acid by Mn(III) has been studied in pyrophosphate medium is 1 st order in Mn(III), 2- amino butyric acid and fractional order with respect to $[H^+]$. The rate of oxidation decreases with increase in dielectric constant of solvent indicating ion- dipole interaction. The products are ammonia, carbon dioxide and butyraldehyde. Addition of $Mn(II)SO_4$ and $Na_4P_2O_7$ shows retarding effect on the rate of reaction. Activation parameters have been evaluated and mechanism involving a complex formation between amino acid and $Mn(III)Py_3$ has been proposed.

Keywords: Kinetics, Oxidation, 2- amino butyric acid, $Mn(III)Py_3$, Pyrophosphate medium.

ISCA-ISC-2014-Oral-4CS-42

Phthalocyanine Macromolecule and its uses: A Review

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Abstract: Almost 100 years of research on phthalocyanines and related compounds have produced an abundance of data

on the synthesis and its industrial applications, the phthalocyanine molecule very important due its persistent nature. Today thousands of diverse phthalocyanine derivatives have been reported in the chemical literature. The chemistry of phthalocyanines has been undergoing a revitalization because of their applications in materials science, liquid crystals, Langmuir-Blodgett films, electro chromic devices, gas sensors, non-linear optical devices, catalytic processes, solar energy absorbing material and pigments production, among others. Moreover, they are an important industrial product-thousands of tons of phthalocyanines are produced annually. The present paper shows all landmarks of phthalocyanine from its invention and future aspect and probability of newer modified phthalocyanines which more use full in solar energy absorption and in medical sciences.

Keywords: Phthalocyanines, solar energy absorption, catalytic processes.

ISCA-ISC-2014-Oral-4CS-43

Review on Biodiesel Production by Heterogeneous catalyst

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Abstract- Biodiesel has become more attractive recently because of its envoirmental benefits and the fact that it is made from renewable resources. There are large number of commercial plants producing biodiesel by transesterification of oils and fats based on heterogeneous transesterification of oils. .Heterogeneous catalyst for biodiesel production is widely applied in industry due to important advantages. It offers to chemical processes such as improved selectivity and easy catalyst separation from reaction mixture, reducing process stages and wastes. The production of biodiesel is gaining momentum with the ever increasing demand of the fuel. Heterogeneous catalyst makes the biodiesel production a "Greener"one.Under all optimal conditions biodiesel (FAME) yields up to 90-98.3% were reported over various basic earth metal oxide and catalyst from waste.

Keyword: Biodiesel, Transesterification, heterogeneous, catalyst, feedstock, metal oxide

ISCA-ISC-2014-Poster-4CS-01

Co-Digestion of Ethiopian Food Waste with Cow Dung for Biogas Production

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Abstract: Now a day biogas production is one of the most promising renewable energy sources in Ethiopia. Anaerobic digestion is one of the effective ways of generating biogas. It is also a reliable method for treating food wastes such as cafeteria wastes, vegetable wastes etc. and cow dung and the digested slurry can be used as fertilizer to enhance the fertility of the soil. Co-digestion of food waste with cow dung or other feed stocks with low carbon content can improve process stability and methane production. Anaerobic co-digestion of food waste with cow dung is needed to enhance biogas production and very useful to treat these wastes. This review paper looks at the possibility of producing biogas from co-digestion of food waste with cow manure by optimizing the parameters that affect biogas production. Most literatures confirmed that the Co-digestion strategy substantially increased the biogas yields by 20-50% over the control.

Keywords: Co-digestion, Food waste, Biogas, anaerobic digestion, Cow dung, Ethiopia

ISCA-ISC-2014-Poster-4CS-02

Antioxidant activity of Hindered phenolic Antioxidants in Lubricating base Oils by Temperature programmed PDSC

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Abstract: Standard test method of isothermal PDSC is generally used for fully formulated engine oils. However this method does not give distinct measurable exotherm peak when used for antioxidants blends with API Group-I base oil. This is due to sluggish exotherm and relatively less heat evolved in oxidation process of inhibited Group-I base oils. To study the antioxidant activity, temperature programmed PDSC was used. Hindered phenolic antioxidant's relative activity was studied using temperature programmed PDSC method. This technique gives well defined exotherm for analysis and comparison. Also the antioxidant activity is measured in term of temperature and heat evolved. The values of onset

temperature, maximum temperature, heat evolved at maximum temperature and area under exotherm peak are used as indicators for antioxidant activity and normalized values of these gives the relative activity index of antioxidants. Two different DSC pan materials are used to study their role in oxidation process. The steric hindrance and antioxidant activity of phenolic antioxidant is correlated from temperature programmed PDSC data.

Keywords: Antioxidant activity, lubricating oil, PDSC method; phenolic antioxidant, engine oil.

ISCA-ISC-2014-Poster-4CS-03

A comparative Kinetics and mechanistic Studies of the oxidation of Aromatic primary and Secondary alcohol by Cr (VI)

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Abstract: The present paper deals with the kinetic investigation of the aromatic primary (benzyl alcohol) and secondary alcohol (benzhydrol) by 4-methyl pyridinium di chromate (4-MPDC) in acetic acid water medium. The reaction follows first order kinetics with respect to [4-MPDC],[SUBSTRATE] and $[H^+]$.There is no effect on the rate constant by adding $NaClO_4$ and Na_2SO_4.The effect of the dielectric constant of the solvent mixtures indicates the ion dipolar interaction and involvement of the water molecule in this oxidation. Effect of Mn(II) and Ce(III) were observed. The absences of free radical in the oxidation of alcohols were confirmed by polymerization test. The reaction rates have been determined at different temperature and the activation parameters were calculated. A tentative mechanism has been proposed from observed kinetic results. Rate of oxidation of benzyl alcohol by the same oxidant i.e. 4-MPDC was found to be very slow in comparison to benzhydrols. This can be explained on the basis of rate of formation of chromic ester.

Keywords: Kinetics, oxidation, Cr (VI), benzyl alcohol, benzhydrol

ISCA-ISC-2014-Poster-4CS-04

One pot multi component, Solventless Synthesis of 2,4,6-Triarylpyridines using Cobalt oxide Nano Particles supported on Coconut coir, as a reusable catalyst

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Abstract: Compounds containing substituted pyridines moiety have many pharmacological properties and play an important role in biochemical processes. In this proposed work we have used benzaldehyde, Ammonium acetate and acetophenone as the model substrate in 1:1:2 under solvent free condition using Coconut coir supported cobalt oxide nano particles as a reusable catalyst and we have prepared above nanoparticles using coprecipitation method. The generality and scope of the protocol was determined by synthesizing derivatives of 2,4,6-triarylpyridines in good to excellent yield. This is a simple, versatile, efficient and green protocol for the synthesis of substituted 2,4,6-triaryl pyridine derivatives. The formation of compounds was confirmed by NMR and IR analysis and formation of nanoparticles was confirmed by TEM and the morphological changes of Support before and after was analysed by SEM.

Keywords: Green protocol, 2,4,6-Triaryl pyridine , cobalt oxide nanoparticles.

ISCA-ISC-2014-Poster-4CS-05

Analysis of biochemical parameters of selected genotypes of Brassica juncea (Indian Mustard)

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Abstract: Indian mustard is a nutritionally rich oilseed containing 37-49% oil. Toxic and anti nutritional constituents such as glucosinolates, phytates, phenolics, sinapine and tannins limit its use as source of protein in food products. Quality Brassica germplasm were screened based on various biochemical parameters viz total phenolics, flavnoid, vitamin C, phytic acid, glucosinolate etc. The total phenolic content in all the methanolic extracts varied from 3.12 mg/g to 5.07

mg/g, Ortho dihydroxy phenols varied from 0.265 mg/g to 0.325 mg/g, flavnoids contents varied from 0.890 mg/g to 2.120 mg/g. Vitamin C content ranged 62.47mg/100g to 355.72 mg/100g. Phytic acid and glucosinolate content was found to be 3.76% and 141.61µmol/g as maximum, whereas minimum levels were observed 2.17% and 23.62µmol/g respectively. The observations of the present study might be useful for the selection of Brassica juncea germplasm having desirable bioactive principles.

Keywords: Anti nutritional, Brassica juncea, glucosinolate, sinapine and siliqua.

ISCA-ISC-2014-Poster-4CS-06

Modification in Mechanical, Thermal and Antifungal Properties of Mango Wood through Impregnation Polymerization of Methyl Methacrylate

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Abstract: Synthesis of a series of wood polymethyl methacrylate composites (WPCs) through impregnation polymerization of methyl methacrylate (MMA) into mango wood in methanol (20-60%, v/v) in presence of 2, 2-azobisisobutyronitrile (1.0% w/v) at 75 ± 1^0C for two hours. This has afforded corresponding WPCs with polymethyl methacrylate loading (%) in the range of 15.5-34.20. Loading of PMMA into wood was ascertained through Ultraviolet–Visible absorption, Fourier transform infrared spectroscopy and Electron Microscopy. With PMMA loading, impact, compression, static bending strengths and resistance against thermo oxidation of WPCs were in general increased. Resistan ce of WPCs against a decay fungi Coriolous Versicolor was evaluated as the release of protein and reducing sugar contents and in cellulolytic (FPase, CMCase) and xylanolytic enzyme activities under incubation up to 168 hrs. PMMA loading has enhanced the resistance of wood against decay fungus due to decrease in release of protein and reducing sugar contents and cellulolytic (FPase, CMCase) and xylanolytic enzyme activities in WPCs.

Keywords: Wood polymer composites Methyl methacrylate, , Thermo oxidative, Fungal degradation.

ISCA-ISC-2014-Poster-4CS-07

Synthesis, Spectroscopic and Physico chemical Characterization of Cu (II), Ni (II), Co (II) and Mn (II) Coordination Compounds with 4-methoxy-salycylaldehyde-4-(2'-carboxy-5'-sulphophenyl)-3-thiosemicarbazone (4-MSCST)

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Abstract: The synthesis and characterization of Copper (II), Nickel (II), Cobalt (II) and Manganese (II) coordination compounds of 4-methoxy salycylaldehyde-4-(2'-carboxy-5'-sulphophenyl)-3-thiosemicarbazone (4-MSCST) have been presented. All the isolated compounds have the general composition ML_2. (M= Cu, Ni, Co and Mn; L= 4-MSCST). Infrared spectral studies indicate that the thiosemicarbazones coordinate in their neutral form and they act as [Metal, N] bidentate chelating ligand. Magnetic measurements and electronic spectral studies at ambient temperature suggest the distorted octahedral geometries of the prepared complexes. Thermogravimetric studies have also been reported and the possible structures of the complexes are proposed. Antibacterial properties of these metal-coordination compounds have also been studied.

Keywords: Metal complexes, thiosemicarbazone, biological activity.

ISCA-ISC-2014-Poster-4CS-08

Synthesis of Substituted amino-1,3,4-thiadiazoly methyl Thiazolidinones and their Antimicrobial Activities

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Abstract: Heterocyclic's are important components of biomolecules such as proteins, DNA, RNA and vitamins and also

found in cell lining. Among the heterocyclic compounds, five membered heterocyclic moieties fused with aromatic ring systems containing various heteroatoms such as N, S and O exhibited wide spectrum of pharmacological activities. Many thiazolidinedione and their derivatives serve as basic pharmacophore for various biological profiles i.e. antidiabetic, anticancer, antimalarial hypnotic activity, antitubercular, anticonvulsant, antibacterial, anticancer, antihistaminic, antifungal, anti-inflammatory, antiviral, cardiovascular effects and antiinflammatory and so on. These observations promoted us to synthesis and study a new series of thiazolidinedione derivatives with higher biological activity. In this, we prepared the compounds 4 from thiazolidin-2,4-dione 1 by treated with chloroacetic acid, cyclization with thiosemicarbazide in the presence of $POCl_3$ than followed by treated with different alkyl/aryl halides.

Keywords: Thiazolidinone, c hloroacetic acid, thiosemicarbazide alkyl halides.

ISCA-ISC-2014-Poster-4CS-09

Study of Novel Heterocyclic Liquid Crystals Derived from 5-Cl-8-Oh Quinoline

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Abstract: Ten novel heterocyclic compounds of the homologous series namely 5-Chloro 4'-(4" n-alkoxybenzoyloxy) quinoline benzoates have been synthesised and their mesomorphic properties were evaluated on the polarising microscope equipped with a hot stage. All the compounds were characterised using a combination of elemental analysis and standard spectroscopic methods. The compounds were found to exhibit enantiotropic nematic and smectic mesophases. The mesogenic behaviour of synthesised compounds is explained by comparing with other structurally related mesogenic compounds. The effect of heterocyclic moiety on mesomorphism is also discussed.

Keywords: Liquid crystals, enantiotropic, nematic, smectic, mesomorphism.

ISCA-ISC-2014-Poster-4CS-10

Densities and Ultrasonic Velocities of Taurine in aqueous L(+)-Tartaric acid and citric acid at T = (293.15 to 313.15) K

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Abstract: The article reports densities (ñ) and ultrasonic velocities (u) of taurine in aqueous L(+)-Tartaric acid and citric acid solutions at T = (293.15, 298.15, 303.15, 308.15, and 313.15) K and atmospheric pressure. The molality range has been calculated from 0.001 to 0.014 mol kg^{-1}. The apparent molar volume ($V_{2,\tilde{O}}$), partial molar volume ($V_2^{"}$) and transfer partial molar volume ($\ddot{A}_t V_2^{"}$) have been calculated from density data. Partial molar isentropic compressibility ($K_{s,2}^{"}$) and transfer partial molar isentropic compressibility ($\ddot{A}_t K_{s,2}^{"}$) have been calculated from ultrasonic velocities data. Furthermore, hydration number (N_H), partial molar expansion ($E_2^{"}$) and Hepler's constant ($"^2V_2"/"T^2)_P$ have been computed from the reported parameters. The results are interpreted in terms of solute-solute and solute-solvent interactions. The Hepler's constant is used to understand the structure making/breaking ability of solute in aqueous solutions. The effect of temperature and composition of food additives on solute-solvent interactions are also investigated.

Keywords: Density, ultrasonic velocity, taurine, derived parameters, hepler's constant.

ISCA-ISC-2014-Poster-4CS-11

Nano structured Biopolymeric Drug Delivery System

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Abstract: The scientific literature today provides systems that can deliver drug to its targets however, problems have also been reported with these systems like low upake, toxicity and side effects. Recently it has been realized that these conventional carrier systems themselves may impose risk to patient. To overcome problems associated with conventional systems, nano drug delivery through biopolymers came into existence. Nowadays, biopolymers such as polysaccharides, proteins, lipids and nucleic acids as nano drug carriers are in great demand due to their biocompatibility, biodegradability and low immunogenicity. These biopolymers have attracted increasing attention due to their wide spread applications in the field of targeted drug or gene delivery and tissue engineering etc. A number of biopolymers viz.polysaccharides (such as chitosan, pullulan, hyaluronic acid, dextran etc.) ,proteins (such as silk, collagen, gelatine, albumin etc.), lipids(such

as phospholipids and liposomes) are currently under investigation for the preparation of nano particles for drug delivery. An effective drug delivery system (DDS) using biopolymers may involve controlled particle size, charge, morphology of surface and release rate along with certain structural modifications such as-introduction of hydrophilic, hydrophobic, acidic, basic or other functionality to the polymer molecules so that their properties can be altered to show more affinity towards drug for loading and finally drug release to its target. Various methods have been reported for the preparation of bio polymeric nanoparticles such as: self - assembly, nano precipitation, cross linking(ionic and covalent),spray drying, polymerisation (melt condensation polymerisation),high pressure homogenization etc. for effective drug targeting. The results from the literature indicate that bio polyme ric nano drug carriers are promising candidate for higher targeting and specific to further improve therapeutic efficacy and reduce undesired side effects.

Keywords: DDS, nano particles, targeted drug delivery, self - assembly.

ISCA-ISC-2014-Poster-4CS-12

Synthesis of Schiff Base Organometallic Compounds and Antimicrobial Activity

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Abstract: Synthesis of new series of schiff base organometallic compounds for its antimicrobial activity. The schiff base organometallic compounds are characterized on the basis of elemental analysis, Infrared spectra, Mass spectra, electronic spectra, Electron Spin Resonance, thermal analysis, SEM, antibacterial and fugal studies with some transition metal ions like Mn^{++}, Co^{++}, Ni^{++}, Cu^{++}, Pd^{++} and Pt^{++} complexes have been reported. The coordinate bonding of nitrogen to the central metal atom, which reduces the electron density in the both azomethine link and thus lower the –HC=N- absorption. The elemental analysis data exhibit the formation of 1:1 [M: L] ratio with coordination number is six in the all complexes. The complexes have with octahedral geometry and D_4h symmetry. The schiff base organometallic compound shows a molecular ion peak at m/z 512.3, which is equal to calculated theoretical molecular weight. The magnetic moment values of the complexes exhibited the existence of paramagnetic in all complexes. The molar conductance value indicates that, they are non- electrolytic in nature. The thermal behavior of these chelates shows that the two hydrated complexes lose water molecules of hydration in the first step and is immediately followed by decomposition of the anions and ligand molecules in the subsequent steps. The schiff base organometallic compound and their metal complexes were screened for antibacterial activity against Staphylococcus Aureus, B. Subtilis, E. Coli and fungicidal activity against A. Niger and F. Oxysporum. The activity data show that the Pt(II) metal ion complexes to be more potent antibacterial activity than the other metal ion complexes to all bacterial species.

Keywords: Schiff base organometallic compounds, SEM, Mass spectra, electronic spectra, electron spin resonance and antimicrobial activity.

ISCA-ISC-2014-Poster-4CS-13

Characterization and Identification of Process related Impurities in N-Methyl-3-(naphthalen-1-yloxy)-3-(thiophen-2-yl) propan-1-amine

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Abstract: Three impurities were identified in N-Methyl-3-(naphthalen-1-yloxy)-3-(thiophen-2-yl) propan-1-amine (duloxetine hydrochloride) in bulk drug by HPLC-UV and LC/MS methods. These impurities were marked as DLX-I, DLX-II and DLX-III. Two of the impurities (DLX-I and DLX-II) were unknown and have not been reported previously. An optimized method using liquid chromatography coupled with electrospray ionization ion trap mass spectrometry (LC/ESI-ITMS) in positive and negative ion mode has been developed to carry out structural identification of these unknown impurities. Based on mass spectrometric data and synthetic specifics the structures of DLX-I and DLX-II were proposed as phenyl-3-(1-hydroxynaphthalen-4-yl)-3-(thiophen-2-yl) propylmethylcarbamate and phenyl-3-(1-hydroxynaphthalen-2-yl)-3-(thiophen-2-yl) propylmethylcarbamate respectively. The impurities were isolated by normal phase flash chromatography and structures were confirmed by Nuclear Magnetic Resonance and Fourier transmission infra red spectroscopy. The existence of conformational isomer was confirmed by 2D NOESY Nuclear Magnetic Resonance. The plausible mechanism for the formation of impurities is also discussed in this paper.

Keywords: Duloxetine impurities, LC/ESI-MS, negative ion mode, conformational isomer, 2D NOESY.

ISCA-ISC-2014-Poster-4CS-14

Synthesis and Thermal Studies of Novel Copolymers of N-Substituted Maleimide

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Abstract: The present article deals with the synthesis and characterization of copolymer of Novel N-substituted maleimide and Methylmethacrylate (MMA) .N-substituted maleimide are belongs to a group of polyimide. Polyimides area class of high performance polymer. High performance polymers are polymer with property of strain, heat and chemical resistance.Polymaleimides are example of addition type of polyimides. Condensation type polyimides have certain disadvantages like insolubility and infusibility . To overcome the processing disadvantages of polyimides, polymaleimides have been synthesized by addition polymerization technique. Copolymers of N-[(4-chloro,2-benzophenone)maleimide] (p-CBMI) with methyl methacrylate (MMA) were synthesized.The reaction was carried out by using AIBN as free radical initiator in THF solvent at 60-70^{0}C .The new monomer was synthesized by reacting Maleic Anhydride with 2-amino ,5-chloro,benzophenone . The structure of synthesized copolymer was confirmed by their FT-IR , ^{1}H-NMR Spectral analysis ,solubility test and elemental analysis. Thermal behavior of copolymer was studied by Thermo gravimetric analysis (TGA).The molecular weight of synthesized copolymer was estimated by Gel permeation Chromatigraphy (GPC).This copolymer also show good antimicrobial properties.
Keywords: High performance polymer, MMA, polymaleimides, thermogravimetric analysis, addition polymerization, GPC.

ISCA-ISC-2014-Poster-4CS-15

A New Fluorogenic Probe for the Selective Detection of Pd(0) in Aqueous Medium

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Abstract: Increasing interest to develop a simple and effective methodology for fluorogenic detection of palladium species, since the palladium contents need to be monitored in the drug intermediates that are increasingly synthesized especially by using various palladium catalysts. Palladium can have adverse effects on our health and the environment, because it can bind to thiol containing amino acids, proteins, DNA, and other biomolecules (vitamin B_6) and disturb a variety of cellular processes. Therefore, it is necessary and important to urgently develop an effective and convenient method for detecting palladium species. Recently significant effort has gone into developing fluorescent methods, because of their low cost, simplicity and sensitivity for palladium species. To the best of our knowledge, most of these sensors display fluorescence enhancement for palladium species in the typical oxidation states of 0, +2 and +4 which makes the probe less selective. This selectivity issue should be alleviated by fluorescent sensing systems based on 'metal ion-specific' chemical reactions. Herein, we developed a coumarin-based fluorogenic probe, SPDP-1, for the selective detection of only Pd(0) species in HEPES buffer pH 8.0 at 37 °C. SPDP-1 gives a turn on type fluorescence change with more than 140-times enhanced fluorescent quantum yield.
Keywords: Fluorescent probe, palladium(0), coumarin

ISCA-IS C-2014-Poster-4CS-16

Comparative study of specific Refraction of potassium salts Solutions in Binary (Ethanol+Water) Mixtures

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Abstract: Refractive indices and densities of different concentrations of potassium salts like KCI, KBr, and KI in 10 % 20%, 40% and 60% (v/v) ethanol-water were measured at 303.15 K. Specific Refraction (R) were calculated by using Lorentz and Lorenz(L-L), Andher Desai and Joshi (ADJ), Chavda Desai and Joshi (CDJ), Damor Desai and Joshi (DDJ), Gadhawala Desai and Joshi (GDJ),Patel Desai and Joshi(PDJ. It is observed that the refractive indices increased with an increase of percentage of ethanol as well as with the concentrations of potassium salts for given compositions of binary solvent mixtures.). It is also observed that the calculated specific refraction values of the all formulae give in increasing

of the binary (Ethanol+Water) mixtures

Keywords: Refractive indices and densities, binary (Ethanol+Water) Specific Refraction Lorentz and Lorenz(L-L), Andher Desai Joshi (ADJ), Chavda Desai Joshi (CDJ), Damor Desai Joshi (DDJ), Gadhawala Desai Joshi (GDJ), Patel Desai and Joshi(PDJ).

ISCA-ISC-2014-Poster-4CS-17

Synthesis, Spectral Characterization and Biocidal studies of Schiff bases of ethyl {2-amino-6-[(4-fluorobenzyl) amino]pyridin-3-yl}carbamate

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Abstract: A new family of Schiff bases derived from ethyl {2-amino-6-[(4-fluorobenzyl)amino]pyridin-3-yl}carbamate. Structural features were obtained from their UV-Vis., FTIR, ^{1}H NMR, ^{13}C NMR and Mass spectral studies and subjected to study their antimicrobial efficacy against gram + and gram – bacteria. All the compounds have been found to be satisfactorily activity.

Keywords: Schiff base, structural features, efficacy, antimicrobial, carbamate.

ISCA-ISC-2014-Poster-4CS-18

An application of suggested formulae of Spe cific Refraction for binary (Methanol+Water) mixtures at 300K

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Abstract: Refractive indices and Densities of binary (Methanol + Water) in 10 %, 20 %, 40 %, 60 % (v/v) mixtures were measured at 300.15 K. Specific Refractions have been calculated by using measured refractive and densities of solution. A comparative study of Lorentz and Lorenz (L-L), Andher Desai and Joshi (ADJ), Chavda Desai and Joshi (CDJ), Damor Desai and Joshi (DDJ), Gadhawala Desai and Joshi (GDJ) and Patel Desai and Joshi (PDJ) have been investigated. On comparisons it is observed that the suggested formulae of specific refraction holds good.

Keywords: Densities, Refractive indices, Binary mixture, Lorentz and Lorenz (L-L), Andher Desai and Joshi (ADJ) Chavda Desai and Joshi (CDJ), Damor Desai and Joshi (DDJ), Gadhawala Desai and Joshi (GDJ) and Patel Desai and Joshi (PDJ).

ISCA-ISC-2014-Poster-4CS-19

Comparative DPPH radical Scavenging activity and biochemical assays of leaf Extracts of Coriander collected from Tarai and hilly region of Kumaun

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Abstract: The state of Uttarakhand possess a rich variety of medicinal plants many of which are in great demand in export markets. The screening studies for antioxidant properties of medicinal and food plants have been performed increasingly in hope of finding an efficient remedy for several diseases and means to delay ageing symptom. The demand for herbal product is continuously increasing for self-medication by general public due to their enormous biological and pharmacological effects. The use of synthetic additives is not recommended to food as they damage DNA. Therefore, there is an increasing interest in natural food additives, such as spices, which behave as natural antioxidants. These are known to possess a variety of antioxidant effects and properties. The antioxidant activity of methanolic extracts of Coriander collected from Tarai region (Pant- haritama) and hilly region (Berinag and Bageshwar) were studied quantitatively in terms of DPPH radical scavenging activity and various biochemical assays were studied spectrophotometerically in terms of total phenols, flavonoids, orthodihydroxy phenol, tannic acid, proantocyanidins by standard protocols. All the genotypes demonstrated good to moderate results.

Keywords: Coriander, antioxidant, genotype, herbal, spices.

ISCA-ISC-2014-Poster-4CS-20

Synthesis of á-Aminophosphonates and their SAR study as Biomarkers for Antioxidant Defence

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Abstract: á- Aminophosphonates are considered to be structural analogs of the corresponding alpha amino acids. Because of their reduced toxicity and ability to substitute natural amino acids they are used as natural amino acid mimics as well as medicine. Analogs of á- aminophosphonates were synthesized using substituted benzaldehyde (5mmol), aniline (5mmol) and triethyl phosphite (6mmol). The reaction mixture was stirred on magnetic stirrer (300 rpm) at room temperature under neat condition affording high yields of the desired products within 5-6 hours. FT-IR and NMR spectra of selected compounds confirmed the formation of á- aminophosphonates. Further there is need to create an antioxidant defence system for reactive oxygen species such as hydrogen peroxide, superoxide, hydroxyl, alkoxyl and peroxyl radicals. Structure activity relationship of synthesized á-aminophosphonates as biomarkers for antioxidant activity was determined.
Keywords: á- Aminophosphonates, biomarkers, antioxidant activity.

ISCA-ISC-2014-Poster-4CS-21

Photochemical Oxidative Degradation of Azure B Using Potassium Trisoxalatoferrate (III) As an Oxidant

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Abstract: The photochemical oxidative degradation of Azure B by potassium trisoxalatoferrate (III) has been investigated. The rate of photochemical degradation of dye was observed spectrophotometrically. The effect of variation of different parameters like pH, concentration of complex and dye, amount of light intensity on the rate of photochemical degradation has also been observed. A tentative mechanism for the photochemical oxidation of Azure B has been proposed.
Keywords: Azure B, photochemical, degradation, potassium trisoxalatoferrate (III).

ISCA-ISC-2014-Poster-4CS-22

The convenient one pot Synthesis and Antibacterial activity of 3,5- dibromo-2,4-dihydroxy substituted Chalcone

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Abstract: In an effort to develop antibacterial agents, a series of chalcones were prepared by Claisen-Schmidt Condensation of appropriate acetophenones with appropriate aromatic aldehydes in the presence of basic alumina as solid support reagent under microwave irradiation. The synthesized compounds were characterized by their IR, ^{1}H NMR, mass spectral data and elemental analysis. The compounds have been screened for their antibacterial activity against S. aureus, S. fecalis, E. coli and P. mirbilis.
Keywords: Microwave, solid-phase synthesis, chalcone, antibacterial activity.

ISCA-ISC-2014-Poster-4CS-23

Biochemical Assay and Antioxidant Activity of Wild and Domesticated Genotypes of Murraya paniculata L.

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Abstract: The plant Murraya paniculata collected from two different locations (Wild and domestic genotypes) of Uttarakhand were studied for their chemical composition and antioxidant activity. The methanolic extract of both the samples were also studied for their biochemicals assay. The GC-FID analysis of both genotypes of Murraya paniculata revealed the presence of over 10 compounds in each essential oil of which over 11-14 constituents have been identified

which contributes 86.99% and 76.25% of the total oil respectively. Murraya paniculata oil (Wild genotype) was rich in oxygenated sesquiterpenoids mainly dominated by trans-verbenol (26.25%), germacren-D-4-ol (13.74%) and caryophyllene oxide (12.34%) while Murraya paniculata (domestic genotype) was rich in sesquihydrocarbons being dominated by germacrene B (41.91%) and germacrene D (21.67%) besides other minor constituents. The essential oils showed good to moderate antioxidant activity which may be possibly due to different chemical composition. Murraya paniculata (Wild genotype) showed better reducing power, DPPH free radical scavenging and chelating activity as compare to Murraya paniculata (domestic genotype). The total phenols in the extracts of Murraya paniculata (Wild genotype) contained 6.0mg/100mg while Murraya paniculata (domestic genotype) contained 4.5mg/100mg of plant material. Ortho dihydric phenols in both the collections were found to be more than 1.0mg/100mg while the flavonols were less than 1.0mg/100mg.

Keywords: Murraya paniculata, antioxidant activity, chemical composition, reducing power and chelating activity.

ISCA-ISC-2014-Poster-4CS-24

Biological and Fluorescence activity of Newly synthesized Ni(II) Heterochelates

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Abstract: The present work staunch from our interest by the synthesis, characterization and biological evaluation of Ni(II) complexes, which have been synthesized by mixing an aqueous solution of $Ni(NO_3)_2$ in 1 : 1 molar ratios with ethanolic bidentate ligands(Bromocoumarin derivatives) and ciprofloxacin. Spectral studies confirm ligands to be mono functional bidentate and octahedral environment around metal ions. Thermal behaviour of newly synthesized mixed ligand Ni(II) complexes were investigated by means of electronic spectra and magnetic measurements. Characterization of the ligands has been carried out by elemental analysis, melting point determinations, mass spectra, ^1H NMR, ^{13}C NMR, and FT-IR, while structure of metal complexes were investigated and confirmed by FT-IR and FAB-mass spectral studies. Both the ligands as well as its complexes have been screened for their in vitro antimicrobial and fluorescence activities.

Keywords: Ni(II) complexes, antimicrobial, fluorescence.

ISCA-ISC-2014-Poster-4CS-25

Biological Aspect of Newly Synthesized Heterochelates with 1,10-Phenenthroline Based on Chloro-Coumarins Derivatives

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Abstract: Here we have to describe synthesis, characterization, and biological evaluation of Cu(II) complexes. Characterization of ligands has been carried out by elemental analysis, melting point, massspectra, (1Hand13C) NMR, and FT-IR, while structure of metal complexes was conûrmed by electronic spectra Thermal behaviour of Cu(II) complexes were investigated by means of TGA and magnetic measurements. The kinetic parameters are reported using the Freeman-Carroll method. Complexes were found signiûcant potent antimicrobial and antioxidant activities compared to ligands employed for complexation.

Keywords: 1,10-Phenenthroline, TGA, Biological aspects,

ISCA-ISC-2014-Poster-4CS-26

Role of Aerators in the Treatment of Waste Water

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Abstract: Different types of Aerators were studied by author which plays very important role in the treatment of waste water. The Efficiency of Aspirating as well as Mechanical Aerators was compared and it was found that aspirating type aerators were more efficient. Among Aspirating type Aerators Sudden expansion is more efficient than Venturi. Future scope of work is also suggested in the study which may be proved very useful in accelerated developing country like India.

Keywords: Aerators, sudden expansion, venturi, mechanical aerator, two film theory, dissolve oxygen.

ISCA-ISC-2014-Poster-4CS-27

Micellar aided Chromogenic reagents for Simultaneous Spectrophotometric Determination of Aluminium and Iron

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Abstract: Simple and novel spectrophotometric method is described for simultaneous determination of aluminium and iron. The method is based on the metal ions - complexes formed by aluminium and iron with mixed chromogenic reagents of orthophenanthroline and 8- hydroxyquinoline (oxine). The derivatives have absorption maxima at 400 nm and 510 nm respectively in the presence of cetyltrimethylammonium bromide (CTAB) as micellar medium (surfactant) maintained at pH 5. Reaction conditions were optimized and the linear dynamic ranges for determination of aluminum and iron were found be 0.8 – 12.0 µg/mL and 0.6 – 8.0 µg/mL respectively. The standard deviation (S.D) and coefficient of variation (CV) for the simultaneous determination was 0.018 and 0.45% for aluminium and 0.03 and 1.5% for iron (II). The recoveries were between 102 % and 106 %, 101.2 % and 104 % for aluminium and iron respectively at 95 % confidence level. The proposed method was successfully applied to the assay of aluminium and iron in rock minerals, lubricating oil and water samples. The results and paired t-test for the analyzed samples were found to be in satisfactory agreement with those acquired by the flame atomic absorption spectrophotometric (FAAS) technique.
Keywords: Mixed chromogenic reagents, micellar media, aluminium, iron.

ISCA-ISC-2014-Poster-4CS-28

Preparation and Characterization of Silk Fibre-reinforced PVA Composite Films

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Abstract: Amid the intensifying global awareness and thrust for eco-friendly products, the need to seek viable alternative materials for synthetic fibres has been expanding. As such, natural animal-based fibres are looked into as potential candidates. In this study, we seek to explore the use of a low cost method to enhance the mechanical properties of silk fibre. Composites of polyvinyl alcohol (PVA) reinforced with different weights of silk fibre was fabricated and evaluated. The synthesized bio-composite films were evaluated for thermal stability and biodegradation by soil burial tests. The morphology of the films was analyzed by SEM. The results of this study indicated that silk fibre-reinforced PVA composites improved the biodegradation rate. The development and production of such bio-composites with specific mechanical and biodegradable properties could find potential applications in packaging industries and thus, could be safely disposed after use without causing environmental damage.
Keywords: Silk fibre, polyvinyl alcohol, bio-composites, biodegradation.

ISCA-ISC-2014-Poster-4CS-29

Synthesis and Characterization of Some New Pyrazole Derivatives and Their Oximes

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Abstract: Pyrazole and substituted pyrazole are reported to be potent inhibitors of many bacteria. Pyrazole moiety containing compound are associated with bacteriacidal, anti-inflametry, and hepatoprotective activity. The organic compound containing pyrazole nucleus has wide applications in medicinal chemistry as well as considerable interest in the chemotherapeutic activity. Pyrazole and its synthetic analogues have been found to exhibit industrial, agricultural and some biological application. The ring system plays an important role in many biological processes, and many therapeutic agents contain pyrazole moiety. Due to the emergence of new fungal pathogens, great efforts have been made to modify the chemical structure of 1-(3,4 di fluorophenyl -4-(2-hydroxybenzoyl)-1-H pyrazole), in order to broaden its antifungal activity and increase its potency. Herein, I would like to synthesis some new salicyloyl pyrazole analogues using chromones as synthons. The synthesis of these derivatives can be achieved by conventional method. In this present

report, a series of Pyrazole derivatives and their oximes were synthesized from substituted phenol by esterification followed by fries rearrangement yielded substituted acetophenone. These aromatic acetophenones are treated with DMF and $POCl_3$ gives chromone which again treated with substituted phenyl hydrazine hydrochloride gives salicyloyl pyrazole and their oxime derivatives prepared by treating with hydroxylamine hydrochloride. The synthesized compounds were characterized by physical method and ^1H NMR spectroscopy.

Keywords: Synthesis, fries rearrangement, chromone, pyrazole, oxime.

ISCA-ISC-2014-Poster-4CS-30

Synthesis, Structural Characterization and Biocidal studies of Copper complexes with 2-amino Benzothiazole derivatives

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Abstract: Biologically potent complexes are one of the most important clas ses of materials for the upcoming generations. Increasing number microbial infectious diseases and resistant pathogens creates a demand and urgency to develop novel, potent, safe and improved variety of antimicrobial agents. Therefore, a substantial research is needed for their discovery and improvement. Transition metal complexes share an important place in this regards. Worth noticeable and mentioning among these are copper complexes. Binuclear macrocyclic copper complexes derived from common fatty acids are found to be eco-friendly, completely biodegradable and nontoxic with significant antiviral, anticancerous, antifungal and antimicrobial properties. For the same, coordination compounds using Cu(II) with nitrogen and sulphur donor ligands in a 1:1 molar ratio of the type $Cu_2(C_{15}H_{31}COO)_4L_2$ and $Cu_2(C_7H_{15}COO)_4L_2$ where L = 6-bromo 2-amino benzothiazole were synthesised and fully characterised by elemental and spectral analysis namely ^1H NMR, IR and ESR spectra and all the data were carefully studied. Their purity was checked by Thin layer chromatography The complexes were screened for their biological potency against some easily available microbes like Pseudomonas aeruginosa (gram negative), Lactobacillus acidophilus (gram positive) and antifungal activity against Fusarium semitectum, Trichophyton ruburum by Kirby-Bauer and Stokes' method. The transition metal complexes showed good antibacterial and antifungal activity than the free ligands.

Keywords: Biocidal studies, Copper complexes, substituted 2-amino benzothiazole, Kirby-Beauer and Stokes' method, Antibacterial, Antifungal

ISCA-ISC-2014-Poster-4CS-31

A Green Microwave Assisted Synthesis of New (Anthracene-9-Yl) Methylamines as an Environmentally Friendly Alternatives

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Abstract: Synthesis of polynuclear aromatic hydrocarbons and its derivatives was carried under microwave irradiations.The title compound, (anthracene-9-yl)methylamine,was synthesized in higher yield by reaction of 9-chloromethylanthracene with pyrrolidine and hexamethyleneimine .The structure of this new compound was confirmed by elemental analysis,IR,Mass,1H NMR spectral data.

Keywords: 9-chloromethyl anthracene, pyrrolidine, microwave irradiation, mass, nmr.

ISCA-ISC-2014-Poster-4CS-32

The convenient one pot Synthesis and Antibacterial activity of 3,5- dibromo-2,4-dihydroxy Substituted chalcone

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Abstract: In an effort to develop antibacterial agents, a series of chalcones were prepared by Claisen-Schmidt Condensation of appropriate acetophenones with appropriate aromatic aldehydes in the presence of basic alumina as solid support reagent under microwave irradiation. The synthesized compounds were characterized by their IR, ^1H NMR, mass spectral data and elemental analysis. The compounds have been screened for their antibacterial activity against S. aureus, S. fecalis, E. coli and P. mirbilis.

Keywords: Microwave, solid-phase synthesis, chalcone, antibacterial activity.

ISCA-ISC-2014-Poster-4CS-33

Inhibiting effect of Imidazoles on Corrosion of mild Steel in Hydrochloric acid

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Abstract: Imidazoles (benzimidazole and benzyl benzyl benzimidazole) were used as corrosion inhibitors for mild steel in hydrochloric acid solution. The inhibition efficiency depended on the concentration and type of the imidazole. The inhibition efficiency ranged between 80 and 98 % at the highest concentration (25 mM), and between 65 and 85% at the lowest concentration (5 mM) of inhibitor in 1 M HCl solution. Inhibition efficiency decreased with rise in temperature, this corresponded to surface coverage of the metal by the inhibitor. The calculated degrees of surface coverage, è, were found to increase with the inhibitor concentration. The results also showed that, the inhibitors were adsorbed on the mild steel surface according to Langmuir adsorption isotherm. Polarization study revealed that all the two imidazoles functioned as slightly anodic but significantly cathodic inhibitors.
Keywords: Corrosion, mild steel, hydrochloric acid, imidazoles.

ISCA-ISC-2014-Poster-4CS-34

Sensitization of Zinc Oxide using Natural Pigment and its use for Photocatalytic Degradation of Rose Bengal

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Abstract: Photocatalytic activity of semiconductors may be enhanced by different methods like doping it with metals and non-metals, sensitization, metallization, etc. In the present work, an attempt has been made to increase the photocatalytic activity of a semiconductor i.e. zinc oxide, by coating it with extract of natural pigment derived from the petals of the flower *Nerium indicum*. Sensitized photocatalyst has been used for the photocatalytic degradation of rose Bengal dye. Progress of the reaction was monitored spectrophotometrically by measuring absorbance of the reaction mixture at definite time intervals. The effect of variation of different parameters such as pH, concentration of dye, amount of semiconductor and light intensity on the degradation rate of dye was observed. A tentative mechanism for the reaction has also been proposed.
Keyword: Sensitization, zinc oxide natural pigment, photocatalytic, degradation, rose bengal.

ISCA-ISC-2014-Poster-4CS-35

A Comparative Study of Some Natural Extracts of Cinnamon, Black Pepper and Turmeric as an Antioxidant

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Abstract: Cinnamon, black pepper and turmeric extracts show antioxidant properties. The photo-oxidation of thiourea by singlet oxygen has been selected as a model system to study their antioxidant property. Thiourea was used as a substrate after recrystallisation and sensitizer Rose Bengal was used for generation of singlet oxygen. Ethanol, acetone and double distilled water were used to prepare solutions. The control experiments were also carried out in the presence of (i) light and dye (ii) dye and oxygen (iii) light and dye. In these cases, no product was obtained, indicating that all three components (oxygen, light and dye) are required for formation of product. The effects of concentration and solvent are observed on dye-sensitized photooxidation of thiourea has been carried out in presence of these extract. In this process, sulphur is precipitated. The amount of sulphur produced can be taken as a measure of the extent of oxidative reaction. Less is the amount of sulphur produced; more is the effectiveness of the antioxidant. Ethanolic and acetone extracts were prepared. It was concluded that cinnamon extract is more effective antioxidant than black pepper and turmeric.
Keyword: Comparative, study, natural, extracts, cinnamon, black pepper, turmeric, antioxidant.

ISCA-ISC-2014-Poster-4CS-36

Microwave assisted Synthesis, spectral and Antimicrobial activity of Mn (II) complexes with Amide derived from Heterocyclic amines

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Abstract: The importance and versatility of amide group containing ligands have promoted the selection of this class of ligands and their complexes for the study. The present work describes the synthesis, spectral and biological investigations on the complexes of amides derived from heterocyclic amines with Mn (II) ions. Five ligands derived 2-aminopyridine and their complexes with Mn (II) have been synthesized. A method for the synthesis of complexes has been developed by the use of microwave irradiation which is in agreement to Green chemistry approach. The complexes have been characterized on the basis of elemental analysis, infrared, electronic, ESR spectra and magnetic susceptibility studies. The diffuse reflectance spectrum of the complexes show bands in the region 20,000 cm^{-1} to 26,000 cm^{-1} assignable to ^6A_1g ® ^4T_2g and ^6A_1g ® ^4E_1g transitions. These are also typical of tetrahedral environment around the manganese. The magnetic moment (5.80 BM) of the complex indicates high spin tetrahedral environment. Antimicrobial activities of compounds have also been carried out against bacteria and fungi.
Keyword: Manganese (II), heterocyclic amine, antimicrobial.

ISCA-ISC-2014-Poster-4CS-37

Applications of a novel Green adsorbent for Extraction of Silver from e-waste

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Abstract: e-Waste contain both valuable and hazardous materials. Among precious metals, silver is found in various electronic equipments. Estimation of metal concentration at different levels has been an important task for environmentalists but the removal and or recovery of these metals from complex matrixes particularly from samples of e-waste into reusable form is the major challenge in front of technologists. Our group has developed few chelating resins in recent past for preconcentration, separation and trace estimation of metal ions. In the present work we report preparation of a novel *Calotropis procera* based adsorbent and green chemical technology for the recovery of silver from different matrixes including the e-waste. The developed technology is based on the nanoparticles obtained from latex of *Calotropis procera*. Investigations were carried out either by batch method or by column method. Effects of different parameters like pH, amount of modified latex, flow rate, inert electrolyte, temperature and adsorption time were also investigated. The distribution coefficient has been calculated for silver was found as 3.6×10^2 and recovery of the metal ions using column method was found to be 98.7%. The working conditions are very easy and modified latex can be regenerated and reused.
Keyword: e-waste, nanoparticles, calotropis, silver, green technology

ISCA-ISC-2014-Poster-4CS-38

Microwave assisted Synthesis, Characterisation, solution and Antimicrobial activity of Co(II)-thiosemicarbazone

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Abstract: The therapeutic importance of thiosemicarbazone group containing ligands has promoted the selection of this class of ligands and their complexes for the study. The present work describes the synthesis, characterization, solution and biological investigations on Co(II)-thiosemicarbazone complexes. Solution studies on the complexes have also been carried out in different micellar systems at 25°C and it has also been compared with methanol water mixture. Formation constants and molar ions in 70% methanol were determined. The log K_{ML}^+ sequences of the alkali metal ions and their sequential investigation have been carried out. The conductivity of AOT/Brij-56 or Brij-58/IPM/water reverse micellar systems as a function of temperature, ([water]/[AOT + Brij]) and $X_{non\text{-}ionic}$ (mole fraction of non-ionic surfactant in total surfactant) has been studied. The addition of non-ionic surfactants (Brij-56 and Brij-58) exhibits temperature-induced

percolation in conductance in non-percolating AOT/IPM/water system at constant compositions (i.e. at fixed total surfactant concentration, $\grave{u}$ and $X_{non\text{-}ionic}$). The influence of total surfactant concentration (micellar concentration), water content ($\grave{u}$) and content of non-ionic surfactants on the temperature-induced percolation behaviors of these systems have been investigated. The effect of Brij-58 is more pronounced than that of Brij-56 in inducing percolation. Antimicrobial activities of compounds were also carried out against bacteria and fungi. Further minimal inhibitory concentration (MIC) was also determined for each compound.

Keyword: Cobalt (II), thiosemicarbazone, microwave, MIC, brij

ISCA-ISC-2014-Poster-4CS-39

Base enhanced Cascade – Tandem type reaction: Synthesis and Fluorescent survey of Triazole fused Nitrogen ring junction Compounds

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Abstract: Generally triazole fused heterocyclic compounds have great importance due to their presence in a number of biologically active compounds, such as antimicrobial , antifungal, antiviral, antibacterial, antiseptic andantiproliferative , anticancer , cytotoxic activities etc.In addition to the biologically important benzene fused heterocycles, most important are those containing ring-junction nitrogen. Majority of ring junction systems do not occur naturally, but they have been important from the theoretical viewpoint, for preparation of potential active analogues. Here, we developed an expedient method synthesis of some unreported triazole fused ring junction compounds Our work involved to synthesize various *á, â* – unsaturated carbonyl compounds and it was reacted with 2*H*-[1,2,4]triazol-3-ylamine in presence of sodium ethoxideas a base in absolute ethanol leads to cyclization followed by aromatized products in a single step. We employed the reaction with various other bases and solvents leads to desired product with lower yield. The synthesized compounds have been characterized by Melting point, ^{1}H NMR, ^{13}C NMR, and HRMS.

Keyword: Synthesis, fluorescent survey, triazole fused nitrogen ring junction compounds.

ISCA-ISC-2014-Poster-4CS-40

Design of Some Chelating Pyridyl Ligands Having Organo-Silicon Spacers and their Ligand Chemistry

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Abstract: Ethynylpyridine ligands have been extensively utilized in the synthesis of nonlinear optical materials and supramolecular frameworks. A ligand of particular recent interest is 1,2-bis(2-pyridylethynyl) benzene, known to form complexes with Cu(I), Pd (II) and Au (II). Due to the rigid nature of this ligand, complexes are generally formed in which the two pyridine rings are directionally opposed. Conceivably, replacing the benzene ring spacer between the pyridylethynyl moieties with silicon spacers could lead to different coordination chemistry. Thus such ligands are designed utilizing readily available different organosilicon starting materials of varying length and flexibility. Herein, we report the synthesis of some new bis(pyridylethynyl) ligands with organosilicon spacers. 2-Ethynylpyridine was treated with n-butyllithium in diethylether to give a deprotonated intermediate. Further reaction with various chlorosilanes gave silyl-substited ligands. The ligands react readily with transition metal salts to form crystalline complexes. The ligands and metal complexes were characterized by multinuclear (1H-, 13C- and 29Si-) NMR spectroscopy and elemental analyses. The structures of the metal complexes were determined by X-ray crystallography.

Keyword: Design, chelating pyridyl ligands having, organo-silicon spacers, ligand chemistry.

ISCA-ISC-2014-Poster-4CS-41

Synthesis, Characterization and Biological Evaluation of some Oxadiazole Derivatives

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Abstract: The derivatives of 1,3,4-oxadiazole are interesting structural motifs presented in some biologically active molecules. The compound ethyl 6-chloro-2-methylimidazo[1,2 –a]pyridine-3-carboxylate was prepared from 5-chloropyridine-2-amine, which was then refluxed with hydrazine hydrate. The obtained compound 6-chloro-2-methylimidazo[1,2-a]pyridine-3-carbohydrazide was further cyclised with different aromatic acids using phosphorous oxychloride to obtain 6-chloro-2-methyl-3-(5-substituted-1,3,4-oxadiazol-2-yl)imidazo[1,2-a]pyridine. The synthesized compounds were assayed for their antimicrobial activity and the structure was confirmed by IR, Mass and NMR spectroscopy.
Keywords: Oxadiazole derivatives, anti-microbial activity, IR, Mass, NMR.

ISCA-ISC-2014-Poster-4CS-42

Synthesis of Novel triazolothiadiazoles and triazolothiadiazines and their Antituberculosis Properties

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Abstract: 1,2,4-triazolo[3,4-*b*]thiadiazoles and 1,2,4-triazolo[3,4-*b*]thiadiazines have surfaced into prominence owing to possession of prominent biological activities. Keeping in mind the prominence of 1,2,4-triazoles, novel 6-[(aryloxymethyl]-3-methyl[1,2,4]triazolo[3,4-*b*][1,3,4]-thiadiazoles**,** 6-(arylmethyl)-3-methyl[1,2,4]triazolo[3,4-*b*] [1,3,4]-thiadiazoles and 6-(aryl)-3-methyl-7*H*-[1,2,4]triazolo[3,4-*b*][1,3,4]thiadiazines were synthesized with ease. The newly synthesized compounds were confirmed by ^{1}H-NMR, ^{13}C-NMR, FT-IR and LC-Mass and Elemental Data analyses and screened for *in vitro* antituberculosis activity by Disc Diffusion (ZOI Test) and Dilution (MIC Test) Methods. The active compounds were subjected to acute oral toxicity studies on Swiss albino mice, where the study results indicated that the compounds belong to class of '*slightly toxic*' and are of potential utility for further research in search of newer antituberculosis drugs.
Keywords: 1,2,4-triazole, triazolothiadiazole, triazolothiadiazine, antituberculosis activity, oral toxicity.

ISCA-ISC-2014-Poster-4CS-43

Microwave-Assisted Synthesis of Some 1,3,4-Oxadiazole Derivatives and Evaluation of their Antibacterial and Antifungal Activity

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Abstract: A series of substituted 1,3,4-oxadiazole derivatives 3(a-f) and 6(a-f) have been synthesized from diphenyl acetic acid hydrazide under microwave irradiation in various reaction conditions. The structures of the synthesized compounds were assigned on the basis of elemental analysis, IR and ^{1}H NMR. These targeted compounds have been tested for their antibacterial and antifungal activities compared to ampicillin and griseofulvin as standard drug. Compounds 3a, 3e, 3f, 6c, 6d, 6e and 6d exhibited the maximum antibacterial activities and 3b, 3c, 3d, 3e, 6a, 6d and 6e exhibited the maximum antifungal activities.
Keywords: 1,3,4-Oxadiazole, antibacterial, antifungal.

ISCA-ISC-2014-Poster-4CS-44

Preparation of Activated carbon using Biodiesel waste and its Application in the removal of Heavy Metal from Wastewater

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Abstract: Water pollution has been a major challenge to human today due to the release of toxic heavy metals from various industries. Among various technologies, adsorptive removal of heavy metals from wastewater by using different adsorbents is more promising and economical. Among various adsorbents used, activated carbon is well known for its high adsorption capacity due to large surface area and pore volume. The activated carbon was prepare from Jatropha curcas fruit shell because it contains low nutrient, which is not suitable for use as an agriculture fertilizer, but it is abundant in cellulose, hemicelluloses and lignin. Thus, a possible solving of this waste is converting it into value added

activated carbon, which is one of the most widely used materials because of its exceptional adsorbent properties. In this research, the optimum conditions for the synthesis of activated carbon from biodiesel wastes such as Jatropha curcas fruit shells by chemical activation method using sodium hydroxide (NaOH) as an activating agent were investigated. Activated carbon prepared from jatropha curcas fruit shells are seem to be more efficient for heavy metal removal from wastewater. This process is suitable even when the heavy metal ions are present in low concentration.

Keywords: Activated carbon, adsorption, surface area, pore volume, Jatropha Curcas Fruit Shells, optimum conditions.

ISCA-ISC-2014-Poster-4CS-45

Synthesis and Characterization of Benzylidene-3-Amino Coumarin Derivatives

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Abstract: 4-(4Œ§-n Alkoxybenzoyloxy)-3-substituted benzylidene-3-amino coumarins have been synthesized by condensing respective 4-(4Œ§-n-alkoxybenzoyloxy)-benzaldehyde and 3-amino coumarin. The derivatives have a bulky methoxy group as a lateral substituent and ortho- to ester linkage, due to steric effect molecules would be become more acoplanar and broad therefore the derivatives are being purely non-mesogenic. The increase in length of terminal substituent as well as more polarizability of the molecules has the higher thermal stability and occurrence of the nematic phase (thread like texture). The higher derivatives exhibit more mesomorphic thermal stabilities. The study of thermal stability of heterocyclic compounds is quite interesting as it includes the significance of some additional parameters such as dipole due to heteroatom, electro negativity of the heteroatom etc. The purity of the prepared compounds was confirmed by TLC and structures of synthesized compounds were characterized by spectral studies. The transition temperatures were determined by using polarizing microscope with heating stage.

Keywords: Synthesis, characterization, benzylidene-3-amino coumarin derivatives.

ISCA-ISC-2014-Poster-4CS-46

Synthesis, Characterization and Biological studies of novel Heterocyclic Compounds

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Abstract: *N*-((1*H*-benzo[*d*]imidazol-2-yl)methyl)-*N*-methylethanamine(1)on reaction with chloro acetic acid and hydrazine hydrate gives 2-(2-((ethyl(methyl)amino)methyl)-1*H*-benzo[*d*]imidazol-1-yl)acetohydrazide(2),Which react with CS_2/KOH gives 5-((2-((ethylmethylamino)methyl)-1*H*-benzo[*d*]imidazol-1-yl)methyl)-1,3,4-oxa diazole-2(3*H*)-thione(3). The product (3) on Mannich reaction gives different 3-((dialkyl amino)methyl)-5-((2-((ethyl(methyl)amino)methyl)-1*H*-benzo[*d*]imidazol-1-yl)methyl)-1,3,4-oxadiazole-2(3*H*)-thione (4a-e). The structures of these compounds were proved on the basis of analytical and spectral data. The final products were screened for their antibacterial and antifungal activities.

Keywords: oxadiazole, benzimidazole, mannich reaction, spectral studies, antibacterial and antifungal activities.

ISCA-ISC-2014-Poster-4CS-47

Synthesis of Novel Triazolo-linked Pyrazole Hybrid Compounds and their Biological Properties

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Abstract: Pyrazoles are important heterocyclic scaffolds possessing various biological activities. Pyrazole and its derivatives are gaining importance in medicinal and organic chemistry as they display a broad spectrum of pharmacological and biological activities such as anti-bacterial, antidepressant and anti-hyperglycemic. Therefore synthesis of pyrazole has gained immense importance in the field of medicinal chemistry. Chalcones have been useful synthons in the synthesis of a large number of bioactive molecules such as pyrazolines, hydroxyl pyrazolines etc. Triazoles are important nitrogen-containing five membered heterocyclic compounds. Several triazole derivatives possess important pharmacological activities and therefore they are useful materials in drug research. Prompted by the above-mentioned biological properties of triazoles and chalcones, we synthesized a novel series of chalcones containing triazoles by 1,3-dipolar cycloaddition of azide with dipolarophiles followed by Claisen Schmidt condensation. Hese chalcones are further converted into

biologically active pyrazole derivatives. The newly synthesized compounds were confirmed by ^{1}H-NMR, ^{13}C-NMR, FT-IR and LC-Mass and Elemental Data analyses

Keywords: 1,2,3-triazole, chalcones , pyrazoles, antibacterial, antioxidant.

ISCA-ISC-2014-Poster-4CS-48

Study on the effect of Oxalic acid on the corrosion Inhibition of Aluminium

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Abstract: The effect of Oxalic acid on the corrosion inhibition of aluminium in phosphoric acid have been studied at different acid concentration and temperature. All the studied inhibitor showed good inhibitive characteristics at all parameters against the corrosion of Al in the tested solution, and their performance was observed to increase with the inhibitor concentration. As concentration of inhibitor increases I.E. increases. As the temperature was increased. the percentage of inhibition decreased. The mode of inhibition action appears to be follow Langmuir adsorption isothern since the plot of log (q / 1-q) versus log C gave a straight line, Which following the Langmuir isotherm. Anodic and cathodic galvanostatic polarisation curves show both anodic and cathodic polarisation.

Keywords: Corrosion, aluminum, phosphoric acid, oxalic acid.

ISCA-ISC-2014-Poster-4CS-49

High Field Ionic Conduction in Anodic Oxide Films on Tantalum in Aqueous Electrolytes

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Abstract: The studies on the anodic growth of film on tantalum were carried out at various current densities (2.5, 5.0, 10.0 and 15.0 mAcm^{-2}) in presence of 0.1N solutions of acetic acid, succinic acid and picric acid (prepared in 1:1v/v of Ethanol + water) at four different temperatures (288.15, 298.15, 308.15 and 318.15K). The constants A and B of Guntherschulze and Betz empirical equation have been determined. The value of A varied with temperature but the value of B was found independent of temperature, which implies th e non-dependence of Tafel slope on temperature. Dignam's quadratic variation of field strength with ionic current density was examined critically. The zero field activation energy ( ), dimensionless quantity (C), zero field activation dipole (i^{*}), net activation energy $W(E)$ and More function parameter (w^{*}) of Dignam model were evaluated. The effects of temperature, current density and nature of electrolyte on various parameters of Dignam model have been discussed. An appreciable contribution of the quadratic term elucidates that single-barrier theories of ionic conduction do not explain the data satisfactorily.

Keywords: Anodic oxidation, tantalum, tafel slope, dignam model, guntherschulze-Betz equation.

ISCA-ISC-2014-Poster-4CS-50

The Study of Henna Leaves Extract as Green Corrosion Inhibitor for Mild Steel in Acetic Acid

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Abstract: The inhibitive action of henna leaf extract on mild steel mild steel in acetic acid solution have been studied using weight-loss and potentiostatic polarization technique. Corrosion inhibition efficiency of henna leaves extract was evaluated using weight-losss measurement for various inhibitor concentration at room temperature and also at different temperature. The result obtained revealed that inhibition efficiency increases with increase in inhibitor concentration while decrease with increase in temperature. The value of activation energy shows that the henna extract is good inhibitor for mild steel. The negative values of Q_{ads} and DG_{ads} supports spontaneous adsorption of the inhibitor. The plot of log (è/ 1-è) versus log C results in a straight line, suggest that the inhibitors appears to function through adsorption following Langmuir Adsorption Isotherm. The galvanostatic polarization study indicates that the inhibitor is of mixed type.

Keywords: Corrosion, mild steel, acetic acid, henna leaves extract.

ISCA-ISC-2014-Poster-4CS-51

Inhibition of Corrosion of copper by an aqueous extract of Henna leaves (Lawsonia Inermis) in Nitric acid

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Abstract: The effect of Heena leaf extract as an inhibitor for copper in nitric acid solution has been studied by using weightloss and potentiostatic polarization technique. The effect of inhibitor concentration on the inhibition action were investigated. The presence study revealed that the percentage of inhibition efficiency is enhanced with increase of inhibitor concentration and decrease with increase in temperature. The plot of log Ÿ/1-Ÿ verses log C results in straight line, which suggest that the inhibitor function though Langmuir Adsorption Isotherm. The value of activation energy shows that the henna extract act as good inhibitor for copper in nitric acid medium. The value of free energy of adsorption and heat of adsorption obtained were negative. Polarization curves revealed that inhibitor act as mixed type inhibitor and the inhibition efficiency up to 96% was obtained.
Keyword: Corrosion, copper, lawsonia, nitric acid, inhibitor.

ISCA-ISC-2014-Poster-4CS-52

Use of Low Cost Natural Adsorbents for the Treatment of Toxic Metal Ions in Industrial Effluents

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Abstract: Adsorption is widely used to remove various pollutants from effluents. Industrial waste constitutes the major source of various kinds of toxic metal ions pollution in natural water.The important toxic metals ions are Cd, Zn, Pb, Cr, Cu, and Ni. There are numerous methods currently employed to remove and recover the toxic metal ions from our environment and many physico-chemical methods have been proposed for their removal from effluents. Cost is an important parameter for comparing the adsorbent materials. Therefore, there is increasing research interest in using alternative low-cost adsorbtion. In recent years the adsorption process has been recognized as an effective and economic method for the removal of toxic metals ions from effluents as it offers flexibility in design and operation so as to produce high quality treated effluents of desired standards for disposal and moreover the adsorbents can be regenerated by suitable desorption. This paper reviews the current methods to explore low cost adsorbents and their utilization techniques for various agro and horticultural waste by-products like sugarcane bagasse, rice husk, orange peels, almond shell, sawdust, soybean hulls, cottonseed hulls, rice bran, coconut tree sawdust, sago waste, banana pitch carbon, coconut husk, palm pressed fibre, clay and some bio adsorbents etc. which are abundantly and easily available in India for the elimination of toxic metal ions from effluents. The alternative adsorbents include agricultural waste, industrial solid waste, sludge from treatment plants, soils, marine waste, etc are used.
Keywords: Adsorbents, effluents, environment, pollution. horticultural, toxic metal ions.

ISCA-ISC-2014-Poster-4CS-53

Degradation of dye Content from water by using solar Energy through Heterogeneous Photocatalysis

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Abstract: Natural resources like air, water, soil etc. are polluted by various acts whether natural or artificial. One such kind of pollution causing act is addition of dyes by various industries like paper, yarn, plastic etc. There are many methods for removing such pollutants from water like thermal dehydration, adsorption by charcoal etc. One of the most economical and eco-friendly method is however, the use of photocatalyst. The present work describes the photo catalytic

degradation of dye p-Rosaniline hydrochloride in the presence of photocatalyst barium strontium tungstate and the progress of the reaction was observed spectrophotometrically. The effects of various operational variables like pH, concentration of dye, amount of semiconductor and light intensity on the rate of degradation was observed. It was observed that the reaction proceeds with use of OH* free radical whose presence was confirmed by scavenger study. Maximum degradation conditions were extracted and the reaction was found to follow pseudo first order kinetics and a tentative mechanism has been proposed for the photo catalytic degradation of dye.

Keywords: Degradation, dye content, water, solar energy, heterogeneous photocatalysis

ISCA-ISC-2014-Poster-4CS-54

Formation of highly Aligned self assembled Structure of lithium salt of an Amphiphilic Diacetylene in a gelatin film Matrix

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Abstract: One of the important classes of the compounds known to undergo self assembly and higher structure organizations is the diacetylene and their polymers. The diacetylenes substituted with various side chains readily undergo polymerization to form an ene-yne alternated polymer chain in a wide range of organized structures, such as single crystals, Langmuir- Blodgett films, self-assembled monolyers, liposomes or vesicles and solutions. They have been also assembled as components within other ***host*** matrixes, including other polymers. Lithium salt of an amphiphilic diacetylene (Li-DA) containing a carboxylic end group was prepared ***in-situ*** in an aqueous solution containing gelatin and films of 20-±5 micron thickness prepared by the solvent casting technique. While the formation of DA derivative was confirmed by FT-IR, the structural features of the films were examined under an optical microscope. Self-assembled hollow tubular structures of the DA derivatives randomly moving in the solution was seen, which was found to organize them into a highly aligned structure in the gelatin matrix. The self alignment was such that the openings of the hollow tubules were oriented towards the surface of the film in a highly ordered manner. The results and observations of this structure organization along with their possible mechanism phenomenon are discussed in this paper.

Keywords: Self assembly, alignment, gelatin film, diacetylene, optical microscopy

ISCA-ISC-2014-Poster-4CS-55

Application of some available Formulas of Specific refraction for Edible Oils

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Abstract: Physicochemical study of the edible oils is important parameters. Refractive index, density and specific gravity of the edible oils were measured. Abbe refractometer used to determine refractive index. Density and specific gravity were estimated by pycnometer. Specific refraction of the edible oils were calculated using Lorentz and Lorenz (L-L) and compare with ADJ, CDJ, GDJ's formula. On comparisons it is observed that all the formulas of specific refraction, accepted for organic compounds are also in good agreements for edible oils.

Keywords: Physicochemical study, edible oils, refractive index, density, specific refraction, Lorentz and Lorenz, Andher Desai and Joshi (ADJ), Chavda Desai and Joshi(CDJ),Gadhawala Desai and Joshi(GDJ).

ISCA-ISC-2014-Poster-4CS-56

Eruca Sativa Miller (Taramira) seed Oil: A potential source of Monounsaturated fatty acid from Arid Zone of Rajasthan, India

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Abstract: The seeds of *Eruca sativa* Miller or Taramira species obtained from arid zone of Rajasthan contain 39% oil. The fatty acid composition had been analysed as their phenacyl ester (FAPE) by High Performance Liquid Chromatography (HPLC). The results showed that monounsaturated fatty acids (72.44%) had the highest share in fatty acids, which was followed by saturated fatty acids (24.45%). Erucic acid (C22:1, n-9) (49.54%) was found most predominant as monounsaturated fatty acid. Oleic acid (C18:1, n-9) or omega-9 (22.9%) and linoleic acid (C18:2, n-6) or omega-6 (11.2%) were other major polyunsaturated fatty acids (PUFA's). Palmitic acid (C16:0) (12.36%) was the major saturated

acid present. Saponification value (SV), iodine value (IV) and acid value (AV) was also determined and found 196, 121.8 and 2.34 respectively.

Keywords: *Eruca sativa* Miller (Taramira), HPLC, Fatty acid phenacyl ester (FAPE), polyunsaturated fatty acids (PUFA's), Erucic acid, Oleic acid, Palmitic acid.

ISCA-ISC-2014-Poster-4CS-57

N-succinyl-Chitosan Gel-Nanoparticles for Anticancer Drug delivery

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Abstract: Taxanes (paclitaxel, docetaxel) are famous and effective anticancer chemotherapeutical drugs. But this compounds are nonpolar, so, almost insoluble in water and biological fluids. There are some approaches to overcome this limitations, but they are connected with using synthetic compounds, most of them are not biodegradable and not targeted. That's' why this forms of the substance can be toxic itself and can cause different side effects. We decided to use chitosan derivatives as carriers, because chitosan is nontoxic, biodegradable, and it is predominantly accumulates in tumors due to EPR-effect. We have used N-succinyl-chitosan (SC) with different degree of substitution (DS). Polymers have been synthesized in homogeneous conditions – chitosan solution in 1% acetic acid followed by adding a solid succinic anhydride. After that polymer was dialyzed against distilled water and lyophilized, or, depend on DS, precipitated and washed by acetone and lyophilized. Polymer's structure was confirmed by ^{1}H-NMR and FT-IR. DS has been calculated according to CHN-elemental analysis. After that polymer has been dissolved in 1% acetic acid and sodium tripolyphosphate has been added to get a gel-nanoparticles via ionic cross-linking. Size and shape of the particles were confirmed by DLS and SEM, also zeta-potential was measured by DLS. Gel nanoparticles obtained can be used as a taxanes carrier for anticancer chemotherapy.

Keywords: Chitosan, taxanes, paclitaxel, succinyl-chitosan, ionic gelation, drug delivery.

ISCA-ISC-2014-Poster-4CS-58

Extraction and Biological Evaluation of Some Flavonoids

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Abstract: Flavonoids are the most important naturally occurring bioactive compounds present in almost every sort of fruit, vegetable and in the products derived from them. Flavonols may be found mainly in fruits and vegetables, while flavones are abundant in herbs and spices. Flavanones are primarily found in a variety of citrus fruits. Many studies have shown, that intake of fruits and vegetables with high flavonoid content is associated with lowered risk of incidence of some diseases such as cardiovascular or cancer etc. These findings are attributed to experimentally confirm biological effects of flavonoids such as antioxidant, anti-inflammatory, anti-allergic, anti-cancer, cardio protective, anti-estrogenic, anti-microbial, anti-viral, anti-HIV, anti-biotic, anti-cataract etc.

Keywords: Natural flavonids, extraction, biological activities

ISCA-ISC-2014-Poster-4CS-59

Efficient one-pot Microwave induced synthesis of 2-amino-3-cyano-4,6-diarylpyridines with their Antimicrobial and Antiinflammatory activity

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Abstract: A series of 2 amino-3-cyano-4,6-diarylpyridine derivatives (2a-l) have been prepared by one pot condensation of substituted aromatic aldehyde (methoxy / halegeno / dimethylamino), substituted aromatic ketone (thiomethyl/biphenyl), malononitrile and ammonium acetate under conventional and non-conventional microwave irradiation (MWI) method without solvent. Microwave irradiation method has the advantage of short routine, high yields and being environmental friendly.

Keyword: Microwave irradiation, one pot condensation, anti-inflammatory activity, antimicrobial activity.

ISCA-ISC-2014-Poster-4CS-60

Synthesis of Biologically active 1, 2, 4-oxadiazole, Thiazolidone from 3-acetyl -4-hydroxy Coumarin

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Abstract: In the context of overcoming the threat antimicrobial resistance heterocyclic compounds play a crucial role, because most of the well known drugs structurally similar with the well known drugs. Coumarin comprises natural and synthetic coumarins like Novobiocin, a natural coumarin used as antibiotic, Calodinide (+) used against HIV. Azoles are well known for their antifungal activity because most of the antifungal drugs comprise oxadiazole moiety. Oxadiazole having –N=C–O toxophoric linkage which cause to exhibit the biological activities. Oxadiazole shows anticancer, antitubercular, analgesic, antimicrobial, anti-inflammatory activities. Oxadiazole are also well known for their antifungal activity, antimicrobial, Antitubercular activity. Thiazolidones and its derivatives have good pharmacological importance. These are well known for exhibiting antidiabetic, antimicrobial activity.
Keyword: Synthesis, biologically, thiazolidone, 3-acetyl, 4-hydroxy coumarin

ISCA-ISC-2014-Poster-4CS-61

Synthesis of Environmental Friendly Chelating Biopolymers for the Selective Adsorption of Metal Ions to be used in Effluent Treatment

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Abstract: Chemical modification of naturally occurring polysaccharide, guaran has been made by incorporating 5-aminosalicylic hydroxamate moiety to improve its selectivity and capacity for heavy metal ions. 5- Aminosalicylic acid hydroxamate derivative of guaran (ASAH-G) was synthesised, characterized and its adsorption behaviour with Fe(II), Co(II), Ni(II), Cu(II), Zn(II), Cd(II), U(VI), W(VI), Cr(VI) and Ca(II) metal ions was studied at equilibrium in terms of molar distribution coefficient values (Kd). The metal adsorption ability of the resin was compared with the hydroxamate derivative of dialdehyde guaran (HADA-G). Separation of a mixture of Fe(II) and Co(II) was achieved using column chromatography.
Keywords: 5- Aminosalicylic acid hydroxamate, Selective metal adsorption, guaran.

ISCA-ISC-2014-Poster-4CS-62

Studies on Phytochemicals and Antibacterial activity of *Nyctanthes arbor-tristis* Linn. (Harsingar) Seeds

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Abstract: Plants contain various phytochemicals and synthesize potentially useful compounds for defense against various pathogens. A large number of phytochemicals have shown inhibitory effects on wide range of microorganisms. *Nyctanthes arbor-tristis* (Fam. Oleaceae) commonly known as 'Harsingar' is a native of India, distributed wild in sub-Himalayan region and cultivated in gardens as ornamental tree. It is widely used in Ayurveda, Sidha & Unani systems of medicines to overcome various diseases. *N. arbor-tristis* possesses anti-inflammatory, antibacterial, antipyretic, antioxidant and immuno-bioactivities. In the view of various activities shown by *N. arbor-tristis* and our search for natural agrochemicals of plant origin, the present study involved phytochemical and antibacterial analysis of seeds of *N. arbor-tristis*. Fresh seeds of *N. arbor-tristis* were collected, washed, shadow dried, powdered and then extracted on soxhlet extractor with hot methanol to form their methanolic extract. Phytochemical analysis of methanolic extract showed the presence of saponin, flavonoids, glycosides and various biologically active compounds. Further, methanolic extract of seeds was fractionated into different solvents *viz.* hexane, benzene, ethyl acetate, acetone, chloroform to assess their antibacterial activity at different test concentrations *viz.* 10, 50, 100 and 200ìg/ml using zone inhibition method.
Keywords: *Nyctanthes arbor-tristis,* Harsingar, phytochemical analysis, antibacterial activity, agrochemicals

ISCA-ISC-2014-Oral-5CITS-01

Analysis of AODV for find out ideal queue Size

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Abstract: Mobile ad-hoc network (MANET) is an autonomous system of mobile nodes connected by wireless links; each node operates as an end system and a router for all other nodes in the network. Nodes in mobile ad-hoc network are free to move and organize themselves in an arbitrary fashion. The path between each pair of the users may have multiple links and the radio between them can be heterogeneous. Use of wireless links renders an Ad hoc network susceptible to link attacks ranging from passive eavesdropping to active impersonation, message replay and message distortion. The routing protocols for Ad hoc networks cope well with dynamically changing topology. In this paper I have implemented a WLAN with five wireless nodes each node has different queue size in AODV routing protocol and study its effects on throughput of the network and found the ideal queue size for AODV routing.
Keywords: Adhoc network, AODV, MANET, queue length, RERR, RREP, RREQ.

ISCA-ISC-2014-Oral-5CITS-02

Improved performance of GRP and OLSR over AODV and DSR for MANET

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Abstract: There has been a flooding of comparisons among the MANET protocols for different parameters. The major constraint is that the parameters which are well performing in one MANET protocol are of no significance in other. Hence, I did an effort to compare FOUR major MANET parameters viz. AODV, DSR, GRP and OLSR. This paper discusses the wireless LAN parameters for the comparison. Thus from the point of view of parameters selected for the end result, there is no biasing and all FOUR MANET protocols can be compared at par. At the end of the paper, there is a summery table that concludes that GRP and OLSR outperform AODV and DSR. Out of GRP and OLSR, GRP has high throughput with great consistency and OLSR performs well network load and delay. Categories and Subject Descriptors: ICT for Infrastructure and Computation: Routing Protocol. General Terms: Performance, Experimentation.
Keywords: MANET, AODV, DSR, GRP, OLSR

ISCA-ISC-2014-Oral-5CITS-03

Investigation of Credit Card Frauds: Development of Credit Card Fraud Detection System

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Abstract: We introduce a distributed method for detecting credit card frauds. It is based on the concept of detecting frauds in Discriminating set (which is a small subset of the data set that can be utilized for predicting fraudulent transactions). The method exploits parallel computation in order to obtain vast time savings. The proposed scheme preserves the correctness of the result by accurately discriminating each transaction as normal or fraudulent, and also exhibits excellent performances. The temporal cost of our algorithm is expected to be at least two times faster than the classical approach to detect credit card frauds. By employing Distributed Discriminating set algorithm the fraudulent transactions can be detected within short span of time. It is employed by extending the Discriminating Set algorithm to adopt in distributed strategy. Distributed Discriminating set algorithm greatly overcomes the issue of size and complexity of spending profile of the user.
Keywords: Fraud detection, discriminating set, parallel computation, temporal cost, data mining applications.

ISCA-ISC-2014-Oral-5CITS-04

Ensemble based Distributed K-Modes Clustering

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Abstract: Clustering has recognized as the unsupervised classification of data items into groups. It plays an important role in various field including statistics, pattern recognition, machine learning, data mining and bioinformatics. Due to explosion in the number of autonomous data sources, there is an emergent need for effective approaches to distributed clustering. The distributed clustering algorithm is used to cluster the distributed datasets without necessarily downloading all the data into a single site. Some of the distributed clustering algorithms available in the literature aim to generate global clusters among distributed datasets, based on the centroid based partitional clustering algorithms like K-Means, K-Harmonic Means and Expected Maximization. The K-Means is used as a popular clustering method due to its simplicity and high speed in clustering large datasets. But it fails to handle categorical datasets directly. In real life environment data sets are available with categorical attributes. Huang proposed the K-modes clustering algorithm by introducing a new dissimilarity measure to cluster categorical data. This algorithm replaces means of clusters with a frequency based method to update modes in the clustering process to minimize the cost function. In this paper, a novel Ensemble based Distributed K-Modes clustering algorithm is proposed, which is well suited to handle categorical data sets as well as able to perform distributed clustering process in asynchronous manner. The performance of the proposed algorithm is compared with the existing distributed K-Means clustering algorithms, and Centralized Clustering based on K-Modes algorithm. The experiments are carried out for various datasets of UCI machine learning data repository and the performance is measured in terms of external and internal validity measures namely Rand Index, Jaccard Coefficient, F-Measure and Entropy.

Keywords: Distributed clustering, K-Means algorithm, K-Modes algorithm, centroid, validity measures.

ISCA-ISC-2014-Oral-5CITS-05

Soft Biometric for Suspect and Victim Identification in Forensics

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Abstract: Humans often use faces to recognize individuals. Face recognition is one of the most important task forensic examiners carry out manually during their investigation when there is a video or image available from crime scene with huge database of images. The use of automated system aimed at face recognition will improve the efficiency of forensic work performed by various law enforcement agencies. Face matching is becoming a valuable and routine forensic tool used by criminal investigators. Soft biometric characteristics like facial marks may not be unique and reliable, but when combined with the face matcher face-recognition accuracy is improved. They can be useful to differentiate a person because each person will have unique marks. The similarities found from soft biometrics can also be useful for forensic application because they are more descriptive than matching scores generated by a traditional face matcher. Thus I have combined face matching process along with the mark based matcher. The Database used for face matching is FERET database, which contains atleast one mark per person.

Keywords: Landmark points facial marks, face matcher, mark based matcher.

ISCA-ISC-2014-Oral-5CITS-06

Data Mining Techniques for Web Mining: A Survey

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Abstract: The overall goal of the data mining process is to extract information from a data set and transform it into an understandable structure for further use. The data may come from all parts of business, from the production to the management. E- Commerce web sites allow users to find their needs, bought their shopping's or sale their articles. Then web sites contain millions of unprocessed raw data. By analyzing this data new knowledge can be gained. Since this data is dynamic and unstructured traditional data mining techniques will not be appropriate. Web data mining is an interesting field with vast amount of applications. Web mining refers to the whole of data mining and related techniques that are used to automatically discover and extract information from web documents and services. When used in a business

context and applied to some type of personal data, it helps companies to build detailed customer profiles, and gain marketing intelligence. Web content and structure mining is a cause for concern when data published on the web in a certain context is mined and combined with other data for use in a totally different context. Although there are a variety of solutions to privacy-problems, none of these solutions offers sufficient protection. Only a combined solution package consisting of solutions at an individual as well as a collective level can contribute to release some of the tension between the advantages and the disadvantages of web mining. In this paper we discuss about data mining techniques and particularly explain the web mining algorithms and techniques.

Keywords: Social Networks, Web Data Mining, Data mining techniques, Social Network Analysis, Data mining, artificial intelligence, visualization, data warehouses, Association, Classification, Clustering, Prediction, Sequential Patterns, Decision trees, Knowledge Discovery in Databases(KDD),

ISCA-ISC-2014-Oral-5CITS-07

Image Retrieval- An Overview

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Abstract: In the present scenario, there has been large amount of data resides on the Web with the acquaintance of the Internet. The image libraries are growing at a rapid rate motivating the need for efficient and effective tools to query these databases. Therefore, it become necessary for the fast retrieval search engines to retrieve documents and images. This paper attempts to provide a comprehensive review over the image retrieval techniques. Major recent publications are included in this review covering different aspect researches in this area. Different methods of image retrieval systems are described based on existing technologies and the demand from real-world applications. This paper present a survey of most popular image retrieval techniques with their pros and cons.

Keywords: Retrieval, image, image database, query, annotation

ISCA-ISC-2014-Oral-5CITS-08

A model for Enhanced security, virtual Private Network's using IP Sec

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Abstract: s a protocol suite for securing Internet Protocol (IP) communications by authenticating and encrypting each IP packet of a communication session. IPsec includes protocols for establishing mutual authentication between agents at the beginning of the session and negotiation of cryptographic keys to be used during the session. IPsec can be used in protecting data flows between a pair of hosts (host-to-host), between a pair of security gateways (network-to-network), or between a security gateway and a host (network-to-host). Internet Protocol security (IPsec) uses cryptographic security services to protect communications over Internet Protocol (IP) networks. IPsec supports network-level peer authentication, data origin authentication, data integrity, data confidentiality (encryption), and replay protection. IPsec is an end-to-end security scheme operating in the Internet Layer of the Internet Protocol Suite, while some other Internet security systems in widespread use, such as Transport Layer Security (TLS) and Secure Shell (SSH), operate in the upper layers at Application layer. Hence, only IPsec protects any application traffic over an IP network. Applications can be automatically secured by its IPsec at the IP layer.

Keywords: Authentication Header (AH), Encapsulating Security Payload (ESP), IP Security (IPSec), Tunnel, Transport, Virtual Private Networks (VPN), Quality of Service (QoS)

ISCA-ISC-2014-Oral-5CITS-09

Towards Optimal Size of the AVK for Symmetric Key Encryption

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Abstract: The security of AVK cryptosystem can be enhanced merely by exchanging the key using parameters. Today, the major challenge we face in design of AVK model of symmetric key encryption is fixing key length for AVK .On deeper scrutiny, it was revealed that a key of shorter length increases the vulnerability of system. On the other hand, key length beyond optimum length involves unnecessary overheads (wastage of bandwidth). Thus, this paper resolves the

conundrum of research questions, and answers estimation of optimum key size for AVK model. The paper provides useful insights towards decision making for optimal key length.

Keywords: AVK (Automatic variable key), Symmetric Key.

ISCA-ISC-2014-Oral-5CITS-10

Cryptanalysis of Verifier-Based Password Authenticated Key Agreement Protocol for Three Parties

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Abstract: In this modern era of communication world even minor task requires to perform through internet which is not trustable. It is required to interchange secret session keys securely through insecure network for establishing communication securely. In two-party network, two communication clients share a low entropy password secretly to communicate in later sessions securely. But this paradigm requires high maintenance of passwords due to each new communicating pair requires separate passwords to establish communication securely. In three-party network, each communicating party shares a password with the third-party (server) to interchange a secret session key securely. The beauty of this setting is even server is not knowing the session key. Many authors have proposed various two-party and three-party protocols which are having their won pros and cons. In this paper we have cryptanalyzed verifier-based password authenticated key agreement protocol for three-party setting proposed by shaban et al.

Keywords: Cryptanalysis, authentication, key agreement protocol, two-party, three-party.

ISCA-ISC-2014-Oral-5CITS-11

Feature Redcitopm Model for Spam Filtering using ANN

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Abstract: E-mail is an assimilated part of our day to day life. Unsolicited and unwanted bulk mails are originate in our mail it's identified the name of spam. Several methods are being brought in to the notice to sort out the mails but very few are efficient and comprehending methods and that further motivate to identify and classify the spam mails and messages as legitimate and untrue. In proposed method, using the approach of artificial neural network for tested of spam mails and classified after processing through the development mode. In proposed method efforts are made to reduce the number of feature used to identify the spam mail. Using proposed approach an efficient spam filter can be implemented and commercially embedded to the online system to rule out the unsolicited mails.

Keywords: Spam mails, back propagation, ANN, data set.

ISCA-ISC-2014-Oral-5CITS-12

See through the Walls with Wi-Vi

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Abstract: Wi-Fi is a popular technology that allows an electronic device to exchange data or connect to the internet wirelessly using radio waves, Wi-Fi signals are typically information carriers between a transmitter and a receiver. Similar to the same concept of Wi-Fi, Wi-Vi (WI-FI VISION) is a new technology that enables seeing through walls using Wi-Fi signals. It allows us to track *moving* humans through walls and behind closed doors. Wi-Vi relies on capturing the reflections of its own transmitted signals off moving objects behind a wall in order to track them. Wi-Vi's operation does not require access to any device on the other side of the wall. We show that Wi-Fi can also extend our senses, enabling us to see moving objects through walls and behind closed doors. In particular, we can use such signals to identify the number of people in a closed room and their relative Locations. We can also identify simple gestures made behind a wall, and combine a sequence of gestures to communicate messages to a wireless receiver without carrying any transmitting device. The paper introduces two main innovations. First, it shows how one can use MIMO interference nulling to eliminate reflections off static objects and focus the receiver on a moving target. Second, it shows how one can track a human by treating the motion of a human body as an antenna array and tracking the resulting RF beam.

Keywords: Seeing through walls, wireless, MIMO, Gesture-Based user interface

ISCA-ISC-2014-Oral-5CITS-13

Requisite Trust-Based Secure Routing Protocol for MANETs

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Abstract: A mobile ad-hoc network (MANET) is an infrastructure less network of a mobile devices connected by the wireless links. To secure the MANET in colluding nodes environment, the proposed work aims to detect and defend colluding nodes that causes internal attacks. In order to achieve this, the work focuses on the novel algorithm of trust computation and route detection by using Requisite Trust based Secure Routing Protocol (RTSR). The trust will be calculated in local forwarding nodes, which are used to discover the route.The trust values from one hop neighbors are used to calculate the single trust value for each node using the constant normalization concept. Route discovery and trust information will stored in fixed cluster head.
Keywords: Requisite, trust-based, secure routing protocol.

ISCA-ISC-2014-Oral-5CITS-14

Study of DDoS Flooding Attack and its Impact on MANET

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Abstract: Mobile Ad hoc Networks are said to be an easy target of different Security attacks. It's uncertain and mobile infrastructure makes it vulnerable to many of these security threats. In this context, Denial of service has become the primary focus of many researchers. In this type of attack the intruder tempts to degrade the performance of the network and drains the battery power as well as computation power of the victim node. In this manuscript we have studied RREQ DDoS attack on AODV and also presented its impact on the MANET. Keywords: AODV, DDoS, MANET, RREQ.
Keywords: Study, flooding, attack, impact.

ISCA-ISC-2014-Oral-5CITS-15

Stratagy to Create a GIs Based Local Search Portal using Web

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Abstract: Now a day's Indian internet site is receiving more competitive. All type of Search engines have usually been at the heart of how the internet works, and we now have GIS (Geographic Information System) integrated with Search Engines, there for we find the Search results but we cannot see their location on Map along with all other relevant details. This research work gives a idea , to understand the technologies concerned, they all are integrated with each other, what are the difficulties these types of research work go through during planning and development stage, how can be manage data which is the base of these kind of research work and what are the development areas for a successful implementation. This case study gives us the idea about the base preparation to build a geospatial search portal.
Keywords: GIS, spatial data, search engine, open layer.

ISCA-ISC-2014-Oral-5CITS-16

EDEEC Protocol with Genetic Algorithm in Wireless Sensor Network

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Abstract: Heterogeneous wireless sensor network (WSN) comprises of sensor nodes with distinctive capability, for example, diverse computing power and sensing range. Contrasted with homogeneous WSN, arrangement and topology control are more perplexing in heterogeneous WSN. Distinctive energy efficient clustering protocols for wireless sensor networks systems and thinks about these protocols on a few focuses, in the same way as clustering method, location awareness, heterogeneity level and clustering attributes. Though, each protocol is not appropriate for heterogeneous WSNs. In this Dissertation, we test Distributed Energy-Efficient Clustering (DEEC), Developed DEEC (DDEEC) and Enhanced DEEC (EDEEC) Genetic Algorithm (GA) under a few distinctive situations holding high level heterogeneity to low level heterogeneity. To close the conduct of this heterogeneous protocols.
Keywords: Wireless sensor network, clustering algorithms, DEEC, DDEEC, EDEEC.

ISCA-ISC-2014-Oral-5CITS-17

Feature Redcitopm Model for Spam Filtering using ANN

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Abstract: E-mail is an assimilated part of our day to day life. Unsolicited and unwanted bulk mails are originate in our mail it's identified the name of spam. Several methods are being brought in to the notice to sort out the mails but very few are efficient and comprehending methods and that further motivate to identify and classify the spam mails and messages as legitimate and untrue. In proposed method, using the approach of artificial neural network for tested of spam mails and classified after processing through the development mode. In proposed method efforts are made to reduce the number of feature used to identify the spam mail. Using proposed approach an efficient spam filter can be implemented and commercially embedded to the online system to rule out the unsolicited mails.
Keywords: Spam mails, back propagation, ANN, and Data Set.

ISCA-ISC-2014-Oral-5CITS-18

Improving Authentication of Medical Images using Digital Watermarking Conserving Region of Interest (ROI)

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Abstract: Authentication is essential requirement of any security architecture. It is quite important aspect for security, confidentiality and Verification of Data. Telemedicine is a popular application where large amount of medical data required to securely transferring over the various kind of networks. Digital Watermarking over medical images is an approach to increase authentication of medical data. In this approach embedding watermarking on medical images conserving Region of Interest (ROI) is carried out. Watermarking is implemented on N-ROI segments of medical images. The proposed approach of watermarking is based on dividing medical image in various segments of ROI and N-ROI to insert watermarking. Watermarking in this manner can preserve ROI which generate lossless outcomes. This is also vulnerable against some sort of Watermarking attacks.
Keywords: Authentication, digital watermarking, telemedicine, ROI, medical images.

ISCA-ISC-2014-Poster-5CITS-01

Architecture Styles of Natural Language Interface to Database Systems: A Review

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Abstract: Natural Language Interface to Database (NLIDB) system provides an interface to a database where an user gives the input query in natural language like English, Punjabi etc then the system automatically translate natural language input sentences to database queries, process them and respond back in the natural language. It provides advantages to many non-technical database users as it eliminates the need to learn the rigid syntax based Structured Query Language (SQL) to formulate the queries. Use of NLIDB's increases the flexibility to use the database. Each NLIDB system developed so far used architecture to process the queries in natural language. This paper covers the overview of different architectures adopted by the developed existing NLIDB systems in section 2 of this paper and the challenges of Natural language interfaces to databases (NLIDB) discuses in the section 3. Architectures adopted by different NLIDB systems are highlights in section 4. Finally, last section concludes the paper.
Keywords: Natural language interface to database (NLIDB), NLIDB systems, NLIDB architecture, Part of Speech (POS)

ISCA-ISC-2014-Poster-5CITS-02

Classifications of Dialogue System: A Review

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Abstract: A Dialogue System is a system which interacts with human in natural language. This paper will discuss about the classification of dialogue systems e.g. based on controlling dialogue i.e. finite state, frame based, agent based etc; based on type of initiative i.e. user, system or mixed initiative; based on modality i.e. text based, dialogue based, GUI based and multimodal.
Keywords: Dialogue system, finite state, frame based, agent based, multimodal

ISCA-ISC-2014-Poster-5CITS-03

Kiosk Based Agriculture Information System

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Abstract: The objective is to design user friendly agriculture information system for the use of farmers. This will include crop production technology model for major crops of Central India. This information software will be kiosk based specially for the use of farmers, extension workers and others. In India there is a wide gap in available technology and their dissipation to its end users. Due to this, majority of the farmers are still using traditional agricultural practices. The skills of the farmers have to be improved in the field of production and acquiring marketing intelligence. This is possible only when complete and up to date knowledge of available technologies in all the aspects of crop production, is made available to them with an easy and user-friendly access from knowledge based resource. It is possible through the Information and Communication Technology (ICT) tools and with the use of kiosk, computers and internet by the extension workers and farmers. The proposed information system will be comprehensive and will deal with almost all the aspect of crop production technology. The software will be bilingual i.e. in Hindi and English. Multimedia tools, video clips, sounds and text will support each module.
Keywords: Agricultural and forestry sciences, kiosk, agriculture information system, information and communication technology, multimedia tools.

ISCA-ISC-2014-Poster-5CITS-04

Reverse Engineering and Modern Reverse Engineering Tools: A Review

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Abstract: Software systems which are essential for business process support, companies rely on these systems so they must keep them in operation. So Reengineering and maintaining of the software systems is now a day a core activity in software industry, which demands the use of Reverse Engineering. From last two decades the field of reverse engineering is growing and gaining popularity amongst the software personals. Reverse engineering can roughly defined as taking a product to analyze it to understand its functionality for obtaining design and other useful information i.e. reverse engineering is a methodology used to find out how things work. The goal of a person who is reverse engineering a software system is to build progressively refined mental models of the system to be able to make informed decisions regarding the software Several tools were developed to assist the reverse engineering process. These Reverse engineering tools allow code and data to be analyzed to gain insights into the software. These tools also provide mechanisms for data extraction, model creation, visualization, and annotation to assist programmers to understand a software system. This paper briefly presents an overview of the field of reverse engineering, review main achievements and areas of application. Also discussed some useful tools, which are assist the reverse engineering process of the softwares.
Keywords: Reverse engineering, reengineering, tools, legacy system.

ISCA-ISC-2014-Poster-5CITS-05

Pervasive Computing for Environmental Monitoring

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Abstract: Environmental degradation is a major concern for the survival and sustainability of human race. There are many techniques and processes to assess and monitor the environmental degradation, and Pervasive Computing is one of them. Pervasive Computing is an emerging paradigm in ICT, which integrates computation capabilities into the physical environment. It uses large-scale deployment of sensing and communication technologies to monitor the environment. Hundreds of sensor nodes and communication devices are embedded into the environment to detect and monitor the physical activities. Sensor Networks can be used in monitoring environmental conditions like earth monitoring, planetary exploration, soil monitoring, animal movement detection, forest fire detection, flood detection, chemical and biological detection, rainfall and water level measurement and bio-complexity mapping of the environment. Sensor nodes have the ability to connect with the Internet, which allows remote researcher to observe the large biodiversity. Sensors nodes can be deployed in agricultural field to detect pesticides level in the drinking water, level of soil erosion and air pollution. Sensor networks provide potential for greater accuracy in the environmental information gathering and have ability to operate in harsh environments with minimal human interaction and without basic network infrastructure in place. This paper is an effort to study the potential of Pervasive Computing in environmental monitoring.
Keywords: Environmental monitoring, pervasive computing, sensor networks, sensor nodes, ICT

ISCA-ISC-2014-Poster-5CITS-06

CPU and IT in nursing

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Abstract: The healthcare delivery environment is dramatically changing and nursing has found itself in the midst of these revolutionary changes. Today's nursing requires nurses to be constantly aware of new developments, new medications, new technologies among others. Nursing informatics emerged over the past 20 years to assist nurses fully use information technology to improve the delivery of care. Nursing informatics is a specialty that integrates nursing science, computer science and information science to manage and communicate data, information and knowledge in nursing practice. The importance of nurses in informatics functioning in clinical practise, nursing education, nursing administration and nursing research. Nursing Informatics has developed into a mandatory focus for all registered nurses on a global scale using informatics reduces turnaround time. The turnaround time starts from the time a request is made to the time it is fully accomplished. Nursing informatics impacts quality and cost of health care. Informatics integrates nursing science, computer science, and IT to help nurses more effectively acquire, store, retrieve, and use the mass quantities of data critical for them to properly do their job.
Keywords: Computer, information, technolgy, sciences, nursing.

ISCA-ISC-2014-Oral-6EGS-01

Microbial leaching of Copper from low grade ore Chalcocite using Halotolerent Thiobacillus ferroxidans, N-7

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Abstract: The conventional methods used for extraction of copper from ore is either Pyrometallurgy or Hydrometallurgy, however both the methods are not free from the environmental pollution problems and economically very expensive, and requires lots of energy. Bioleaching of mineral is the only method considered as most convincing way to solve these problems, requires very less energy and is free from environmental pollution and other problems. Bioleaching is a process of extracting minerals from ores using microorganisms. The extraction of copper from low grade ores is today's need because of gradual depletion of high grade ore. By considering this, In the present study Halotolerent Thiobacillus ferroxidans N-7 is explored for bioleaching of copper from low grade ore chalcocite. Thiobacillus ferroxidans N-7 isolated from hyper saline soils of Kolhapur district of Maharashtra, India on 9 K medium. It was identified using Bergey's manual of systematic bacteriology. Bioleaching study was carried out in both shake flask as well as bioreactor. Results showed that in the shake flask Thiobacillus ferroxidans N-7 tolerates 40 g/L of Chalcocite when supplemented with 0.5 g/L of Yeast extract. At 140 rpm and 40 ^{O} C temperature, about 80% of copper can be extracted after 14 days by shake flask method and 85% can be extracted by bioreactor study in 12 days. Present study indicated the usefulness of Thiobacillus ferroxidans N-7 in bioleaching of copper from low grade ore chalcocite can be used as a potential candidate for bioleaching as a pollution free process.
Keywords: Bioleaching, halotolerent, thiobacillus thiooxidans N-7, chalcocite, copper.

ISCA-ISC-2014-Oral-6EGS-02

Kinematics of a Multiple deformable inclusion System under Pure shear

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Abstract: I analyze the kinematics of deformable inclusions by both analytical and numerical techniques. Inclusions are considered as spherical and deformable initially. Strain distributions within the inclusions are non-homogeneous. The ratio of inclusion diameter to mean inter-inclusion distance (a/b) was taken less than about 0.6. At the time of expressing strain it is considered as infinitesimally small as natural strain, so the rate is infinitesimally small . During imposing pure shear over a block of multiple inclusions we consider only the central part of the model. The marginal part is discarded which bears boundary effects. Strain distribution of individual inclusions under pure shear are simulated and contoured. Velocity vectors (mainly directional difference) of every points of individual inclusions under pure shear and only vertical shortening is modeled numerically; which displays a proper cause of difference of deformed shapes of inclusions in the above mentioned two cases. Vorticity of particles inside the inclusions is also estimated in different competency contrast conditions between matrix and inclusions and hence it is seen that competency contrast is inversely proportional to the vorticity value. Also after a threshold value the vorticity spin becomes opposite in directional sense. Probable reasons for this hiatus are guided by strain partitioning in different materials and change of bulk rheology during progressive deformation.
Keywords: Deformable ductile inclusions, pure shear, ductile inclusions, numerical modeling, vorticity, viscosity / competency contrast.

ISCA-ISC-2014-Oral-6EGS-03

Fracture Patterns as Indicator for Identifying the type of Stress

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Abstract: Fractures are some discontinuities or dislocation zones of a material which are created to accommodate strain. Fractures can occur in both brittle and ductile materials depending upon the strain-rate. It can be stated that when a material gets highly stressed it gets either fractured or deformed depending upon the rheology of the system and strain rate. Different kinds of fracture patterns are generated depending upon the type of stress applied. This work infers that fracture patterns are good indicators for determining the type of stress. Grossly it can be stated that external stress creates

bi or unidirectional fracture patterns where as internal stress creates multidirectional or scattered fractures. In case of external stress such as tectonic stress two conjugate sets of fractures are created along the principle strain direction. The principle stress directions can also be estimated from this kind of fracture patterns. In case of compressional stress one set of fracture may be generated orthogonal o the stress direction. So from strong directional biasness of the fracture sets it is quite evident to conclude that the stress acted was an external stress. On the other hand mud cracks show poly directional fractures oriented in every possible direction. It generates due to shrinkage stress created by desiccation of water from the pore spaces of the sediments. The cracks are generated due to collapse of sediments as voids are created by desiccation. This shrinkage stress is essentially an internal stress of the system. If we analyze this stress in polar co-ordinate we get two principle components- "ìè" (the concentric component) and "ìr" (the radial component). These two components generate concentric and radial cracks or fractures in the system, that's why the fracture pattern shows poly-directional orientation. Similar results can be found in case of fractures within an impact crater. If no tectonic stress is applied in the system then fracture pattern of impact crater also shows high directional variance. Impact crators of moon show this kind of signature. Meteoritic impact generates huge internal stress (both structural and thermal) in those systems. Thus fracture patterns may guide us to identify that the stress that generated fractures in the system is an internal / external stress or a combination of both.

Keywords: Fractures, internal/ external stress, fracture patterns, tectonic stress, mud cracks, impact crater.

ISCA-ISC-2014-Oral-6EGS-04

Role of nature of contact on Deformation pattern of mineral Fish: Insights from numerical Models

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Abstract: Mineral fish are sheared and commonly asymmetric mineral grains or clusters of grains. Among different microstructures that indicate shear direction and helps to asses a bit of idea about the amount of shear, mineral fishes are essentially one of them. This work accounts the deformation patterns of mineral fish on the basis of their nature of contact with the surrounding matrix. Previous works describes deformation patterns of the mineral fish on the basis of rheology. It is shown both experimentally and in field that if the mineral is hard it tends to rotate and shape is less deformed. On the other hand if the mineral is relatively soft then its shape is more deformed, two shear sense indicating flanks develop subsequently. The main reason behind this is strain partitioning, as hard objects behave rigidly so applied stress is propagated instantly from one end to other without any strain partitioning. Inversely in case of soft objects the strain generated due to applied stress is accommodated by displacement of particles, as a result shape is deformed. The nature of contact of the mineral with the surrounding matrix may play an important role on the deformation pattern of the mineral fish. Numerical models suggest that hard minerals may deform without rotating if the mineral and matrix are in slipping contact. On the other hand if the mineral and matrix are fully adhered then the mineral may rotate. Similarly in case of softer minerals a slight amount of rotation may take place if they possess a fully adhered contact with the matrix. Naturally deformation will take place in case of slipping contacts. The main reason behind this phenomenon may be the consideration of bulk rheology (mineral+matrix) instead of previously considered minerals rheology.

Keywords: mineral fish, numerical models, rheology, stress.

ISCA-ISC-2014-Oral-6EGS-05

Hydrogeochemical investigation and Groundwater Pollution in Shengaon Punji Industrial belt of Aurangabad, Maharashtra, India

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Abstract: Water is a prime natural resource and essential for life on Earth. Groundwater is a major source of drinking water around the world and its quality plays an important role in its access. About 80% of the diseases in the world are due to poor quality of drinking water (WHO 1984). Groundwater attains its importance in regimes with lesser rainfall and in hard rock terrains. Groundwater is increasingly subjected to contamination from a variety of sources. Some of the most important sources are leaching from industrial effluents. Rapid industrialisation has induced tremendous pressure on natural resources especially on groundwater. The local pollution causes major changes in groundwater quality which affects its suitability for various purposes. To understand the Hydro geochemical and groundwater pollution characteristics

studies were carried out to in shengaon punji industrial belt of Aurangabad. A study was carried out to assess the level of some physical and chemical groundwater quality parameters. Thirty groundwater samples were collected from dug well and bore well samples for post monsoon season. The groundwater samples were analyzed for Total Dissolved Solids (TDS), Electrical Conductivity (EC), major cations Na^+, Ca^+, Mg^+ ,K^+ and anions Cl^- , HCO_3^- , CO_3^- and SO_4^-. The important constituents that influence water quality for irrigation are Sodium Absorption Ratio (RSC), Residual Sodium Carbonate (RSC), Kelly's ratio (KR) and Sodium soluble percentage (SSP). In the present investigation the groundwater samples from the industrial belt of Shengaon Punji revealed that there is marked variation in groundwater quality. The analytical result have been evaluated to a certain the suitability of study area for human consumption by comparing with the specification set by WHO (1993) and the ISI (1991). A comparison of the groundwater quality in relation to drinking water quality standards proves that most of the water samples are not suitable for drinking. Sodium Absorption Ratio (RSC), Residual Sodium Carbonate (RSC), Kelly's ratio (KR) and Sodium soluble percentage (SSP) suggests that majority of the groundwater samples are good for irrigation. The qualities of dug wells and bore wells water samples were therefore not suitable for human consumption without adequate treatment. Regular monitoring of groundwater quality, abolishment of unhealthy waste disposal practices and introduction of modern techniques are recommended. In general, groundwater in study area influences anthropogenic and industrial activities.

Keywords: Groundwater, hydrogeochemistry, urbanization shengaon punji industrial belt, aurangabad, maharashtra.

ISCA-ISC-2014-Oral-6EGS-06

Transforming Solid Waste into Potential Source of Energy

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Abstract: Municipal solid waste (MSW) is an unavoidable by product of human activities.Solid waste has grown exponentially as a combined effect of rapid urbanization and changes in consumption patterns, which calls for sustained efforts in reducing the volume of waste at source, improving sorting and more importantly increasing recycling and recovery in the form of energy or compost.There exists a great need for waste reduction and recycling of materials. However, international experience has shown that after recycling there remains a large fraction of MSW to be disposed of Depleting natural resources like fossil fuels and mineral resources have forced governments and organizations across the globe to divert their attention towards non-conventional modes of energy generation. Solid waste can be one such source of non-conventional energy production. Internationally, the two proven means for disposal are burying MSW in landfills or combusting it in specially designed chambers at high temperatures, thereby reducing it to one tenth of its original volume. The heat generated by combustion is transferred to steam that can flow through a turbine to generate electricity. This process is called waste-to-energy (WTE). It converts the energy from combustion of MSW to electricity and recovers and recycles the metals contained in the MSW while the remaining ash is either used in landfills for daily cover and landfill roads or cleaned up and used off site for other construction purposes. In addition to its energy benefits, WTE avoids the conversion of greenfields to landfills. Another beneficial effect of modern MSW combustion with energy recovery is material recovery.

Keywords: Transforming, solid, waste, potential, source, energy.

ISCA-ISC-2014-Oral-6EGS-07

Heavy metal Distribution in Water and sediment from Panambur Beach, Karnataka and Khushalnagar Beach, Kerala, India

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Abstract: The heavy metal concentration in the coastal environment has been rapidly increasing due to input from natural, industrial and urban sources. The coastal zone of India receives a large amount of heavy metal containing effluent from agricultural and industrial activities. The present study was carried out to analyze the distribution of zinc, copper, chromium, iron, nickel and lead in the water and sediment samples from Panambur beach, Karnataka and Khushalnagar beach, Kerala. The concentration of heavy metals in these samples was determined by flame atomic absorption spectrophotometer (GBC PAL 3000 Autosampler, Australia). The heavy metal concentration in the water from Panambur beach was in the order, Ni>Pb>Cr>Fe>Zn>Cu and Fe>Pb>Ni>Cr>Zn>Cu in sediment, whereas in Khushalnagar beach, the heavy metal concentration in water was in the order, Ni>Pb>Cr>Fe>Cu>Zn and in sediment Fe>Pb>Zn>Cr>Ni>Cu. The results indicate that even though there was an appreciable increase in metal concentrations

from the water to the sediment, the overall heavy metal concentration in water was higher than the EPA permissible limit, while the sediment was only moderately polluted.

Keywords: Heavy metal pollution, lead, iron, sediment, water.

ISCA-ISC-2014-Oral-6EGS-08

Global Warming- The Tears of Earth

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Abstract: Our earth is crying, but nobody is there to wipe the tears. Probably the most worrying threat to our planet at the present time is global warming.With the ever-increasing temperature of the Earth's atmosphere from as early as the late 19th century, nature is sending us signals to do something for global warming. We humans have a tendency to neglect obvious signs and this is probably why warning messages of global warming are only surfacing in the recent years when we could have intervened a hundred years ago.The predominant factors resulting in the warming of the earth are the emissions of CO2 and deforestation. CO2, which damages the ozone layer, comes from several sources like burning of gasoline for transportation, but the most problematic are those coming from the burning of fossil fuels from power plants. This releases tons of CO2 into the atmosphere every year.To conclude, global warming is a serious issue. There are steps that each individual can take to reduce its effects. If we are to save our planet, it is important that this is treated as a priority for all concerned. Let's create a handkerchief to wipe the tears of our earth.

Keywords: Global, warming, tears, earth.

ISCA-ISC-2014-Oral-6EGS-09

Satellite Data Based Groundwater Prospects Study in Gurgaon District, Haryana, India

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Abstract: Water is one of the prime natural resource for sustaining the life on the earth. The increasing population, urbanisation, industrialisation and agricultural practices have put pressure on the availability and quality of water especially on groundwater. For fulfilling the increasing demand of water in various sectors, there is need of searching, planning and management of surface and groundwater resources. In the present technological era, the remote sensing satellite data are highly useful for searching potential groundwater sites. In the present study, IRS P6 LISS III 2006 satellite data have been used for groundwater prospects study in Gurgaon district of Haryana. The Gurgaon district is situated between $27^0$39'58" N to $28^0$32'30"N latitudes and $76^0$39'10Ë to $77^0$20'27Ë longitudes and covering 1254 sq.km area. The climate of the district is semi-arid type with annual rainfall 442.4mm. Geologically, the district has rocks of Delhi Super group comprising mainly quartzite and most part of the district is covered with alluvium and sand of Quaternary age. The present study has been carried out with main objective to study groundwater prospects using satellite data in the district. For achieving the objective, various thematic maps such as base map, geology, structure, geomorphology and drainage have been prepared with the help of IRS P6 LISS III 2006 satellite data, Survey of India (SOI) Toposheets and District Resource Maps of Geological Survey of India (GSI) in ArcGIS 9.3 software on 1:50,000 scale. All the thematic maps have been integrated and groundwater prospects map has been prepared. Field visit has been done at selected locations and post field information has been incorporated in the pre-field maps and final groundwater prospects mapping has been done. In the district, major groundwater prospects units viz. older alluvial plain, aeolian plain, sand dune complex, denudational hill and structural hills have been delineated. The groundwater prospects in older alluvial plain is good to very good; in aeolian plain moderate to good; in sand dune complex poor to moderate; in denudational and structural hills poor.The study is highly useful in narrowing down the potential target sites for groundwater exploration and provides synoptic view of groundwater potentiality in the district which may further help in planning and management of groundwater in the district.

Keywords: Satellite, IRS, groundwater, gurgaon, haryana.

ISCA-ISC-2014-Poster-6EGS-01

History of Classical Geomythology

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Abstract: Before science could explain the woes and wonders of the nature, the ancient people devised poetic metaphors and mythic imagery to unriddle the mysteries of volcanoes, earthquakes, fossils and other geological occurrences. Geomythology, a term coined by Dorothy Vitaliano in 1968, deals with the study of these etiological oral traditions and deciphering them. Much to our surprise, some myths provide us with invaluable insights, along with certain data, which are testimonials of the geological processes of the distant yore. Geomythology is often considered as a budding field of study, but it has been in use since the antiquity. It was Euhemerus, a Greek philosopher(ca 300 B.C.), who first came up with the notion that the myths of divinity were poetical accounts of real people and events. This approach, known as Euhemereisn, was adopted by other classical scholars who disentangled the myths and unraveled a core of facts. In account of Atlantis and in other works, for example, the philosopher Plato (4th century BC) correctly described large-scale changes in prehistoric land masses and coastlines in the Aegean. In the 1st century BC, the Latin poet Ovid expressed accurate conceptions of geomorphology and the process of petrifaction in his "Metamorphoses," verses about the transformations of mythic beings. Around the same time, the Greek geographer Strabo validated traditional geomyths as cryptic historical records, observing that "the ancients expressed physical notions and facts enigmatically by adding mythical elements." In his 5th-century BC tragedy "Prometheus Bound," the Greek dramatist Aeschylus recounted the myth of Zeus burying Typhoeus, a monstrous, many-headed dragon with many voices that embodied primal chaos, under Mount Etna in Sicily, Europe's largest and most active volcano. The etiological account explains Etna's eruptions as Typhoeus's struggles to escape the subterranean prison: his roars and hisses were the auditory features of the volcano, and his fiery breath was supposed to melt rock, creating the periodic lava flows that endangered towns on the slopes of Etna. In the 1st centuries BC and AD, the Latin epic poet Virgil and the natural historian Pliny the Elder suggested that the one-eyed giant Cyclopes described by Hesiod in his "Theogony" (ca 750 BC) were meant to personify other active volcanoes in the Mediterranean.

Keywords: Euhemereisn, etiology, theogony.

7. Engineering Sciences

ISCA-ISC-2014-Guest Speaker-7EngS-01

Environmental and Eco-Friendly Aspects of Cotton dyeing with Natural dye using Padding Technique

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Abstract: Today the protection of the environment has become a challenge for the scientists all over the world. Moreover, the water pollution caused by the dyes and chemical used in the chemical wet processing of textiles has led to a dangerous situation worldwide. The use of synthetic dyes, has been criticized for introduction of contamination into the environment, during colouration of various textiles. The need to preserve environment has led to the revival of the old practice of colouration of natural dyestuffs instead of synthetic dyes due to the carcinogenic nature of some synthetic dyes and their intermediates. The application of natural dyes in textile wet processing is a step towards environmental-friendly approach. Further, it has become a necessity to develop eco-friendly processes for dyeing and printing of textiles which can minimize the consumption of water and energy. The present work deals with the extraction of natural colourant from the skin (bark) of Mahua tree and its subsequent application to unmordanted / mordanted cotton substrate using padding technique. The mordants used during the work were aluminiumsulphate, copper sulphate and potassium dichromate. These mordants are used individually as well as in combination with each other to develop variety of shades. The effect of mordant on the shade, tone, colour strength and various fastness properties has been studied on natural colour dyed cotton samples. Utilization of padding technique for dyeing will not generate any effluent, thereby making the process eco-friendly.
Keywords: Cotton, Madhucaindica, mordant, padding technique, shades.

Engineering Sciences-General

ISCA-ISC-2014-Oral-7EngS-01

Nanotechnology: Future Trends of Research in Science and Technology

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Abstract: Carbon Nanomaterials are novel manufactured materials, having widespread potential applications. Absorption of hydrophobic organic (HOCs) by carbon nanomaterials may enhance their toxicity and affect the fate, transformation, and transport of HOCs in the environment. In this research, adsorption of naphthalene, phenanthrene, and pyrene onto six carbon nanomaterials, including fullerence, single-walled carbon nanotubes, and multiwalled carbon nanotubes was investigated, which is the first systematic study on polycyclic aromatic hydrocarbons (PAHs) sorption by various carbon nanomaterials. All adsorption isothermswere nonlinear and were fitted well by the Polanyi-manes model (PMM). The unique and tunable properties of nanomaterials enable new technologies for identifying and addressing environmental challenges. This review critically assesses the contribution of nanomaterials to a broad range of applications in every area: environmental sensors, renewable energy technologies and pollution prevention strategies, aerospace, for better weapons, longer lasting satellite. This article also outlines future opportunities for nanomaterials current application like clays, paints remediation, fuel cells, displays catalyst, lubricant improving nation's economy and qualify of life for all citizens. In this seminar we are going to learn about nanotechnology and its various applications.
Keywords: Nanomaterials, high sensitivity sensors, renewable energy technology.

ISCA-ISC-2014-Oral-7EngS-02

Flexible Manufacturing System Scheduling by Using Genetic Particle Swarm Optimization Technique with Tardiness Criterion

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Abstract: Optimum Automated Guided Vehicles (AGVs) operation plays a crucial role in improving the performance of Flexible Manufacturing System (FMS). One of the main elements in the implementation of AGV is task scheduling. This

will enhance the productivity, Minimize delivery cost and optimally utilize the entire fleet. This enhance article Deals with Genetic particle swarm Vehicle Heuristic Algorithm (GPSVHA) for simultaneous Scheduling of machines and AGVs adopting minimization of Tardiness criterion. The method is found to provide better solution.

Keywords: Scheduling, flexible manufacturing system, automated guided vehicle, particle swarm vehicle heuristic algorithm, genetic algorithm, hybrid algorithms

ISCA-ISC-2014-Oral-7EngS-03

Comparative studies on Rheology of Indian Heavy Crude Oil with Natural and Synthetic Surfactant

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Abstract: Indian heavy crude oil obtained from Ahmedabad asset, Gujarat was analysed for rheological properties comprising viscosity, thixotropic area and yield stress. The objective was to enhance the flow properties of the crude by addition of suitable additives. Comprehensive studies were made using a natural surfactant sapindus mukorrosi and non-ionic surfactant Brij 30 keeping in consideration various contributing parameters like temperature, pressure, shear rate, etc. Heavy crude oil was blended with 5% w/w sapindus and Brij 30 followed by stirring the samples for one hour before proceeding for rheological tests. The tests were carried out at controlled shear rate. The study revealed Brij 30 was more efficient in reducing the viscosity and thixotropic area of the given crude while reduction in yield stress was greater when sapindus was added to it. In particular, the results confirmed that viscosity reduced by 80%, thixotropic area by 94.64% and yield stress by 98% upon adding 5% w/w of sapindus while the reduction in viscosity, thixotropic area and yield stress due to Brij 30 addition was 87%, 95% and 53% respectively.

Keywords: Indian heavy crude, thixotropy, natural surfactant, Brij 30, Yield stress, viscosity.

ISCA-ISC-2014-Oral-7EngS-04

A Study on Different Noise Filters to Pre-Process the Magnetic Resonant Biomedical Images for Segmentation

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Abstract: Image Segmentation is a process of extracting region of interest from the whole image. The success of segmentation depends on the quality of the signal at the input. Noises are prevalent during image acquisition, due to various reasons and sources, thus making it hard to distinguish the healthy and abnormal tissues. Pre-processing is essential to remove these noises from the acquired images before subjecting to the actual processing algorithms. In this paper we are giving the results of our study on different filters used to pre-process the biomedical images. The study shows that for a specific noise in MR Images, a specific filter yields better results compared to others. We have chosen three different image sequences i.e. T1-series, T2-series and DWI series of MRI and thrree different filters for the experiment. The statistical comparisons of the methods used are in agreement with our conclusion. For the study, we have taken real images from hospitals.

Keywords: Image segmentation, filters, MR images, Noises, Pre-processing.

ISCA-ISC-2014-Oral-7EngS-05

Need For Turbocharger

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Abstract: A turbo is a way to get more horsepower out of an engine by using pressure of an exhaust to compress the intake air. A turbocharger is a turbine driven force induction device that increases an engine efficiency and power by forcing extra air into the combustion chamber utilizing the heat energy of exhaust gases .a diesel engine fitted with a turbocharger can go 40% further and gas engine 20% further on a liter of fuel. It is a green technology in the sense that it helps in cutting emission and raise fuel economy. It also controls the engine noise and simplifies exhaust for environmental

protection. It was first invented by Swiss engineer by Alfred Buchi (1905) .in today's world garret and Brog Warner are the largest manufacturers in Europe an U.S .Turbo charging technology is considered as a promising way for internal combustion engine energy saving and carbon dioxide reduction. It even allows aircraft to achieve higher altitude as a turbo compensate for lost atmospheric pressure this allows flying above the bad weather conditions it can also increases the horsepower up to 54% in engine.

Keywords: Need, turbocharger.

ISCA-ISC-2014-Oral-7EngS-06

Technological Development in Decolouration of Wastewater through Activated Charcoal Adsorption Process: A Review

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Abstract: Colouration of various materials are essential, however, they generate highly toxic effluent of colour along with other constituents. Many techniques, namely, flocculation, coagulation, adsorption, advance oxidation, electro-chemical and so on have been recommended for removal of colour from the wastewater. For decolouration of wastewater, adsorption mechanism through polymeric chemicals, biological means and activated charcoals are highly popularised in industrial effluent treatment process. Activated charcoal is the aged old method and the most effective way for colour removal from wastewater from textile, plastics, paper etc. Many parts of agro waste resources such as, coconut, rice, sugarcane, coffee, corn, cotton, nuts and peanutscan be used to prepare activated charcoal either through physical or chemical method. In the present article attempts have been made to compare the physical and chemical properties as well as scientific efficiency of various activated charcoals generated from different natural resources.

Keywords: Technological, development, decolouration, wastewater, activated, charcoal, adsorption. process.

ISCA-ISC-2014-Oral-7EngS-07

Application of Silicates as Binding Agent for Sand Consolidation in Oil Industry

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Abstract: Sand production during the oil production is a serious problem in the oil industry. It can cause severe operational problem for oil producers. It can drastically affect the production rates; can damage downhole and surface facilities which can adversely affect the economy of an oil and gas asset. Various mechanical and chemical methods had been developed to control the sand production from the oil producing well. Several consolidating materials, such as; epoxy resin, phenol-formaldehyde, furan resin, phenolic resin have been used in the past by the researchers. The main object of the present work is to present a suitable chemical to be used as consolidating agent for the oil industry in India. The present work focuses on the preparation of the consolidated sand cores using inorganic and organic silicates and investigation of their effect on the compressive strength and permeability retention. The effect of particle size distribution and chemical concentration on the compressive strength of the consolidated sand cores and absolute permeability are studied. The experimental results showed significant compressive strength of the consolidated sand cores with minimum permeability reduction.

Keywords: Consolidation, compressive strength, permeability retention, curing, silicates

ISCA-ISC-2014-Oral-7EngS-08

Effect of Fiber Orientation on the Mechanical Properties of Fabricated plate using Basalt Fiber

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Abstract: The use of corrosion resistant fiber reinforced polymer (FRP) reinforcement is beneficial in structures particularly those exposed to deicing salts, and/or located in highly corrosive environment. Due to the necessities of low weight and high strength materials, it is required to find out the suitable substitute with low cost. Recent developments in fiber production technology allow the strengthening of structures using Basalt fiber which is made from basalt rock.

Basalt fiber has good range of thermal performance, high tensile strength, resistance to acids, good electro magnetic properties, inert nature, and resistance to corrosion, radiation and UV light. This investigation focuses on the effect of fibre content and fiber orientation of basalt fibre on mechanical properties of the fabricated composites. In this investigation different fiber orientations are taken and the fabrication is done by hand lay-up process. The variation of the properties with the increasing number of plies of fiber in the composites is also studied. Specimens are subjected to tensile strength test and the failure of the composite is examined with the help of INSTRON universal testing Machine. The average tensile strength and modulus of elasticity of BFRP plates are determined from the test Program.

Keywords: Basalt fiber, basalt fabric plate, fabrication, fiber reinforced polymer (FRP), strengthening.

ISCA-ISC-2014-Oral-7EngS-09

Study on Torsional Behavior of RCT Beams Strengthened with Glass FRP

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Abstract: Environmental degradation, increased service loads, reduced capacity due to aging, degradation owing to poor construction materials and poor workmanships and conditional need for seismic retrofitting have demanded the necessity for repair and rehabilitation of existing structures. Fibre reinforced polymers have beensuccessfully used in many such applications for reasons like low weight, high strength and durability. Torsion is generally considered as secondary force ,hence not considered in the design procedure. Owing to unsymmetrical plan and elevation of buildings to enhance aesthetic appearance, often elements of buildings are subjected to torsion especially under seismic force and led to collapse of structure. In the present work experimental study was conducted to have a better understanding of the behavior of torsional strengthening of solid RC flanged T-beams. The objective of present study is to evaluate the effectiveness of the epoxy-bonded GFRP fabrics as external transverse reinforced to reinforced concrete T-beams under combined action of flexure and torsion . The variables studied are different configurations and orientations of GFRP fibres. The torsinal strength of retrofitted beams are compared with un strengthened control beam. The effectiveness of different configuration and orientations of GFRP are compared.. The study showed remarkable improvement in torsional behavior of all the GFRP strengthen beams. The experimentally obtained results are then validated with analytical model presented by A.Deifalla and A. Ghobarah and found in good agreement.

Keywords: GFRP, reinforced concrete, T- beam, torsional strength, Epoxy

ISCA-ISC-2014-Oral-7EngS-10

Rock mass Classification system as a Tool in Rock Engineering

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Abstract: Civil engineering project like mines, dam, can be constructed properly with sound and in depth knowledge of existing nature in advance. The classification systems used today should, strictly speaking, either be described as rock mass characterization systems or empirical design methods, as long as the outcome is not organized into classes. Rock mass classification is widely used throughout the underground mining industry in both coal and hard rock mines. Rock Mass Classification in Underground Mining has provided a forum for leading practitioners of Rock Mass Classification to come together and share their methods and experiences with the technique. The classification systems is used in underground mine designs, RQD, RMR and Q system, have their origin in civil engineering. These are based on empirical relations between rock mass parameters and engineering applications, such as tunnels, slopes, foundations. In this study, uniaxial compressive strength and direct shear tests has been performed in order to classify the double jointed rock mass, artificially made of POP and POP lime mix. A large number of tests were conducted on various combinations of orientations angle and different levels of interlocking of joints for obtaining the ultimate strength and hence classify the rock in various categories. This classification can give a probable direction of Rock engineering design concept.

Keywords: Jointed rock mass, rock mass classification, uniaxial compressive strength, direct shear stress.

ISCA-ISC-2014-Oral-7EngS-11

Climate Change Impacts on the Hydrology of Mahanadi Basin

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Abstract: The increasing rate of the global surface temperature in climate change will have a significant impact on local hydrological regimes and water resources. This leads to the assessment of the climate change impacts has become a

priority. In this study, the Global Climate Models (GCMs) simulations from Hadley Centre 3rd generation (HadCM3) with scenario A2 and B2 have been used. The GCM outputs have been downscaled to obtain the information appropriate for local scale hydrological impact studies. The objectives of this study are to determine the current and future climate change impacts of the Lower Mahanadi basin using the downscaling method i.e. Statistical Downscaling Model (SDSM). From the study, it was found that slight change in climate may cause huge differences in the hydrological regime of the Mahanadi basin.

Keywords: Climate change, downscaling, precipitation, SDSM, temperature.

ISCA-ISC-2014-Oral-7EngS-12

BWB Aircrafts-the new Generation of Civil Aviation

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Abstract: The purpose of this research is to assess the aerodynamic efficiency of a Blended Wing Body (BWB) aircraft with respect to a conventional configuration, and to identify design issues that determine the effectiveness of BWB aircrafts to meet the future requirements of civil aviation like rising passenger numbers, significantly reducing CO2 emissions, more comfortable flying and shorter travel time. Our study includes the evaluation of developmental phases of more advanced BWB aircraft configurations, in particular for large commercial transport aircraft because they are predicted to be more fuel efficient and have high payload carrying capacity than current mega liners like AIRBUS-A380. We also investigate current designing programmes by various aviation giants such as NASA, BOEING, AIRBUS and various aeronautical institutes to estimate various advantages and challenges inherent by the BWB configuration in a highly cost-effective manner.

Keywords: Blended Wing Body(BWB),Configuration, Airfoil,(L/D) ratio, Aerodynamics, Payload, Lift, Wing span, Noise, Efficiency, Coefficient, design, conventional, drag.

ISCA-ISC-2014-Oral-7EngS-13

Sonophotocatalytic Treatment of Perfluorocarboxylic Acids (PFCAS)

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Abstract: Decomposition of environmentally persistent perfluoro alkyl acids (PFAAs) is of emerging concern in scientific and industrial perspectives. Perfluorooctanoic acid (PFOA) is an important PFAA that is noted to be globally distributed, recalcitrant, bioaccumulative, and toxic among others. This study focuses on decomposition of PFOA by sonophotocatalysis. Sonophotocatalysis involves use of a combination of ultrasonic waves, ultraviolet irradiation in the presence of a photocatalyst. In our study, PFOA was successfully decomposed by 80% using a combination of 40 kHz ultrasonication and 254 nm UV-irradiation in the presence of TiO_2 as a photocatalyst.

Keywords: Perfluoroalkyl acids (PFAAs), Perfluorooctanoic acid (PFOA), Sonication, Photocatalysis, Decomposition, synergistic effect

ISCA-ISC-2014-Oral-7EngS-14

Investigation of Evaporative cooling Techniques under specific application for Steel Industry

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Abstract: One of the most energy-intensive industrial processes is the production of Iron and Steel.The major objective of the steel industry is of lowering energy consumption along with reducing environmental pollution.The present paper deals with the use of concept of evaporative cooling in electric arc furnace with special emphasis on modern concepts. It deals with the heat transfer analysis followed by exergy analysis of electric arc furnace of steel industry.The cooling of the walls of the furnace is necessary so that demand of increase in electric power can be managed.Thermal losses are found to decreased as the melting temperature of slag sticked to the furnace shell increases. The authors also suggested the means of reducing water, air and noise pollution related to the processes.

Keywords: Investigation, evaporative cooling techniques, specific application, steel industry.

ISCA-ISC-2014-Oral-7EngS-15

Does quantum Entanglement more Fundamental than Space-Time?

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Abstract: One of the biggest unanswered question is where from the space-time originate? Or we can ask is there anything more fundamental than space-time? To find causes responsible for the birth of space-time, general theory of relativity which describes gravity as a curvature of space-time and quantum mechanics which is used to describe entropy of the space must be taken into account. In this paper we are discussing different theories given by researchers time to time to explain the origin of space-time. The conclusion of our study is that quantum entanglement between particles on the boundary of the space whichis holding together the three dimensional universe within it is more fundamental than space-time in some sense and as quantum entanglement, vanishes the three dimensional universe starts splitting itself.
Keyword: Does, quantum, entanglement, fundamental, space-time

ISCA-ISC-2014-Oral-7EngS-16

New Generation with Solar Energy and Hybrid Syestem

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Abstract: Renewable energy resources are getting priorities in the whole world in order to provide a sustainable power production and safe world to the future generation. Solar energy is rapidly gaining the focus as an important means of expanding renewable energy uses. Solar trackers are the most appropriate and proven technology to increase the efficiency of solar panels through keeping the panels aligned with suns position. A microcontroller based design methodology of an automatic solar tracker is done. The unit controls the movement of solar panel always aligned towards the direction of the sun, due to this maximum thermal energy would be culminated from solar panel. Sun always moves from east to west direction independent of weather condition, so with this concept without using sensors movement of the solar panel from east to west direction is done with the help of programmer loaded into the microcontroller. Maintaining the hybrid system with fuel cell, wind, desial generator with solar to maintain the grid system.
Keyword: Solar panel, battery , controller ,grid system, sensors

ISCA-ISC-2014-Oral-7EngS-17

Design and Analysis of Rectangular Microstrip Patch Antenna using Metamaterial for Improved Efficiency

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Abstract: In this present work, "Design and analysis of patch antenna using metamaterial (MTM) structure" is proposed for better improvement in the impedance bandwidth and reduction in the return loss at operating frequency 1.89 GHz. The pro-posed antenna is designed at a height 3.2 mm from the ground plane. This design is operated at 1.89 GHz and 2.553 GHz. At 1.89GHz, the bandwidths are increased up to 29.2 MHz and 19.8 MHz in comparison to 10.1MHz of RMPA alone. The Return loss of proposed antenna are reduced by - 32.64dB and -29.26dB at dual band frequency as compari-son to -10.26 dB of RMPA alone. Microstrip Patch antenna has advantages than other antenna is lightweight, inexpen-sive, easy to fabricate and achieve radiation characteristics with higher return loss. CST MICROWAVE STUDIO is used to design the metamaterial based rectangular microstrip patch antenna.
Keyword: Design, analysis, rectangular, microstrip patch antenna, metamaterial, improved efficiency.

ISCA-ISC-2014-Oral-7EngS-18

Critical Evaluation of Mine sites as adventurous Tourist-destinations

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Abstract: Seeing the mine places inspire viewer's especially young generations, school and college students viz. mining adventure, mining life and machines. Abandoned mine are the areas of economic valued material excavation and exhaustion, comprises several square kilometers. Variety of country rock and ore recovered gives raise a different look, results as unique ghost town. Consequent environmental hazards mitigation and reclamation measure developed but left as no

man's land. The present study deals with the operative and abandoned mines and an effort has been made to explore the feasible and economically viable aspect of development of mine sites as places of tourist's attractions. The pocket areas with modern amenities may be made available like telescopic tower, small lawns, huts, restaurant, museum, audio visual etc. This may be looked as matter of rehabilitation, where one must be honest to the nature and the mother earth. The study elaborates the road map and modus operand for mine as tourist attractions. Country wide network of geo and mine tourism has been discussed. There are 50 operative and 82 abandoned mines in India and the development of these as places of tourists' attractions will be a step in the right direction and a strategy evolved in present study change the current state of neglect of abandoned mines in India. This will leads towards conservation and rehabilitation of many sites of significant heritage values.

Keyword: Critical, evaluation, mine sites as adventurous tourist-destinations.

ISCA-ISC-2014-Oral-7EngS-19

Determination of Reference Evapotranspiration using FAO-56 Penman-Monteith Model for Harnai and Wakawali stations of Konkan region of Maharashtra, India

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Abstract: The attempt was made for estimating reference evapotranspiration for and Harnai and Wakawali station and also the trends of different meteorological parameters were also studied. The study observed that the reference evapotranspiration for Harnai station was nearly constant, while for Wakawali station it was decreasing by -12.22 mm. The trend of different meteorological parameters showed that for Harnai and Wakawali station annual mean temperature was increasing trend was by 0.008°C and 0.044°C respectively. For Harnai station mean relative humidity was decreasing at the rate of -0.07% per annum and for wakawali station was decreasing at the rate of -0.033% per annum. Average annual wind speed for Harnai station was decreasing by -0.029 km/hr and for Wakawali station was also decreasing by of -0.15 km/hr. It is concluded that reference evapotranspiration for Harnai station was nearly constant throughout the year.

Keyword: Determination, evapotranspiration, penman-monteith, model, harnai, wakawali stations, konkan region.

ISCA-ISC-2014-Poster-7EngS-01

Application of Moisture Management in Sports Wear

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Abstract: Moisture management can be defined as the controlled movement of water vapour and liquid water (perspiration) from the surface of the skin to the atmosphere through the fabric. Moisture transmission through textiles has a great influence on the thermo-physiological comfort of the human body which is maintained by perspiring both in vapour and liquid form. To be comfortable and to maintain the state of comfort, clothing must be designed to allow the body s heat balance to be maintained under a wide range of environmental conditions and body activity. For sportsmen and women being able to concentrate fully on their sporting activity, it is essential that their clothing is comfortable to wear. Feeling nice and dry and comfortable in every situation is the best way of giving their individual performance an extra boost. Consumers and sportswear manufacturers have the view that cellulosic fibres are unsuitable for use in sportswear for high activity where sweat production needs to be dealt with. The reasons for this view of cellulosic fabrics are real and need to be addressed if the use of cellulosic fabrics in sportswear is to be increased. Cellulosic fabrics absorb water into the fibre structure and become heavy. This leads to stretching of the fabric, sticking to the skin and when activity ceases the fabric may feel cold against the skin. Higher levels of moisture absorbed in the fabric mean longer drying times. Moisture management can include the use of micro-fibre technology or the application of various softening finishes like silicones at the molecular level to enhance both hydrophobic and hydrophilic properties of a fabric. Hydrophilic fabrics or waterproof breathable fabrics are some advances in the field of moisture management in textiles. Most recently, major upsurge on research related to absorption properties of fabrics used for apparel, health care, hygiene products and sportswear has taken place, since this plays an important role in moisture management and its performance. Thus moisture management fabric is very useful if worn next to the skin at the time of sports activity to keep the skin dry and make the wearer feel comfortable.

Keywords: Moisture management, waterproof breathable fabric, sports activity.

ISCA-ISC-2014-Poster-7EngS-02

Design and Development of Smart Agri Robot

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Abstrac: Present work deals with design and fabrication of a mobile platform. The platform is mounted on two wheels. Two of these wheels are active which are independently driven by two dc motors of higher torque capacity. In this vehicle for simulation of pro/E software using with view on 3D modeling. This arrangement provides high mobility so that the robot can move in any direction with controlling the android application system. This paper project aimed at designing, implementing, and testing an autonomous multipurpose vehicle with safe, efficient, and economic operation. This autonomous vehicle moves through the crop lines of a agri lands and performs tasks that are tedious and/or hazardous to the farmers. First, it has been equipped for spraying, but other configurations have also been designed, The robot can be used for automating various agricultural process and activities like seeding, harvesting, pest control etc.
Keywords: Agricultural, android, simulation, harvesting.

7. Engineering Sciences-Chemical

ISCA-ISC-2014-Oral-7EngS-Chem-01

Comparison of two different Photocatalyst: Spinel and Pervoskite prepared by sol-gel and coprecipitation Methods for Degradation of RB5 dye

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Abstract: Synthetic dyes are extensively used in textile industry, paper printing, color photography, pharmaceutical, leather, cosmetics, plastic and other industries. The discharges of industrial wastewater containing dyes cause serious environmental problems because of its high toxicity and possible accumulation in the environment. Their removal from aquatic wastewater becomes environmentally important. Many treatment methods such as membrane filtration, chemical oxidation, photocatalytic degradation and adsorption are used to remove dyes from aqueous solutions. Among these methods, photocatalytic degradation has been found to be an efficient and economic process to remove dyes and other colorants. Photocatalytic degradation process uses semiconductors and multi component oxides as the catalysts to degrade dye but the separation of these catalysts from treated water especially from a large volume of water is expensive and time consuming which limits their application in industrial fields. Spinel-type oxides (AB_2O_4) are used as novel catalytic materials with narrow band gap and high sunlight utilization efficiency for degradation of industrial dye. This paper discusses about introduction about dyes, its impact on environment, treatment methods for degradation of dyes with their limitations, photocatalytic degradation techniques, use of spinel-type oxides as novel photocatalyst. Synthesis method like sol-gel, co-precipitation for preparation of spinel catalyst to treat waste water are carried out for the environmental remediation of waste water. The experiments were performed under sources like UV-C lamp, microwave irradiation, sunlight, without light and in dark for photocatalytic degradation of industrial RB5 dye. Analysis were done on Chemical oxygen demand (COD) digester, UV-visible spectro photometer, and Total organic carbon (TOC) analyzer. Detail characterization by different techniques like X-ray diffraction (XRD), Breunauer-Emmett-Teller (BET), Scanning electron microscopy (SEM), Energy dispersive X-ray spectroscopy (EDX or EDS), Transmission electron microscopy (TEM), Temperature programme reduction and desorption (TPR/TPD), Fourier transforms infrared (FTIR) etc results are awaited.
Keywords: Dyes, waste water treatment, catalyst preparation and characterization, photocatalytic degradation, semiconductor, spinel, UV-C lamp, microwave irradiation, COD, TOC, UV visible spectro photometer.

ISCA-ISC-2014-Oral-7EngS-Chem-02

Development of Mosquito Repellent Textiles using Oil Nano Emulsion

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Abstract: Mosquito repellent textile protects the human beings from the bite of mosquitoes and thereby promising safety from the diseases like malarial fever. There are many natural plant products, which show mosquito repellent properties. The essential oil based products that are available or have been tried earlier are not durable and remain effective only for few hours or days as they are applied either through exhaustion or by pad dry cure process; in which maximum amount of oil gets released during the curing process itself because of high temperature. In the preset study

combination of nanoemulsion and Layer by Layer technique was used to minimise wastage and develop durable finish. Oil nano emulsion was prepared and was applied on the fabric by layer by layer technique. Parameters varied included concentration of oil nanoelsion and number of layers. The durability of the finish against washing was checked as well its effectivity against mosquito was tested as per WHO standards. Durable mosquito repellent fabric was obtained showing high mosquito mortality and durability against washing. SEM micrographs were studied to confirm the finish.

Keywords: LBL technology, mosquito repellent textiles, wellness finish, nanoemulsion.

ISCA-ISC-2014-Oral-7EngS-Chem-03

Review of Green Buildings in India: Present Scenario and Future Prospects

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Abstract: This paper summarizes the concept of Green buildings in India and their need in the present world. Green building (also known as green construction or sustainable building) refers to a structure and using process that is environmentally responsible and resource-efficient throughout a building's life-cycle: from siting to design, construction, operation, maintenance, renovation, and demolition. This requires close cooperation of the design team, the architects, the engineers, and the client at all project stages. The Green Building practice expands and complements the classical building design concerns of economy, utility, durability and comfort. Although new technologies are constantly being developed to complement current practices in creating greener structures, the common objective is that green buildings are designed to reduce the overall impact of the built environment on human health and the natural environment by: Efficiently using energy, water, and other resources, Protecting occupant health and improving employee productivity, Reducing waste, pollution and environmental degradation.

Keywords: Sustainable, environment, technology, green, resource-efficient, complement.

ISCA-ISC-2014-Oral-7EngS-Chem-04

Study of Chemical and Physical properties of Perlite and its Application in India

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Abstract: Perlite is not a trade name but a generic term for naturally occurring siliceous volcanic rock. The distinguishing feature which sets perlite apart from other volcanic glasses is that when heated to a suitable point in its softening range, it expands four to twenty times of its original volume. Perlite is amorphous volcanic glass that has relatively high water content, typically formed by the hydration of obsidian. It occurs naturally and has the unusual property of greatly expanding when heated sufficiently. Perlite is an industrial mineral and a commercial product useful for its light weight after processing. Perlite is a non-renewable resource. The world reserves of perlite are estimated at 700 million tones. In 2011, 1.7 million tonnes were produced, mostly by Greece (500,000 t), United States (375,000 t) and Turkey (220,000 t). However, no information for China – a leading producer was available.[1] Perlite can be substituted for all of its uses. Substitutes include: Diatomite, Expanded clay, Shale Pumice, slag, Vermiculite.[2] The chemical composition of perlite are: 70–75% Silicon Oxide: SiO_2,12–15% Aluminium Oxide:Al_2O_3, 3–4% Sodium oxide: Na_2O, 3–5% Potassium Oxide: K_2O, 0.5-2% Iron oxide: Fe_2O_3, 0.2–0.7% Magnesium oxide: MgO, 0.5–1.5% Calcium oxide CaO 3–5% loss on ignition (chemical / combined water). Perlite is used in industries, agriculture, horticultural aggregate, vermiculite, refractory material, ladle topping, building construction products, fillers, filter aid and used in hot tops and risers. This paper summarizes the study of chemical and physical properties of perlite and its application in India.

Keywords: Perlite, volcanic glasses, non-renewable resource, vermiculite, refectories material, ladle topping.

ISCA-ISC-2014-Oral-7EngS-Chem-05

Application of Solid state Fermentation technology in Environmental Cleanup and Lactic acid production

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Abstract: Solid state fermentation technology utilizes various agricultural wastes, forestry wastes and dairy, food .and pulp and paper industries industry. Several reactor designs operating with solid state fermentation technology include

packed bed reactor, fluidized bed reactor, rotating drum reactor, and stirred tank reactor, rocking drum reactor, stirred drum reactor and Zymotis reactor configurations. The SSF technology helps in management of solid and liquid wastes integrated with inexpensive biochemical production. The present paper includes practical data on lactic acid production by solid state fermentation technology utilizing wheat bran bed material and dairy waste whey and also highlights some of the innovative technologies applicable for maximizing the biochemical production by SSF technology.

Keywords: Solid-state fermentation, fluidized bed, packed bed reactor, biochemical production.

ISCA-ISC-2014-Oral-7EngS-Chem-06

Bioethanol: A Renewable Automotive Fuel from Biomass

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Abstract: The steady increase in energy consumption and the depletion of fossil fuel resources reawakened the interest in developing alternative energy sources that can compensate the growing energy demands. The alternative energy that has received special attention in the recent past is biomass Biomass is most common form of renewable energy widely used in the world. Biomass is one potential source of renewable energy and the conversion of plant material into a suitable form of energy usually bioelectricity or as a fuel for an internal combustion engine .The use of biomass to provide energy has been fundamental to the development of civilization. This paper summarizes the main conversion process with specific regard to the production of bioethanol and its significance

Keywords: Biomass, energy conversion, renewable, potential source, alternative energy.

7. Engineering Sciences-Civil

ISCA-ISC-2014-Oral-7EngS-Civil-01

Comparative Study of Trapezoidal Cut Impact Wall with Plain Impact Wall for the Design of Stilling Basin Models

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Abstract: Flow from the pipe outlets under high head of water, emerges in the form of straight, concentrated shooting jet. Hydraulic structures called stilling basin have to be provided for reducing the energy of high-velocity flow to prevent erosion of the natural bed downstream and banks of river channel or cannel. Such erosion would result in possible damage to the outlet structure or dam itself. Stilling basins are transition structures constructed to dissipate excess energy contained by the high velocity flow, on the downstream face of the outlet of the conduit, so that the flow beyond the basin does not endanger the stability of bed and banks of the downstream channel. In present paper different comparative study of trapezoidal cut impact wall with plain impact wall has been carried out for the purpose of design of stilling basin model for pipe outlet for Froude number range 1.85, 2.85 and 3.85.

Keywords: Energy, flow, froude number, impact wall.

ISCA-ISC-2014-Oral-7EngS-Civil-02

Experimental Investigation of waste Glass powder as the partial Replacement of Cement in concrete Production

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Abstract: An artificial built-up stone resulting from hardening of a mixture of cement, aggregate and water with or without a suitable admixture is termed as 'Concrete'. The concrete industry is one of the largest consumers of natural resources due to which sustainability of concrete industry is under threat. The environmental and economics concern is the biggest challenge the concrete industry is facing. The global cement industry contributes about 7% of greenhouse gases emission to the earth's atmosphere. Today many researchers are ongoing in the use of supplementary cementitious materials using many waste materials like Pulverized Fly Ash (PFA) and Ground Granulated Blast Furnace Slag (GGBS). Like PFA and GGBS a waste glass powder also act as a filler material in partial replacement of cement which takes some part of reaction at the time of hydration. Waste glass when ground to a very fine powder shows pozzolanic prosperities as it contains high SiO_2 and therefore to some extent can replaced cement in concrete and contribute strength development.

In this study Glass Powder partially replaced at varying percentage 0 to 40, at interval of 5% and tested for its Compressive, Tensile, and Flexural strength up to 60 days of age and were compared with those of conventional concrete. The overall test results shows that Waste Glass Powder could be utilized in concrete as a good substitute of cement.

Keywords: Pozzolana, Strength, supplementarycementitious material, workability, waste glass powder.

ISCA-ISC-2014-Oral-7EngS-Civil-03

Prediction of Depth average Velocityfor converging compound Channels using ANN

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Abstract: Prediction of depth average velocity distributions in open channel flow is crucial in many critical engineering problems such as channel design, calculation of energy losses and sedimentation. During floods, part of the discharge of a river is carried by the simple main channel and the rest is carried by the floodplains located to its sides. For such compound channels, the flow structure becomes complicated due to the transfer of momentum between the deep main channel and the adjoining floodplains that magnificently affects the depth average velocity distribution in floodplain and main channel sub sections. The complexity raises more when dealing with a compound channel with non-prismatic floodplains. Additional energy loss occurs during interaction between main channel and floodplain as well as due to non-uniformity of flow occurring during movement through converging or diverging parts of the channel reach. Many investigators have studied and explained the complexity of such compound geometry in predicting the flow variables. The calculation of depth average velocity in non-prismatic compound channel flow is more complex and simple conventional approaches cannot predict the depth average velocity with sufficient accuracy. Hence in this area an easily implementable technique the Artificial Neural Network (ANN) can be used for different geometry and flow conditions. First experimental investigations have been performed to study the effect of converging angle, relative flow depth, width ratio and aspect ratio of the channel to predict the boundary shear and depth average velocity of a compound channel. Then the ANN techniques is applied to predict the these, the calculation of which has directly or indirectly have significant effect on predicting important variables such as stage-discharge relationship, shear stress distribution, energy slope prediction, flow distribution etc. The model performed quite satisfactory results when compared that with the boundary shear and depth average velocity observed values.

Keywords: Non-prismatic, compound channel, ANN, converging angle, velocity distribution, relative flow depth, contraction.

ISCA-ISC-2014-Oral-7EngS-Civil-04

Bearing Capacity of Square Footing Resting on Geogrid-Reinforced Sand

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Abstract: In this paper laboratory model tests was reported on a square foundations underlying by a reinforced sand bed. All the tests were conducted in dense sand. The load eccentricity ratio (e/B) was varying from 0 to 0.15, with an increment of 0.05. The number of geogrid layers was varied from 2 to 4. All the tests were conducted at a particular relative density and angle of internal friction. Based on the laboratory model test results, an empirical relationship called reduction factor has been developed. This reduction factor is the ratio of the ultimate bearing capacity of an eccentrically loaded foundation to the ultimate bearing capacity of the centrally loaded.

Keywords: Ultimate bearing capacity, geogrid, sand, eccentric loading, square foundation, reduction factor.

ISCA-ISC-2014-Oral-7EngS-Civil-05

Eccentrically Loaded Rectangular Foundation on Granular Soil

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Abstract: In this paper, several small scale laboratory model tests conducted to determine the average load per unit area at ultimate load for shallow rectangular foundation on dense sand subjected to eccentric vertical load are presented. The tests were conducted for foundation with width-to-length ratio (B/L) of 0.333 and 0.5 at different embedment ratios (D_f/B) of 0, 0.5 and 1. The load eccentricity ratio (e/B) varies from 0 to 0.15 with an increment of 0.05.The density (D_r) of

sand maintained during the tests is 69% with soil friction angle (Ö) 40.8°. Based on the model test results, an empirical relationship for the reduction factor has been developed.

Keyword: Ultimate bearing capacity, reduction factor, eccentric load, rectangular foundation, sand.

ISCA-ISC-2014-Oral-7EngS-Civil-06

Consolidation behavior of soft Soil-A Review

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Abstract: Expansive clay soils are those that change significantly in volume with changes in water content and cause distortions to structures. Methods to minimize the amount of settlement must be employed in order to minimize the post construction settlement. This paper provides a review of the published results related to primary and secondary compression characteristics of clay soils. The critical parameters such as coefficient of secondary compression and secondary compression factor have been discussed. Soil improvement technique by preloading accompanied with vertical drains has been presented. Comparison has been made between settlement (d) versus $\log_{10}$t and $\log_{10}$d versus $\log_{10}$ t. $C_á/C_c$ law of compressibility have been apparently overlooked.

Keywords: Design methods and aids**,** foundations, clay, settlement, preloading, coefficient of consolidation, compression index.

ISCA-ISC-2014-Oral-7EngS-Civil-07

Effect of Superplasticizer on the Workability and Compressive Strength of Recycled Coarse Aggregate Concrete

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Abstract: Conserving natural resources is a major problem for every developing country like India. Rapid civil construction works exhaust natural resources as well as create environmental pollution. Therefore reuse of structural concrete components as Recycled coarse aggregate (RCA) for producing new concrete as an alternative source is considered favorable to the sustainability of natural resources. But concrete made with RCA results lower mechanical properties than concrete made with Natural coarse aggregate (NCA) concrete. This paper tries to find out the demerits associated with RCA concrete and possible improvements of some RCA concrete properties through the use of plasticizers. RCA has a demerit of more water absorption quality than NCA. Water reducing capacity plasticizers is therefore essential for RCA concrete to keep similar properties of concrete as that of NCA concrete. Workability, mechanical properties such as compressive strength, tensile splitting strength, flexural strength and density of RCA concrete with plasticizers were compared with RCA concrete without plasticizers as control mix. The experimental results show that the performance of RCA concrete with plasticizers presents better mechanical properties than control mix.

Keyword: Plasticizers, workability, mechanical properties, recycled coarse aggregate.

ISCA-ISC-2014-Oral-7EngS-Civil-08

Prediction of Roughness Coefficient in Meandering Channels using Neural Network

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Abstract: Accurate prediction of roughness coefficient in open channels is extremely important from river engineering point of view. It helps the practitioners to provide essential information regarding flood mitigation, construction of hydraulic structures and prediction of sediment load so as to plan for effective preventive measures. Previously many researchers are provided different model for calculate Roughness Coefficient Manning's n, however, they are insufficient to predict Roughness Coefficient Manning's n accurately. Therefore, an attempt has been made in this work to predict the Roughness Coefficient in meandering channels with an artificial neural network (ANN). Here, to predict Roughness Coefficient Manning's n by using three independent parameters such as Aspect Ratio (ä), Sinuosity (S_r) and Bed Slope of the channel (S_o). The prediction modeling was done by using Data Based Model otherwise called Black Box Model. After using the technique to establish the basic database under various working conditions, an efficient rule database and

optimal distribution of membership function is constructed from the ANN. For this purpose as sample Multi-Layer Perceptron (MLP) from Artificial Neural Network (ANN) architecture has been used. The model has performed at satisfactory level by showing as R^2 value of before predicted and original data.

Keyword: Aspect Ratio (ä), Sinuosity (S_r), Bed Slope (S_o), ANN, Manning's n

ISCA-ISC-2014-Oral-7EngS-Civil-09

Comparative study of waste Glass powder as the Partial replacement of Cement in concrete Production

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Abstract: An artificial built-up stone resulting from hardening of a mixture of cement, aggregate and water with or without a suitable admixture is termed as 'Concrete'. The concrete industry is one of the largest consumers of natural resources due to which sustainability of concrete industry is under threat. The environmental and economics concern is the biggest challenge the concrete industry is facing. The global cement industry contributes about 7% of greenhouse gases emission to the earth's atmosphere. Today many researchers are ongoing in the use of supplementary cementitious materials using many waste materials like Pulverized Fly Ash and Ground Granulated Blast Furnace Slag. Like PFA and GGBS a waste glass powder also act as a filler material in partial replacement of cement which takes some part of reaction at the time of hydration. Waste glass when ground to a very fine powder shows pozzolanic properties as it contains high SiO_2 and therefore to some extent can replace cement in concrete and contribute to strength development. In this study Glass Powder partially replaced at varying percentage 0 to 40, at interval of 5% and tested for its Workability, Compressive Strength, Split Tensile Strength, Alkalinity test, Density Measurement, Volume of permeability test, Ultrasonic Pulse Velocity test for the age of 7, 28,, 56 days and was compared with those of conventional concrete. The overall test result shows that Waste Glass Powder could be utilized in concrete as a good substitute of cement.

Keywords: Pozzolana, strength, supplementary cementitious material, workability, waste glass powder.

ISCA-ISC-2014-Oral-7EngS-Civil-10

Evaluation of Strength and Ductility RC framed building Using Shear hinges

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Abstract: Nonlinear shear hinge parameters in RC members is difficult to predict because it involves a number of parameters like shear capacity, shear displacement, and shear stiffness. Designer must ensure that shear failure can never occur due to its brittle in nature. Majority of the reinforced concrete (RC) structures failed due to shear in past earthquake. A thorough literature review does not given any information about the nonlinear modelling of RC sections in Shear also Indian construction practice does not guaranty safety against shear. Hence accurate modelling of shear failure is almost certain for seismic evaluation of RC framed building. The current industry practice is to do nonlinear analysis for flexure only. It is uneconomical to design building without considering its strength and ductility. Therefore, primary objective of present work is to demonstrate the importance of modelling shear hinges to correctly evaluate strength and ductility of the building by using pushover analysis.

Keyword: Shear hinges, shear strength, shear displacement, pushover analysis, reinforced concrete.

ISCA-ISC-2014-Oral-7EngS-Civil-11

Seismic Analysis of a Sloped RC Building under Varying Frequency Contents

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Abstract: Earthquake is the most disastrous and unpredictable phenomenon of nature. Structure subjected to seismic forces are always vulnerable to damage and if it occurs on a sloped building as on hills which is at some inclination to the ground the chances of damage increases much more due to increased lateral forces on short columns on uphill side and thus leads to the formation of plastic hinges. Structures on slopes differ from those on plains because they are irregular horizontally as well as vertically. In this study, the seismic response of a sloped building subjected to ground motion of varying frequency content is performed.

Keywords: Hill slope, short column, frequency content, plastic hinge, lateral forces.

ISCA-ISC-2014-Oral-7EngS-Civil-12

Behavior of Brick Masonry- A Critical Review

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Abstract: Brick masonry is one of themost important building materials used in our country and elsewhere because of low costmaterial, good sound and heat insulation properties, easy availability of material andmanpower.The behavior of masonry is based on the properties of its constituent (brick units and mortar joints)separately and together as masonry wall. Due to the advancement of computing facilities the complex structural analyses (e.g.,nonlinear analysis, probabilistic and dynamic analyses) are not difficult but essential for structural analysis against natural loads like earthquake, wind, etc. One has to know the nonlinear behavior of the brick masonry to carry out nonlinear analysis of masonry building and framed building with masonry infill. This paper thus reviews theliterature on the behavior of brick including nonlinear material properties and the variation of structural properties of bricks. While the behavior of structural concrete and steel is well documented in literature, the similar studies are not widely available for brick masonry. Some of the parameters are evaluated from laboratory experiments as part of this paper. This paper presents the experimental data on the rate of water absorption and the compressive strength of fly ash and clay bricks. The experimental results shows the relation of brick aspect ratio to its compressive strength.
Keywords: Brick masonry, nonlinear analysis, structural properties, water absorption, compressive strength.

ISCA-ISC-2014-Oral-7EngS-Civil-13

Experimental and Numerical Study on Vibration of Steel Beams with Crack

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Abstract: Beams are fundamental models for the structural elements of many engineering applications and were studied extensively. Some of the applications of beam-like elements are aircraft wings, helicopter rotor blades, robot arms, long span bridges .The natural frequencies are indicative of the dynamic stiffness of any structure. The higher the frequency, the stiffer is the structure, dynamically. Structural elements are very frequently subjected to loads changing with time that cause fatigue changes in the element conceive cracks that hinders the potential of the element to withstand its capacity. The vibration behavior of uniform beam with single crack is analyzed experimentally and numerically. The main purpose of this paper is to study the influence of length of beam, effect of area of cross section (for cantilever and free-free boundary conditions) on the free vibration of beam experimentally and numerically .Mild steel specimens of varying square area of cross section are considered for the experiment and the experimental results are compared with numerical analysis using Finite Element Method (FEM) in MATLAB environment. The results indicate that with the area of cross section remaining constant, as the length increases, the natural frequency decreases and vice-versa.
Keywords: Natural frequency, stiffness, single crack, mild steel, FEM.

ISCA-ISC-2014-Oral-7EngS-Civil-14

A Review of Studies on Geocell-reinforced Foundations

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Abstract: Recent surge in the urbanization has led to a massive growth of infrastructure around the world. This has led to construction in soil mass considered otherwise unsuitable for construction. Ground improvement is an essential condition to build any civil engineering structure in these type of soil as they are found to have low bearing capacity and uneven settlement among other drawbacks. Geosynthetics are being widely used for the last two decades as soil reinforcement to improve the quality of soil owing to their ease of operation and overall cost. Geocell is the latest development in the field of geosynthetics. Geocell is a three dimensional, polymeric, honeycomb like structure of cells interconnected at joints. The soil particles can be trapped inside these cells providing an overall confinement to the soil layer and improves it properties regarding support of civil engineering structures. Several researchers have demonstrated the efficiency of geocell in improvement of bearing capacity of foundation when the soil is reinforced with geocell. This paper presents a review of the experimental techniques adopted to assess the performance of geocell as a foundation reinforcement material and validates its use for furher by the practicing engineers as a soil improvement medium.
Keywords: Soft soil, foundations, geosynthetic, geocell, geocell-reinforced foundation.

ISCA-ISC-2014-Oral-7EngS-Civil-16

Numerical Simulation of Tapered Elastic Bar Using Meshless Local Petrov Galerkin Method (MLPG)

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Abstract: This paper presents an application of the Meshless local Petrov Galerkin or MLPG for static deformation and stress analysis in a Tapered elastic bar. The MLPG method is a truly meshless approach, as it does not need any background mesh for integration in the weak form. The method employs the Moving least squares approximants as shape functions and uses penalty function approach to impose essential boundary conditions. A MATLAB program is developed to study the problem with varying order of integration cells and integration points for smooth and C^0 Continuous solutions. The obtained results are compared with the exact solution and corresponding error is calculated.
Keywords: Meshless local petrov galerkin, mlpg, tapered elastic bar, meshfree, partial differential equation, moving least square.

ISCA-ISC-2014-Oral-7EngS-Civil-17

Free Vibration Analysis of Tapered Steel Beam with Transverse Cracks

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Abstract: Non-prismatic members are increasingly being used in diversities as for their economic, aesthetic, and other considerations. Design of such structures to resist dynamic forces, such as wind and earthquakes, requires a knowledge of their natural frequencies and the mode shapes of vibration. The recognition of the vibration effects of cracks is important in practice since vibration monitoring has revealed a great potential for investigation of cracks in the last three decades. It enables us to provide more aesthetic view and strength in economical point of view. In this study free vibration analysis of tapered steel beam with single and multiple cracks is performed by FEM using software's like matlab, staad.proetc.
Keywords: Tapered beam, free vibration, single and multiple cracks, FEM.

ISCA-ISC-2014-Oral-7EngS-Civil-18

Non Linear Buckling Analysis of Laminated Composite Twisted Plates

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Abstract: The twisted plate has various applications in turbine blades, compressor blades and fan blades particularly in gas turbines. Many of these plates are subjected to in-plane load due to fluid or aerodynamic pressures. Buckling of such plates is of special importance especially if the plates are thin. Hence it is necessary to study their behaviour under different types of loads. Laminated composite materials are increasingly used as load bearing structural components in aerospace and naval structures, automobiles, pressure vessels, turbine blades and many other engineering applications because of their high specific strength and stiffness. For a complete buckling study, a geometrically nonlinear analysis should be carried out. In a geometrically nonlinear analysis, the stiffness matrix of the structure is updated between loading increments to take into account deformations which affect the structural behaviour unlike a linear buckling analysis where the stiffness matrix is constant through the analysis. The analysis is carried out using ANSYS software. In ANSYS, the shell 281 element with six degrees of freedom per node is used. The buckling of twisted plates was investigated by a nonlinear analysis. The effect of number of layers, changing twist angle, width to thickness ratio, aspect ratio are also studied.
Keywords: Non-linear buckling, composite material, laminated composites, cantilever panels, Pre-twist.

ISCA-ISC-2014-Oral-7EngS-EandEC-01

Performance of Different Wavelets for Recognition of Hindi Digits

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Abstract: In this paper WBF (Wavelet Based Features), LDA (Linear Discriminative Analysis) and PCA (Principal Component Analysis) is used to recognize spoken digits from 0 to 9 in Hindi. The main objective of this work is to find out the wavelet mother that better recognize the spoken Hindi digits. Thirty six experiments are carried out with six different wavelets and for six bands in independent-case. Experiments are done by using six different wavelets Daubechies 10, Daubechies 5, Daubechies 20, Meyer, Coiflet 3, Coiflet 5 and at six different sub-bands 5,6,7,8,9 and 10. Best results have been obtained using wavelets Daubechies 10, and Coiflet 5 at 8 and 9 sub-bands. The results obtained were compared with MFCC (Mel frequency cepstral coefficients). In this paper, Features based on Mel Frequency Cepstral Coefficients (MFCCs) were extracted and their performance is compared with the features extracted by different wavelets. It was found that the recognition performance using Wavelet -based features was superior when compared with MFCC-based features.
Keywords: Performance, different wavelets, recognition, Hindi digits.

ISCA-ISC-2014-Oral-7EngS-EandEC-02

Precoded Othogonal Space –Time Block Code Over Mimo Channels

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Abstract: Recent information theory research has shown that the rich-scattering wireless channel is capable of enormous theoretical capacities if the multipath is properly exploited. This is possible with one of the most promising technology for future Multiple-Input Multiple-Output (MIMO). MIMO architecture allows getting the diversity benefit or increased data rate. The work in the report will be aimed at evaluating performance of MIMO system targeted for improving data rate or capacity.Orthogonal space timecoding (OSTBC) has been developed in order to exploit the advantages of MIMO system such as Diversity gain. Pre-coding technique can be combined rate with OSTBC to adapt to the current channel condition without changing the fixed structure of the transmitters and receiver. MIMO Pre-coding techniques aim at improving the system performance. Finally we present simulation results that validate our analysis.
Keywords: Diversity gain, MIMO, OSTBC, PRE-CODER

ISCA-ISC-2014-Oral-7EngS-EandEC-03

Real Time Continuous Sorting on Huge Width Data Volume for Fpga

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Abstract: The most of the traditional sorting techniques compute the process after receiving all of the data and hence the process needs large amount of resources. This paper proposes a single chip scalable architecture based on Field Programmable Gate Array (FPGA), for a modified counting sort algorithm where data acquisition and sorting is being done in real time scenario. Our design promises to work efficiently without the need to store all of the data and also the execution speed of the proposed algorithm is invariant to the length of the data streaming computer science sorting is an important and widely studied problem where execution speed and resources used for computation are extreme importance especially if we think about real time data processing. The proposed design is verified for performance and has been successfully implemented on Spartan 3E FPGA system and the related hardware utilization and execution speed has also been measured. The results show that our design is better in terms of some of the design parameters compared to the existing research works.
Keywords: Reconfigurable architecture, embedded system, continuous data sorting, FPGA, real time, xilinx spartan 3E.

ISCA-ISC-2014-Oral-7EngS-EandEC-04

Cooperative Communication Simulation Using TCP

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Abstract: Demand for wireless communication has increased rapidly. Almost everywhere there is a wireless device (phones, laptops, etc...) that need to communicate with other mobile devices in their region or to connect to an internet access point, and they need to exchange data especially via internet. As a result, the need of better performance wireless networks has increased to provide people higher-quality wireless communication service. For all these reasons and other reasons researchers are developing new techniques that serve higher-quality wireless networks. One of the most attractive approaches is *cooperative communication* which will be discussed in this paper. Through this paper, we will define cooperative communication, and present cooperative strategies used in literature. Finally, simulate *cooperative communication* in ns2 simulator.
Keywords: Cooperative Communication, Increased Throughput, fading, diversity.

7. Engineering Sciences-Mechanical

ISCA-ISC-2014-Oral-7EngS-Mech-01

Design and Fabrication Servo Control Double Arm Excavator

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Abstract: Many kinds of work machines based on hydraulic excavators have been developed for various work fields. Robotic excavator is a hydraulic powered mostly 4 DOF manipulator mounted on a mobile chassis which implements with remote control (manually) excavation. This project contains robotic structure and grippers fabrication of high level control of robotic excavator with the help of servo controller most of the work is done by electric energy converting devise like DC motors, servos, etc. Which help the human workers in different ways by saving time and reduce the stress, work burden. Here the project based on the development of "The double arm working machine", that is suitable for robot with two arms doing all the work like carry, handle, hold and move the load. These work machines have also played an important role in the recovery work after disasters such as earthquakes, typhoons, and floods can also climb the unconditioned road or irregular path way. We also implemented a new operating system for that enables operators to handle the two arms simultaneously through two controlling devices. In this paper, we present an overview of servo control excavator and its operating method by this finally this system can prove able to improve the work efficiency, to reduce labors, and to improve accuracy.
Keywords: Surveillance, bilateral master-slave Control, extraction robot, multi- function robot, rover, robotic excavator, modeling and identification, double-arm working machine, disaster recovery, Handling Arm, Construction Robot, Manipulator.

7. Engineering Sciences-Textile

ISCA-ISC-2014-Oral-7EngS-Textile-02

Effect of Ecofriendly Crease Resistant Finish on Crease Resistant and Antibacterial Property of cotton fabric after Laundering Cycles

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Abstract: An image commonly used to depict the three dimensions of sustainable development is economic sustainability, environmental protection and social responsibility. Global population growth is expected to reach 9 billion by 2050 and agricultural production will need to be double. To meet the increased demand for food, energy crops and also fibers (clothes), the efficient use of all options. The textile and garment industry fulfils a pivotal role in the Indian economy. It is a major foreign exchange earner and, after agriculture, it is the largest employer with a total workforce of 35 mn. In India cotton is used extensively for apparel purpose. It has many qualities which make it suitable for apparel purpose

such as absorbency, strength, easily spinnable, washability, good conductor of heat which leads to comfort in wear during hot weather .It can bear high dry heat and high ironing temperature. But there are certain drawbacks associated with cotton fibre or fabric such as low elasticity and low resiliency which creates wrinkles. In the present study it was found that chitosan with citric acid act as a non-formaldehyde durable press finish to produce wrinkle resistance and antimicrobial property on cotton fabric. It is environmental friendly finish. Chitosan have many biological properties such as biocompatible in terms of natural polymer, biodegradable, safe and non toxic. It is a step toward ecofriendly textile because it is the demand of the day.

Keywords: Chitosan, cotton fabric, wrinkle resistance.

ISCA-ISC-2014-Oral-7EngS-Textile-03

Energy and Effluent efficient dyeing process of CDPET fiber: Effects of Non – polar Solvent

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Abstract: Polyester fiber, being commercially introduced by ICI in 1948, under trade name 'Terylene', occupies number one position in production and consumption. Owing to the high crystallinity, highly oriented structure and hydrophobic nature, the said fiber has poor dyeability (with ionic dyes), wettability, comfort problems, soiling problem etc. To overcome all these limitations various modifications of normal polyester are commercialized such as, low pill PET, deep dyeable PET, carrier free dyeable PET, hollow PET, antibacterial/deodorant PET, flame retardant PET, silk like PET, and cationic dyeable PET (CDPET) fibers. The first CDPET, Dacron T-64 (DuPont), was introduced in 1962 and is now well-established commercially under various trade names. CDPET is produced by incorporation of compound containing sulphonic acid group during trans esterification reaction of polyester production . The introduction of sulphonic acid group in the polymeric chain enables this fiber to dye in deep shades with cationic as well as disperse dyes at or below 100oC. Various literatures pertain to solvent assisted dyeing of wool, silk, nylon and acrylic fibres with different dyes have been reported. No reports available on dyeing behavior of CDPET fiber with solvent assisted process. In the present investigation, effects of non-polar solvent on dyeing behavior of CDPET fiber at below 100oC was examined with four structurally different cationic dyes. Various process parameters of dyeing were analyzed and an optimal condition has been derived. Results confirmed that CDPET fiber can be dyed effectively with good fastness properties at 90oC in presence of non-polar solvent with cationic dyes. The said process techniques lower energy costs of dyeing and reduce effluent load (due to higher exhaustion of colour) of dyeing.

Keywords: Energy, effluent efficient, dyeing process, effects, non–polar, solvent.

ISCA-ISC-2014-Oral-7EngS-Textile-04

Physico – Chemico and Structural behavior of Advanced cellulosic Fibres

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Abstract: The first advanced cellulosic fiber, popularized as, rayon fiber, was invented in 1892 by C F Cross and E J Bevan and commercialized in 1896 by British Viscoid Co Ltd. To overcome limitations of former fiber and to add certain technological advancement, continuous development in the area of advanced cellulosic fibres have geared up. Advanced cellulosic fiber development is keen interest of technologists and its market with introduction of new fibres, growing significantly, and particularly in last decades. All the advanced cellulosic fibres have specific characteristics required for particular end usages and with few drawbacks. They are generally developed or introduced to resolve the limitations in general associated, such as, effluent problems, long production sequence, lack in certain physical and chemical properties etc. Viscose rayon and polynosic are considered as the first generation advanced cellulosic fibres, followed by tencel and modal as the second generation and excel the third generation fibres. Recently, 'Ioncell' has been introduced as the latest regenerated cellulosic fibres with many more advantages. In the present paper, the technological developments in terms of production cycle, characteristics (physical, chemical and structural) and end usages of various advanced cellulosic fibres have been discussed. Further, the major industries (national and international) with their quality and production capacities with the important properties of their products are also highlighted.

Keywords: Physico, chemico, structural, behavior, advanced, cellulosic, fibres.

ISCA-ISC-2014-Oral-7EngS-Textile-05

Eco-Friendly Way for UV Protection through Textiles- A Review

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Abstract: In recent years, there is a drastic increase in the temperature of tropical regions due to which consumers have become increasingly aware of the need for sun protection. According to experts, including the U.S. Environmental protection Agency, the technique that best protects the skin against UV radiation is clothing. Among different types of textile materials cotton being the most used textile in summer, has poor UV protection factor when compared to other fibers like silk, polyester etc. Certain synthetic chemicals like zinc oxide are used for the development of UV protective finish. But from last few decades eco-friendly textile products and finishes are in great demand and natural UV protective coatings using plant extracts can have advantages, including production in a more sustainable fashion with less environmental impact. This review paper highlights the potential of plant material for development of UV protective finishes.
Keywords: Eco-friendly, protection, textiles.

ISCA-ISC-2014-Oral-7EngS-Textile-06

Laboratory Simulation Study of Bituminized Jute Paving Fabric for its commercialization and potential application in road constructions

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Abstract: Geotextiles have witnessed unparalleled growth worldwide in recent years in the field of different civil engineering constructions. With the growing environmental concern the global emphasis is towards the application of eco-concordant, bio-degradable, renewable green products and this has inclined towards the natural fibre-made fabrics and making them a natural choice for the mankind. Jute Geotextile (JGT) is increasingly gaining ground over its synthetic non-biodegradable and toxic counterpart leading significant innovation in the design of geotechnical and geoenvironmental systems. One of the prime applications of JGT in civil engineering gamut is in road construction where JGT has been restricted so far as underlay.Hence, there is an urgent need to design and develop an innovative fabric as overlay on existing pavements to stay technically and economically competitive in the global market.Such a fabric will not only prove techno-economically viable but will also reduce the carbon foot-print generation to a large extent.This paper focusses on the laboratory simulation study of Bituminized Jute Paving Fabric (BJPF) carried out by the Department of Jute and Fibre Technology, University of Calcutta in collaboration with Central Road Research Institute (CRRI), New Delhi to establish its efficacy inreducing the cost of maintenance of the roadand serving as a partial substitute of bitumen mastic enhancing thereby the life expectancy of the road.
Keywords: Jute geotextile (JGT), bituminized jute paving fabric (BJPF), overlay, techno-economic viability, polymer modified bitumen (PMB).

ISCA-ISC-2014-Oral-7EngS-Textile-07

A Novel Energy-Efficient Colouration Technique Fordyeing Regenerated Cellulosic Fibres Usingdirect Dyes

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Abstract: The cost of energy is continuously increasing and is becoming a significant share of the total share of the total cost of processing textiles. Among various wet processing operations, the dyeing process consumes more than 50 % of the energy. Therefore it is necessary to design various techniques so as to reduce the energy consumption during dyeing. Lowering the temperature during dyeing is one such aspect which substantially minimizes the energy requirements. This has been achieved by various methods, such as graft polymerization, redox system, solvent dyeing etc. Solvent assisted dyeing of various textile fibres such as cotton, wool, silk, nylon, polyester, etc. have shown improved dyeing performance. The present work aims to develop conditions suitable for the application of direct dyes on different regenerated cellulosic substrates, namely viscose rayon, modal and lyocellat low temperatures. The feasibility of dyeing regenerated cellulosic

fibre fabrics with direct dyes at low temperature was carried out with the aid of acetophenone solvent. Commercial direct dyes have been applied on the solvent pretreated regenerated cellulosic substrates at different dyeing temperatures, ranging from room temperature to 70° C. The morphological changes incurred in the fabric due to the solvent treatment were also examined. The dyed samples were evaluated spectrophotometricallyfor their colour strength values (in terms of K/S values) and were compared with conventionally dyed samples. The fastness characteristics, viz. wash, light and rub fastness were also assessed by standard measurement techniques for commercialization of the low-temperature dyeing technique. The solvent treatment not only aids in reducing the dyeing time and temperature but also retains the aesthetic values associated with the regenerated cellulosic fibres.

Keywords: Novel, Energy-Efficient, colouration, technique, fordyeing, regenerated, cellulosic, fibres, usingdirect, dyes.

ISCA-ISC-2014-Poster-7EngS-Textile-01

Cotton - Polyester: Natural and synthetic Fibre blend

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Abstract: A study was undertaken with a view to produce cotton blended knits, which would be within the accessibility of common consumers. The blending and spinning of cotton and polyester fibres was done on open end spinning system in different ratios and blend influence on yarn properties of polyester cotton blend were studied. Blending of cotton with polyester was found to improve certain properties of cotton as well as polyester yarn. The knitting of the fabric was done on circular weft knitting machine and T-shirts were knitted from pure cotton, pure polyester and 50:50 P/C blends. Effect of wear on constructional properties of weft knitted Polyester-Cotton blended fabric was studied after different levels of wear and washing. It was concluded that constructional properties changed more after 10 washings and wears. Fabric count increased significantly after different levels of wear. Fabric thickness and weight also increased significantly after ten wears but after that thickness and weight decreased. Mechanical properties i.e. bursting strength, porosity, air permeability, bending length, flexural rigidity, drape coefficient, abrasion resistance, moisture regain, crease recovery decreased after different level of wears. As far as cost is concerned, blended garments cost was found to be lesser as compared to pure garments. So, the blend may emerge as a cheaper and a better substitute for pure cotton. Being the producer of cotton, the rural masses can take up or adopt knitting as an income generating source, to set up a small scale enterprise.

Keywords: Polyester, cotton, blend, knitting, enterprise.

ISCA-ISC-2014-Poster-7EngS-Textile-02

A Study Of Printing Of Oak Tasar/Wool Blended Fabric With Acid Milling Yellow 110 Dye And The Effect On Various Physical Properties

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Abstract: A study of the printing characteristics of oak tasar/wool blended fabric, printing experiments of oak tasar/ wool blended fabric with milling acid yellow 110 dye stuff has been carried out in this paper. The effect of this dye on the blended fabric, has been developed. The optimum conditions, including concentration of dye, fixation method and temperature were also investigated. Physical and mechanical properties studies included fabric weight, fabric thickness, bending length, flexural rigidity, crease recovery and tensile strength, elongation, tearing strength and air permeability. The colour fastness properties for printed fabric were evaluated.

Keywords: Acid dye, fixation and dye concentration, fastness properties,

ISCA-ISC-2014-Poster-7EngS-Textile-03

Eco-Friendly Textile dyed with Natural dye

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Abstract: Textile dyeing plays a very important role in textile processing industry. Finding of researches conducted in recent years showed that chemicals used in synthetic dyes may contain toxic elements such as benzidine, aryl amine, lead, cadmium, zinc, mercury, formaldehyde, pentachlorophenol and halogen carrier etc.. Use of such dyes in textiles is

associated with environmental degradation as well as hazards on health of human and other living beings viz creating skin cancer, skin irritation, lungs problem and allergy. Due to such negative impact of synthetic dyes researches in the field of textile dyeing has been focused on substitute preparation of natural dyes. Dyes of natural origin are environment friendly in nature and have no side effect on skin. The present study deals with the extraction of natural dye from spice and its application on textile fabric. Dye was extracted in acidic medium. For improving dyeability of textile substrate, mordanting of the fabric was done with natural mordant. In experiment, three different mordanting techniques were used for mrdanting of the fabric. Attempt has been made to investigate the overall colour fastness properties of dyed textile material.

Keywords: Natural dye, synthetic dye, dyeing, mordants, colour fastness, environment friendly.

ISCA-ISC-2014-8EVS-Guest Speaker

Electrochemical Methods for Water Purification Contaminated by Agricultural Activities

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Abstract: Water, the generous gift of nature is sure to become scarce unless the ever growing population is enlightened enough in handling the increasing stress and to avoid the crisis due to the expanding demand for this precious commodity. Management of water and its resources by conservation and its judicious use help to preserve the available water. Even then, whether it is from surface or underground sources, it has become impossible to obtain good quality water for human consumption. Thus, the dwindling quantity and lessening the quality of water require effective steps to be taken urgently for the sustenance of the living being of today and tomorrow. Agricultural activities influence water quality. Poor agricultural practices can result significant impacts to groundwater, streams and lakes. Water flowing over agricultural land and irrigation carries pollutants to the nearest water body. This water can also seep into the ground leaching pollutants into ground water. Agricultural pollutants that are carried to the water via runoff can mainly include sediment, inorganic and organic. These inorganic and organic pollutants are coming from pesticides, herbicides, nutrients and fertilizers. As a result, elevated levels of nitrogen and phosphorus, synthetic organic chemicals and heavy metals are found in the receiving water. The development of sustainable, robust and energy efficient water purification technology is greatest challenges of this century. Currently available water treatment processes are based on biological, physical, physicochemical, chemical, thermal and electrochemical methods. Each treatment process has its distinct advantages/disadvantages over the other ones. In this talk some of the important and recent developments in the electrochemical alternatives for water purification are reviewed. The talk also covers electrochemical technologies developed at CSIR-CECRI for decontamination of water.

ISCA-ISC-2014-Oral-8EVS-01

Nano Magnetite Loaded Poly (Acrylamide-co-Itaconic acid) Hydrogel as adsorbent for Effective Removal of Mn^{2+} from aqueous solution

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Abstract: The present research focuses on the adsorptive efficiency of nano magnetite loaded poly (acrylamide-co-Itaconic acid) hydrogel for manganese removal from synthetic as well as contaminated water by batch as well as column adsorption technique. The influence of pH, contact time, adsorbent dose, temperature, metal ion concentration, bed depth, feed flow rate and inlet metal ion concentration on the sensitivity of the removal process was inspected. The copolymer was synthesized and magnetized insitu. The sorption data was analyzed and fitted to linearized adsorption isotherm of the Langmuir and Freundlich equations respectively. Equilibrium data fitted very well to the Freundlich model. The kinetics of sorption was analyzed using pseudo-first-order and pseudo-second-order kinetic models. Kinetic parameters, rate constants, equilibrium sorption capacities and related correlation coefficients for each kinetic model were calculated. Different thermodynamic parameters i.e. ΔG^0, ΔH^0 and ΔS^0 were also evaluated which proved the sorption to be feasible, spontaneous and exothermic in nature. This hydrogel has been found to be an efficient adsorbent for manganese removal from water (>99% removal) and could be regenerated efficiently for further experiments.
Keywords: Nano magnetite particles, hydrogel, isotherms, kinetics, thermodynamics.

ISCA-ISC-2014-Oral-8EVS-02

Adsorptive removal of Safranine-T from Industrial effluent by nano magnetite Encapsulated Polyvinylalcohol-alginate Microspheres

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Abstract: The adsorption potential of nano magnetite encapsulated polyvinylalcohol-alginate microspheres [NMPVA-A] was investigated for the removal of cationic dye Safranine–T from industrial effluent by batch and column adsorption techniques. In the batch mode experiment, effect of contact time, temperature, the influence of pH, amount of adsorbent,

dye concentration and agitation speed were thoroughly investigated and well regulated. The Langmuir, Fruendlich, Temkin and Dubinine-Radushkevich (DR) isotherms were successfully used to model the experimental data. In the column method, the bed depth service time [BDST], Thomas, Adams-Bohart and Yan model were used to obtain an empirical relationship for the design of the adsorption column. The NMPVA-A has been found to be an efficient adsorbent as it showed maximum 99.15% removal at 10-11 pH and could be regenerated efficiently(98.72%) and used repeatedly for further experiments.

Keywords: Nano magnetite, adsorption isotherm, safranine-T, polyvinylalcohol-alginate.

ISCA-ISC-2014-Oral-8EVS-03

Biodegradation and Decolorization of Reactive Blue MR, using Pseudomonas luteola Species isolated from textile dye effluent contaminated Soil

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Abstract: The Present investigation focused on isolation and characterization of bacterial strains which has an ability to decolorize textile dye, reactive Blue MR. Initially effluent sample were collected from textile industry situated in Ichalkaranji. Effluent sample were analyzed for their physicochemical properties. Various bacterial species were isolated , and decolorisation capabilities of these bacterial species were evaluated for reactive Blue MR dye (50 %) in minimal medium, under optimum conditions. It was found that Pseudomonas luteola showed higher decolonization capabilities after 48 hrs of incubation. So these bacterial isolates are potential candidates for bioremediation of textile waste.

Keywords: Decolorisation, textile dye, reactive blue mr, pseudomonas luteola, textile effluent.

ISCA-ISC-2014-Oral-8EVS-04

Biodegradation of Degradation of Synthetic polymer nylon 6 by pseudomonas Putida

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Abstract: Nylon 6 or polycaprolactam is a polymer developed by Paul Schlack at IG Farben to reproduce the properties of nylon 6,6 without violating the patent on its production. Unlike most other nylons, nylon 6 is not a condensation polymer, but instead is formed by ring-opening polymerization. This makes it a special case in the comparison between condensation and addition polymers Nylon 6, one of the polyamide polymers finds its application in the broad range of products requiring materials of high strength. It is widely used for gears, fittings, and bearings, in automotive industry for under-the-hood parts, and as a material for power tools housings. Nylon 6 is used as thread in bristles for toothbrushes, surgical sutures, and strings for acoustic and classical musical instruments, including guitars, sitars, violins, violas, and cellos. It is also used in the manufacture of a large variety of threads, ropes, filaments, nets, and tire cords, as well as hosiery and knitted garments. It can also be used in gun frames, such as those used by Glock, which are made with a composite of Nylon 6 and other polymers. The very bad degradability of nylon is to be due to its strong intermolecular cohesive force caused by hydrogen bonds between molecular chains, which leads to bioaccumulation and environment pollution problems. By considering this in the present study A biodegradation study of nylon 6 polymer was carried out under surface culture conditions. The analysis was carried out using weight and thickness measurements, and I. R.spectroscopy. Sheets of nylon 6 were inserted in fermentation broth which was incubated at30^0C for six months. Nylon 6 was the sole source of carbon in the medium. A visible degradation was developed that resulted in crack within 90 days. The groove that weakening and breaking of polyamide bond have been confirmed by weakening in I R band and molar mass reductions have been observed in morphological studies.

Keywords: Nylon 6, Bio-degradation, pseudomonas putida, plastic waste management, biopolymers.

ISCA-ISC-2014-Oral-8EVS-05

Biodiversity of Bhambarde Reservoir of Sangli, Maharashtra, India

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Abstract: Reservoirs play an important role in providing food to fish and other aquatic animals; provide support to

algae; shelter and habitat to some animals, also in cycling of nutrients in the water body. A total number of seven macrophytes were reported from Bhambarde reservoir. In aquatic ecosystem, the phytoplankton play an important role of primary producers. They have a unique ability to fix inorganic carbon to build up organic substances through primary production. The Chlorophyceae represented by 14 genera and 19 species. The Cyanophyceae members were represented by 05 species of 04 genera. The Bacillariophyceae observed 03 genera and 04 species. Dinophyceae represented by Ceratium and Peridinium with 1 species each. The reservoir is secondarily being used for reservoir capture fishery. Important major carps, common carp, Chinese carp and 10 local fish species along with a crab variety occurred in this reservoir. There were 13 species of aquatic birds were observed in the vicinity of Bhambarde reservoir.
Attempts have been made to observe the diversity of macrophytes, phytoplankton, fish and bird diversity to obtain the baseline data from Bhambarde reservoir of Sangli district in the duration August 2011 to July 2013.
Keywords: Biodiversity, bhambarde reservoir, sangli district, macrophytes, phytoplankton, fishes and birds.

ISCA-ISC-2014-Oral-8EVS-06

Biodiversity of Kanher dam of Satara District, MS, India

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Abstract: River Venna is a tributary of Krishna river and has its orgin in nearMahabaleshwar. It runs a distance 45 km before meets with river Krishna near Satara on which Kanher dam was constructed.The water from the dam is utilised for irrigation, generation of electricity, drinking, aquaculture practices and recreation purposes. The present study comparies with limnological parameters, plankton diversity and survey of migratory and resident bird species. The plankton and bird species are best biological parameters of water and enviromental quality and assecement of conservation value of any habitat.The complied data needss to be further strengthened for improving strategies that insure stability and sustainability of study area.
Keywords: Biodiversity, Limnological parameters, water quality, aquature

ISCA-ISC-2014-Oral-8EVS-07

Exploring Ecological Research Gaps in Freshwater Lakes with Special reference to Udaipur, Rajasthan, India

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Abstract: The world's freshwater lakes are increasingly threatened by new pressures and the interaction among these new and old stressors. In the rapidly changing environment, the paper emphasises the need to evaluate the state of art of limnological researches. In the present study Udaipur city of Rajasthan is taken as a case study to understand the present status of researches being carried out in relation to fresh water lakes. Most of the limnological researches being carried out are related to physico- chemical analysis, eutrophication and pollution. Much data is available on algal nutrient, sedimentation, phytoplankton etc. But most of the other topics like eco-modelling, lake restoration, growth of invasive species, cumulative impact assessment on land use changes, aquatic -terrestrial habitat relationship are still untouched or are more or less constrained to single lake. Competition for water among different users arising from population increase is certainly limiting the ability of lakes to survive at present and in the near future, particularly in the face of the harsher environmental conditions that climate change is triggering. Thus the present paper aims to identify the research gaps and define criteria to be used to distinguish research able to produce relevant results and predictive model, which are essential for efficient management of fresh water lakes.
Keywords: Research gaps, limnology, pollution, eco- modelling, lake restoration.

ISCA-ISC-2014-Oral-8EVS-08

A comparative Evolutionary analysis and Prediction of carbon Dioxide Emission in Different Countries

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Abstract: Climatic change in recent times is one of the serious issues throughout the world which is mainly due to the

cause of global warming. Global warming is much alarming to the human beings and also to the existence of life on earth. The main cause for global warming is uncontrolled anthropogenic emission of green house gases like carbon dioxide, methane, chlorofluorocarbons etc. Among the green house gases, carbon-dioxide contributes a major share in this aspect. The rate of carbon-dioxide emission varies in different countries like India, USA, China, Japan and also in European countries depending on several conditions mainly industrialization, population explosion and economic growth. In this paper, an attempt has been made for the quantification of carbon dioxide emission in different countries using historical data of hundred years around the globe. Here, we formulate an evolutionary gas emission model using non-linear least square method and regression analysis has been done based on the above data for quantification of the emission. Finally, we predict the long term evolutionary trend of gas emission using instantaneous rate of change (IROC) in the subjected countries along with a comparative analysis.

Keywords: Global warming, least square, regression analysis, carbon dioxide, IROC.

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Hydrograph Analysis for Groundwater Recharge Potential

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Abstract: Accurate estimation of groundwater recharge is extremely important for proper management of groundwater systems. Many different approaches exist for estimating recharge. The groundwater level variation follows a pattern similar to recharge fluctuation, with a time delay that depends on the characteristics of aquifer, recharge pattern as well as the distance between the recharge and observation locations. The water-table fluctuation method may be the most widely used technique for estimating recharge; it requires knowledge of specific yield and changes in water levels over time. Advantages of this approach include its simplicity and insensitivity to the mechanism by which water moves through the unsaturated zone. Uncertainty in estimates generated by this method relate to the limited accuracy with which specific yield can be determined and to the extent to which assumptions inherent in the method are valid. Other methods that use water levels (mostly based on the Darcy equation) are also described. Goa being a state blessed with rich water resources requires a estimation of its Groundwater Resources and trends of various activities affecting its overall availability and potential of serving the needs of population depending on it. A Hydrograph trend analysis of 45 Groundwater stations selected in Goa by land use patterns is predicted.

Keywords: Groundwater, Water-Table Fluctuation, Hydrograph, Aquifer, Recharge

ISCA-ISC-2014-Oral-8EVS-10

Environment and Women: A Special Relationship

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Abstract: Women all over the world have specially designated socio-economic roles and responsibilities which make them specially closer to their natural surroundings and thereby make them extra special for preservation of environment. It becomes all the more evident by closer look at as to who is involve more in activities closer to nature and environment, which include collection of water for drinking, washing, cleaning and cooking, collection of fuel, fire wood and other forest products, maintenance of kitchen garden, maintenance of farm, dairy animals and their products, cottage and house hold based work and handicrafts involving forest products like jute, cane, silk products, bidi making, tendu leaves products, natural colors, paper mashie work etc.

Keywords: Environment, women, forest, socio-economic, mode of presentation: oral.

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Coal Mining, Climate Change Risk and Mitigation Measures

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Abstract: Coal is the major fossil fuel in the earth. It supplies energy for the development of the hour. Hence, coal mining cannot be avoided. A number of Greenhouse Gases (GHGs) emissions are involved with the coal mining, which are CO_2, CH_4, N_2O, water vapor, etc. So green house effect is the consequence of development especially the infrastructure. Coal mining has also significant contribution towards greenhouse effect which brings climate change. The relentless

pursuit of scientific laws has witnessed technological development. The main purpose of science and technological invention/development is to better the life of mankind. Even then, it is never accepted by our society to have development at the cost of our life. But we have to exploit fossil fuel i.e. coal to meet the energy demand of the day. Here, the author has made an attempt to focus on the Climate Change Risk due to emission of methane (CH_4) during coal mining and probable mitigation measures.

Keywords: Coal, fossil fuel, mining, climate change, risk, GHGs.

ISCA-ISC-2014-Oral-8EVS-12

Batch Removal of ZINC (II) Ions from Aqueous Solutions using Peanut Hulls (Arachis hypogaea Linn.)

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Abstract: Tremendous growth of industries worldwide in the last few decades and the associated anthropogenic activities has often resulted in the environmental pollution. Heavy metals are prominent components of industrial effluents which are discharged in to the environment and consequently pollute the ecosystem. Biosorption is a process which utilizes inexpensive dead biomass to sequester toxic heavy metals and is use for removal of heavy metals from industrial effluents. Peanut hulls (Arachis hypogaea Linn.) are an agro-based waste material and chemical contents showed a high cellulose and lignin content, which favours biosorption of heavy metals cations. The effective removal of Zn (II) ions from aqueous solutions using nitric acid treated Peanut hulls (Arachis hypogaea Linn.), a cost effective biosorbent was carried out in batch system. The effects of operational factors including solution pH, biosorbent dose, initial zinc (II) ions concentration, contact time and temperature were studied. The optimum solution pH for zinc (II) ions adsorption by biosorbent was 6.0 with the optimal removal 71.91 %. The adsorbent dose of 5 g/L was enough for optimal removal. The adsorption process was relatively fast and equilibrium was achieved after 60 min of contact. Adsorption isotherms Langmuir, Freundlich, Dubinin-Kaganer-Redushkevich (DKR) and Temkin models applied for experimental data. Simple kinetic models such as pseudo-first-order, pseudo-second-order, Elovich equation and intra-particulate mixing models were employed to determine the adsorption mechanism. Thermodynamic study revealed that the biosorption process was spontaneous, endothermic and increasing randomness of the solid solution interfaces. The present study showed that the Peanut hulls (Arachis hypogaea Linn.) are very promising plant waste material for removal of zinc (II) ions in industrial wastewater.

Keywords: Adsorption, Zinc (II) ions, Peanut hulls (Arachis hypogaea Linn.), Adsorption isotherms, Kinetic study, Thermodynamic study.

ISCA-ISC-2014-Oral-8EVS-13

Chromium: As an Environmental Pollutant

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Abstract: In recent years, contamination of the environment by chromium (Cr) has become a major area of concern. Chromium is the 17th most abundant element in the earth's mantle. Chromium is used on large scale in many industries including metallurgical, electroplating, production of paints and pigments, tanning, wood preservation, chemical production and pulp and paper production. Cr exists in several oxidation states but the most stable and common forms are Cr (0), Cr (III) and Cr (VI) species. Cr toxicity in plant depends on its valence state. Cr (VI) is being highly mobile is toxic. Cr (III) as less mobile is less toxic. Chromium is known to be a toxic metal that can cause severe damage to plant. Toxic effects of Cr on plants growth and development include alterations in the process of germination, growth of roots, stem and leaves, which may affect total dry matter production and yield. Cr also causes detrimental effects on the plant physiological processes such as photosynthesis, water relations, mineral nutrition, oxidative imbalance and inhibition of enzymatic activities. Chromium can affect antioxidant metabolism in plant. Chromium- induced oxidative stress involves induction of lipid peroxidation in plants that causes severe damage to cell membrane. Cr is able to induce genotoxicity in several plant species. The use of biological remediation technologies such as bioremediation and Phytoremediation for the cleanup of Cr-contaminated areas has received increasing interest from researchers worldwide.
This paper includes an overview of the literature about Cr toxicity in the environment, especially in water and soil and provides new insights about Cr toxicity in plants.

Keywords: Chromium, oxidative stress, antioxidant, Cr (III), Cr (VI), phytoremediation, bioremediation, photosynthesis.

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Competitive Adsorption Studies of Lead (II) Ions from Aqueous Solutions onto Terminalia Catappa L. Leaves

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Abstract: Heavy metal pollution is one of the most important and serious environmental problem worldwide today. Presence of heavy metals in aquatic ecosystem, affects aquatic organism and also to the consumers of them which poses health risk. Biosorption is a promising technique used for removal of heavy metals from aqueous solution which has distinct advantages like non-polluting, environmental friendly, highly selective, more effective, easy to operate and cost effective. Tarminalia Catappa L. is a large tropical tree in the Leadwood tree family, belongs to the Combretaceae. Leaves of Tarminalia catappa L. contain several flavonoids, tannins, saponins and phytosterols and can accumulate heavy metals from their external environments by means of physico-chemical and biological mechanism. Tarminalia catappa L. leaves were evaluated as low cost adsorbent for effective removal of lead (II) ions from aqueous solutions by batch mode adsorption studies. The different operational factors including solution pH, biosorbent dose, initial lead (II) ions concentration, contact time and temperature were studied. The optimum solution pH for lead (II) ions adsorption was 6.0 and the adsorbent dose of 5 g/L was enough for maximum removal. The adsorption process was relatively fast and equilibrium was achieved after 60 min of contact. In order to investigate sorption isotherms, equilibrium models, Langmuir, Freundlich, Dubinin-Kaganer-Redushkevich (DKR) and Temkin isotherms were analysed. Kinetic studies and thermodynamic studies were carried out and results clearly indicate that biosorption process follows pseudo-second-order reaction which is spontaneous, endothermic and increasing randomness of the solid solution interfaces. *Tarminalia catappa* L. leaves were successfully used for the adsorption studies of lead (II) ions from aqueous solutions and can be used as potential sorbent for removal of lead (II) ions from industrial waste water.

Keywords: Adsorption, Lead (II) ions, Tarminalia catappa L. leaves, Adsorption isotherms, Kinetic study, Thermodynamic study

ISCA-ISC-2014-Oral-8EVS-15

Toxic Metal Effect on Filamentous Fungi Isolated From the Contaminated Soil of Multan and Gujranwala

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Abstract: Considering the importance of filamentous fungi for bioremediation of wastewater and contaminated soils, this study was planned to investigate the metal tolerance potential of indigenous filamentous fungi. Certain metals are important to biological actions. However all metals, whether essential or inessential will show toxicity at certain levels. During 2012 total 17 fungi were isolated and preserved from contaminated peri-urban agricultural areas of Multan and Gujrawala for further detail investigation of heavy metal tolerance. Aspergillus niger, Aspergillus fumigatus and Aspergillus flavus isolated from both soil and water samples while Aspergillus terreus and Penicillium sp were only isolated from soil samples of Multan and Aspergillus versicolor, Aspergillus flavus, Fusarium oxysporum, Aspergillus niger which were isolated from contaminated soils and water samples while Penicillium sp was isolated from only water samples of Gujranwala. These few fungal isolates were selected for tolerance to metal Cu $(SO_4)_2.5H_2O$, Cd $(NO_3)_2$, Cr $(NO_3)_2$ and Pd $(NO_3)_2$. The tolerant strains were selected with increasing metals concentration of 100ppm and compared to control in the medium. The degree of tolerance was measured by radial growth (cm) in the presence of various heavy metals and compare to the control, which contain no heavy metals. The present study investigation concludes isolates Penicillium .sp and Aspergillus flavus isolated from soil of Gujranwala show maximum tolerance index 2.1 at 100ppm toward Cr and 4.8 at 100ppm toward Cd respectively. Aspergillus Versicolor (isolated from waste water) exhibit considerable highest tolerance index toward Cu and Pb while show a sensitivity against other metals. The present study indicates that in future similar strains will be tested with other heavy metals for the confirmation of tolerance and tolerant strains will be used for bioremediation of heavy metals.

Keywords: Filamentous fungi, bioremediation, metal tolerance, soil and water fungi, tolerance index.

ISCA-ISC-2014-Oral-8EVS-16

Epidemiological and Pathological Estimation of Foliar Rust Diseases of Wheat from Pothohar Region of Punjab, Pakistan

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Abstract: Foliar rust diseases of wheat are major constraints to agriculture system of Pakistan. Wheat is consumed by 99% people of this country and also a source of economic growth. But due to epidemic of foliar rust diseases in various regions of the state quality as well as quantity of wheat varieties cannot be meet up to international standards. A couple of surveys were conducted to assess foliar rust disease severity in rainfed areas of upper, middle and lower pothohar region of Punjab, Pakistan. From four districts 21 locations were selected and wheat growing fields were surveyed. Questionnaires were filled by farmers to gather information about their crop management practices. During second survey infected leaves were collected to get inoculums of yellow, brown rust and powdery mildew. These inoculums were multiplied on universal susceptible wheat variety Morocco. Increased inoculum was collected and preserved for race identification and virulence behavior. The survey study concluded that powdery mildew was present only in one location of district Attock while stem rust was absent in all locations of four districts. Prevalence, incidence and severity of yellow and brown rust varied from one location to another. Yield attributes data of each wheat growing field covered number of tillers m^{-1} length, number of grains $spike^{-1,}$ harvest index and grain and straw yields.Information extracted from surveys of wheat growing fields during 2013-2014 will help to formulate policies according to changing environmental conditions and crop management systems will be modified to meet international standards.
Keywords: Epidemiology, pathological assessment, germplasm, rust pathogens

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Physico-chemical Characterization of Particulate Matters from Vehicular Sources and their Health Impacts

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Abstract: Vehicular emissions due to the combustionof fossil fuels are one of the prevalent sources of a large number of particles and gaseous products in ambient air. Fine particles are the major pollutants to be concerned, emitted in large quantities as well as formed as a result of various photochemical activities and that could be potentially more signiûcant in terms of their impact on health and the environment than larger particles. A large number of toxic organic compoundsand trace elements are often associated with these airborne particulates. These emissions are of particular concern in the urban environment because of the high probability of exposure risk of large population as well as the presence of complex ventilation and meteorological conditions. This paper presents a comprehensive review of physico-chemical characteristics of particles emanating from vehicular combustion. The study also depicts a brief overview of the adverse health and environmental impacts of various physico-chemical characteristics of the particles along with a discussion of the current methods for measuring the physical and chemical characteristicsof the particles. Based on the investigation, the study portrays the need for future research, especially for the appropriate identification of the cause and source of trace metals and organic fractions in order to develop effective control measures.
Keywords: Vehicular emissions, ambient air, fine particles, trace elements, toxic organic compounds, health Impacts.

ISCA-ISC-2014-Oral-8EVS-18

Air quality study in Rajapur Opencast mine (Cluster VII) of Jharia Coal field, India

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Abstract: Mining of coal, essential for the development of the nation as coal forms the back-bone for electricity generation, is believed to be an environmentally unfriendly activity as all the components of environment are affected adversely. Out of these, air environment in particular is getting deteriorated significantly by various operations of mining and associated activities. This paper delineates air environmental status of an opencast coal in Jharia Coalfield. The average concentration of SPM, PM_{10} and $PM_{2.5}$ concentrations were observed to be in the range of 294 to 965ìg/m^3, 100 to 498 ìg/m^3 and 85 to

296 ìg/m^3 respectively. The observed concentrations of particulate matters were thus exceeding National Ambient Air Quality Standard (NAAQS, 2009) as well as Ambient Air quality Standard for existing as well as new Coal Mines (CMS, 2000).SO_2 and NOx concentration were in the range of 48.2 to 98.2ìg/m^3 and 32.8 to 149.39 ìg/m^3 respectively. The trace metals were analyzed by Atomic absorption spectroscopy technique. Ni concentration was found exceeding permissible level whereas Pb and As were very much within the norm.

Keywords: SPM, $PM_{10,}$ $PM_{2.5}$, NAAQS, 2009, CMS, 2000.

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Possible Uses of Linz-Donawitz (LD) Slag in Agriculture: An Overview

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Abstract: Reuse and recycling of waste in integrated steel plants is important with regard to environmental and economic consideration. Slag generated from basic oxygen converter, Linz-Donawitz (LD slag) is one of the recyclable wastes in integrated steel plants. This paper deals with the present and possible use of LD slag in agriculture. At present, the amount of slag deposited in storage yard, leading to the occupation of farm land and serious pollution to the environment. Improving the slag utilization is an important way to resolve these problems. The physical and chemical characteristics of steel slag were analyzed and then the research progress of steel slag utilization in agriculture as fertilizer introduced. Due to increasing awareness of the environment, disposal, reuse of wastes without harming the environment has became a prime concern for the industry. The locally available of nonconventional sources of plant nutrients and soil conditioners play a vital role due to the higher price of environmental fertilizers and non availability of requirement of farmers. This will help to improve the environment as the wastes can be utilized for enhancing yield and also solve the disposal problem of this waste.

Keywords: Agriculture, Characterization, LD slag, Recycle, Utilization.

ISCA-ISC-2014-Oral-8EVS-20

Predicting optimal Bio-Degradation of Parathion by indigenous bacteria Cupravidus metallidurans isolated from Wetland effluent

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Abstract: Elimination of pollutants from contaminated sites using microorganisms is an economical alternative to chemical technology. A bacterium capable of utilizing Parathion as sole carbon and energy source isolated from Wetland effluent using selective enrichment on MS media containing 50 mg·L^{-1} Parathion (a commonly used insecticide in Wetland area). The strain was identified as belonging to the genus Cupriavidus based on a phylogram constructed. The experiment was studied under submerged culture in selective broth at varied interval of time in view of dry weight of bacterial biomass, further emphasizing the optimization of different process parameters by Central Composite Design and ANOVA for the bio-degradation of Parathion. The mathematical model fitting of the growth curve of the isolated bacteria is also shown. Furthermore, the chemical analysis, characterization of Parathion in effluent sample as well as the confirmation of its degradation is quantified using GC-MS. From the results obtained, it was found that, the indigenous bacterium capable of degrading the insecticide was found to be Cupravidus metallidurans having a maximum consumption of 71.36 % of Parathion in 24 h. The work reflects Cupriavidus sp. as potential degraders of the pesticide Parathion.

Keywords: Isolation, identification, parathion, bio-degradation, central composite design, growth modelling, quantification

ISCA-ISC-2014-Oral-8EVS-21

Orange Rind (Citrus sinensis L. Osbeck) as an Effective Biosorbent for Removal of cadmium (II) ions from Aqueous Solutions

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Abstract: The discharge of untreated solid, liquid and gaseous wastes as a result of enormous industrial development and modernization that contaminate the physiological and ecological environment is the greatest threat to mankind.

Waste water contaminated with heavy metals is one of the most common environmental problems due to their toxicity. The effective removal of Cd (II) ions from aqueous solutions using Orange rind (Citrus sinensis L. Osbeck), cost effective biosorbent was carried out in batch system. The effects of operational factors including solution pH, biosorbent dose, initial cadmium (II) ions concentration, contact time and temperature were studied. The optimum solution pH for cadmium (II) ions adsorption by biosorbent was 7.0 with the optimal removal 80.30 %. The adsorbent dose of 5 g/L was enough for optimal removal of 65.15 %. The adsorption process was relatively fast and equilibrium was achieved after 90 min of contact. The experimental equilibrium biosorption data were analysed by four widely used two-parameters Langmuir, Freundlich, Dubinin-Kaganer-Redushkevich (DKR) and Temkin isotherm equations. Langmuir isotherm models provided a better fit with the experimental data than Freundlich, Dubinin-Kaganer-Redushkevich (DKR) and Temkin adsorption isotherm model by high correlation coefficient value (R^2 = 0.911). Simple kinetic models such as pseudo-first-order, pseudo-second-order, Elovich equation and intra-particulate mixing models were employed to determine the adsorption mechanism. Results clearly indicates that the pseudo-second-order kinetic model (R^2 = 0.998) was found to be correlate the experimental data strongest than other three kinetic models and this suggests that chemical adsorption process was more dominant. Thermodynamic study revealed that the biosorption process was spontaneous, endothermic and increasing randomness of the solid solution interfaces. Orange rind (Citrus sinensis L. Osbeck) was successfully used for the adsorption studies of Cd (II) ions from aqueous solutions and can be applied in waste water technology for remediation of heavy metal contaminated industrial waste.
Keywords: Biosorption, cadmium (II) ions, orange rind (Citrus sinensis L. Osbeck), adsorption isotherms, Kinetic study, thermodynamic study.

ISCA-ISC-2014-Oral-8EVS-22

Activity Distribution and uptake of Radionuclides in Medicinal plants of Coastal Karnataka, India

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Abstract: Use of medicinal plants as therapeutic agents is a good old practice. The detailed studies on the concentration of radionuclides in medicinal plants in Coastal Karnataka are sparse. The medicinal plants Justica adhatoda L., Careya arborea Roxb., Mimosa Pudica L., Azadirachta Indica. and Piectranthus amboinicus are selected in the present study. These plants and soil samples from same location are analysed for ^{226}Ra, ^{210}Pb, ^{232}Th, ^{40}K and ^{137}Cs concentrations using gamma spectrometry. The concentrations of ^{226}Ra, ^{210}Pb, ^{232}Th and ^{40}K in plants vary in the range of BDL to 9.59 BqKg^{-1}, 9.07 to 320.34 BqKg^{-1}, BDL to 6.40 BqKg^{-1} and 443.50 to 3401.29 BqKg^{-1} respectively. The concentration of ^{137}Cs is found to be BDL for all the plant samples. Soil samples are also analysed for the above listed radionuclides and the soil to plant transfer factors are estimated. The transfer factors found to vary from BDL to 0.17, 0.12 to 3.73, BDL to 0.068 and 2.94 to 28.66 for ^{226}Ra, ^{210}Pb, ^{232}Th and ^{40}K respectively. The detailed results and discussions are presented in this paper.
Keywords: Medicinal plants, therapeutic agents, radionuclides, Coastal Karnataka, soil to plant transfer factors.

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Effect of Coconut Coir and egg shell source on Hg^{2+} Adsorption

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Abstract: Now a day's heavy metal ions like mercury, copper, lead etc., plays a major role in toxicity of environment via industrial effluents. In heavy metals mercury is highly toxic, so in this study we stated that by using low-cost adsorbent we can remove mercury without causing any toxicity to the environment. For the past several years, high levels of heavy metals in drinking water and foods have been associated with several acute and chronic illnesses in humans throughout the world. Accordingly high level of potentially toxic heavy metals was found in many rivers and reservoirs. The heavy metal effluent was not treated it will leads to some toxicity to biological systems. In this study our focus is towards the utilization of egg shell treated with coconut coir (C.nucifera) dust for the adsorption and removal of Hg from an aqueous solution which was monitored by various characterization techniques like atomic absorption spectroscopy, UV-visible spectrometry and X-ray diffraction.
Keywords: Egg shell, C.nucifera, Hg^{2+} adsorption, Characterization techniques.

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Hydraulic Fracturing for Oil and Gas and its Environmental Impacts

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Abstract: Anywhere around the world, it is very difficult to imagine life, industrial process and private activity without oil and gas. Oil and gas resources are very limited and new technologies are being developed to extract more and more from these limited oil and gas reservoir. One such Technology to develop oil and gas fields is Hydraulic Fracturing, which is controversial due to its environmental footprints. Hydraulic fracturing has proved to be a promising game changer technique in countries with unconventional hot spots that not only met the present demand of energy, but also made the countries self-sufficient over the last few years and is creating considerable excitement globally. Though implementation of hydraulic fracturing techniques has brought down the price of gas and electricity by increasing the natural gas production from unconventional reservoir like Tight gas, Shale Gas/Oil and CBM reservoirs, but this is on the cost of contamination of ground water resources, surface spills of chemicals causing soil pollution, noise pollution due to the large engines/pumps being used and the prolong contact with the chemical used can cause various health issues. In this paper, we will focus on the environmental impacts of several chemicals used in hydraulic fracturing and how huge water requirement for the hydraulic fracturing job can create problems for human water needs. It is also important to realize that direct impacts on the environment can and will extend to affect human health.
Keywords: Hydraulic fracturing, fracturing fluids, ground water contamination, spills, environmental laws, shale gas, CBM.

ISCA-ISC-2014-Oral-8EVS-25

Toxicity of Fluoride from Ground Water Resources of Bagalkot District, Karnataka State, India

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Abstract: A systematic Physico-Chemical analysis of Ground water in 27 different locations in Bagalkot district of Karnataka State has been taken up to evaluate its suitability for drinking purpose in the year 2013 – 2014 in both Monsoon and Post-Monsoon seasons. The parameters such as pH, EC, TDS, Total Alkalinity, Chloride, Sulphate, Nitrate and Fluoride ions of Ground water were studied. In the present investigation water samples were collected from Bagalkot, Badami, Ilkal and Hunagund locations during the above said two seasons. The values were compared with the standard values of World Health Organization. The present study is to bring an acute awareness among the people about the quality of Ground water by taking water samples from specific locations. It is asked the public about the consumption of Fluoride containing water which leads health hazards. The contamination of drinking water due to fluoride is a severe health hazard problem. Excess of fluoride more than 1.5 ppm in drinking water is harmful to the human health.
Keywords: Bagalkot District, Physico-Chemical analysis, ground water, fluoride contamination, health hazard.

ISCA-ISC-2014-Oral-8EVS-26

Environmental Impact on the Production of Sorghum and pearl Millet of Alwar District, India

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Abstract: The climate of earth is a dynamic one promoting the evolution of various living forms and changing the structure and chemical composition of the atmosphere. Over the past few decades, acceleration in the human-induced changes in the climate of the earth has become the focus of scientific and social scrutiny. Temperature and rainfall are two important parameters related to climate changes which affect the crop yield. In this study an attempt has been made to access the impact of these two factors on the productivity of the sorghum and pearl millet talking Alwar (Rajasthan) as study area. Ten year data of rainfall and temperature were collected from gout body to simulate the actual crop yield. The consequence of climate changes shows unfavorable condition for crop to grow in study area. The changes in rainfall and temperature regimes influences germination, seeding, rooting, leaf elongation, tillering, initiation of panicle, ripening,

maturity dates and over all growth rates of crops. The rise temperature due to global warming affects productivity of sorghum and pearl millet that are thermally sensitive and are grown in low tropical land. At 1°C rise of temperature the production of rice is reduced by 15%.it is expected that the production of wheat may decline by 40% due to increases in temperature and loss of precipitation primarily caused by climate changed.

Keywords: Environment, rainfall, temperature, yield, sorghum vulgare, pennisetum typhoids

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Toxicity Evaluation of Cadmium in Aquatic System using Algae (Anabaena Ambigua)

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Abstract: Indiscriminate disposal of industrial, municipal and agricultural wastes into the aquatic ecosystem are mainly responsible for environmental pollution. Life support systems viz, H_2O, air and soil are thus getting exposed to an array of pollutants, especially, heavy metals released by anthropogenic activities. Aquatic plants, particularly algae were more tolerant, are able to survive and withstand the pollution stress and also serves as pollution indicator. Beyond the toxicity level, the xenobiotics are toxic to the entire aquatic ecosystem. Algae serves as a biotool for the toxicity evaluation of different xenobiotics. The present study was focused on morphological toxicity and biochemical responses of Anabaena ambigua to the Cadmium stress. The laboratory experiments were conducted to the assess toxicity level on morphology and biochemical responses of the test plant species at the interval of 3, 6, 9 and 12 days exposure duration at the concentration of 0.01, 0.03, 0.04, 0.1, 0.14, 0.2 and 0.25ppm. However, the test plant shows normal growth and chlorophyll, protein and carbohydrate content increases upto 0.1 ppm of cadmium, beyond this concentration (0.15ppm to 0.25ppm) test plant shows toxicity symptoms and decline in the content of biochemical parameters. Thus, if the concentration of xenobiotics increased, the aquatic flora shows the declinity. It is the step to conserve the aquatic flora and fauna from the toxic environment. It is an experiment to create awareness about the significance of conserving biodiversity.

Keywords: Algae, xenobiotics, heavy metals, toxicity.

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Assessment of Mangrove Vegetation based on Remote Sensing and ground truth study at piram island, Bhavnagar, Gujarat (Gulf of Cambay), India

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Abstract: The present study was conducted to assess 3 years (2007, 2010 and 2013) time series of satellite images of Piram Island, Bhavnagar, Gujarat based on ground-truth and remote sensing measurements. The satellite data of the study area were collected from IRS-P6 (with sensors LISS-III, LISS IV) digital data were used for primary visual interpretation based on different image characteristics and find out the present day status of the vegetation. The remote sensing images were interpreted using Quantum GIS, Google map, Arc GIS and Wiki mapia. Visual interpretation was done on the basis of image characteristics like tone/color, texture, pattern, shape, size, location, shadow as well as associated elements. The vegetations are composed of several species, including Prosopis juliflora (SW.) DC. Avicennia marina (Forssk.) Vierh, Abutilo indicum (Link) Sweet., Ulva Sp. Aeluropus lagopoides Suaeda maritima (L.) Dumort in order of dominance. The 10X10 transects were laid down for the vegetation study at selected sites on the ground. Image analysis suggests that the loss of vegetation coverage has been dominated owing to Ship breaking Yard at Alang. The total vegetation cover is 0.326 (2007), 0.273 (2010), 0.236 (2013) Square meter which is successively decreasing. The soil Physico chemical study was also carried out to know the soil status of the island. The Island sub surface (20-30 cm) has stored more carbon than the surface (0-20 cm). The Bulk density increase with increase Organic carbon. The pH ranges between 8.2 to 9.0, Electrical conductivity ranges from 6.7 to 22.5 m&!, Soil Organic Carbon 12.76 to 78.18 t/ha., Manganese 0.88 to 2.22mg/l, Chlorine 8.6 to 44.4mg/l. Carbon sequestration by mangrove ecosystems therefore may be considered a major environmental service that needs to be appropriately valued in ecological cost benefit analyses adopted in supporting coastal management decision-making. Overall, a combination of ground survey and remote sensing provided valuable information for the assessment of mangrove vegetation as well as soil health in the study area.

Keywords: Remote sensing, mangroves, physicochemical, soil organic carbon, piram island, LISS III and IV.

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Chromophoric Dissolved Organic matter (Gelbstoff) Increases the Resilience of Coral Reefs by absorbing Ultra Violet Radiations (UVR) between 280 to 490 nm wavelength: A Case Study of Gulf of Kachchh, India

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Abstract: Coral reefs are especially vulnerable to predicted climate change because they bleach rapidly and dramatically in response to increased Sea Surface Temperatures (SSTs). Even an increase of 1 or 2ºC above average over a sustained period of time (i.e. a month) can cause mass bleaching. The potential severity of the predicted increases of 1-3ºC in SSTs by 2050 and 1.4-5.8ºC in Earth surface temperatures by 2100 thus becomes apparent. The Mass-coral bleaching events are generally triggered by high seawater temperatures, experiments have demonstrated that corals and reef-dwelling foraminifers bleach more readily when exposed to high energy, short wavelength solar radiation (blue, violet and ultraviolet [UVR]: ë ~ 280 - 490 nm). In seawater, colored dissolved organic matter (CDOM), also called gelbstoff, preferentially absorbs these shorter wavelengths, which consequently bleach and degrade the CDOM. Coloured Dissolved Organic Matter (CDOM), also known as gelbstoff; it primarily consists of humic acids produced by the decomposition of plant litter and organically rich soils in coastal and upland areas. Levels can be augmented by fulvic acid produced by coral reefs, seaweed decomposition or industrial effluents. CDOM absorbs UV radiation and can protect coral reefs against bleaching. Hence the surrounding ecosystems such as seagrasses and mangroves should be protected because they contribute nutrients to the coral reefs, provide nurseries for many reef species and produce coloured dissolved organic matter (CDOMs), which can be important in screening harmful solar radiation and thus protecting corals against bleaching. The Gulf of kachchh has a very unique feature where we find Corals as well as mangroves. The Mangroves need Mud and Silt deposition whereas the corals don't. According to reports the probable mangrove areas are increasing in the GOK. That means the only source of Silt in the region i.e. the Indus River carries the Silt which doesn't gets deposited on the Corals. But the mangroves are directly responsible for Conservation of the Corals by producing CDOM.
Keywords: CDOM, Coral, mangrove, seagrasses.

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Livestock Wastewater treatment by Outdoor Microalgae cultivation

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Abstract: With expansion of livestock operations from small to large scale, nutrients have become spatially concentrated in high livestock production areas and resulted in wastewater (livestock wastewater) often rich in nitrogen and phosphorus with N/P ratio typically 2-8 which is difficult to treat with conventional means. A potential alternative to land application of livestock wastewater for crop production and anaerobic digestion, is the production of microalgae to recover the nitrogen and phosphorus present in the manure.The advantage of phycoremediation is the production of algal biomass as byproduct which can be further used for energy and feed applications. The objective of this study wasto evaluate biomass production potential of algae in undiluted and unsterile LSW under control as well as outdoor conditions. In the present study native isolates were compared against procured algal strains for biomass productivity under both conditions. Native isolate Chroococcussp.1 was found to be the highestbiomass producerwith increase in biomass production potential from controlled (2.13 g L^{-1}) to outdoor conditions (4.44 g L^{-1}). The final removal of total ammoniacal nitrogen (TAN) and soluble chemical oxygen demand (sCOD) at the end of the experiments (16d) was 98% and 80%, respectively.Additionally,total dissolved phosphorous (TDP) and Nitrate nitrogen (NO_3–N) wereremoved at the rate of 10.55 and 4.05 mg $L^{-1}d^{-1}$ with removal efficiencies of 86.40% and 84.05% respectively, during the 16 d of algal cultivation.
Keywords: Livestock, phycoremediation, chroococcussp.1, outdoor cultivation, native isolates.

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Survey of Avifauna of Shriwardhan, District- Raigad MS, India

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Abstract: Today there are all together about 8650 species and 27 orders of living birds in the world. In India there are

about 1200 species of birds, representing some 75 families and 20 orders. This is a very high number and represents a great variety for a single country. The reason for this is that India has a great diversity of climates, from moist tropical to the cold arctic of the Himalayan ranges, the dry and hot desert climate of Rajasthan and cool temperate climate of the hilly portions. Survey and sampling method was used. Study was conducted during three seasons. For the study Six different areas with dense vegetation were identified from Shreewardhan taluka namely Dighi, Kudki, Chikhlap, Aravi, Shreewardhan, Harihareshwar. The study was conducted for about ten months covering all the 3 seasons. About 64 species of Birds were observed and identified by using various sources at selected sites. These species are included under 34 families. Comparing the availability of bird species at Western Maharashtra (540), Shreewardhan (64) has about 12% of bird diversity observed during the study. The details of finding are discussed in the paper.

Keywords: Shriwardhan, Avian diversity.

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Limnological Investigations of Sewage Stabilization Ponds at Sewage Treatment Plant in Bikaner, Rajasthan, India

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Abstract: Geographically Bikaner has four natural slopes, one towards the vallabh garden area, where the three anaerobic and two aerobic stabilization ponds of sewage treatment plant are situated in the North –West part of the Rajasthan. The Thar desert lies which is characterized by typical arid conditions like scarcity of water, low rainfall, intense radiations, violent winds, high temperature fluctuations and dust storms. This paper is based on the chemical limnological study of three anaerobic and two aerobic stabilization ponds of sewage treatment plant. The study was carried out for a period of 15 months from March 2010 to May 2011. The chemical parameters measured include pH, EC (electrical conductance), TDS (total dissolve solids), and Free CO_2. The parameters of three anaerobic stabilization ponds of water was ranged pH (6.7 to 8.2), EC (1.5 mmhos/cm to 2.0 mmhos/cm), TDS (960 mg/l to 1280 mg/ l), Free CO_2 (172 mg/l to 294 mg/l) and two aerobic stabilization ponds of water was ranged pH (7.3 to 8.4), EC (1.3 mmhos/cm to 1.8 mmhos/cm), TDS (832 mg/l to 1152 mg/ l) and Free CO_2 (152 mg/l to 270 mg/l) were recorded.

Keywords: Sewage treatment plant, anaerobic and aerobic stabilization ponds, chemical parameters.

ISCA-ISC-2014-Oral-8EVS-33

Biodiversity of Phytoplankton in three Lentic Water Bodies of Belgaum talik, Karnataka, India

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Abstract: An assessment of phytoplankton diversity of three different lentic water bodies in Belgaum taluk was carried out of a period of one year from January 2012 to December 2012. These three lentic water bodies have used for different activities such as Khadarwdi lake for domestic use, Yallur pond for agriculture and Mazgaon pond for Religious. A total of forty five genera of phytoplankton have been identified from these studies. Result revealed a significant decline in the population of phytoplankton in Khadarwdi lake domestic water bodies; a slight increase in population of phytoplankton at Yallur pond that is agricultural pond and maximum phytoplankton population at Mazgaon pond. The rich floral diversity indicated high productive nature of Mazgaon pond and Yallur pond. Species diversity index phytoplankton also followed a similar. The study further indicates that seasonally the total population was high during summer.

Keywords: Domestic water, agriculture, religious, phytoplankton, species diversity.

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A Review on Different Treatment Methods for Acid Mine Drainage

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Abstract: Acid mine drainage (AMD) is indefatigable problem generating from many active as well as abandoned mines. These untreated acidic mine drainage pollutes the surface and underground water body. The overall negative

impact on the environment is a matter of concern as some metals are highly toxic. There are various methods available to treat AMD. These methods are broadly categorized into two classes i.e. abiotic (can be controlled) and biotic (occurs naturally, cannot be controlled). Further these two classes are divided into two groups, as active and passive. This paper reviews the current status of the remediation option available for the treatment of AMD. In addition to this, the paper focuses specially on the active treatment that includes different physico-chemical method that treats the AMD by removing potentially hazardous metals form the solution. The study also compares the advantage-disadvantage among the different methods, metal removal efficiency from the AMD solution.

Keywords: Acid Mine drainage, abandoned mines, active method, passive method, Physico-Chemical method.

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A review on heavy Metal Contamination in water environment: Sources, Impact and assessment Techniques

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Abstract: Heavy metals in water are extremely essential to living organism but large quantities of them may cause physiological disorders. Excess of these in water environment occurs, via a wide range of process and pathways, by natural and anthropogenic sources. The natural source includes wet and dry deposition of atmospheric salts, water-soil and water-rock interaction. With the development of the global economy, content of heavy metals in both ground and surface water have gradually increased in recent years by anthropogenic sources such as, industrialization, urbanization, etc. The contamination of water by heavy metals is a serious threat to the plants and aquatic ecosystem. Accumulation of these metals in living organism can be toxic and carcinogenic due to its non biodegradable nature. For this purpose water quality assessment in light of heavy metal is prime importance. Three documented methods as Contamination indexes (C_d), Heavy metal pollution index (HPI) and Heavy metal evaluation index (HEI) are the pollution indices that may help in assessing the level of heavy metal pollution. This paper reviews the source, impact and assessment technique of heavy metal contamination in both ground and surface water.

Keywords: Heavy Metals, environment, groundwater, surface water, contamination indexes (C_d), Heavy metal pollution index (HPI) and Heavy metal evaluation index (HEI)

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Kitchen Waste Composting

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Abstract: Rapid industrialization and population explosion in India has led to the migration of people from villages to cities, which generate thousands of tons of Municipal Solid Waste daily. Poor collection and inadequate transportation are responsible for the accumulation. Management of solid waste reduces or eliminates adverse impacts on the environment and human health and supports economic development and improved quality of life. Food waste or food loss is food that is discarded or lost uneaten. Loss and wastage occurs on all steps in the food supply chain. In India, domestic waste is mostly of organic nature and contributes 70% to 80% of urban solid wastes. Food waste has a significant public health impact; it rots, smells bad, and attracts rodents and insects. Food waste drives MSW collection frequency, the major cost of MSW management. The management of different waste requires different kind of procedures to handle as the different toxic compounds that might be present in one may not be present in the other. But, many firms aims in utilizing all natural ways of handling the waste in a natural or ecofriendly manner, which can be also used for conversion of solid kitchen waste into compost by using compost solutions. Different composters are used for Kitchen waste composting.

Keywords: Kitchen waste composting, Municipal Solid Waste, Food waste, Management of solid waste.

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A Case Study approaches to Public Private Partnership in Solid Waste Management

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Abstract: The present work is dedicated to solid waste management 0f Bathinda City. Due to increasing rapidly day by day the living standards of human beings by leaps and bounds in India approximately last twenty to thirty years and due

to increasing population and urbanization in India. The handling of solid waste in India is not remarkable. We alwaysconsider that it is a total waste thing, but if we are implementing the 4R concept it becomes a very progressive.Due to the poor handling of the solid waste by the Muncipal Corporationis responsible directly or indirectly for the increases the pollution, effect on human beings health, Rising global temperatures, effect on animals, and many types of ecosystems.In this paper we describe that solid waste handling is not a single man work; it is the sole responsibility of all the human beings to maintain the balance of the ecosystem by proper handling the solid wastes. In this paper we also describe that the role of human being to reduce the solid waste and what type of initiatives taken by government of India. In this paper we also taken the case study of Bathinda city located in Punjab. This case study shows how much solid waste collected from this city and what type of initiative taken by the government to handle this sold waste. In this case study shows the role of Public Private Partnership for handling of solid wastes in Bathinda city.

Keywords: PPP (Public Private Partnership), SWM (Solid Waste Management), Bathinda City.

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Assessment of Water Quality of River Mandakini during Amawashya in Chitrakoot, India

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Abstract: The rivers in India have been considered sacred from ancient times. People take holy dip in river with the faith that the water washes away their sin. Most of the festival associated with bathing in rivers. Chitrakoot is a religious place and lacks of floating population take bath in river Mandakini during every Amawashya day.The main objective of present study was to investigate water quality changes due mass bathing during Amawashya. The effect caused by mass bathing was assessed and discussed. It was observed that fecal coliform, DO, BOD and COD had significant changes due to mass bathing. The fecal coliform MPN was higher in Amawashya as well as in normal days. The quality of water indicated that river seemed much polluted from Arogyadham to Ramghat. Increased pollution load deteriorating the water quality of river Mandakini day by day. Higher fecal coliform values indicating that river water is not safe for pilgrim's health point of view.

Keywords: Pollution, physico-chemical, quality, fecal coliform.

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Biodegradation of Pesticides by Plant Growth Promoting Rhizobacteria (Pgpr)

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Abstract: Pesticides are widely used for the control of weeds, diseases and pests of cultivated plants all over the world. In current scenario, farmers are using higher dose of pesticides in unmanaged manner for higher production of grain yield. Due to which pesticides pollute the water, soil, air and cause many human diseases. In order to reduce the effects of pesticides different treatment methods have been developed. The biological methods are advantageous to decontaminate areas that have been polluted by pesticides. These methods consider the thousands of microorganisms in the environment that in order to eliminate the pesticides that are sprayed. Microbial degradation is considered to be an efficient and cost effective method for decontamination of toxic pesticide from the environment. For a long period Plant Growth promoting rhizobacteria (PGPR) were mainly used for assisting plants to uptake nutrients from the environment or preventing plant diseases, much attention has recently been paid on bioremediation of pesticides with PGPR. In contrast with inorganic compounds, microorganisms can degrade and even mineralize organic compounds in association with plants. Hence discovery of effective pathways for degradation and mineralization of organic compounds may play an important role in the future.

Keywords: Pesticides, biodegradation, PGPR, microbial degradation.

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Water Quality Status of Korba District CG, India

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Abstract: We have taken post-monsoon (Oct. to Dec. 2009) assessment of different surface water sources of Korba

district. Twenty seven water samples were collected in pre-cleaned polythene and glass bottle separately. The samples were analyzed for physical, chemical and metallic elements as per standard methods prescribed by APHA (2005). The observed results were compared with the standard value stipulated by BIS (1991) and WHO (2008) of standard drinking water. The mean value for TDS (1737.77 mg/L), TS (1848.45 mg/L), turbidity (123.74 NTU), total alkalinity (497.18 mg/L), Total hardness (598.54 mg/L), Chloride (599.30 mg/L), Sulphate (252.96 mg/L), COD (38.61 mg/L) and Iron (0.572 mg/L), were reported, which are above the maximum desirable limit while fluoride (0.887 mg/L), DO (5.206 mg/L) NO_3^- (37.37 mg/L), PO_4^{3-} (0.015 mg/L), Al (0.04 mg/L), Hg (0.04 mg/L) were found under the acceptable value. Strong correlation was established between total alkalinity and pH (0.811), Fluoride and EC (0.936), Fluoride and TSS (-0.946), Nitrate and turbidity (0.813). Surface Water Quality Index was calculated from 235.93 (KDS-6) to 3631.27 (KDS-3) indicating the surface water sources are highly polluted by the undesirable elements and compound.

Keywords: Water, quality, status, korba.

ISCA-ISC-2014-Oral-8EVS-41

Physico-Chemical Parameters using for Analysis of Effluents at Pharmaceutical Industries

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Abstract: It is important for the industry to develop its own wastewater treatment system before discharging the effluent in order to meet the M.P. State Pollution control Board standards. Reduction of pollutants in the wastewater down to permissible concentrations is necessary for the protection of ground water and the environment. In order to design an appropriate treatment system the characteristic of the wastewater generated need to be found out with reference to the following parameters; pH,chloride, total suspended solids (TSS), suspended solids (SS),total dissolved solids (TDS), Biological oxygen demand (BOD), Chemical oxygen demand (COD).

Keywords: pH, chloride, total suspended solids (TSS), suspended solids (SS), total dissolved solids (TDS), Biological oxygen demand (BOD), Chemical oxygen demand (COD),

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Identification and Antibiotic Susceptibility of Vibrios Isolated from Fresh Water

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Abstract: In India, rivers, lakes ponds and other fresh water system are the primary sources of drinking water. These sources harbor a huge magnitude of microbial population due to constant human interferences, which deter the quality and potability of water. Presence of some disease causing microbial population makes the water contaminated. One of the most common microbial species which jeopardize human life is *Vibrio*. In spite of the advancements in antibiotic therapies several epidemic and pandemic outbreaks have occurred due to the emerging multi-drug resistance. The present study tries to decipher the drug-resistance among the *Vibrios* isolated from potable water sources to recognize the most potent antibiotics that can be used against *Vibrios*, especially *Vibrio cholerae*. The water samples were collected from different locations. Antibiotic susceptibility tests were carried on strain of isolated Vibrio using different antibiotics by agar disk diffusion method.

Keywords: *Vibrios*, antibiotic, susceptibility, resistance.

ISCA-ISC-2014-Oral-8EVS-43

Biodegradation of Soil Polycyclic Aromatic Hydrocarbons using Bacterial Consortium

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Abstract: Pollution due to oil industry is a p0ermeating global problem due to its toxic constituents like Polycyclic Aromatic Hydrocarbons (PAHs). PAHs are a class of diverse organic compounds with two or more fused benzene rings in a linear, angular or cluster arrangement. The significance of PAHs removal lies in the fact that they are persistent

pollutants in the environment, which have ubiquitous occurrence and detrimental biological effects. Conventional (physical and chemical) methods are less eco-friendly and require more expenses. Therefore, we reviewed several biological methods and found microbial degradation as one of the most suitable process for PAHs degradation in soil. Microbial Degradation involves the conversion of toxic and complex compounds into non-toxic and simpler ones using naturally occurring microbes like algae, bacteria and fungi. Pure bacterial cultures can metabolize only a certain range of PAHs. Therefore, use of bacterial consortium (assemblage of mixed populations) has gained popularity as it performs synergistic interactions amongst its population increasing the rate and extent of PAHs degradation. This review mainly focuses on the degradation of ecologically toxic PAHs using different bacterial consortium.

Keywords: Polycyclic aromatic hydrocarbons, Biodegradation, Bacterial consortium, microorganism.

ISCA-ISC-2014-Oral-8EVS-44

Impact of municipal Solid waste on the groundwater Quality in Sangamner area, Ahmednagar district, Maharashtra, India

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Abstract: Due to increasing population, industrialization and urbanization a huge amount of solid waste in generated daily in cities and towns. The leachate generated from municipal solid waste (MSW) dump site affects the groundwater quality in the adjacent areas. In Sangamner city, the solid waste generated is disposed by Sangamner Municipal Corporation in the dumping site which is not lined to prevent seepage. In the present study, the quality of groundwater around a municipal solid waste dumping site in Sangamner area was analyzed to study the possible impact of solid waste in groundwater quality. 17 samples were analyzed for pH, EC, TDS, Na^+, K^+ , Ca^{2+}, Mg^{2+}, TH, Cl^-, HCO_3^-, SO_4^{2-} and NO_3^- by using standard methods. The concentrations of these constituents were compared with the Bureau of Indian standard (BIS) and World Health Organization (WHO) standard to know the suitability of groundwater for drinking. The pH of ground water from study area varies from 7.8 to 8.9 indicating neutral to slightly alkaline nature of ground water. EC of ground water varies from 776 to 8470 mS/cm. The ground water from study area was showing higher EC values which indicate increase in the mineralization of groundwater. TDS ranges from 496-5420 mg/l which indicating built of salinity in ground water. Majority of the samples showed higher percentage of calcium and magnesium concentration. The concentration of nitrate ranges from 8.11 to 107.5 mg/l and 82.35% samples have exceeded permissible limit specified by drinking water standards. The higher concentrations of nitrate are observed from the irrigated agriculture surrounded by sugarcane field and close to cattle field disposal areas. The groundwater can be classified as very hard to extremely hard category in the area. It has been found that the most of the parameters of water quality were not in the acceptable limit with the water quality standard that was due to the contamination from solid waste materials that are dumped in the area. It was recommended that the responsible authorities must construct an engineered land fill so as to prevent further environmental contamination.

Keywords: Municipal solid waste, groundwater quality, water quality standards, solid waste dumping, leachate.

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Application of Data Mining Techniques for Predicting and Clustering Rainfall Data under Climate Change

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Abstract: Data mining is used to extract useful information and discover the hidden interesting patterns in large databases. The purpose of this study is to predict rainfall by application of wavelet based principal component regression technique. For this purpose, a total of 68 rainfall gauging stations in northeast India with observation period of 1901-2002 (i.e.102 years) were selected. The performance of the selected approach was evaluated based on several statistical performance indicators such as Root mean square error (RMSE), Pearson correlation coefficient (r) and Nash-Sutcliffe coefficient (E) in this study. Then,fuzzy clustering technique has been used to identify homogeneous rainfall regions which are essential to lay out an effective flood frequency analysis of Northeast region of India in view of the ongoing environmental and climate changes.

Keywords: Wavelet, principal components, fuzzy clustering, climate change, precipitation prediction.

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Quantifying water Quality in Wetlands of Golaghat district of Assam, India

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Abstract: Wetland plays a significant role in regional ecosystem, such as the regulation of climate, cleansing of environment and balancing of regional water. The wetland provides critical habitat for a large number of flora and fauna. In India, the total area under wetlands was estimated to be 11.69 m ha. This accounts for 3.66 per cent of geographic area of the country. In Assam, total wetland area estimated is 764372 ha that is around 9.74 per cent of the geographic area. Wetlands act as important repositories of aquatic biodiversity. Wetlands provide numerous, irreplaceable hydrological and ecological functions,including stabilization of water supplies, flood abatement, water purification, erosion control, recharge of groundwater aquifers and carbon sequestration. This paper reports on a study of some selected wetlands of Golaghat. The goal of the study is to quantify the water quality characteristics of the wetland through the use of parameter checking.
Keywords: Wetlands, water, quality.

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Physico-chemical Characterization of Coir pith black liquor and Coir pith effluent

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Abstract: Recent research focuses on the possibility of utilizing coir pith as a substrate for bioenergy production viadelignification, saccharification and fermentation. Optimized hydrogen peroxide pretreatment reportedas means of coir pith delignification generatedcoir pith black liquor (CBL). Subsequent lignin recovery fromCBL generatescoir pith effluent (CPE) and toxicity test had demonstrated the phytotoxic nature of CPE pointing to the need for further effluent characterization and treatment. In this workCBL and CPEwere analysed as per Bureau of Indian Standards for parameters such as pH, conductivity, colour, TDS, TSS, phenolic compounds, COD, Oil and grease, total organic content, andtotal inorganic content.The parameters that exceeded the permissible limits were pH (12.15), COD (5600 mg/L), TSS (200mg/L), TDS (31510 mg/L) for CBL, and COD(10080 mg/L), phenolic compounds(1.35 mg/L), TSS (114 mg/L) and TDS (42270 mg/L), in the case of CPE. COD andphenolic compoundswere found to increase by twofold in case ofCPE thanCBL. Decolourisation and change of pH from alkaline to acidic occurred in case of CPE.
Keywords: Coir pith black liquor, Coir pith effluent, COD, Physico chemical characterization, decolorisation.

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Polyaniline Functionalized Nanocellulose Composite for Chromium Remediation

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Abstract: Polyaniline functionalized nanocellulose composite (PAN-NCC) was synthesized and characterized for structural and morphological studies using FTIR, SEM, DLS, XRD and TGA. The surface area of synthesized biomaterial was measured by iodine adsorption titration method. The adsorption studies (Batch experiments) result into standardization of optimum conditions for the removal of Cr III (88.40%)) and Cr VI (92.70%) as follows: biomass feed (0.5 g), chromium concentration (25 mg/l), contact time (40 min) and initial volume of the test solution (250 ml) at pH 6.5 and 2.5 respectively. The adsorption capacity was found to be 11.2 and 11.6 mg/g for Cr III and VI respectively. The adsorption kinetics was well described by the pseudo-second order model. On applying the method for tannery effluent, 11.4% decreasement in the removal efficiency was observed. Polyaniline nanocomposite has enough potential in chromium remediation from aqueous system as a pre- treatment step before large scale established chemical treatments.
Keywords: Polyaniline nanocellulose composite, chromium remediation and kinetic modelling.

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Flyash: Ash Relationship with Soil

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Abstract: The labile fraction of heavy metals in soils is the most important for toxicity for plants, Thus it is crucial to reduce this fraction in contamined soils to decrease the negative effect of heavy metals. In an experiment, the effects of two addi-tives on the labile fraction of Cu, Mn and Zn wear investigated in a soil contamined during long-term application. The additive used was the coal fly ash. The treated soil was further enriched with heavy metals and allowed to age at room temperature for 30 day The assessment of anthropogenic impact in the urban environment can be evaluated according to heavy metal contents of soils such as Pb, Cu, Zn, Cd, and Fe. These elements have more affinity to establish metallic bond with ferrous material leading to enhancement of soil magnetic susceptibility. Fly ash is one of the numerous substances that cause air, water and soil pollution, disrupt ecological cycles and set off environmental hazards. The goal of this research was to investigate the effect of fly ash as amendment in the remediation of soil polluted with heavy metals, due to the industrial activity. The impact of the presence of fly ash in soil (at ratio 0…..10% weight) upon some characteristics of the soil was evaluated. the result obtained in this research showed that fly ash is an appropriate amendment for the remediation of soil polluted with copper and lead. The world bank has cautioned India that by 2015, disposal of coal ash would require 1000 square kilometers or one square meter of land per person. Since coal currently accounts for 70 per cent of power production in the country, the bank has highlighted the need for new and innovative methods for reducing impacts on the environment.

Keywords: Soil remediation, heavy metals coal fly ash, lead, copper, environmental hazards, ASS

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Role of Man in Climate Change and Global Warming

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Abstract: Weather and climate is not the same thing .Climate is affected by many biotic and abiotic factors. Climate is the average of many years of weather observation. Greenhouse gases are essential to our climate. A number of greenhouse gases occur naturally in the earth's atmosphere; these are water vapour, carbon dioxide, methane and nitrous oxide. The "Big Six" gases, which are known as air pollutants are carbon dioxide, carbon monoxide, sulphur oxide, nitrogen oxide, hydrocarbon (Benzene, terpene etc.) are responsible for climate change and Global warming. The greenhouse gas content of the atmosphere is being altered by human activities like home cooking, power generation, industries, traffic and biomass burning etc. The result of this change is Global warming induced climate change can alter environmental conditions. Many species of flora and fauna may be lost if they are unable to adapt new condition or relocate. What can be done? We should change our life style by different means, as to conserve hot water, heating and cooling system in home, conserve electricity, conserve in the vehicle, reduce waste, unless uses of Ac's and refrigerators should be stopped, because CFC'S of them causes depletion of ozone layer due to this UV rays of sun comes to the earth and causes many diseases to both animals and plants. Only way to meet this challenge is to cap and reduce the emission of the greenhouse gases withcut on the sources and increase the Sinks.

Keywords: Atmosphere, greenhouse gases, ecosystem, air pollutants, environmental conditions.

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Assessment and characterization of Physico Chemical contamination of Ground Water

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Abstract: The present research work is to assess and Evaluate Ground water Quality from different areas of East Godavari reason, of Andhra Pradesh Nineteen sampling locations have been identified and water samples were collected for analyzing physicochemical parameters like Temperature, pH, Electrical Conductivity, TDS, DO, Total Hardness, Alkalinity,

Ca^{+2}, Mg^{+2}, Na, K, Sulphata, Chloride, Nitrate ,and Irrigation parameters like Percent Sodium, Adsorption Ratio (SAR) Magnesium Hazard (MH),and Kelly's Ratio to evaluate the Quality for suitability and also for various applications .The physico Chemical parametric results revealed these ground waters were observed within the range of pH values beyond the permissible limit in some stations of Rural areas indicate slightly alkaline nature. The TDS values are beyond the permissible limit .Higher levels of Calcium and Magnesium indicate the unsuitability for domestic purposes. The values of chloride and sulphate levels in majority samples were within the permissible limit of IS:10500-1992. The Nitrate levels of most of the samples were above the permissible limit (45 mg/L) and hence can cause concern on human health. Majority values of Sodium and potassium levels were within the permissible limit 200ppm and 12ppm of WHO standards. Dissolved Oxygen demand values in majority samples were at 4 mg/L and above indicating their suitability for aquatic applications. Based on the irrigation parameters like Percent Sodium,SAR,MH,and KR levels were desirable limits suitable for irrigation purposes .The GW samples were also analyzed for MPN count and the results revealed that those waters were polluted with microbial count finally these waters were unsuitable for drinking purposes

Keywords: Ground water, unsuitability, parameters, evaluation, irrigation, drinking, microbial

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Sediment Yield Modelling of Kal River in Maharashtra Using Artificial neural Network Model

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Abstract: The sediment yield is important factor concern with erosion rate from the catchment which is caused the problems of reducing the storage capacity of reservoirs, creating delta at mouth of rivers and reduces capacity of streamflow, etc. There are several models developed for estimation of sediment yield like USLE, RUSEL and physical based models like SWAT, but they required rigours series of data. In present study artificial neural network model is non linear Black box model used to forecast the sediment yield of Kal river in Maharashtra using the streamflow, stream flow lag by one or two day, rainfall and sediment yield lag one or two day as input to the model. In present study multi layers feed forward back propagation neural network model with one to three input layers, one hidden layers and one output layers were developed. The models were adopted by changing numbers of neuron in hidden layers and epoch. The models performance was evaluated by statistical indices such as R, RMSE, CE, VE, MAD, and MAPE. The study reveal that, ANN model with single input as streamflow and 10 neuron in hidden layer found R values 0.92 and 0.85 during training and cross validation respectively and other indices such as RMSE, CE, VE, MAD and MAPE were 91.58 tons/day, 84.16 per cent, 2.28 per cent, -4.52 per cent and 98.07 per cent during training period where 110.35 ton/day, 76.82 per cent, 0.1 per cent, 10.62 per cent and 20.91 per cent during cross validation period, respectively. It is also observed that, the performance of model increase with increases input parameter and changing combination inputs parameters. The linear regress model developed to compare the performance, found the ANN model performance were better and overall ANN model performance were satisfactory for prediction of sediment yield.

Keywords: Sediment, yield, modelling, kal river, maharashtra, artificial neural network model

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Ecological Approach towards Sustainable tourism

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Abstract: Tourism industry has always been a beneficial service, providing huge amount of financial gains to the local population and enjoyment to the traveler. Tourism has manifold impact on social, economic, cultural and ecological aspects of the destination and its population. Ecological footprint looks beyond the socio-economic impacts of tourism and analyzes tourist's impact on the environment during its travel to a destination in terms of resources used. The study of Footprint examines the disproportionate impacts of tourism and determines the tourism carrying capacity so as to provide a framework to formulate plan and policy for sustainable tourism. The research work included study of the tourist consumption, its impact and available resources of the destination. The result of the study concluded with providing a framework for environment friendly tourism with greater contribution of local people towards government policies.

Keywords: Tourism, tourism carrying capacity, ecological footprint.

ISCA-ISC-2014-Oral-8EVS-54

Removal of Iron (Fe^{3+}) from Water using Tea waste

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Abstract: Heavy metals can be emitted into the environment by both natural and anthropogenic causes. The effluents discharged by the various industries directly into water and soil surface without treatment contain heavy metals and these heavy metals effect aquatic biodiversity and terrestrial biodiversity. Bioadsorption process is an affective option for the removal of heavy metals from wastewater. Agro waste play an important role for removing of heavy metal from water. Tea waste is used as bioadsorbent for removal of heavy metal through environment friendly process. It collected from different tea stalls washed, dried, grinded into powdered form and used for Iron (Fe^{3+}) removal. Iron adsorption onto powdered tea waste was depended upon the controlling parameters such as particle size, doses, pH, contact time, agitation speed and temperature. Absorbance and concentration were recorded by spectrophotometer.
Keywords: Adsorption, Controlling parameters, Tea waste, Fe^{3+} removal.

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Assessment of Physico – Chemical Parameters of River Cauvery in and Around Nerur, Tamilnadu, India

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Abstract: Natural water is a crucial source in route to a sustainable future. In the hydrologic cycle, water is the basis for food production, trade, human needs and the wealth of aquatic ecosystems. Natural source of water is finite, while water demand is steadily growing, thanks to human activity in the last decades. Currently, one of the major problems of mankind is pollution. It is obvious that the natural environment is deteriorating gradually and that ecological systems cannot adapt to anthropogenic factors pressure, and self-regulation of ecosphere is no longer possible. The fresh water ecosystem occupies a very small area in comparison to marine ecosystem. Now a day's degradation of these fresh water resources due to water pollution has become a serious problem for entire world. Polluted water needs to be dully treated in order to minimize its negative effects on people, animals, birds, and aquatic biota. Polluted water is unsuitable for drinking, recreation, agriculture, and industry. It diminishes the aesthetic quality of surface water sources. No doubt, the indiscriminate release of liquid waste of organic and inorganic nature changes physico-chemical characteristics of water and causes hazard to flora and fauna including important member of food chain of man and aquatic ecosystem. Hence the present study is aimed to investigate some of the important physico – chemical parameters of the Cauvery river water in and around Nerur.
Keywords: Cauvery River, Nerur, Physico – chemical parameters, Ecosystem, Pollutants, Degradation and Environment.

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Fog Harvesting in Nepal: A Case Study

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Abstract: Water is a biological need for the human being. Without water no animal can survive. In desert areas water crisis is a severe problem for the mankind. But in the hilly areas also especially during winter season availability of water often becomes a problem. In the hilly and mountainous regions the main sources of water are springs and brooks. During rainy season they are turned into waterfalls and rivers respectively. But in the winter season they are dried up creating really a problem for the inhabitants there. In many Latin American countries such problem has become a matter of grave concern. To cope with the situation they are taking resort to 'fog harvesting'. In the coastal slums of Peru, Ecuador and Chile this fog harvesting has become the main source of potable water. In the north-eastern states of India there happens scarcity of potable water in winter at different hilly areas. It is estimated that during a month in the winter season about 12.5 billion tons of water exists in the form of fog over India. Such a vast source of water is ever unutilised. So, the harmful sides of fog are only noticed in India. But in the country of Nepal fog harvesting has already come in vogue. The equipments required for this purpose are cheap and easily available in the local markets. Fog water is more or less fresh.

So, for its purification also the expenditure is quite small. Besides potable water fog harvesting can provide water for daily human activities and also for small farming like kitchen gardening. In the present work we have considered the case of a remote village in the north-eastern hilly district of Taplejung in Nepal. We have studied the pros and cons of fog harvesting there. Our said case study reveals that fog harvesting may be a boon in the hilly areas provided it is initiated and maintained on community basis.

Keywords: Potable water crisis, Hilly and mountainous regions, Fog harvesting, Kitchen gardening.

ISCA-ISC-2014-Poster-8EVS-02

Study on Industrial Pollution from Agrochemicals and Pesticides Manufacturing Industries of Dombivali Industrial Belt of Mumbai, India

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Abstract: During the past few decades Indian industries have registered a quantum jump, which has contributed to high economic growth but simultaneously it has also given rise to severe environmental pollution. Consequently, the water quality is seriously affected which is far lower in comparison to the international standards. The present study was therefore initiated to monitor the pollution arising due to agrochemicals and pesticides manufacturing industries located along the Dombivali industrial belt of Mumbai, India. The study was carried to study the level of toxic heavy metals and the physico-chemical properties of waste water effluents discharged from the above industries. The average concentration of Cu, Ni, Cr, Pb and Zn was found to be maximum of 29.86, 0.90, 1.16 and 1.19 ppm respectively in summer season, while average Fe concentration was maximum of 51.10 ppm in winter season. The average pH value of the effluent was found to be maximum of 12.95 in summer season, while average conductivity value was maximum of 21085 µmhos/cm in rainy season. The majority of physco-chemical parameters like alkalinity, hardness, salinity, chloride, cyanide, phosphate, total solid, BOD and COD content were found to be maximum in summer season having the average values of 1918, 186, 4, 11.20, 0.07, 81, 6391, 685 and 2556 ppm respectively. The average DO content was found to be low of 4.5 ppm in winter season. It was observed that the concentration level of majority of the toxic heavy metals and physico-chemical properties were above the tolerable limit set for inland surface water. The present study will help in rational planning of pollution control strategies and their prioritization; assessment of nature and extent of pollution control needed; evaluation of effectiveness of pollution control measures already is existence. The results of our study indicate that the present situation if overlooked can cause irreparable damage to the ecosystem in the coming time well masked by short term economic prosperity due to extensive industrialization.

Keywords: Agrochemical industries, physico-chemical properties, industrial effluents, Dombivali, Mumbai.

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Physico-chemical Properties of Sediment Samples collected along Ulhas River Flowing near Mumbai, India

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Abstract: The rapid industrialization of Dombivli city of Mumbai, with improper environmental planning has resulted in discharge of industrial effluents into the Ulhas River. These wastes include various toxic chemicals, acids, alkalis, dyes, detergents, pesticides and agrochemicals which greatly affect the physico-chemical properties of river water. . The day by day increasing tremendous pollution load has prompted us to carry the systematic and detail study of physic chemical properties of the sediment samples collected along the Ulhas River flowing along the industrial belt of Dombivli City of Mumbai. The pH of the sediment samples increases from 7.04 in the year 2012 to 7.11 in the year 2013. The alkalinity of the sediment samples was found to be 3391.4 mg/L in the year 2012 which increases to 3688.2 mg/L during the year 2013. The chloride and phosphate concentration during the year 2012 was 728.5 and 1011.5 mg/L respectively while during the assessment year 2013 the level of the chloride and phosphate was found to increase to 2184.0 and 2567.4 mg/L respectively. The pollution data of Ulhas River points out the need of systematic and regular monitoring of pollution level for further improvement in the waste water treatment methods. The objective of the present work is therefore to throw light on the pollution scenario of River Ulhas, suggesting the need for regular scientific studies, which will help to gauge the extent of pollution.

Keywords: Ulhas River, sediments, industrial pollution, dombivli, Mumbai.

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Soil Pollution due to Rubber Industries located along the Dombivali Industrial Belt of Mumbai, India

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Abstract: The Kalyan- Dombivali MIDC area has been spread over a 10 to 16 Km. It is located near creek of Thane District of Maharashtra. In this area there are many small and large scale industries like paint, ceramic, dye's, chemical, pharmaceutical, rubber, textile etc. Because of heavy industrial pollution, the area is facing sever soil pollution problem resulting in low fertility, seasonal cropping, low yield etc. in the nearby farms. The present study was therefore carried out to understand the soil pollution arising due to rubber industries located near Kalyan-Dombivali industrial area of Thane, Maharashtra. The soil samples were collected from June, 2012 to May, 2013 from five representative rubber industries along the industrial belt. The major heavy metals like Cr, Fe and Al were detected having respective average concentration of 1.85, 23.57 and 1.41 %. The other heavy metals like Ni, Zn, Cu, Pb and Sb were also detected having the average concentration of 0.32, 0.003, 0.19, 0.032 and 0.028% respectively. The analysis of heavy metals was done by Inductively Coupled Plasma-Atomic Emission Spectrometer (ICP-AES) of Perkin Elmer. The average phosphorous content of the soil was 0.071% while the average organic carbon content was found to be 0.038%. The pH value of the soil was found to vary in the range of 7.16 to 7.50 having average value of 7.27.The annual average electrical conductivity of the soil was recorded as 0.53 µS/cm. The experimental data suggests the need to perform regular scientific monitoring so as to generate international soil quality standards which will further help to keep the check on soil pollution arising due to chemical industries.

Keywords: Soil pollution, industrial belt, heavy metals, physico-chemical properties, mumbai.

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Heavy Metals in Vasai Creek Water of Mumbai, India

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Abstract: The present study deals with the assessment of toxic heavy metals in water of Vasai Creek of Mumbai. The heavy metals studied were Al, As, Cd, Cr, Hg, Ni, Pb, Sr and Mn. The study was carried for the assessment years 2009-10 and 2010-11 at four different sampling stations namely Vasai Bunder (S-1) , Bhayandar west side of Railway Bridge (S-2), Bhayandar east side near RetiBundar (S-3), and Ghodbundar site (S-4) along the Vasai Creek. From the results of present investigation it was observed that Al concentration at different sampling stations lies in the range of 10-25, 28-80, 17-65 and 43-70 µg/L at S1, S2, S3 and S4 sampling stations respectively. The average Al concentration for assessment year 2010-11 was higher than that obtained for the assessment year 2009-10 by a factor of 1.09 at S2 and S3 sampling stations to 1.29 at S1 sampling station. The As concentration at S1, S2, S3 and S4 sampling stations lies in the range of 15-59, 11-51, 15-68 and 10-62 µg/L respectively. The average As concentration for assessment year 2010-11 was higher than that obtained for the assessment year 2009-10 by a factor of 1.08 at S4 to 1.26 at S2. The Cd concentration at S1, S2, S3 and S4 sampling stations lies in the range of 12-38, 19-114, 14-55 and 15-75 µg/L respectively. The average Cd concentration for assessment year 2010-11 was higher than that obtained for the assessment year 2009-10 by a factor of 1.07 at S2 to 1.23 at S1. The Cr concentration at S1, S2, S3 and S4 sampling stations lies in the range of 22-64, 34-103, 80-782 and 54-111 µg/L respectively. The average Cr concentration for assessment year 2010-11 was higher than that obtained for the assessment year 2009-10 by a factor of 1.06 at S4 to 1.53 at S3. The Hg concentration at S1, S2, S3 and S4 sampling stations lies in the range of 10-131, 10-101, 10-67 and 12-48 µg/L respectively. The average Hg concentration for assessment year 2010-11 was higher than that obtained for the assessment year 2009-10 by a factor of 1.08 at S1 to 1.24 at S4. The Ni concentration at S1, S2, S3 and S4 sampling stations lies in the range of 15-105, 18-125, 15-146 and 10-145 µg/L respectively. The average Ni concentration for assessment year 2010-11 was higher than that obtained for the assessment year 2009-10 by a factor of 1.08 at S3 to 1.20 at S1 and S2. The Pb concentration at S1, S2, S3 and S4 sampling stations lies in the range of 25-163, 17-146, 152-276 and 119-195 µg/L respectively. The average Pb concentration for assessment year 2010-11 was higher than that obtained for the assessment year 2009-10 by a factor of 1.04 at S4 to 1.11 at S1. The Sr concentration at S1, S2, S3 and S4 sampling stations lies in the range of 34-118, 25-105, 15-400 and

38-179 µg/L respectively. The average Sr concentration for assessment year 2010-11 was higher than that obtained for the assessment year 2009-10 by a factor of 1.05 at S1 to 1.23 at S2. The Mn concentration at S1, S2, S3 and S4 sampling stations lies in the range of 20-103, 39-219, 14-688 and 50-301 µg/L respectively. The average Mn concentration for assessment year 2010-11 was higher than that obtained for the assessment year 2009-10 by a factor of 1.11 at S2 to 1.20 at S4. The results of the present investigation point out the need to implement adequate environmental control and management programmes so as to minimise the toxicity effects of the heavy metals on marine life.

Keywords: Vasai creek, water pollution; heavy metals, toxicity, mumbai.

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Toxic Heavy Metals in Aquatic Ecosystem of Mithi River near Mumbai, India

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Abstract: Waste management strategies adopted in India have failed to keep pace with the industrial growth and urbanization. This has resulted in the accumulation of contaminants with a consequent loss in coastal marine biodiversity, for the past few decades. Estimates indicate that Mumbai city itself discharges around 2200 MLD of waste to the coastal waters**.** The pollution impacts on marine communities can be traced directly to the industrialized centres, which release an array of chemical contaminants to effluent systems. Of even greater concern have been the adverse environmental effects associated with waste disposal activities, particularly sewage sludge and dredged spoil dumping, oil spills and leakages as well as municipal and industrial waste water discharges. The increasing trend in concentration of heavy metals is another environmental problem which has attracted considerable attention amongst ecologists globally during the last decades. The wave of industrialization that began in the late 1970s has contributed greatly to the pollution due to heavy metals. As a result rivers and groundwater are laced with toxic heavy metals and chemicals and the effects are being rapidly felt across India. The present study highlight the toxicity levels of different heavy metals in aquatic environment of one of the most polluted river of Mumbai- the Mithi River. Although the river has attracted tremendous attention after 26/7 flood in Mumbai, the pollution level of the river has remained neglected issue. The present study was performed at three different sampling stations namely Airport (L1), CST Kalina (L2) and BKC Taximen's Colony (L3) along the flow of Mithi River. It was observed that at L1, L2 and L3 sampling stations , Al concentration at different sampling stations lies in the range of 5-61, 11-182 and 8-213 µg/L respectively, As concentration lies in the range of 7-113, 20-383 and 19-439 µg/L respectively, Cd concentration lies in the range of 3-100, 4-110 and 1-223 µg/L respectively, Cr concentration lies in the range of 9-212, 6-414 and 16-455 µg/L respectively, Hg concentration lies in the range of 8-281, 5-60 and 3-31 µg/L respectively, Ni concentration lies in the range of 16-539, 9-132 and 17-607 µg/L respectively, Pb concentration lies in the range of 25-247, 50-159 and 27-755 µg/L respectively, Sr concentration lies in the range of 4-214, 5-291 and 8-244 µg/L respectively, while Mn concentration lies in the range of 6-231, 3-239 and 16-175 µg/L respectively. The results point out the need of rational planning of pollution control strategies, so as to keep check on release of toxic heavy metals in the river.

Keywords: Mithi River, aquatic environment, toxic metals, metallic pollutants, Mumbai.

ISCA-ISC-2014-Poster-8EVS-07

Pollution Scenario of Malad Creek near Mumbai, India- Study of Physico-chemical Properties

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Abstract: The present study was performed along the Malad Creek (lies between Latitude 19.1333333°, Longitude 72.8°) also known as Marve Creek which lies to the north-west of Mumbai. The creek is located to the west of Malad near which the Oshiwara River drains into it. At the western side of the creek lies Madh Island, and on the eastern side is the Versova creek. The present day by day increasing rapid urban development of Malad city and also due to unplanned environmental pollution control strategy has further contributed in discharge of sewage effluents into the Malad creek thereby creating extensive environmental pollution problem along the Creek. Presently, the creek receives wastewater and sewage from open drains and partially treated sewage from Malad and Versova treatment plants. It also receives domestic raw sewage from surrounding habitation. These wastes include various toxic chemicals, acids, alkalis, dyes, detergents, pesticides and agrochemicals which greatly affect the physico-chemical properties of creek water. The activities like cattle washing, cloth washing, and religious activities like immersion of idols of Lord Ganesha and Deity Durga

during Ganesh Utsav and Nav Ratris festival is also a major source of pollution of creek water. The idol immersion activity is an anthropogenic activity which is responsible for adding pollution load in the creek. Considering the day by day increasing pollution problem along the Malad creek of Mumbai, the present study was performed to understand the physico-chemical properties of creek sediment. During the study it was observed that the pH of sediment was 7.88 which were slightly alkaline. The moisture content of the sediment was recorded as 24.68% while the organic content was 1.51%. The total phosphorous level was observed as 0.60 ppm and the nitrite nitrogent level was 0.001 ppm. The concentration level of sodium, potassium and magnesium was found to be 751.35, 15628 and 1539ppm respectively. It is feared that the continuous accumulation of the pollutants in the creek sediments might affect the benthic macro invertebrates whose metabolic activities contribute to aquatic productivity. The existing situation if mishandled can cause toxic effect on sediment dwelling organisms and fish, resulting in decrease survival, reduced growth, or impaired reproduction and lowered species diversity.

Keywords: Malad creek, marve creek, Mumbai, sediments, physico-chemical properties.

ISCA-ISC-2014-Poster-8EVS-08

Quality of Drinking Water at Household Level in Jaipur City, Rajasthan, India

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Abstract: The study aims to find out the quality of drinking water at household level in Jaipur city of Rajasthan. In, Jaipur the main source of water supply is ground water. It is either supplied by the piped line by the Public Health and Engineering Department (PHED) or the households have their own personal bore-wells at their premises. For the study, 20 samples were collected from 10 randomly selected wards; one each from bore-well and piped water supply. The water samples were collected from households. The quality of water was compared with Bureau of Indian Standards (BIS) norms of potable water. Results revealed that water samples did not fully meet the BIS norms of potable water. The samples of bore-wells were worse in quality than piped water supply. The study concluded that in order to get quality of potable water at household level, water treatment is necessary.

Key word: Drinking water, quality of water, quality parameter.

ISCA-ISC-2014-Poster-8EVS-09

Halophilic Bacillus sp .with extra cellular A-Amylase production potential from Sambhar salt lake, India

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Abstract: Sambhar lake is a haloalkaline playa with water density varying from 3-27 Be (Baume).Two Moderate halophilic bacterial isolates were retrieved from brine samples of the lake. The isolates showed a growth range of 3-12% NaCl in alkaline medium and were characterized taxonomically. Both the isolates were gram +ve, rod-shaped and motile. They both tested positive for catalase and oxidase. The isolates were tested for exo-enzyme production and tested positive for á-Amylase and negative for lipase and proteaes production.The Isolates were not able to utilize citrate as a sole carbon source and failed to produce H_2S in TSI-medium. Carbohydrate fermentation revealed utilization of glucose, fructose and sucrose by both the isolates. Taxonomic Identification of isolates was confirmed by partial 16s rRNA gene sequence analysis. The phylogenetic study revealed that the isolates fit into evolutionary cluster comprising members of *Bacillus pumilus (94%)* and Bacillus licheniformis (98 %) respectively.

Keywords: Bacillus, Phylogenetic study, Sambhar lake, Halophile, á-Amylase.

ISCA-ISC-2014-Poster-8EVS-10

Application of an Ecofriendly Heterogeneous Catalyst for Biodiesel Synthesis from Pongamia pinnata oil and Jatropha curcus linn oil

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Abstract: Recycled chicken eggshells after calcination have been used as a nonconventional heterogeneous catalyst for

biodiesel synthesis from karanja oil (Pongamia pinnata). The catalyst was characterized on X-ray diffraction (XRD), Fourier transform infrared (FTIR) spectroscopy, and differential thermal analysis/ thermo gravimetric analysis (DTA/ TGA). The formation of the calcium oxide phase was confirmed at 900 ^{0}C after calcination. A high biodiesel yield and conversion was obtained at an 8:1 (alcohol/oil) molar ratio, 2.5, 2.7 wt% catalyst, and 2.5, 2.6 hr reaction time at 65 ^{o}C. Conversion of karanja oil and jatropha oil feedstock to its respective fatty acid methyl esters was identified on a gas chromatograph-mass spectrometer. The fuel properties, such as density, viscosity, calorific value, oxidation number, flash point, fire point cetane number of the methyl ester synthesized, were studied and found to be within the limits and specification of ASTM D 6751.

Keywords: Biodiesel, non-edible oil, calcinations.

ISCA-ISC-2014-Poster-8EVS-11

Biodegradation of Gamma irradiated LDPE by an Endophytic fungus Lasiodiplodia theobromae from an Endemic Plant Psychotria flavida Talbot of Western Ghats

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Abstract: Promiscuous and frequent release of plastics causes serious pollution to the environment. In natural conditions, the degradation of plastics is a very slow process. Low density polyethylene (LDPE) are the inert plastic materials characterized by a high molecular weight, complex chemical and structural composition, hydrophobic and recalcitrant nature, hindering biodegradation. In vitro biodegradation of plastic waste through fungal strains offer a solution to this problem as it is compelled to take the polymer as carbon source releasing active degrading enzymes. Lasiodiplodia theobromae, an endophytic fungus isolated from Psychotria flavida Talbot, formed an adherent biofilm growing on hydrophobic surface of LDPE film. In general, LDPE composites are resistant to microbial attack, due to the absence of any active functional groups. To enhance the biodegradation LDPE films were pretreated with different doses of gamma radiation. The LDPE strips were inoculated with Lasiodiplodia theobromae and incubated for three months. Analysis of the LDPE strips for chemical and structural changes using FTIR spectroscopy, SEM and DSC showed a promising degradation pattern by the fungus.

Keywords: LDPE, SEM, Psychotria flavida, endophytic fungus.

ISCA-ISC-2014-Poster-8EVS-12

Assessment of Nutrients and Load of Organic Carbon in Soil and Sediments Due to Flood and Heavy Irrigation of River Krishna in the Bagalkot District, India

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Abstract: Levels of chemical parameters (pH, EC, Na and Ca), Major nutrients (Organic Carbon, Available Nitrogen, Phosphorous and Potassium) and Micro nutrients (Fe, Mn, Zn, Cu, Boron and Molybdenum) were determined in soil and sediments samples of cultivated lands around the belt of River Krishna across the Bagalkot district, Karnataka state, India. The present study aim was to evaluate some physical and chemical properties, assessment of Organic load, nutrients and their special variation in soil and sediment samples due to heavy irrigation of cultivated lands. The spatial variability and distribution of soil properties at the cultivated lands affect yield potential, hydrologic responses and transport of herbicides to soil surface. The study reveals the seasonal effect on soil and sediment properties by flood and heavy irrigation, fertilizer addition, high water table level and agriculture practices. This effect may cause positive and negative Organic load and nutrients on soil properties. For this evaluation 12 soil samples (seasonally 4 samples each) from soil surface for layer according to grid sampling design and12 sediment samples at three different seasons with 1000 to 2000 meters distance based soil and sediments variability were selected and analyzed.

Keywords: Organic carbon, nutrients, soil and sediment samples, spatial variability in soil properties.

ISCA-ISC-2014-Poster-8EVS-13

Effect of Farm Yard Manure (FYM) and conjoint use of microbial consortia and FYM in reduction of endosulfan residues in soil and percolated water

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Abstract: Endosulfan (1,2,3,4,7,7- hexachlorobicyclo-(2.2.1)-hepten-2,3-bisoxymethylene-5,6-sulfite) is a cyclodiene pesticide used extensively for the control of pests in coffee, tea, cotton and many other important crops. Endosulfan is known to be toxic to aquatic organisms and mammals. It has the property of persistence and bioaccumulation which poses even more threat to human life as well as other living organisms. Since the pesticide has been used continuously for a long time its residue build up is very high in soil. Gradually, this residue moves to water bodies and leaches to ground water to cause pesticide contamination. As ground water is the direct source of drinking water, so it is necessary to make efforts for reducing the pesticide load on soil to prevent it from leaching to ground water. The present investigation was directed to determine the efficacies of FYM and conjoint use of FYM and microbial consortium applications in reducing the leaching of endosulfan to ground water using soil columns. The study was carried out by packing the columns with soils of different depths (0-15, 15-30, 30-45, 45-60cm) as under natural conditions and performing the leaching process by allowing water to flow through the column at a constant flow rate. Each day the leachate from the column was collected and the pesticide was extracted from it using QuEChER's method. The concentration of the pesticide present in the leachate was estimated using GC. The pesticide residue in soil, packed in the column at different depths, was also determined. It was observed that the conjoint use of FYM and microbial consortium was highly effective in reducing the level of endosulfan residues in soil and leached water.
Keywords: Endosulfan, leaching, amendment, farm yard manure.

ISCA-ISC-2014-Poster-8EVS-14

Seasonal Variation Assessment of Physico-Chemical Characteristics in River Water

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Abstract: Water is a source of life and is regarded as the most essential of natural resources but in the recent decades its pollution has become a growing threat to human society and natural ecosystems. Assessment of seasonal changes in water quality is important for evaluating temporal variations of river pollution. The present study assessed the impact of large scale urbanisation and industrialisation on the Ulhas river system flowing across the southern talukas of Thane district in Maharashtra state. Seasonal variations in physico-chemical characteristics of Ulhas river and its tributaries - Barvi, Kalu and Batsa flowing through Thane district were studied during the period March 2013 to February 2014. Parameters studied were temperature, pH, electrical conductivity, T.D.S, hardness, T.S.S, alkalinity, dissolved oxygen, biological oxygen demand and chemical oxygen demand. The studied parameters were compared with the standard values prescribed by ICMR, WHO and USPH.
Keywords: Ulhas, Barvi, Kalu and Bhatsa rivers, electrical conductivity, T.D.S, Dissolved oxygen,biological oxygen demand and chemical oxygen demand.

ISCA-ISC-2014-Poster-8EVS-15

Simultaneous Removal of Heavy Metals by Metal tolerant Bacterial isolates

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Abstract: Industrial activities such as mining, electroplating and manufacturing of essential commodities produce large

volume of waste water containing heavy metals and other toxicants, which deteriorate the quality of aquatic system. The objective of this study was to investigate the heavy metal removal capacity of six bacterial strains isolated from sludge generated from electroplating and paint industries. The removal of heavy metals by individual bacterial strain was studied from multi metal mixture containing Cd, Cu, Cr, Zn, Pb and Ni. Results show highest multi metal removal capacity (72.34% removal) of strainM7 when the initial concentration of multi metal mixture was kept at 150 mg/L. Lowest metal removal efficiency was obtained for D2 strain where 53.49% removal was observed after 72 h of incubation. Maximum removal 92.47%, 81.83%, 91.24%, 92.04%, 59.09% and 81.03% was observed for Cd, Cu, Cr, Zn, Pb and Ni, respectively by different bacterial isolates. The studies suggest a good metal removal potential of the bacterial isolates from mixed waste streams containing mixture of multi metals.

Keywords: Waste water, heavy metal, multi metal, bacteria.

ISCA-ISC-2014-Poster-8EVS-17

Metal removal Efficiency of a fungal Isolate in Multi Metal Stress

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Abstract: Metals such as Cr, Cd, Cu Ni, Pb and Zn are toxic not only to humans but to the eco-system as well. In the present study, a previously isolated fungal strain (PD 6) was used to test the metal removal efficiencies in multi metal stress. Simulated waste water containing 30 mg L^{-1} (5 mg L^{-1} each of Cr, Cu, Cd, Ni, Pb and Zn) was used in a 3.5 L bioreactor along with the fungal strain. Samples were collected after 24 hrs and analysed for glucose consumption and residual heavy metal concentration. PD 6 showed a promising result in bioremediation of all the six heavy metals consuming less glucose. Hence, it could be a potential candidate for treatment of heavy metal rich waste water.

Keywords: Heavy metals, waste water, fungal isolates, bioreactor, multi metal.

ISCA-ISC-2014-Poster-8EVS-18

Analysis of Water Quality of Lakes Situated in thane Region of Maharashtra State, India

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Abstract: Environment is a dynamic system but environmental pollution has become a global problem in recent years. Water is an essential part of our life but its getting polluted due to rapid increase in urbanisation and industrialisation. Thane city has many lakes. They receive heavy flux of sewage domestic waste, agricultural waste, industrial waste etc. Hence regular monitoring is crucial. Systematic study is carried out during the period of March 2013 to February 2014 The physico–chemical parameters studied were temperature, pH, conductivity, alkalinity, salinity, hardness, chemical oxygen demand(COD), dissolved oxygen (DO), biological oxygen demand and heavy metals like Cu, Hg,As and Fe in Masunda, Brahmala, Kharegaon Lake, Jari-Mari and Kacharali lake of Thane region of Maharashtra state. Pollution level of each water sample were compared with the guidelines as prescribed by ICMR, WHO, and USPH.

Keywords: Lakes, environmental pollution, toxic heavy metal content, physico-chemical parameters, flame atomic absorption spectrophotometer, toxicity, lake water, thane, Maharashtra.

ISCA-ISC-2014-Poster-8EVS-19

Ameliorative Potential of Curcumin against Cadmium Induced Colonic Toxicity in Swiss Albino Mice

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Abstract: Cadmium, a highly toxic heavy metal has been linked with number of health problems. In contrast to the activity of cadmium, Curcumin, a food additive, derived from Curcuma longa (Turmeric) is attributed with numerous beneficial healing properties. It is also known for its anti inflammatory and healing properties and in the contemporary

scenario it is being used as an adjuvant in cancer therapies. Hence, the aim of the present experimental design was to assess the ameliorative potential of curcumin against cadmium chloride induced colonic toxicity. The aim of the present study to determine ameliorative potential of curcumin on cadmium induced colonic toxicity on the basis of histopathological observations. The first experimental group was administered only cadmium chloride (25mg/kg/animal for 2 alternate days). The subsequent experimental group was administered curcumin (10mg/animal/day) for 15 days and on the 16th day cadmium chloride (25mg/kg/animal for 2 alternate days) was administered. For each experimental group a parallel control group was maintained. Histopathological observations of colon of only cadmium chloride administered group clearly showed damage as evidenced by emptied goblet cells, lacerated mucosa, submucosa and atrophied muscles which was not so enunciate in animals pre treated with curcumin and subsequently treated with cadmium clearly indicating the ameliorative effects of curcumin on colonic layers. Hence, the present research categorically elucidates the ameliorative potential of curcumin.

Keywords: Curcumin, cadmium chloride, amilioration, toxicity and colon.

ISCA-ISC-2014-Poster-8EVS-20

Identification, Isolation and Characterization of Bacillaceae Bacterium spp. (GenBank accession no: KF777817) from fecal contents of Pteropus giganteus

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Abstract: The present study is a primary report illustrating the presence of Bacillaceae bacterium sp. (KF777817) derived from the faeces of Pteropus giganteus inhabiting Hathipole, Udaipur Rajasthan. Its phylogenetic tree shows the evolutionary relationship of eleven taxa. This is a first report from Indian subcontinent correlating the role of chiropterans as carriers of disease causing bacteria.
faeces, Pteropus giganteus , Hathipole ,Bacillaceae bacterium sp., pathogen

Keywords: Identification, isolation, characterization, bacillaceae, bacterium, fecal, contents, pteropus giganteus.

ISCA-ISC-2014-Poster-8EVS-21

Cadmium Induced Pulmonary Toxicity

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Abstract: Cadmium, a heavy metal,has been shown topossess harmful cumulative effects on humans and plants and is classified as a human carcinogen by the International Agency for Research on Cancer.Its half-life in human body is as long as 30 yearswithout any biological role.Main exposure to cadmium occurs through consumption of food,from drinking water and through inhalation of cadmium particles from ambient air and also via cigarette smoking.In relation to pulmonary toxicity,cadmium exposure to the respiratory system has been reported through different routes viz.oral route, inhalation route,intrathoracic route,intratracheal instillation, intraperitoneal route, subcutaneous route,intra-bronchialinstillation which produced severe chemical pneumonitis, obstructive lung disease,impaired lung function and increased risk of lung cancer.The present deliberation throws light on cadmium induced oral pulmonary toxicity as compared to other modes of exposure.

Keywords: Cadmium, carcinogen, lung, route, toxicity.

ISCA-ISC-2014-Poster-8EVS-22

Comparative analysis of nests architecture of two Sunbirds – Purple Sunbird (Cinnyris asiaticus) and Purple Rumped Sunbird (Leptocoma zeylonica) found in the Natural Habitat and in the area of human interference

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Abstract: In the present study, an attempt has been made to comparatively analyze the architecture of nests of sunbirds – Purple sunbird and the Purple rumped sunbird found in the natural habitat and in the area of human interference.

Correlations are made between nest shape and size, materials used in construction, methods of attachment, stitching materials, and nest-sites. The correlations reveal fundamentally different modes of structural organization specialized to particular sites. Thermocol pieces, paper pieces, cotton, polyethylene pieces, fabrics etc are used for building purpose. There is no special type of roofing layer formed in the nest as an adaptation to rain shedding. But the entrance of the nest was seemed to be guarded at upper side by a 'porch'. The nest entrance of Purple rumped sunbird was facing toward the wall. This might be an adaptation to rain and to protect from enemy. The building materials of nest in the area of human interference include manmade wastes. This also correlates with the remarkable abilities of the species to adapt to the new environment and to the human interference.

Keywords: Cinnyris asiaticus, leptocoma zeylonica, nest architecture, human interference, adaptation.

ISCA-ISC-2014-Poster-8EVS-23

Quantification of Toxicity of lead from sewage-sludge Samples used for Vegetation in Dombivli MIDC, Maharashtra, India

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Abstract: Sewage sludge is used as a soil amendment on productive vegetation land. Sludge builds up the soil organic matter content effectively like compost, it thus improves soil structure and water retention. At the same time significant amount of nutrients are supplied to the soil. Depending upon the sources, sewage sludge composition is highly variable. Unfortunately, sludge originating from urban wastewater source contain relatively higher concentrations of non-nutrient metals Some of the elements are potentially toxic to plants growing on soil that is treated with sludge. Though legislative developments have minimized the chances of mixing of industrial effluents with water streams, Households are the major sources as well; lead, copper, zinc, iron are all leached from domestic pipes. The vegetation land is mainly utilized for cultivating variety of routine vegetables that are consumed by local residents. The concentration level of metal lead present in selected sections of sludge was ascertained using liquid-liquid extraction coupled with photometric technique. Highly selective reagent Hexane-2,5-dione-bis(ethylene diamine) HDBE that forms deep yellow complex with lead which is quantitatively extracted into chloroform at PH4.4 respectively. Optimum concentration of reagent required for complexation and full color development is very low (0.8cm^3 of 0.1% HDBE). Beer's law is obeyed in the detectable range 0.4-10.0 ppm for Pb(II)

Keywords: Sludge, vegetation, HDBE, lead, complexation.

ISCA-ISC-2014-Poster-8EVS-24

Analysis of Fungal Diversity in the Air of Semi Arid Region

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Abstract: Fungi are common in indoor and outdoor environment. Nearly 10% of people worldwide have fungal allergy. Exposure to moulds and their by products can result in respiratory disorders such as asthma, allergies and other adverse health effects as infections, hypersensitivity etc. Different air samples of the semi arid region were taken to characterize the fungal diversity in the air. The fungal flora in the air of randomly selected areas was investigated. The predominant fungal genera isolated from investigated air samples were *Aspergillus sp., Penicillium sp., Rhizopus sp., Cladosporium sp., Alternaria sp., Fusarium sp. and Helminthosporium sp.* Some species of these fungi, like *Cladosporium*, *Alternaria*, *Penicillium* and *Aspergillus*, are recognized opportunistic pathogens for humans and often associated with clinical manifestations (allergy, rhinitis, asthma, conjunctivitis). Therefore, there is a need for management of possible risks of these infective hazards.

Keywords: Fungal allergy, semi arid region, infective hazards.

ISCA-ISC-2014-Poster-8EVS-26

Study of Phosphate Solubilizing activity of lead Tolerant *Pseudomonas aeruginosa* HMT 51 isolated from Zawar mines, Udaipur, India

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Abstract: Phosphate solubilization ability of rhizospheric soil bacteria is an important trait for heavy –metal tolerant bacteria as such isolates will support the plant growing in contaminated soil by providing phosphate in soluble form. The

present study is aimed to screen the efficiency of phosphate solubilizing activity of lead tolerant Pseudomonas aeruginosa HMT51 isolated from mine spoil of Zawar. The phosphate solubilizing activity was determined using modified Sperber medium containing 10% $CaCl_2$ and 10% K_2HPO_4 by spot assay method. The isolate was found positive as it showed halo zone around its colonies. The efficiency of phosphate solubilization of HMT51 was determined by comparing the diameter of halo zones after 24h, 48h, 72h and 96h.Lead tolerant phosphate solubilizing bacteria support plants growing in mine spoil and thus provide enhanced microbial phytoremediation of metal polluted sites.

Keywords: Lead tolerance, Pseudomonas, phosphate, zawar mines.

ISCA-ISC-2014-Poster-8EVS-27

Impact of Sewage and Industrial effluents in the Assessment of ground water Pollution in and around Industrial estate at Dindigul District, Tamilnadu, India

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Abstract: Ground water samples collected from different locations in and around Industrial Estate at Dindigul were analyzed for physico-chemical parameters such as temperature, pH, TDS (total dissolved solids), electrical conductivity, total hardness, calcium (Ca), magnesium (Mg), sodium (Na), potassium (K) and chloride (Cl). Based on the various experimental results, it is arrived at the conclusion that the adjoining ground water sources are mostly affected and the water becomes very salty with very high TDS and that the ground waters are unfit for drinking purpose and some suitable treatments are necessary so as to keep the values of some parameters within desirable limits of BIS standards for drinking water. Hence the polluted water is suggested to water treatment using Reverse Osmosis System.

Keywords: Ground water, sewage, industry effluent, BIS.

ISCA-ISC-2014-Poster-8EVS-28

Waste Management and Development: Eco-Friendely Development of Rajsamand, India

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Abstract: Clean urban environment is the objective of the urban planner. The cleanliness of a city depends upon the effective waste disposal and management. In India most of the cities have an inescapable and challenging issue of waste. Till now waste of some cities is disposed in open trench. The following paper throws light on waste management of Rajsamand based on secondary data collected from various websites, newspapers, various organizations etc. The need for sustainable and environment friendly waste management is highlighted with respect to the dynamic pattern of waste generation. The paper will be helpful in making effective technology for waste management.

Keywords: Waste management, development, eco-friendely, development, rajsamand.

ISCA-ISC-2014-Poster-8EVS-29

Environmental Ethics: Relationship between Human and Natural Environment

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Abstract: Development of science and technology continuously changing the natural environment. Environmental quality is necessary for quality of human life. The area of environmental ethics concerns ethical relationship of human beings with the natural environment. Culture and nature have entwined destinies, similar to the way minds are inseparable from bodies. So ethics needs to be applied to the environment. The theoretical representation of a newly emerging moral idea and value orientation, environmental ethics is the fullest extension of human ethics. There are several distinctive features of environmental ethics that deserve our attention like environmental ethics is interdisciplinary, extended, plural, global and revolutionary.

Keywords: Environmental ethics, human beings, natural environment.

ISCA-ISC-2014-Poster-8EVS-31

Synthesis and Characterization of Nanostructured Material for Photovoltaic cell

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Abstract: The sun has enough power to supply the whole earth with energy. But as long as renewable energy is more expensive than energy produced by coal or nuclear plants, solar energy won't be first choice. Solar cell is one of the most important non-conventional source of energy. Various semiconductors useful for the manufacture of solar cells. In photovoltaic's, semiconductor nanostructured materials like nanoparticles and nanowires are used in manufacture of cell device. Because the nanomaterial strongly absorbs sunlight than other semicomductor materials, a much thinner film is required than of other semiconductor materials. Due to specific optical and electrical properties, nanomaterial layer have appreciable potential for fabrication of solar cell with an extremely thin absorber of light. For this purpose nanomaterials are synthesized and characterized for their potential applications in photovoltaic cells. Solar cell containing thin film nanomaterial layers exhibits some important advantages. In the present investigation authors records the synthesis of nanomaterials (metal sulphides) and used characterization techniques like TEM, SEM and UV-Visible spectroscopic techniques for determination of morphology, band gap and optical properties of nano-material.
Keywords: Nanomaterial, synthesis, characterization, photovoltaic cell.

ISCA-ISC-2014-Poster-8EVS-32

Seasonal Variations in Population Density of Gastropods in a Desert Village Pond, Near Bikaner, India

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Abstract: Bikaner, where the present investigation has been carried out known as desert district of Rajasthan. This study was focused on seasonal variations in population density of gastropods in Darbari village pond, situated nearly 28 km away from Bikaner city (North-West direction). A year round study (2010-2011) was carried out. This investigation on a desert pond for an annual cycle revealed 3 animal species viz. *Gabbia orcula, Indoplanorbis exustus* and *Lymnaea acuminata* belonging to 2 sub-classes namely Pulmonata and Prosobranchia. Among all studied season highest population density of gastropods of all three reported species were recorded in summer season. Minimum population density of *Indoplanorbis exustus and Lymnaea acuminata* were recorded in winter season, while nil Population density of *Gabbia orcula* was recorded during winter and monsoon seasons. Waters of desert region have high electrolyte concentration and high temperature fluctuations. It was interested to note that such high population density of gastropod was recorded in harsh conditions of desert water.
Keywords: Desert Pond, Gastropods, Population density, Seasonal variations.

ISCA-ISC-2014-Poster-8EVS-33

Air Pollution Tolerance Index (APTI) study of roadside Plants of Amritsar, India

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Abstract: Auto-air pollution is the result of our day to day mechanized mobility which directly left adverse impacts on environment, humans, plants and animals. Air pollution had become the main economic and environmental evil for all developed as well as developing nations like India. In an open environment, plants are the first natural acceptors to all pollutants and thereby act as a great sink. Plants are found to be huge absorbers and accumulators for air borne particles because of their massive surface area. Plants can easily absorb, detoxify and tolerate high level of pollution. In response to air pollution, plants develop different types of foliar injuries and change their metabolism and leaf architecture. Thus, the plants can be used as bio-monitors and bio-mitigators to point out the environmental changes and pollution level in a locality. Now a days, urban vegetation has became very important not only for social reasons but also for affecting local

and regional air quality. The response of plants towards pollution can be assessed by air pollution tolerance index (APTI). Air pollution tolerance index (APTI) is one of the biological tools that have been used to categorise different plant species in order of their tolerance/sensitivity to air pollution. The aim of present study is to find out the APTI of different plant species from the different sites of Amritsar. Present study showed affect of air pollution on APTI and also identified the tolerant and sensitive plant species.

Keywords: Air pollution tolerance index study, roadside plants, Amritsar.

ISCA-ISC-2014-Poster-8EVS-34

Composition of Municipal Solid Wastes and Its Sustainable Management in Udaipur City, India

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Abstract: The municipal solid wastes generated from different sources including residential, industrial, municipal and commercial sectors as well as those released by building demolition and constructions, hospitals, etc. in Udaipur were assessed targeting its effective disposal. Improper management of municipal solid wastes can have a significant impact on human health and environment. The techniques and methods of waste disposal were studied by field visits in different wards with special focus on processing, informal recycling, reuse and composting procedures, landfill sites, waste dealers shops, etc. An observable change has been found in the waste composition with the development of the city along with the population pressure and urbanisation. Prospects for improvisation in management of solid wastes were worked out for the city which will provide positive results for the physical environment and local people also.

Keywords: Disposal, management, municipal solid wastes, recycling, urbanisation.

ISCA-ISC-2014-Poster-8EVS-36

Sustainable Consumption and Production

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Abstract: Exponential growth of industries and globalization has lead to the growth of multinationals those are main reason of environmental damage in different ways. Sustainable consumption and production aims to do "more and better with less," by reducing resource use, degradation and pollution along the life cycle of goods and services, while increasing the quality of life for all. Sustainable consumption and production is about promoting resource and energy efficiency and sustainable infrastructure while offering opportunities such as creating new markets and generating green and decent jobs, such as markets for organic food, fair trade, sustainable housing, renewable energy, sustainable transport and tourism. Sustainable consumption and Production is especially beneficial for developing countries as it provides an opportunity for them to "leapfrog" to more resource-efficient, environmentally sound and competitive technologies, allowing them to bypass inefficient and polluting phases of development. In India alone, over 100,000 hectares of forest land have been diverted for mining in the last 30 years, and countless rivers and lakes have been polluted beyond repair by mining run-off. The world needs a shift in the way goods and services are produced and consumed to avoid worsening development and environmental degradation.

Keywords: Sustainable, consumption, production, polluted, environmental degradation.

ISCA-ISC-2014-Poster-8EVS-37

Biocatalytic dye Color removal using partially Purified *Trichosanthes dioica* peroxidase

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Abstract: The decolorization proficiency of partially purified *Trichosanthes dioica* peroxidase was examined for the degradation/decolorization of textile dyes. Internal conditions of pH, temperature, time intervals and enzyme concentration with selected redox mediator was optimized to obtain a cost effective decolorization setup for recalcitrant dyes. Among the tested redox mediators, 1-hydroxybenzotriazole (HOBT) acted as a better electron transfer agent by contrast to vanillin for both textile and non-textile dyes. Maximum decolorization for reactive and disperse dyes was achieved with

optimum conditions of 0.45 EU/ml, 1.0 mM HOBT, pH 5.0, 50ºC, 2 h and 0.20 EU/ml, 0.2 mM HOBT, pH 4.0, 40ºC, 1h, respectively. Result indicates the use of inexpensive peroxidase from easily available natural resources in overcoming the limitations in current wastewater treatment strategies. Such heterogeneous biocatalytic system can be extended on to large-scale treatment of wide spectrum of structurally complicated dyes by using immobilized peroxidases along with relatively cheaper redox mediators.

Keywords: Biocatalysis, dyes, redox mediators, heterogeneous system, decolorization.

ISCA-ISC-2014-Poster-8EVS-38

Assessment of Major sea Weeds with respect to their ecological Significance along the Saurashtra Coast

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Abstract: Approximately 70% of Earth's surface is covered with water; largely the seas and the oceans. Moreover, 97% of water that we have on our planet is saline. In comparison to the terrestrial habitat and freshwater habitat the marine environments are least studied due to technical difficulties. Inspite of this, they are assumed to be harbouring huge diversity of flora and fauna. On the other hand, Intertidal zone of the marine environment is of equal importance as it has a unique type of ecosystem having alternate periods of submergence and emergence in water due to tidal action. In the present study major sea weeds of intertidal zone of Saurashtra coast were studied with respect to the ecological parameters and with special reference to their biological associates. These sea weeds were observed to be playing two key roles viz., acting as food source and shelter for other inhabiting organisms. Furthermore, their presence also renders the substratum less vulnerable to erosion by the tidal forces and help maintaining the unique intertidal zone. The same has been discussed in detail in this paper with preliminary list of diversity of sea weeds and their associates.

Keywords: Assessment, major, sea weeds, respect, ecological, significance, Saurashtra Coast.

ISCA-ISC-2014-Poster-8EVS-39

Phytoremediation for Refinery Waste Water by Hydrophonic Plant

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Abstract: Wastewater treatment has been normally carried out by conventional systems. These systems along- With advanced technologies being employed at many places are highly dependent upon power availability, skilled manpower and waste load characteristics. In developing countries, some of these could be critical towards efficient waste treatment. The demand of time to develop a sustainable wastewater treatment system overcoming phytoremediation Technology based on aquatic plant systems to solve the current runoff and wastewater quality problems. Phytoremediation depends on naturally occurring processes in which plants detoxify inorganic and organic pollutants with the help of degradation sequestration and /or transformation. Phytoremediation is being used successfully to deal with a wide range of solid liquid and gaseous substrates (Raskin and Ensley 2000; McCutcheon and Schnoor 2003).

Keywords: Phytoremediation, wastewater treatment, phytoremediation technique.

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Comparative Evaluation of Microalgae growth in Liquid digestate obtained from algae and Cattle dung digestion

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Abstract: The probability of growing microalgae in natural conditions using wastewater high in nutrients for the production of more biomass was observed.The following study was focused on the comparative analysis of growth potentialof microalga *Chroococcus* sp. 1 in liquid digestate obtained from anaerobic digestion of algal biomass and cattle dung. Due

to dark color, both the digestate were diluted in distilled water with different concentrations (10-100%) and used as growth medium. After 12 days of cultivationalgal biomass concentration was 0.79 ± 0.05gL^{-1} and 1.56 ±0.06 gL^{-1}, respectively, in diluted (at 30 %) liquid digestate of algae and cattle dung.. However, nutrient removal was higher in case of algal digestate (COD 91%, TDP 92%, NO_3-N 93% and TAN 97 %) as compared to cattle dung digestate (COD 88%, TDP 89%, NO_3-N 15% and TAN 95 %).

Keywords: Microalgae, biomass, cultivation, productivity, algal digestate.

ISCA-ISC-2014-Poster-8EVS-41

Curing Properties of sSBR with Different Eco-Friendly Oils

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Abstract: Curing is the process of applying pressure to the green tire in a mold in order to give it its final shape, and applying heat energy to stimulate the chemical reaction between the rubber and other materials. In this process the green tire is automatically transferred onto the lower mold bead seat, a rubber bladder is inserted into the green tire, and the mold closes while the bladder inflates. As the mold closes and is locked the bladder pressure increases so as to make the green tire flow into the mold, taking on the tread pattern and sidewall lettering engraved into the mold. The bladder is filled with a re-circulating heat transfer medium, such as steam. The study of the flow of matter, primarily in the liquid state or solids under conditions in which they respond with plastic flow rather than deforming elastically in response to an applied force. The recent change in world scenario in shifting towards restriction on PCA rich extender oils leads to search for naturally occurring oils and low PCA Oil. Present study is focused on curing properties of SSBR rubber based truck tyre tread cap compound with different eco-friendly oils. These oils are found to be suitable on the basis of low PCA content. As the presently available low PCA oil in the market in the form of MES and TDAE and naphthenic oil are comparatively costly. This paper deals with the curing behavior of different low PCA oils base formulation in Tyre tread cap compound.

Keywords: Curing, properties, different, Eco-friendly oils.

ISCA-ISC-2014-Poster-8EVS-42

Stabilization of heavy Metals in Soil to reduce dietary intake of Toxic Metals – An overview

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Abstract: Heavy metals are the metals with specific gravity higher than 5. Pollution caused by these metals is a rising global concern as most of these metals are toxic and imperil human lives. Heavy metals are added to soil through irrigation of land with wastewater, disposal of toxic solid waste on agricultural land or percolation of wastewater from drain to soil. These metals are either concentrated in soil or infiltrated to ground water reservoirs and thus ingested by human body through food crops or water intake. Stabilizing heavy metals in soil is important to reduce ground water contamination and infestation of food with toxic heavy metals. Various amendments in soil like, adding lime, peat, organic wastes of many kinds help in stabilization of toxic metals as they form a metal-complex. Amendments added to soil alter the soil chemistry in a way to form stable complexes with metals thus avoiding their percolation to ground water and transport to food crops. Modifying soil with these amendments can be huge help to mankind.

Keywords: Stabilization, heavy metals, soil amendments, solid waste, food crops.

ISCA-ISC-2014-Poster-8EVS-43

Ethanobotanical Documentation of the Plant resources

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Abstract: Ethnobotany is a branch of biology that involves scientific study of the relationships that exist between people and plants. Ethnobotanical knowledge encompasses both wild and domesticated species, and is rooted in observation, relationship, needs, and traditional ways of knowing. Such knowledge evolves over time, and is therefore always changing and adding new discoveries, ingenuity and methods. The knowledge is passed on from generations orally. As there will

be high vulnerability in this process it is very crucial to preserve this knowledge in codified patterns. Through this research, an attempt has been made to codify the rich heritage of knowledge present in the Yanadi tribal community located in the Eastern Ghats of Palmner region, Baireddipally Mandal, Chitoor District of AP . The 'Yanadi tribals' are known for their knowledge and expertise in folk medicines using wild flora. They have been healers and a few elders still continue to be healers and vaidyas in their localities. Their knowledge of the forests is immense.we documented and produce this data to the Peoples' Bio-diversity Register (PBR). Collection of data was initated through interview and field visit.. This has brought to light unrevealed therapeutic uses of 132 species of medicinal plants, their parts like roots, tubers, stem barks, leaves, flowers, fruits and seeds that are used as medicines. They have been using these medicinal plants in the form of paste, powder, juice, decoction, infusion and also in crude form, with other additives like ghee, sesame oil and goat milk to give relief from different ailments that has not documented. Present study discloses ethnic practices (Yanadi) of 132 plant species to relieve different ailments like Skin diseases, Jaundice, Rheumatism, Antidotes, Burning Micturition, Fevers, Intestinal worms, Menstrual problems, Cough, Diarrhea, Head-ache, Cold, Diabetes, Tooth-ache, Asthma, Eye diseases, Stomach-ache, Indigestion, Piles, Cuts, wounds, Abscesses, Sexual problems, for getting abortion, Nasal drops and to retain pregnancy as well as dietary supplements for men.

Keywords: Ethnobotany, people's bio-diversity register, traditional/indigenous knowledge.

ISCA-ISC-2014-Poster-8EVS-44

Marine Pollution and its Effect to the Bio-diversity

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Abstract: Coastal and estuarine ecosystems have been, and still are, heavily influenced by the human species through pollution and habitat loss throughout the world. This coastal pollution and its impacts have resulted in a number of environmental issues including the enrichment of enclosed waters with organic matter leading to eutrophication, pollution by chemicals such as oil, and sedimentation due to land-based activities. Over Eighty per cent of all marine pollution originates from land-based sources which are primarily industrial, agricultural and urban. Pollution accompanies most kinds of human activities, including offshore oil and gas production and marine oil transportation. Most marine animals, particularly marine mammals and fish, are very sensitive to pollution. Decreased species diversity in whales and dolphins was related to an increase in heavy pollution. Many marine species have been shown to be impacted by various pollution to some degree. So, oceanic pollution must be managed both nationally and internationally in a precautionary way before irreversible damage to biodiversity and the marine ecosystem occurs. This study examines some cases of oil spillages and their concomitant impact on the flora and fauna. It seeks to evaluate how the oil firms and the federal government responded to the despoliation of the environment occasioned by the oil spillage. The study makes use of both primary and secondary sources of information and data to analyze the issues in contention. The author suggests the need for government to impose strict liability for environmental degradation. Oil spills can cause damage not only to fishing and aquaculture resources but also to sea birds, mammals and other organisms by physical contamination, toxic effects and by disrupting business activity. The nature and extent of the impact of an oil spill on seafood production depends on the characteristics of the spilled oil, the circumstances of the incident and the type of fishing activity or businesses affected. In some cases effective clean-up and protective measures can prevent or minimize damage. This Information Paper describes the effects of oil pollution on fishing and aquaculture, sea birds, mammals and other organisms and provides guidance on remedial measures.

Keywords: Oil pollution, oil spills, marine environment, sea birds, marine pollution, marine biodiversity, pollution control, coastal pollution, marine ecosystem.

ISCA-ISC-2014-Poster-8EVS-45

Recycled Papers Made on Different Surfaces

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Abstract: Paper is made from wood pulp which requires cutting down of trees. Cutting of trees increases global warming. The object of the project is to recycle the waste paper on different surfaces thus protect the environment by not cutting the trees and thus reduce global warming. In the project slurry of waste paper was prepared with starch and the contents mixed with hand blender. The pulp prepared was spread on net or cloth of different materials such as iron, cotton, nylon, georgette, canvas and after drying, the paper was removed from the surface with a knife. Coloured paper was made by

adding turmeric powder, kumkum powder etc. The advantage of the project is that environment is protected because there is no need to cut the trees and use chemicals. It can also be used as income generating activity because greeting cards, visiting cards etc. can be made from the Recycled paper.

Keywords: Recycled, paper, trees.

ISCA-ISC-2014-Poster-8EVS-46

Impact of Phumdi Proliferation in Loktak Lake, Manipur, India

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Abstract: The paper aims to study the phumdi proliferation along with the related ecosystem issues in the vicinity of the Loktak Lake which is the largest freshwater lake in the Northeast India. The study is based on remotely sensed data of 1989 and 2002 to examine the factors causing its proliferation. Lake is degrading and deteriorating day-by-day mainly due to the proliferation of the floating islands called phumdis. The phumdis play a unique role in the ecosystem of Loktak Lake. The phumdis are tremendously increasing from the last few decades. Overall area of phumdis in the lake has increased from 116.4 sq.km to 134.6 sq.km during 1989-2002. The high growth rate of Phumdis is due to disposal of rural and agricultural nutrients in and around the lake. The existing phumdi is used as a tool for fishing from the lake. Therefore, it is very important to create the social awareness among the people from the lake surroundings, regarding its high growth rate. Phumdi proliferation phenomenon also reduces the aquatic fauna. The awareness is aimed to remove phumdis by mechanical and manual means to reduce the inflow of nutrients into the lake by checking the inflow from point and non-point sources.

Keywords: Phumdi, Loktak lake, proliferation, nutrients, awareness, bio-fertilizers.

ISCA-ISC-2014-Poster-8EVS-47

Ultramarine Blue Pigment: World's Most Tried and Trusted Pigment

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Abstract: Ultramarine blue is the synthetic inorganic pigment. It is a blue pigment of sodium alumino silicate containing sulphur. In Indore M.P. Ultramarine blue pigment is manufactured in the form of liquid fabric whitener (Neel) in large quantity. This liquid fabric whitener is highly demanded in the market for regaining elegance of the fabric. The Asiantic Ultramarine and Pigment India Pvt. is located in Dhar MP. This industries manufactured good quality of ultramarine blue pigment and exports to other states, as well as to other countries.The main raw materials used in the production of ultramarine blue are clay, sodiumcarbonate and sulphur. Sodiumsulphate, aluminum, and iron are present in ultramarine blue pigment. These chemicals are harmful for soil and environment, although ultramarine blue is of low or no toxicological concern. Ultramarine blue is stable in alkaline condition but decomposes and releases hydrogen sulfide in acidic conditions. Environmental pollution is currently one of the most important issues facing humanity. It is increased exponentially in the past few years and reached to an alarming levels in terms of its effects on living creatures. Some ions are considered pollutants having direct effect on man and animals. Industrial effluent containing sodium, lead, copper, aluminum and chromium, etc can contaminate ground water and thus lead to a serious ground water pollution problem.Effluents containing the above ions which also effect soil and environment. Ions are now a day's among the most important pollutants in surface and ground water. The safe and effective disposal of industrial effluent is thus a challenging task for industrialists and environmentalists. Nowadays, with the exponential increase in population, measures for controlling and emissions into the environment are essential.

Keywords: Ultramarine, pigment, Effluents, toxicological, alkaline, pollutants, elegance.

ISCA-ISC-2014-Poster-8EVS-48

Seasonal Variations in Physico-Chemical Properties of Chandrabhaga River in Dhapewada, Dist. Kalmeshwar, Maharashtra, India

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Abstract: Water is regarded as 'polluted' when it is changed in its quality or compositions, directly or indirectly as a

result of human activities, so that it becomes less suitable for drinking, as well as domestic and other purposes. Pollution of fresh water results largely from the waste disposal. Many of our lakes are becoming increasingly murky, smelly and choked with excessive growth of algae. Most of the rivers have become darkened with sewage, chemicals and other undesirable foreign extraneous matter. Moreover, the rivers carry and deposit their pollutants in to the ocean. Hence, the oceans are also polluted by toxic wastes which cause contamination of sea-foods on a large-scale. The present study has been made to analyze the physicochemical parameters of the river Chnadrabhaga. Samples were collected season wise from sampling site for analyzing the various physicochemical parameters such as Temperature, pH, TDS, Conductivity, DO, free CO2, Sulphate, Phosphate , Nitrate, BOD, COD. The work highlights the condition of this river water in various seasons with respect to the parameters mentioned above.

Keywords: Physicochemical parameters, Chandrabhaga River, Dhapewada, pollution.

ISCA-ISC-2014-Poster-8EVS-49

Phytoplankton Diversity of a Desert Village pond in Bikaner, Rajasthan, India

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Abstract: Phytoplankton are the chief primary producers and are of prime importance in aquatic ecosystem as the productivity of aquatic ecosystem is totally dependent on these. They from the basic link of food chain for all aquatic organism. The diversity of phytoplankton components in the aquatic ecosystem serve as a reliable index for monitoring of a water body. We examined the phytoplankton diversity (Rajasthan) in sagar village pond, which is situated 6 k.m. away from Bikaner (Rajasthan). Samples were collected monthly from Jan.2012 to Mar.2013. 14 Species of phytoplankton related to the member of three algal groups, namely Chlorophyceae(greens) Cyanophyceae (blue greens) and Bacillariophyceae (diatoms) were observed. The species *Cladophora, Crucigenia, Microspora, Chara, Spiyogyra* (5greens), *Navicula, Nitzschia, Synedra, Diatoma, Coscinodiscus* (5diotoms) *Spirulina, Nostoc, Anabaena, Oscillatoria* (4 blue greens) were recorded from the village pond. Climate of local environment factors are likely to have major impact on phytoplankton diversity of fresh water.

Keywords: Village pond, phytoplankton, diversity, climate, algal group.

9. Forensic science

ISCA-ISC-2014-9FMS-Guest

Globalization of the World and its Security and Legal Aspects

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Abstract: Security and legal aspects of globalization examine one of the most significant phenomena of our times, that positively, but also negatively influences the life of mankind. When examining it more closely we distinguish globalization from the economic and political-social point of view in the context of its instruments, manifestations and social impacts. This fact brings positive aspects such as the revival and economic growth of economically weaker countries of the world, but also the dark side of the knowledge, namely an increasing influence of global economic powers with uncontrolled hidden dictatorship and promoting their own political interests. The security aspect may be a counterbalance in detecting such practices.
Keywords: Globalization, security, economics, instruments, political practices, abuse of a dominant position.

ISCA-ISC-2014-9FMS-Guest Speaker

Coronary risk stratification by *Pueraria tuberosa* – A potential herb for human heart

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Abstract: Plants have been shown to modify the coronary risk factors such as blood lipids, blood sugar, coagulation parameters, fibrinolytic system, blood pressure and oxidative stress. *P. tuberosa* (Indian Kudzu) is one such plant which has demonstrated antioxidant, hypoglycemic, hypolipidemic, fibrinolysis enhancing and cardioprotective activities. The tuber is rich in isoflavanoids such as puerarin, daidzein, genistein, genistin, tuberosin besides other phytochemicals which are responsible for its pharmacological activities. In view of this the present work was undertaken to observe the effect of long term administration of *P. tuberosa* on various coronary risk factors in patients with coronary artery disease (CAD) and hypertension. Forty individuals with coronary artery disease (Group I) was selected who had healed myocardial infarction (>6 months), were stable in their symptoms and receiving isosorbide-5-mononitrate, aspirin and/or clopidogrel. Another forty, non obese, newly diagnosed patients of stage 1 hypertension (JNC VIII) (Group II) were selected. Both Group I and II was subdivided into A and B. Group A (I A, II A) was treated group received *P. tuberosa* 1.5 g twice daily for 12 weeks while Group B (IB, IIB) were placebo group received matched placebo for the same duration.

Blood samples were collected in fasting state initially and at an interval of 4 weeks till the end of the study and subjected for lipid profile, fibrinolysis, fibrinogen and total antioxidant status. Blood pressure was measured by mercury sphygmomanometer in sitting position, initially weekly and then at 4, 8, 12 weeks intervals. Average of two or more readings with a gap of 5 minutes was recorded. A significant fall of 25, 11 and 16 mmHg was observed in systolic ($p<0.001$), diastolic ($p<0.05$) and mean ($p<0.001$) blood pressure respectively at the end of the study. There was progressive reduction in atherogenic lipids along with atherogenic index and rise in HDL-C. At the end of they study, there was decrease of 14% Cholesterol ($p<0.02$), 22% Triglycerides ($p<0.01$), 24% LDL-C ($p<0.01$), 22% VLDL-C ($p<0.01$), 26% atherogenic index ($p<0.02$) and rise of 17% in HDL-C ($p<0.01$). Along with these lipid changes, fibrinolytic activity increased by 99%, total antioxidant status by 54% and reduction in fibrinogen by 27%. All these changes were statistically significant. It was tolerated well without any untoward side effects. *P. tuberosa* has demonstrated significant anti-hypertensive, hypolipidemic, antioxidant and fibrinolytic enhancing properties in patients with ischemic heart disease and hypertension without any side effects. It has proved to be a hemorrhelogical herbal agent. However, it warrants further long term study on a larger subset of patients.

ISCA-ISC-2014-Oral-9FMS-01

Production, Purification and Characterization of Nattokinase from Bacillus Subtilis, Isolated from Saline Soils of Kolhapur District of Maharashtra, India

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Abstract: Nattokinase is an enzyme that finds a wide range of applications in Pharmaceutical industry, health care and Medicine etc. Nattokinase is a naturally-occurring proteolytic enzyme derived from natto, a traditional Japanese food

produced from the fermentation of soybeans with Bacillus subtilis natto. It is an enzyme that digests fibrin both directly and indirectly. Indirectly, it activates pro-urokinase and tissue plasminogen activator (t-PA), supporting the fibrinolytic activity of plasmin. These combined actions promote healthy platelet function, circulation and blood flow. By considering this ten different isolates from saline soil of Kolhapur district were screened for nattokinase production. Out of ten isolate isolate no NBP-7 identified as Bacillus subtilis showed maximum nattokinase activity. In this study, nattokinase was produced by surface culture method. The characterization results of the purified enzyme showed its optimum activity at 37^{O}C, pH 7. The enzyme activity was found within 10 Minutes of incubation at 37^{O}C. The purified enzyme was characterized and the results were found to be promising for future studies and commercial production.

Keywords: Nattokinase, bacillus subtilis, fibrinolytic, plasmin, saline soil.

ISCA-ISC-2014-Oral-9FMS-02

Recent Trends of Diabesity and its Non-Clinical Management among Urban Pts

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Abstract: Interdependent Relationship between diabetes mellitus and obesity is termed as "Diabesity" that is a complex syndrome whereby obesity progresses to diabetes with overlapping symptoms of insulin resistance, hyperinsulinemia, hyperglycemia, dyslipidemias, ion imbalances and inflammation. Diabetes presently affects 155 million people and obesity 310 million and an additional 800 million people are overweight. World-wide, these two serious conditions have become a health problem on epidemic proportions. The rising prevalence of DM appears to be greatly related to be increasing prevalence of overweight and obesity. Obesity is an important risk factor for diabetes also. Recently (2009) the general consensus in American Diabetes Association and American College of Endocrinology that an HbA^{1}C level of more than 7% serves as a call to action to initiate or change therapy with the goal of achieving an HbA^{1}C level below 7%. It was still realized that the importance of non-clinical management of diabesity, weight control is an important part of management. Diet and exercise intervention should be initiated early and should continue throughout the duration of the treatment. The objective of the paper to assess the role of non-clinical intervention for management of diabesity control among urban patients. The paper was prepared at Barabanki, U.P. India. The subjects were purposively selected of diabesity. Those were taking treatment at different private nursing home at Barabanki U.P. India. A hundred patients were selected for intervention and ten for control group. The main findings of the paper changes after intervention bring in non-clinical diet 62%; exercise 58%; stress management 22%, cognitive management 20% smoking cessation 10% that changes in weight 43% cases upto 2 kg. and diabetes control approx. 69% patients having their HbA^{1}C less than 7%. The calculated value of chi-square was found much more higher (26.0) as compared to table value (3.841) at one degree of freedom and five percent significant level. Therefore null hypothesis rejected and alternate hypothesis accepted i.e. knowledge, attitude and practices for diabesity non-clinical recent recommendation intervention could better control diabesity.

Keywords: Diabetes, obesity, diabesity, hyperglycemia, hyperinsulinemia, dyslipidemia.

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Advancement of Chemical Technique used in Bribe Trap Cases

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Abstract: Although a number of different techniques using different chemicals such as fluorescent dyes, starch powder, phenolphthalein powders etc have been adopted but phenolphthalein powder in anticorruption cases has remained most popular in India. Phenolphthalein is a weak acid; its unionized molecules are colorless while on ionization give pink color. The sodium carbonate washings containing traces of transferred phenolphthalein from accused is submitted to Forensic Science Laboratories (FSLs) for examination. Persistence of pink color during court proceedings is the major issue because courts place reliance on the visual appearance of red color of the alkali solution of phenolphthalein as a proof of transfer of phenolphthalein, This problem can be vanished and color of phenolphthalein can be maintained for a long period time with the help of hydroquinone, as well as this technique blocks the way of criminal's plea regarding the use of laxative. There are so many conventional and instrumental techniques (Thin Layer Chromatography, UV-Visible Spectrophotometer, High Performance Liquid Chromatography, High Performance Thin Layer Chromatography etc.) which may be used for the confirmation of phenolphthalein.

Keywords: Advancement, chemical, technique, Bribe, trap, cases.

ISCA-ISC-2014-Oral-9FMS-04

Effect of Temperature on Membrane Integrity of Human Spermatozoa

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Abstract: Temperature plays a very important role in the integrity of human spermatozoa. During in vitro fertilization, it is necessary to maintain optimum temperature to maintain the viability of sperms outside the body, especially in cases of male factor infertility where only a few sperms are available for use. A functional membrane is requisite for the fertilizing ability of spermatozoa, as it plays an integral role in sperm capacitation, acrosome reaction and binding of the spermatozoon to the egg surface. This study was conducted to observe the effect of temperature on human spermatozoa and thus deduce the optimum temperature for good survival of the sperms. Semen samples were collected from normozoospermic patients. Processed semen samples were exposed to two different temperatures, and the membrane integrity of the sperms was assessed by performing hypo-osmotic swelling test and the sperms were checked for tail-curling under 20x lens.
Keywords: Sperm, temperature, membrane integrity.

ISCA-ISC-2014-Oral-9FMS-05

Iron Deficiency Anemia in Malaysia

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Abstract: Iron deficiency affects a significant part, and often a majority, of the population in nearly every country in the world. In Malaysia, iron deficiency anemia has been reported in many studies in children, adults of both genders and in old age. A thorough literature search of all the available studies on iron deficiency anemia in Malaysia was done mainly from indexed journals. The studies were categorized by years in decades. A comparison in the iron deficiency status by progressing timeline was done to see if there is any improvement in the status of iron deficiency anemia in the country. The percentage of iron deficiency anemia in Malaysia seems to have decreased over the years, from what it was in 1994 to what it is now. However, the improvement in the iron status is not very significant. Increased awareness and improvement in education seems to have played a significant role in improved the nutritional status of the Malaysians in terms of iron content. More efforts need to be put to increase awareness in the general public about providing adequate supplements of iron in times of increased demand.
Keywords: Anemia, iron, awareness, supplements, Malaysia.

ISCA-ISC-2014-Oral-9FMS-06

Biocompatibility Study of *Lactobacillus Casei* Isolated from Cucumber and Evaluation of Probiotic Effects in the Human Gut

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Abstract: Probiotics are live microorganisms introduced orally in the gastrointestinal tract (GIT) that are able to contribute positively to the activity of intestinal microflora and therefore, to the health of its host. A variety of probiotic supplements are currently available in the market which target towards improving the balance and activity of the intestinal microflora. Probiotics must have robust survival properties in the gut in order to exert any beneficial health promoting properties. Many *in vitro* properties, such as adhesion, co-aggregation, aggregation, hydrophobicity, resistance to pH, bile, etc., are usually investigated to determine if a specific selected strain would be suitable as a probiotic. *Lactobacillus casei* has been isolated from raw cucumber and identified based on phenotypic and biochemical characteristics. The isolate was studied for its survival at acidic pH, bile acid, different NaCl concentrations, their action against pathogens, and resistance to antibiotics. The organism has shown well resistance to antibiotics, gastric acids and bile digestion and also exhibited good adhesion to intestinal mucosa and aggregation properties.
Keywords: Cucumber, gastrointestinal tract, *Lactobacillus casei,* probiotics.

ISCA-ISC-2014-Oral-9FMS-07

Effectiveness of Foot Massage on Reduction of Blood Pressure among Hypertensive Patients, Puducherry, India

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Abstract: Non communicable disease is growing rapidly in the developing countries. One of the major causes of increase of this disease in the world is the prevalence of hypertension. Scientific studies have reported that back massage and foot massage both reduce BP. Using non-pharmacological treatment not only can immune the patients from the side effects of pharmacological methods, also is very cost effective. To assess the effectiveness of foot massage among hypertensive patients in experimental group compared to control group. The Quasi experimental study was conducted in the village kalapet,Puducherry. Purposive sampling technique was adopted to select 50 hypertensive patients, 25 in control and 25 in experimental group for the study. Pretest mean systolic and diastolic blood pressure in experimental group was varies from first day to fifth day was 142.4/88.4mmhg to 131.2/86mmhg respectively whereas the pretest mean systolic and diastolic blood pressure in control group was 144.4/92.8mmhg to 140.4/91.2mmhg. The post test mean systolic and diastolic blood pressure from first day to fifth day in the experimental group varies from 132.8/82.4mmhg to 119.6/ 76.4mmhg whereas in the control group it was 132.4/91.2mmhg to 140/90mmhg . Conclusion-. Foot massage is a safe, effective, applicable and cost effective intervention in controlling blood pressure of the hypertensive individuals.
Keyward: Massage, foot massage, hypertension, blood pressure, reduction.

ISCA-ISC-2014-Oral-9FMS-08

Forensic Limnology: A Comparative study on Phytoplankton diatoms (Bacillariophyceae) found in the Water bodies of Aurangabad, India

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Abstract: Forensic Limnology is the significant branch of the Forensic Botany in which scientific studies are carried out of water bodies such as lakes, ponds, rivers, sea etc. with reference to environmental, biological and physical conditions for the interpretation of asphyxial death of drowning cases. For the determination of ante-mortem or post-mortem drowning, Diatoms (unicellular plant cells) plays an important role in forensic investigation. Presence of similar types of diatoms in body tissue and water from where the corpse is recovered, indicate ante-mortem drowning in the same site of occurrence. In this research paper, data of the various types of diatoms from different water bodies of Aurangabad city were documented for the water samples collected between December, 2012 to February, 2013. During the study period, total of fourteen genera of diatoms were found, which include species belong to genus *Navicula, Nitzschia, Gamphonema, Synedra, Surirella, Cymbella, Gayrosigma, Epithemia, Cyclotella, Aulacoseria, Diploneis, Amphora, Tyrblionella, Encyonema.* All the diatoms were identified to genus level under the compound microscope.
Keywords: Forensic limnology, diatoms, phytoplankton, drowning.

ISCA-ISC-2014-Oral-9FMS-09

An Evaluation: Sexing from the ridge Density of latent Palm prints of North Indian Population

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Abstract: In addition of being highly utilized for identification and substantiation of suspects, latent prints (Finger and Palms) play a vital role and determination of sex is a crucial facet for intimate identification. Being unique by nature, perpetual and identifiable features of an individual, the possibility of identifying to the suspects from such latent prints confronted from scene of occurrence, even on documents is higher and conclusive. In the present study, 60 samples including (30 male and 30 female) aging from 18-55 years were taken from the population of Uttar Pradesh, North part of India. After the successful development of latent palm prints on documents, the ridge densities were taken from 25 mm^2 diameter. As a denouement, the procured mean ridge density, if d" 11 ridges/25 mm^2 or less then is likely to be male

origin, and 13e" ridges/25 mm^2 or more then that is likely to be from female origin. In our study, we found that the females have significantly higher ridges than males which indicate that on the basis of ridge density of latent palm prints; the differentiation of sex from the latent palm prints can be done successfully.

Keywords: latent prints, identification, ridge density, documents.

ISCA-ISC-2014-Oral-9FMS-10

The Effectiveness of Homoeopathic Medicine in PolycysticOvarian Syndrome - Clinical Evidence

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Abstract: The incidence of PCOS in the reproductive period of life is fast progressing as one of the main causes of primary as well as secondary infertility in females in the Indian scenario leading to far reaching implications in the family and social life of the Indian community Apart from the mental and physical frustrations due to infertility, the aesthetic changes due to the physical signs like obesity and hirsuitism together with the disturbance in the normal menstrual cycles pose intolerable untold misery and insecurity in females especially married women in the conventional Indian society leading to lack of self esteem and depression in many cases. This paper is based on a fifteen year long study and clinical experience in the treatment and cure of Polycyclic Ovarian Syndrome in reproductive age group females with Homeoopathic medicines.Five Cases of cured polycyclic ovarian syndrome in females belonging to the reproductive age group are presented with substantial clinical data.The diagnosis of PCOS is done as per Rotterdam 2003 criteria and confirmatory ultra sound scan of the pelvis depicting the polycyclic profile of the ovaries.Homeopathic medicines were given based on the individualistic nature of each of the cases and cure assessed based on the clinical criteria like establishment of three consecutive normal menstrual cycles or if planning pregnancy, the lab test confirming the same .Confirmatory ultra sound scan of the pelvis depicting either normal ovaries or the presence of normal foetus were also considered as effectiveness of Homoeopathic medicines in the treatment of PCOS.

Keywords: PCOS, Homoeopathy, Rotterdam 2003 criteria.

ISCA-ISC-2014-Oral-9FMS-11

Role of Antioxidants Containing Food Stuff for Protection against Atherosclerosis and Hypertension due to Lipid Peroxide (ros)

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Abstract: In recent years, major scientific efforts in a number of laboratories have been initiated to define the possible participation of free radical mediated oxidation of lipoproteins as a significant path-way leading to atherosclerosis. The cellular origin of free radical production in the oxidative-stressed cardiovascular system remains uncertain. Studies related to atherosclerosis have employed LDL-oxidation as an endpoint. In different model system, microphage-derived oxygen radicals were able to oxidize LDL. The animal studies suggest a significant role for free radical processes in the pathogenesis of acute cardiovascular injury e.g. Ischemia/reperfusion; are the more chronic multifactorial e.g. atherosclerosis and restenosis; disease process. The basic question arose that the antioxidants are their possible contributions to the mechanisms of protection reported in those disease processes where free radicals may be contributing to acute and chronic cardiovascular injury? The antioxidants containing food stuff may contribute to cardiovascular protection by antioxidant mechanisms that are separate from their primary hypertensive actions. It was assumed that vitamin E is a major lipid soluble antioxidant within the cell membrane and vascular system where it protects membrane fatty acids from lipid peroxidation. Beta-Carotene and othercarotenoids also provide anti-oxidant protection to lipid rich tissues. Nuts are the rich source of vitamin E, and fruits and vegetable are the rich source of vitamin C and B-carotene. This paper is a review paper and in this paper researchers attempt to put forward the list of antioxidants constituents in different food stuffs and the vitamin E, B-Carotene containing food stuffs role for neutralizing a reactive oxygen species; lipid peroxide that is a basis for atherosclerosis and hypertension.

Keywords: Lipoproteins, cardiovascular system, atherosclerosis, LDL oxidation, free radical, antioxidants, hypertension, vitamin E, B-carotene, and antioxidant mechanism.

ISCA-ISC-2014-Oral-9FMS-12

To study the eruption Sequence of third Molars in Vegetarians of Rajasthan, India

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Abstract: Teeth often are required to be examined for forensic purposes. If examined properly they can not only help to determine the age, sex, race but also aid in identification of a specific individual conclusively. Usually the milk teeth start erupting at the age of 6 months and all the milk teeth are in position by the end of 2nd year. While the permanent teeth start erupting at the age of 6 years and continue till 25 years in normal circumstances - the last teeth to erupt are the third molars on either side of each jaw. However recent studies indicate that the third molar eruption is quite erratic. Not only it is delayed, it may not erupt in many throughout their life. With the advancement of age, civilization, improved Medicare facilities, diet, etc. we are maturing at an early age leaving little space for eruption of third molars. In the present analysis teeth have been studied for the eruption sequence of the Third Molar with special emphasis on its absence of eruption in the adults with a view to examine and verify the factors responsible for the condition.
Keywords: Forensic, eruption, third molars, identification, impacted teeth.

ISCA-ISC-2014-Oral-9FMS-13

Leukopenia a Problem in the Rural People

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Abstract: Blood is a liquid connective tissue useful to transport theinter cellular substances called as plasma human blood is circulated through the blood vessels. There are two main components of the blood these are blood copuscles and blood plasma. The plasma contains the important inorganic and organic substances which are useful for body the blood cells present in plasma are erythrocytes, Leucocytes, and thrombocytes. All these cells carry the important functions of the body like the exchange of gases by erythrocytes, the leucotyes helps in phagocytosis and thrombocytes helps in co-agulation of blood. The number of each type of blood cells is different in human beings and in normal person the complete blood count is specific where as in abnormal person the blood count is increases or decreases. Abnormal increases in blood cells causes many diseases in human beings as well as decreases in count of blood cells also causes diseases in human when number of leucocytes are increases above the normal level then it causes the Leucocytosis and when number of leucocytes are decreases below the normal level it causes leucopenia. The leuckopenia is harmful as it decreases the ability of body to fight aga inst the infection and decreases the immune system of body, In present study attempts has been made to study of leuckopenia cases and their symptoms among the rural area of shivoor.

Keywords: Leukopenia, problem, rural, people.

ISCA-ISC-2014-Oral-9FMS-14

The Effect of Meditation and Shavasana on Cholesterol Level of Coronary Artery Patients

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Abstract: Coronary heart disease (CHD) is a global phenomenon. High serum cholesterol level is one of the main cause of CHD. The objective of the present study was to observe the effect of regular practice of Shavasana and meditation on cholesterol level of coronary artery disease patients. Eighty patients [52male and 28 female] suffering from heart problem of Ahmedabad city were chosen. The age of the patient ranged from 38 to 66 years. The initial total blood cholesterol level varied from 170 mg/dl to 284 mg/dl and the average total blood cholesterol was 220.12 mg/dl. The subjects were randomly divided into four groups namely (Shavasana group), (Meditation group), (combined yoga group) and (control group). Three experimental groups under-went yogic training, 3 days a week for a period of nineteen weeks. No specific training was imparted to the control group. Lipid Profile test were administered to the subjects of all the four groups before and after the experimental period of 19 weeks. The statistical analysis of data revealed that all the three experimental groups showed significant difference in total blood cholesterol. Analysis of data indicated that more significant difference found in group C and group D (59.57) .
Keywords: Coronary heart disease.

ISCA-ISC-2014-Oral-9FMS-16

Nanotechnology in Cancer Treatment- The Coming Revolution

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Abstract: Nanotechnology is revolutionizing drug delivery and will have an enormous impact on healthcare and nursing. "Nanotechnology reaches far beyond medical/health applications and could potentially touch just about every aspect of today's society. Detection, diagnosis and treatment are possible by confirming the growth of the cells and treated by rectifying the damaging mechanism of the genes. Nanoparticles (NP) being of a few of a nano meter size and the cells being of the size of few microns, can enter inside the cells and can access the DNA molecules/genes and therefore, there is a possibility that the defect in the genes can be detected. In the nanotechnology methods, certain NP can be designed to absorb the wave length of radiation and if they enter in the cancerous cells, they will burn them. Nanotechnology can be used to create therapeutic agents that target specific cells and deliver toxin to kill them. Nurses need to be educated on occupational safety guidelines regarding safe handling of nanomaterial in the workplace. Research is in progress and is high priority for federal agencies, such as NIOSH (National Institute for Occupational Safety and Health), EPA (Environmental Protection Agency) given knowledge regarding the potential effects of engineered nanomaterials and nanopharmaceuticals on humans.
Keywords: Cancer, nanotechnology, genes, nursing

ISCA-ISC-2014-Oral-9FMS-17

Study of Antibiotic Resistance Pattern of *Escherichia coli* PS 58 Isolated from Pichhola Lake of Udaipur, Rajasthan, India

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Abstract: Escherichia coli is one of the most important members of coliform group and major microbiological indicator for faecal contamination. In the present study an attempt has been made to isolate, identify and detect the antibiotics resistance pattern of E. coli PS 58. Strain PS 58 was isolated on nutrient agar from Pichhola lake of Udaipur and identified on the basis of its morphological and biochemical characteristics. For molecular identification Polymerase Chain Reaction was performed using 16S rRNA gene specific universal primers. 15 commonly used antibiotics i.e. gentamycin, kanamycin, polymixin, tetracycline, erythromycin, ampicillin, penicillin, amikacin, ciprofloxacin, vancomycin, rifampcin, chloremphenicol, streptomycin, cefixime, trimethoprim were used to detect the antibiotic resistance pattern by disc diffusion method. The results revealed that the strain PS 58 was identified as E. coli (ascession no.KPO99424). It was found strongly resistant to kanamycin, ampicillin, cefixime, polymixin, penicillin, vancomycin, rifampicin and streptomycin.
Keywords: E .coli, antibiotic resistance, pichhola, lake.

ISCA-ISC-2014-Oral-9FMS-18

Wilckodontics- Shift the Gears with Periodontics

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Abstract: Periodontology or Periodontics (from Greek peri "around"; and -odous "tooth") is the specialty of dentistry that studies supporting structures of teeth, as well as diseases and conditions that affect them. Frost in 1983,noted that original injury accelerated normal healing. Regional Acceleratory Phenomenon (RAP) occurs after fracture, arthrodesis,osteotomy,bone-grafting and may involve recruitment and activation of precursors of wound healing at site of injury.RAP is not a separate healing event, but accelerates healing stages two- to tenfold by transient bursts of hard and soft-tissue remodeling. Wilckodontics is also known as periodontally accelerated osteogenic orthodontics (PAOO). Dr. William Wilcko an orthodontist and Dr.Thomas Wilcko a periodontist, who over the past 14 years have developed this technique. The periodontium is a dynamic tissue and regulation of its remodelling gives a turn in the traditional orthodontic treatment. The synergistic effort from the periodontology and orthodontic fields in the PAOO technique can shorten the conventional orthodontic treatment time to 3 to 9 months. This technique has its roots in orthopaedics, dating back to the early 1900s. Only recently , it was modified to assist in straightening teeth and fix bites. With the new

PAOO procedure, patients who would have declined conventional orthodontics strictly due to the length of treatment now have a viable alternative. The trend in orthodontics over time has been to improve the treatment for patients through advances in metallurgy and chemistry. These advances have improved the manner and efficiency with which the orthodontic forces are transferred to the crowns of the teeth. But in spite of all these advances most conventional fixed orthodontic treatments still require 1½ to 3 years to complete. Patients who do not want to wear braces for 1 1/2 to 3 years while in high school and adults whose social or professional responsibilities would preclude their wearing braces for a long period of time. This paper will help to understand the indications, contraindications and the technicalities of Wilckodontics.

Keywords: Dentistry, periodontology, corticotomy, periodontally accelerated osteogenic orthodontics, regional acceleratory phenomenon, and wilckodontics.

ISCA-ISC-2014-Poster-9FMS-01

Role of Police in Investigation of Sexual Assault

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Abstract: Science and Technology have achieved greater heights in the modern era but we are still unable to widen our thought process in our social life. In this modish ambience we have gadgets all around but the condition of women are still getting worse. They are still struggling for their legitimate rights. The streaking graph of sexual assault cases is one of the prime examples of women sufferings. In a country like India where women are worshiped as goddess, the increasing number of sexual assault cases is big slap on the face of mankind. When such acts occur it is found that authorities mostly fulfill its duty by condemning and no effective social preventive checks are introduced. Though fast track courts have been set up to deal up with these cases and prevent delay in justice to victim but on the other hand irony is that India being a biggest democracy having one of the finest constitution offender seldom go scot free. There is a great need to strengthen the channels of investigation so that no offender gets benefit of doubt and go unpunished. This present study aims to identify the role of police in investigation of sexual assault cases. The study focuses to review the procedure adopted in our country and spot out loop holes therein. It also includes comparison of Indian investigation system with similar system in developed countries having lesser crime rate.

Keywords: sexual assault, investigation, police, constitution, courts.

ISCA-ISC-2014-Poster-9FMS-02

Detection and Determiantion of Sulphadoxine and Pyrimethamine in Body Fluids by GC-MS

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Abstract: In past decade drug induced toxicity has shooted up tremendously. Overdose and drug reaction are the main reason behind this pernicious effect. Such cases when referred to forensic science lab are intensely intricate to opine for. For the aforesaid problem biological samples suspected to be Sulphadoxine and Pyrimethamine poisoning cases were examined using micro chemical methods i.e. spot tests, chromatography and GC-MS. Drug residues were extracted from body fluids by solvent extraction with recovery in the range of 80-95 %. Drug residues were separated and identified using TLC and GC-MS. The method was found applicable with limit of detection up to sub microgram level.

Keywords: Sulphadoxine, pyrimethamine, chromatography, GC-MS, body fluids

ISCA-ISC-2014-Poster-9FMS-03

Sensitivity of Presumptive Colour Tests of Metals applied in Cases of Phosphide Poisoning

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Abstract: In India being an agricultural country use of various pesticides and grain preservative is frequently observed. Two types of metal phosphides namely Aluminium Phosphide and Zinc Phosphide are commonly misused as a suicidal agent due to their cheap cost and easy availability. The death in these cases is due to the liberation of phosphine gas after

reacting with Water or Hydrochloric acid leaving behind the metallic compounds like hydroxides and chlorides. With presumptive colour tests, an unknown substance is combined with chemical reagents which produce a colour change so as to help in identifying that substance. Routinely samples of phosphide poisoning cases are initially analysed in various forensic science laboratories of India. In this study, for Aluminium - Aluminon and alizarin S tests and for Zinc- Potassium Ferrocyanide, and Ammonium Mercuric Thiocyanate – Copper sulphate Tests were performed to screen. The problem arises in that the metals are already found in the body and also after death they are found in very trace quantities. The presumptive colour tests can also give false positive results due to contamination and various other factors. Keeping in view of the above it is necessary to check the sensitivity of different tests and already available methods.

Keywords: Aluminium phosphide, zinc phosphide, aluminon, alizarin s, potassium ferrocyanide, ammonium mercuric thiocyanate – copper sulphate

ISCA-ISC-2014-Poster-9FMS-04

KAP of HIV/AIDS among it Professional in Indian Silicon Valley – A Pilot Study

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Abstract: AIDS a chronic infectious disease which causes profound immune suppression and precipitating signs and symptoms due to decrease in CD4 cell count. As a responsible individual of society every one of us must understand and think HIV/AIDS prevention as a part of our collective social responsibility (CSR). A KAP survey means Knowledge, Attitude and Practices was done which gives more emphasis in an attempt to understand the KAP among working professionals. A cross sectional study was done among the Engineer and Manager professional in the IT capital of India. After the proper consent the study was carried for a period of two months (Jan and Feb). A set of 50 questions were distributed to all these professionals either in a form of hard copy or soft copy in their mail which has to be returned after a stipulated time of 30 minutes. The mean age among Managers is 33.87 while among Engineers is 30.22**.** In the current study the source of information on HIV/AIDS was obtained by Internet (39%) The KAP survey shows that the Knowledge among the Engineer and Manager is fair enough while they fared far better in Attitude toward AIDS patients but lack a proper practice towards a safe sexual life. The most startling fact is that a 10% of Engineers and 3% of Managers responded by stating that HIV/AIDS spread by Mosquito/Insect bite. Although there are various source of information available the youth of today are quite ignorant on the KAP on HIV/AIDS including its source and mode of transmission.. More emphasis on HIV/AIDS education should be given at school and college level. Engineering and Management colleges should include HIV/AIDS awareness in their extracurricular activity which may help to know about this dreadful disease.

Keywords: HIV/AIDS, knowledge attitude and practice, managers, engineers.

ISCA-ISC-2014-Poster-9FMS-05

Unmet Need for Family planning

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Abstract: A descriptive study was undertaken to assess the unmet needs of family planning differences and levels of acceptance between husband and wife in rural(Karikalampakam) and urban area(Mettupalayam). The investigator has chosen descriptive approach with non experimental research design. A sample size of 100 couples of 50(Rural), 50(urban) in reproductive age group (15-45) years were selected. Convenient sampling was used to select the couples for the study and check list was developed to collect the data for the study and was analysed by descriptive statistics method like frequency, percentage and represented in the form of tables, graphs etc. The study findings shows that; Most of the samples are in the age group of 25-35 years wife (60%), husband (70%),Majority of the samples belongs to educational status of higher secondary Wife (38%), Husband (42%) high school,Mostly husband are in the decision maker in the families (52%),Most of the couples have one child (74%),Majority of the children's are male (52%),Mostly mass media are providing main sources of information (34%). Related to contraception it showed that urban couples are mostly using contraceptive methods. Most of the couples are using condom as a contraceptive method both in urban and rural area. .In relation to use of methods it highlights that 18(36%), 17(34%), 2(4%), 0(0%), 9(18%), 11(22%) were using condom, oral pills, IUCD in the rural and urban area respectively. The purpose of not using any method shows 5(10%), 11(22%), 4(8%), 0(0%), 8(16%), 9(18%), 4(8%), 2(4%) were not willing, wants male child, newly married, and beliefs of cultural practises in urban and rural area respectively

Keywords: Unmet, need, family, planning.

ISCA-ISC-2014-Poster-9FMS-06

Quality Science Education- Ensuring a Sustainable Future for all

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Abstract: In the 21st century, many people believe science to be one of the most important subjects that students must be taught. Science teaches people important factors of certain subjects, and those can be further developed and expanded into new ideas. Science itself is many different regions of study compiled and meshed together. Among the numerous lot of study, health is considered to be one of the most important topics in the scientific world. People with an education in this area of science are able to make changes in the world. The effects of technology underlie early twenty-first century global challenges. Science-based technology, has offered the promise of a better world through the elimination of disease and material improvements to standards of living. Sustainable development is probably the most daunting challenge that humanity has ever faced, and achieving it requires that the fundamental issues be addressed immediately at local, regional and global levels. At all scales, the role of science and technology is crucial; scientific knowledge and appropriate technologies are central to resolving the economic, social, health and environmental problems that make current development paths unsustainable. The Scientific and Technological (SandT) community can make a leading contribution to tackling major problems identified in Sections III and V of the Millennium Declaration - "Freedom from want" and "Sustaining our future". Whatever the cultural, geographical, socio-economic and environmental setting, a strong partnership between the SandT community and other members of civil society, the private sector and governments is a fundamental prerequisite for sustainable development.
Keywords: Quality, science, education, ensuring, sustainable, future.

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Prevalence of Anemia in females of Tribal population of Rural Areas near Udaipur, India

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Abstract: Scheduled Tribe people constitute about 8% of the total population in India, with varying proportions in different States. They live in unique physical, socio-economic and cultural environment, isolated from general population. In view of their habitat and food habits, they form a distinct group compared to other populations. The tribal population is at a higher risk of under-nutrition, because of the socio-cultural, socio-economic and environmental factors influencing the food intake and health seeking behaviour. Low female literacy (14.5% against 47%), high maternal (992 against 195) and infant mortality (85 against 64) have been reported among tribal populations as compared to their rural counterparts. National Nutrition Monitoring Bureau (NNMB) in the rural population revealed that the prevalence of under nutrition, as assessed by weight for age is about 40-50%4 and that of iron deficiency anaemia is about 70%.The present study was conducted in females of various tribes (age 6-49 yrs) residing in rural areas near Udaipur. 68 females were interviewed to find out their background. Their body weight and hemoglobin content were checked. Prevalence of anemia was 79.4%. Out of 54 anemic females 20.3 % were having moderate anemia and 9.25% were found to suffer from severe anemia Prevalence of anemia in adolescent girls was significantly higher in girls of low socioeconomic status families. The average family size of such girls was 7 persons per family. The observations highlight the need for strengthening health and nutrition programmes in this area.
Keywords: Tribes, anemia, hemoglobin, females.

ISCA-ISC-2014-Oral-10FCCS-01

Access to Health Care is a women's issue

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Abstract: Access to Health Care is a Women's Issue. Because women are disproportionately represented among low-wage workers and/or work in industries that do not offer benefits, they are more likely to be uninsured or under-insured than men. In fact, women work in jobs that are 15 percent less likely to offer health care and, because of their low incomes and high health care costs, women are 20% more likely than uninsured men to have trouble obtaining health care.[1] Women are also more likely to be dependent on their spouses for coverage: they are more than twice as likely as men to receive employer-based health coverage as "dependents" through their spouses' insurance (26% vs. 11%). Biological and physiological issues are not the only factors that influence women's concerns in health and health care. Other influences include women's social/cultural roles, and how we both use and are treated by the health care system. These other influences include inequities in health care that result in women traditionally not being included in clinical research studies on drugs and medical procedures; and not receiving the same rigorous care and treatment for cardiac problems as men do. In addition, important aspects of women's lives (such as pregnancy or menopause) are treated as medical conditions or diseases, rather than life experiences. What Should Be Included in Women's Health Care? There can be no health security for women without protection of the full range of women's reproductive needs that include, but are not limited to, abortion services. Comprehensive reproductive health care supports a woman's right to information and services that both prevent pregnancy and help her to become pregnant when she wants to; that support her during a healthy pregnancy; and promote healthy outcomes for pregnancy. Universal access to quality health care, Comprehensive health benefits for all women, employed or not, Access to health services from a variety of providers, Access to health services provided in a variety of settings, Systems accountable to women and other consumers, Complete information for women to use to make own health care decisions.
Keywords: Access, health, care, women's issue.

ISCA-ISC-2014-Oral-10FCCS-02

A Comparative Analysis of Infancy Nutrition among Dangolion Tharu with Gond

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Abstract: Infancy is a period of one year after the birth of baby. This period is the time of most rapid growth. The average weight of most healthy new born baby is around 3.2 kg. Colostrum secreted during the first two or three days after delivery thick and yellowish fluid about 10-40 ml that is rich in protein. It is first immunization contains antibodies against viral disease such as small pox, polio, measles and influenza. Recommended strategies to promote breast feeding include, education programme, post-portam support and peer counselling, hospital rooming in of mother with infant, encouraging early maternal contact and frequent, on-demand breast-feeding, elimination of commercial discharge package for new mothers, and discouraging the early use of artificial nipples and pacifiers. Human milk is tailored precisely for the growth and development needs of the human infant. Breast milk contains taurine, an important nutrient for brain and nerve growth whereas cow milk contain none. It is also rich in vitamin A, C and E. The vitamin B content depends on material intake and meets calculated standards. The Supreme Court dated 28-11-01 has given direction by order passed for infants, children, pregnant women and lactating mothers. The direction for infants energy 300 kCal and 8-10 gm protein and for malnourished babies get 600 kCal and 16 to 20 gms of protein and efforts shall be made that all including SC/ST hamlet. The tharu and Gond tribes are populated at Indo-Nepal border both were recognized as schedule tribes by Govt. of India gives many special social, educational, economic and other rights. They were primary victim of the backwardness. The main objective of the paper is to analyze comparatively the infancy nutrition with government assistance among dangolionTharus and Gond Schedule Tribe population . The validation cohort n=50 in each community of Tharu of Balrampur district and Gond of Basti district of U.P., India. The main findings of the paper, the higher the frequency and time per time of breast feeding 12 times and 10 minutes or more among halves of 0-6 month of age groups, and higher the intake of chaknabhat with breast feeding more than12 times observed a healthy or overweight infants. Whereas the awareness for requirement of infants nutrition attitude and practices were found negligible. The calculated value of chi-square was found much more higher(38) as compared to table value(3.841) at one degree of freedom and 5% significant

level. Therefore null hypothesis rejected and alternate hypothesis accepted i.e. healthy nutrition brings healthy infancy among both community Tharu and Gond.

Keywords: Infancy, colostrum, human milk, taurine, dangolion, tharu, gond, infancy nutrition.

ISCA-ISC-2014-Oral-10FCCS-03

Nutritional Impact of Watching Television on Working Women in Urban Population

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Abstract: Health and Nutrition Consequences are concerned that associated with an increased risk for a number of diseases such as Diabetes II, hypertension, certain cancer, deficiency diseases etc. This also contributes to over 4,00,000 death annually in the United States. This epidemic can be attributed to many factors including excessive food intake, poor nutrition, decreased activity and exercises and genetics. However, there is a strong correlation between excessive food and the amount of time per day spent watching television viewing may decrease energy expenditure and potentially increase caloric intake if food is eaten at the same time. On the other hand it was also assumed that due to advertisement on TV that increases consumption of fast and junk food in record quantity and that was a factor for health and nutritional consequences among working women in government offices.The paper was prepared at Lucknow city. The subjects (working women) were selected from different government offices. The validation cohert n=100.The main finding of the paper : The metabolic disorders such as overweight and obesity; 46%, diabetes;17% hypertension 19%, Gout; 3% arthritis; 7% and other deficiency disease; 6%. On the other hand the time spend on watching TV. 26%- two hours; 18% 2-3 hours; 20% 3-6 hours and rest more than 6 hours. Therefore it was indication the main finding that the higher the time watching television, higher the intake of fried food as well as fast and junk food and having higher risk for metabolic disorders and other deficiency diseases. It was also justified that the calculated value of chi-square was much more higher (16.0) as compared to table value (3.841) at one degree of freedom and five percent significant level. Therefore null hypothesis rejected and alternate hypothesis accepted i.e. higher watching television bringing health and nutritional consequences among working women in urban areas.

Keywords: Health and Nutritional Consequences, Diabetes II, Hypertension, Cancer, Deficiency diseases.

ISCA-ISC-2014-Oral-10FCCS-04

Assessment of Occupational Health Hazards of Textile Workers

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Abstract: The present study was conducted in Pali district of Rajasthan as it has the largest number of textile processing units in the Bandi basin. These textile industries provide substantial contribution to the economy in the form of income and employment generation. A healthy and productive worker is critical to sustainable social and economic development; occupational diseases have been recognized as a growing problem in the developing countries over the recent past decades In order to assess the health status of textile workers, the selection of 120 respondents was done by making a list of textile workers employed in TPU since last 10 years. An interview schedule was developed having both open and close ended questions. Findings of the study revealed that majority of respondents suffered from various physical ailments related to lungs, eyes, skin and ear. Half of the respondents reported watering of eye due to the gas evolved by chemicals during various processes. Exposure of toxic chemicals causes various skin and respiratory problems among respondents. The researcher observed that working environment was unsafe and unhealthy for workers and also found occurrence of various health problems due to poor ergonomic conditions. Stressful and long working hours, repetitive to and fro motion of hands, improper work posture and weak physical built up of workers, resulted pain in legs, hands, shoulders, joints, back and neck. Workers also exposed to various biological hazards due to unhygienic condition at workplace. The respondents revealed that carelessness, inattentiveness, ignorance, inexperience, emotional stress of the mental factors behind mechanical hazards. Major reasons reported by respondents behind psychological hazards were work pressure, long working hours, monotonous work, low wages/pay scale, low level of participation in decision and insufficient communication of information. To ensure safety and health at work of employees engaged in textile unit, a carefully planned occupational health programme is essential. The risk arising from the hazards have to be assessed and control measures needs to be set up with effective monitoring. The present paper is based on result of one aspect of research

work carried out to study the various health hazards faced by textile workers at workplace.

Keywords: Assessment, occupational, health hazards, textile workers.

ISCA-ISC-2014-Oral-10FCCS-05

Handloom and Handicraft on the brink of extinction

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Abstract: Handloom and Handicraft represent the prosperity, diversity, culture, tradtion and heritage of India. These sectors are essentially skill and labour intensive, require low capital investment and are eco friendly. The industry provides employment to many artisans, which include a large number of women and people belonging to the weaker sections of the society. Despite the richness of our handloom and handicrafts, weavers and artisans are surrounded by multifarious problems. Unfortunately, these traditional industries today are under threat of extinction. Therefore this paper explores the government initiatives, living conditions, problems and prospects of handloom and handicraft artisans of Rajasthan. The sample includes artisans of Handloom weaving, Bandhani and Sanganer Hand Block printing. The primary source data was collected through the semi structured interview schedules and observation method. Secondary data was collected from annual reports and sale statements. The salient findings indicated that the artisans were still engaged in these professions because this was imbibed in their lives as they were traditionally doing it. Lack of infrastructure, technological support and poor awareness of new trends reflected on their socio economic status. Further remedies are suggested to make these sectors an economic venture and at the same time maintain its traditional value.

Keywords: Handloom, handicraft, traditional, extinction.

ISCA-ISC-2014-Oral-10FCCS-06

Personality type and Religiosity among Street Youth (14-24 Years)

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Abstract: The street youth population is diverse, complex and heterogeneous. The generic term "street youth" is made up of a number of subcultures including hard-core street entrenched young people, squatters, group home kids, child welfare kids, soft-core 'Twinkies', "in-and-outers', punks, runaways, throwaways, refugees and immigrants, young single mothers and those who are homeless because their entire family are homeless. Within these makeshift 'categories' are numerous descriptors that tend to signal street activities such as gang bangers, prostitutes, drug dealers, drug users and panhandlers. Karabanow (2004) stated that there is considerable diversity in the age ranges considered by researchers, providers and policy makers to define street youth. A sample of 320 street youth (160 boys and 160 girls) within the age range of 14 to 24 years was taken for the present study. 'ABBPS' scale developed by Dhar and Jain (2001) for measuring personality type, Religiosity scale developed by Bhushan (1990) was administered to gather the responses of the subjects. Percentages, mean scores and 'z' test were computed to analyze the data. Findings of the study revealed a significant gender difference in the level of religiosity. Street girls found to be more religious as compared to boys. Personality type C street youth were found more religious as compared to type As and Bs. Further, non-institutionalized street girls with type A personality were found to be more religious as compared to boys. In case of institutionalized street girls, personality types C were found more religious as compared to type Bs.

Keywords: Personality type, religiosity, street youth.

ISCA-ISC-2014-Oral-10FCCS-07

Nutrient Composition and Sensory Evaluation of Value added sev Prepared by Incorporating Green Beans Powder

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Abstract: Four types of green beans viz. cluster bean, cowpea bean, french bean and sem bean were used in the present investigation. All the beans were dried, made into fine powder and supplemented at 5 percent and 10 per cent level in the preparation of sev. The sev prepared without using beans powder served as control. The organoleptic evaluation showed

that sev prepared incorporating five per cent beans powder were more acceptable as compared to the one containing ten per cent beans powder. The nutritional analysis revealed that the protein content of control sev was 19.76 per cent which increased significantly upto 21.73 per cent with incorporation of fresh beans powder. The crude fiber content in sev supplemented with green beans had increased significantly as compared to control sev. Total dietary fiber content ranged from 16.69 to 19.03 per cent in supplemented sev whereas control sev contained 16.55 per cent total dietary fiber. It was noticed from the data that calcium ranged from 77.98 to 85.11mg/100g in supplemented sev whereas the control sev had 76.25 mg/100g. Sem bean sev contained the highest (253.21 mg/100g) while cowpea bean sev had the lowest (249.36 mg/100g) amount of phosphorus. The addition of the fresh beans powder to sev improved manganese, zinc and magnesium content significantly. Total potassium content of supplemented sev was maximum in french bean sev (570.10 mg/100g) followed by cluster bean (550.10 mg/100g), cowpea bean sev (527.17mg /100g) and sem bean (525.93mg/100g).

Keywords: Beans, sev, organoleptic, nutritional, dietary fiber, mineral content.

ISCA-ISC-2014-Oral-10FCCS-08

Abortion in Relation to Alcohol Intake, Tobacco Chewing and Smoking

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Abstract: Health professionals have long considered exposure to tobacco smoke harmful to reproduction, affecting aspects from fertility and pregnancy outcome to fetal and child development. Tobacco smoke contains thousands of compounds, some of which are known to have toxic effects on reproductive health, such as carbon monoxide, nicotine, and metals. Therefore this study was conducted to get an insight of Abortions among pregnant women in relation to alcohol intake, tobacco chewing and smoking. The sample comprised of 500 pregnant women in 05 eco geographical zones of Rajasthan (Aravalli plains, Mewar Dry- land, Desert, Eastern-hills).The primary source of data was collected through interview schedule. Statistical analysis was done by mean and percentage. The study revealed a relationship between abortion in pregnant women and their alcohol intake, tobacco chewing and smoking. In this study 73 cases of abortions were recorded. Out of these 58.90 percent were from the rural areas while 41.09 percent from the urban area. Statistics regarding abortions caused by alcohol, smoking and tobacco-chewing in women under study were: Alcohol (Rural 23.02% and Urban20%); Tobacco chewing (Rural30.23%) and urban 13.33%) and smoking (Rural 27.90 and Urban 16.66%).The percentage of smokers and tobacco chewers were higher in the rural areas of all the eco-geographical zones. However, the percentage of alcohol-consuming women was higher in the urban areas of the Mewar Hills only in comparison to the rest of the zones. Further way forward is suggested not to take alcohol during pregnancy and if they cannot remain without taking it, they should take only a small quantity at a time so that it does not affect the growing child adversely.

Keyword: Abortions, pregnancy, alcohol intake, tobacco chewing.

ISCA-ISC-2014-Oral-10FCCS-09

The Contribution of Anganwadi in Lalitpur District of Uttar Pradesh to Women and Children in the Context of Health and Education

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Abstract: The integrated child development scheme (ICDs) is with its network of anganwadi covers more than 3,000 community and development blocks of the country. It is the largest women and child development programme being implemented anywhere in the world. Therefore, the focus of the present study is on the anganwadi centers in Lalitpur district of Uttar Pradesh and its contribution to women and children development with special emphasis on the context of health and education. Due to poverty of families and their optimal living conditions, the majority of parents are unable to give much stimulation to their women and children for health and education because of their own limitations. ICDs main aim is to cultivate desirable attitude, values, behavior and objectives in these women and preschool-children. The present study aims to understand the current magnitude of the problem as cause of dropout in them. For understanding the various determinants in dropouts from anganwadi center, the observations were conducted to assess the context of development revealed several stimulating objects with persons observed in the anganwadi centers, thus accounting for the differences. Based on our observation it is seems necessary that anganwadi centre will be consolidated as the first village/habitation post for health, nutrition and early learning centre or platform for those dropouts . The two new schemes namely, Sabla and IGMSY are also needed to being implemented. In anganwadi Lalitpur, the distribution of

women and children in the context of health and education with effect of intervention due to stimulation provided at anganwadi centers could help the planners. These research findings will also have implications for improvement of various ICDs programme and centers running for women and children in context of health and education development.
Keywords: Integrated child development scheme (ICDS), health and education development, anganwadi center.

ISCA-ISC-2014-Oral-10FCCS-10

Municipal Textile Waste and its Management

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Abstract: Municipal Waste, the trash consisting of everyday discarded items has been identified as one of the major cause of pollution. This waste includes products like paper, scraps of plastic, metals and food, textile etc. These components need to be addressed to reduce the pollution. Textile waste comprises of waste created at industrial level (damaged textile, cut and sew waste) and at household level (worn out clothes).The recycling by reprocessing and reusing of waste collected from both levels may help in reducing pollution to some extent. The textiles composition effect the method of recycling.Ways by which textiles can be recycled includes: Sending waste textile to the flocking industry where the shredded yarns are used for making filling material for automobile insulation and roofing feltRecreating new household items from used clothes.This Paper throws light on managing textile waste which is a component of the municipal waste and poses a threat to the environment. The methods suggested will drive a campaign towards reprocessing textile waste, utilizing waste and developing innovative products from the waste which in turn will help in reducing the textile waste to some extent in the municipal waste.
Keywords: Municipal waste, reprocessing, textile, recycling.

ISCA-ISC-2014-Oral-10FCCS-12

Standardization and Organoleptic Evaluation of Energy Protein Dense Complementary Food

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Abstract: Malnutrition is a major health problem in developing countries contributing to infant mortality, lowered resistance to disease which stifles development. Protein-energy malnutrition generally occurs during the crucial transitional phase when children are weaned from liquid to semi-solid or solid foods. Children therefore require nutritionally-balanced calorie-dense foods due to increasing nutritional demands of growing body. Present study was aimed to develop and standardize complementary food based on locally available cereal, pulse, oilseed flour with optimum nutrition and evaluate sensory attributes of the formulations. Whole green gram, rice flakes, semolina and groundnut were selected for preparation of complementary food. Recipe of the complementary food mix and gulgule were standardized and subjected to organoleptic evaluation by a panel of 10 semi-trained judges using 9-point Hedonic rating scale. Organoleptic acceptability of developed complementary food mix and gulgule was 7.0 ± 0.05 and 7.26±0.13, respectively, which shows that they were liked moderately by panel members. The study successfully produced a nutritious and energy-dense diet with acceptable sensory attributes that can be easily prepared at home for meeting energy-protein requirements of infants. It is recommended that similar formulations of complementary foods can be tried out and popularized in the community, which are low cost and nutrient-rich.
Keywords: Protein-energy malnutrition, nutritionally-balanced, energy-dense, complementary food.

ISCA-ISC-2014-Oral-10FCCS-13

Formulation and Organoleptic Evaluation of Millet-Legume Based Nutritious Biscuits for Malnourished Children

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Abstract: Child malnutrition is highly prevalent in low-income and middle-income countries, resulting in substantial increases in mortality and overall disease burden. Children therefore require nutritionally balanced calorie-dense foods because of the increasing nutritional demands of the growing body. The study was aimed to formulate and evaluate biscuits prepared by millets and legume with optimum nutrition and organoleptic attributes. Germinated sorghum, maize

flour and roasted bengal gram flour were selected for the preparation of biscuits. Germination of sorghum is very important in preparing food with low viscosity and high energy. The recipe was standardized and subjected to organoleptic evaluation by a panel of semi-trained judges using 9-point Hedonic Scale from the faculty of Department of Foods and Nutrition. Mean score of overall acceptability of formulated biscuits was 7.0 ± 0.051 that was revealed that it was 'liked moderately' by panel members. Hence it may be concluded that germinated sorghum, maize flour and roasted Bengal gram flour based nutritious biscuits has desirable sensory properties as well as nutritional quality. So, it can be successfully incorporated in the diet of children because it may help in improving the nutritional status of malnourished children.

Keywords: Malnutrition, germination, organoleptic evaluation, nutritional status.

ISCA-ISC-2014-Oral-10FCCS-14

Organoleptic Evaluation of Nutritious Biscuits Developed from Amaranth Seeds

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Abstract: Malnutrition is responsible, directly or indirectly, for over half of all childhood deaths. Infants and young children are at increased risk of malnutrition from six months of age onwards, when breast milk alone is no longer sufficient to meet all nutritional requirements and complementary feeding needs to be started. The present study was carried out with objective to formulate and evaluate biscuits prepared by wheat, green gram and amaranth seeds with optimum nutrition and organoleptic attributes. Amaranth contains more than three times the average amount of calcium and is also high in iron, magnesium, phosphorus, and potassium. Whole wheat, whole green gram and amaranth seeds were selected for the preparation of biscuits. The recipe was standardized and subjected to organoleptic evaluation by a panel of semi-trained judges using 9-point Hedonic Scale. The mean score of organoleptic evaluation was 6.91±0.066. That was revealed that it was liked moderately by panel members. Thus, it can be concluded that germinated cereals can be used in combination with legumes for producing complementary foods, which will prove to be of immense benefit especially form young children in developing countries, because of their low cost and ease of preparation.

Keywords: Malnutrition, complementary foods, organoleptic evaluation, low cost.

ISCA-ISC-2014-Oral-10FCCS-15

Influence of Number of Siblings: In Relation to the Adaptive and Disturbed Behaviour of Children with Mental Disability

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Abstract: The present study assessed and compared the adaptive behaviour skills and disturbed behaviour of 150 mentally retarded children across number of siblings, drawn randomly in equal proportions from two social classes viz. LIG and MIG. The adaptive behaviour skills and disturbed behaviour of MR children were assessed using Behavioural Assessment Scales for Indian Children with Mental Retardation Part A and Part B developed by Reeta Peshawaria and S. Venkatesan. One way ANOVA was employed to find out the significance across number of siblings on adaptive and disturbed behaviour of MR children. The results as reported by parents and children itself indicated that MR children from LIG and MIG, who had 3 or more siblings, irrespective of degree of MR, perceived better adaptive behaviour skills and also had less disturbed behaviour. Interestingly, the predominant reason for significant differences in adaptive and disturbed behaviour across number of siblings was observed to be siblings' support, guidance and vigilance, which helped differently-abled children in acquiring and improving adaptive behaviour skills and in minimizing disturbed behaviour.

Keywords: Mental, retardation, LIG-MIG families, violent behaviour, adaptive, skills, sibling's support.

ISCA-ISC-2014-Oral-10FCCS-16

Comparative Study of Feeding Soyaladoo and Soyachakali to Malnourished Preschool Children and its Impact on their Biochemical Analysis

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Abstract: Malnutrition is a worldwide health issue. It imposes a toll on child mortality, 53 per cent of deaths in children under 5 years in age are nutrition related in worldwide. It may be due to the role of nutrients in disease and immunity. To

treat malnutrition among the preschool children the formulation of locally based protein rich product is must hence attempt was made to formulate soyabased food products such as soyaladoo and soyachakali. These soyabased food products formulated and prepared by standard methods. Organoleptically selected soya products were analyzed for its chemical composition such as protein, fat, vitamins, minerals, and ant nutritional factors. These products were supplemented to preschool malnourished children @ 40 gm/head/day for six months. Preschool malnourished children were graded according to grade of malnutrition. Their biochemical parameter such as serum iron (ìg/dl) serum proteins (gl/dl), serum vitamin A (IO/dl), serum zinc (ìg ml), blood glucose mg/dl and Haemoglobin g/dl had done monthly for six months. It had shown highly significant changes on blood glucose level, haemoglobin, serum protein, serum vitamin A, serum iron and serum zinc states of preschool children after supplementation of soyaproducts..

Keywords: Soyladoo, soyachakali, and supplementary feeding.

ISCA-ISC-2014-Oral-10FCCS-17

Surrogacy: A Womb for Rent

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Abstract: In this world only a women can become a mother, and each and every women have a dream to become a mother.Some have ovaries but no uterus or unable to carry a pregnancy to full term.These serious problems makethe women's beautiful dream in to nightmare. In this situation surrogacy is one of the options to full fill her dreams. Surrogacy is an arrangement through which an infertile couple can acquire a child by involving another woman to carry the pregnancy to the term and hand over the child to the childless couple after delivery.The surrogate may be the child's genetic mother (called traditional surrogacy), or she may be genetically unrelated to the child (called gestational surrogacy). It becomes definitely more appealing to have a child of their own, from their own embryos with lesser hassles even if it is more expensive.The most beautiful moment in a women's life is when she realizes that she is going to be a mother. So let's put hands together to accept the surrogacy and involve in creating a new awareness among the present society.

Keywords: Surrogacy, womb, rent.

ISCA-ISC-2014-Oral-10FCCS-18

Recent Trends in Changing Family Patterns

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Abstract: The family as a social institution has always been regarded as a core element for the development of individual as well as the society. However the world of family looks very different than it looked fifty years ago. Families are now in transition, as they are involved into the economic, social and cultural events characterizing the contemporary world. The emerging alternate family patterns which result from personal circumstances outside one's control or from socio-economic conditions (male migration, work force participation by women etc) has led to a change in the traditional role allocation. A major area of the family that has been affected by the social and economic changes in the society is that of the role performed by parents. Over the decades parenting roles have changed dramatically. These changes in parenting roles are attributed to the diversity of contemporary family forms.The key changes in family patterns are family formation due to rise in the age of marriage and trend to later child bearing and the other reason for changes in family patterns include family restructuring which is due to common experiences such as divorce, the growing cases of dowry deaths, bride burning and cruelty towards women are convincing parents that a divorced daughter is not unwelcome in their homes even though earlier a great degree of social stigma was attached to it and now a day's maternal employment where women are entering in the work force and are contributing to the family income. This is also considered as one of the reason for the restructuring that is taking place in unit of family. As women are now more independent they are taking the initiative of not marrying at all, heading a single headed household or dissolving the marital chord if they are not happy in the relationship and the common seen family types in emerging alternate family patterns include Single parent family, step families, nuclear families, dual earner career families, DINK (dual income no kid family), DIOK (dual income one kid family), Adoptive families,Gay/ lesbian families and childless family. There are great number of leading factors which are responsible for transition in family such Urbanization, Industrialization, Migration, Globalization, education, westernization. The most striking issues that are responsible for changing in family patterns is parenting styles Parenting is the process of promoting and supporting the physical, emotional, social, and intellectual development of a child from infancy to adulthood. Parenting refers to the activity of raising a child rather than the biological relationship and the roles of parents consists of nurturing care giving, Material care giving, Social care giving, Didactic care giving. In recent

scenario the emerging family patterns that are most commonly seen in the society are single parent families, divorced families, and gay lesbian families which is not suitable for the care, nurturance and for all round development of a child because the love of parents of both mother and father is essential and greatest need for the child as a whole.

Keywords: Recent, trends, changing, family, patterns.

ISCA-ISC-2014-Poster-10FCCS-01

Innovative Usage of Shoddy Yarn for Product Development

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Abstract: The study was undertaken by the investigator to add new and interesting ideas. This can break monotony and give a touch to novelty in designing of textile products by using shoddy yarn with two method of fabric construction i.e. crochet and weaving. For this purpose ten experts from department of Apparel and Textiles Science Punjab Agricultural University, Ludhiana were selected through purposively sampling technique. After developed of prototype samples assessment was done and evaluated on the basis of criteria i.e. technique used, suitability of design, texture, colour combinations and overall impact of prototype samples made from shoddy yarn. It was revealed from the data that the judges preferred weaving method of fabric construction for cushion cover; tablemat; carry bag and wall hanging. Maximum judges preferred crochet method of fabric construction for stole and muffler. It was concluded that design of cushion cover a successful innovation with respect of design and colour combination.

Keywords: Shoddy yarn, Waste, Recycling, Designing, method of fabric construction

ISCA-ISC-2014-Poster-10FCCS-02

Fusion of Kalkas and Peacock Motifs of Indian Art for Embellishment on Kurtis

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Abstract: Indian art is the visual art produced on the Indian subcontinent. The study was undertaken by the investigator to add new and interesting ideas, which can break monotony and give a touch to novelty in designing kurtis by fusing kalka and peacock motifs. For this purpose kalkas and peacock motifs were fused together and arranged into design sheets and 100 respondents were selected to select the motives based on 5-pointing rating scale whereas five designs were then selected. Here rating scale was framed in such a way that highest means suggested the best or most preferred design sheet. Then general preference extraced by using self-constructed questionnaire about the study and accordingly the two styles of kurtis (A-line simple and A-line circular) with bright colours, preference for technique (thread work) and embellishment technique (kundan and sequins) and two types of sleeves (cut sleeves and full) till knee were designed with respect of 15-15 different placement of highly preferred motives (Kalkas and peacock fusion). Then these sheets were again evaluated to get 5 most acceptable designs to convert into prototype. After development of prototype assessment was done based on criteria i.e. design, aesthetic appeal, colour, technique, motif, placement of motif, overall acceptance and price and it was revealed from the data that the all the prototypes were appreciated by all the respondents. Whereas, the A-line simple, red colour, cut sleeve kurti appreciated with simple linear vertical placement of motif. Hence it was concluded that design of kurti a successful innovation with respect of motifs, colour combination. Thus we, can reach the height of fashion even by keeping our feet on traditional ground. It will serve two purposes, one is introduction of something new in the world of fashion and secondly it was help to brush off the dust from traditional art of India. It will enrich our culture heritage.

Keywords: Kalka motifs, peacock motifs, indian art, designs and embellishment.

ISCA-ISC-2014-Poster-10FCCS-03

Application of Acid for Designing on Cotton Khadi and Khadi Blend Kurtis

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Abstract: "Swaraj without swadeshi is a lifeless corpse and if swadeshi is the soul of swaraj, khadi is essence of Swadeshi."In this study investigator has tried a new designing on Khadi kurties by creating acid designing so as to promote Khadi in youth. The suitability of acid % for designing on Cotton khadi, Cotton-Silk khadi and Cotton-Polyester

khadi fabric was also studied. The objective behind this work was to explore new avenues of designing on Khadi fabric for providing variety to the consumers. To fulfil this objective, Acid designing method was used to create acid design effect. The present work has gone through various steps, firstly the Khadi and Khadi blend fabric was treated with different concentration of Sulphuric acid (H_2SO_4) at different time intervals. After application of acid, three types of designing effect were seen onto the different fabrics. Transparent effect on cotton- polyester khadi, Cut work effect on cotton khadi and Floating effect on cotton silk khadi was obtained. Processing parameters were optimized on the basis of transparency of design and sharpness of outline of the print. 70% concentration of acid (H_2SO_4) at 10 min time interval was found optimum to create designing effect on Cotton Khadi and Cotton-Polyester Khadi. 50% concentration of acid (H_2SO_4) at 5 min. time interval was found optimum to create designing on cotton-Silk khadi. Finally five best preferred designs was developed into prototypes with suitable time and concentration of acid. Prototypes were assessed by the respondents on the basis of acceptability to wear, cost preference, colour combination, aesthetic appeal and suitability of embellishment. It was revealed from the data that Cotton Khadi kurties with cutwork was most appreciated by all the respondents. It was concluded that the acid designing technique was liked and preferred by the respondents for the designing purpose.

Keywords: Khadi, acid designing, cotton-silk, cotton- polyester.

ISCA-ISC-2014-Poster-10FCCS-04

Reformation of Sacred Textile: Mata Ni Pachedi

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Abstract: 'Kalamkari' in Gujarat has been traditionally done on *Mata Ni Pachedi*. The technique of hand painting the fabric is similar to the technique practiced in Southern India. The central theme of the *pachedi* is the goddess - Mataji/ Shakti an avatar of the Goddess Durga. This art form was practiced by the nomadic Devipujak community of Gujarat. The Textile came to be known as *Mata Ni Pachedi*, which translates into "Behind the Mother Goddess". Traditionally *Mata Ni Pachedi* was made using maroon, black and white colors. Goddess (Mata) was designed in the centre of the *pachedi*; surrounded by animals, birds, human figure etc. The *pachedi* was used in nomadic temples where offerings were made to fulfil the worshipper's wishes. Strong lines and bold use of colour reflect the power and energy of the goddess. These have now transformed to more artistic and detailed illustrations, but the depiction style of mythical characters remains the same. The artists now also incorporate indigo, green and yellow natural colors. They prepare the *Pachedi* as per the customer's demand of varying sizes from half to 5 meters mainly for performing rituals, but these days the fabrics are also sold as a work of art. New designs/styles are also created for cushion covers and wall hangings.

Keywords: Kalamkari, pachedi, hand painting, godess durga, devipujak.

ISCA-ISC-2014-Poster-10FCCS-05

Study of State of Anxiety in the Under Graduate Girls Student in Relation to Their Future

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Abstract: Anxiety is a feeling of fear, worry and uneasiness which is in response to a real or perceived threat.Anxiety is a cause of concern among the college students as these students represent the society investment for future. Their mental health and psychological well being are essential factors contributing to the society well being on a whole. In the present study the level of anxiety related to their future was studied among the under graduate girls student of our college by way of their response to a standard questionnaire. The study indicated that 88% of the students studied had normal level of anxiety and the remaining students showed low level of anxiety.

Keywords: Under graduate, students, future, anxiety.

ISCA-ISC-2014-Guest Speaker-11MatS

Effects of Chirality in Liquid Crystalline Systems

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Abstract: Chirality has become arguably the most important and complex topic of research in liquid crystals today. Chirality is an important phenomenon of chemical compounds. The reduced symmetry in organized phases leads to a variety of novel phase structures, properties and applications. Molecular asymmetry imposes a reduction in the space symmetry, which leads to some phases having unusual non-linear properties such as ferroelectricity and pyrroelectricity. Many compounds obtained from nature are optically active. Chemist tried to synthesize them in laboratory and always obtained racemic variety. This become great challenge to chemists and they found out different methods of resolving racemic variety in dextro- and leavo- optically active compounds exhibited great potential as drugs compared to racemic variety. Number of chemists tried to develop Asymmetric synthesis which can be applied to industrial scale manufacturing which lead to Nobel Prize in Chemistry (2001) to William S. Knowles and Ryoji Noyori.

Gray synthesized number of cholesteric liquid crystals which are optically active and exhibit cholesteric mesophase giving vivid colors at different temperatures. Later on liquid crystal chemists found out that chiral compounds other than cholesterol liquid crystals also exhibit 'cholesteric phase' and they called them 'Chiral Nematics". These chiral nematics exhibit "Ferroelectric" properties. Physicists found out that ferroelectric liquid crystals switch very fast on electric field. This opened up market for liquid crystal compounds in optical display devices. The LCD TVs, OLED, pocket TVC, mobile phones, i-pads, calculators etc. are fast switching devices which use liquid crystal materials. Moreover it was thought proper that reversal of the amide linkage may induce smectic C phase in the series which would be highly useful if it is further converted to chiral smectic *C by introducing chiral substituent in the systems (LC and LCP) to obtain chiral smectic *C phase which would impart ferroelectric properties to the molecules.

ISCA-ISC-2014-Oral-11MatS-01

Smart Nonionic Tensides for LTG-An Anticonvulsant Drug Solubilization

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Abstract: The current phase of drug development is witnessing an oncoming crisis due to the combined eûects of increasing RandD costs, decreasing number of new drug molecules being launched, several blockbuster drugs falling oû the patent cliû, and a high proportion of advanced drug candidates exhibiting poor aqueous solubility. The traditional approach of salt formulation to improve drug solubility is unsuccessful with molecules that lack ionizable functional groups, have sensitive moieties that are prone to decomposition/racemization, and/or are not suûciently acidic/ basic to enable salt formation. Although various carriers have been used to solubilize/encapsulate anticonvulsant drugs, Nonionic surfactants/tensides are of great beneût for delivery and controlled release of drugs. Nonionic tenside, Triton X-100, is a commercial, polydisperse preparation containing an average of 9.5 EO units per molecule which has been widely used as dispersing agents for colloidal suspensions. Physico-chemical properties of mixtures of TX-100 with PEO-PPO-PEO triblock copolymers (Pluronic®F127 and F68) were examined by surface tension, cloud point, viscosity and UV-Visible spectroscopy measurements. Pluronic®F127 interacts strongly with TX-100 in compare to F68. The nonionic systems, TX-100, TX-100+F127 and TX-100+F68 for solubilization of Lamotrigine(LTG)-an anticonvulsant drug in water and 0.1M NaCl salt solutions were investigated using UV-Visible spectroscopy. The trend in increasing the solubilization of LTG is in the order; TX-100+F127> TX-100+F68> TX-100. The assessment of solubility of LTG in the studied systems was also evaluated with empirical models.
Keywords: Nonionic surfactants, TX-100, pluronic®polymers, micellization, lamotrigine drug.

ISCA-ISC-2014-Oral-11MatS-02

Need for Electrochemical Energy Materials Research

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Abstract: The role of material sciences is becoming increasingly important in the area of electrochemical power sources due to the growing and diversified power demands in varieties of applications in several sectors. Though several components are used for manufacturing electrochemical power systems like fuel cells, electrolysers, batteries and supercapacitors, the key component that directly contributes to the energy in all these systems is electrode materials. By selecting appropriate chemistry and adopting proper designing, preparation and fabrication methods, it will be possible to develop several new electrode materials using which various power systems can be built. Some different types of electrochemical energy systems which will be required for future applications are miniature batteries, light weight high power batteries, flexible batteries, printable batteries fabricated on textile clothes and fibers, batteries for delicate sensors, fuel cell high power generators, electrochemical hydrogen generators, supercapacitors for hybrid electric vehicles, batteries for electric vehicles, portable, naval, space, aerospace and defense applications, etc. The need for intensifying research in this direction in India will be highlighted. Nanotechnology based energy materials research programmes pursued in our laboratories will be deliberated.

Keywords: Energy, electrochemical power systems, electrode materials, future applications, and research programmes.

ISCA-ISC-2014-Oral-11MatS-03

Determination of Ion Association of Calcium Gluconate and Calcium Chloride Solutions by Conductance Study

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Abstract: Limiting molar conductances (A,) and ion association constants of dilute aqueous Calcium Gluconate and Calcium Chloride(0.001 M) were determined by electrical conductance measurements from 293.15 K -308.15 K,. The limiting molar conductances of Calcium Gluconate and Calcium Chloride increase with increasing temperature decreasing density. Association constant (K_A), dissociation constant (K_D), degree of dissociation ( ), triple ion association constant (K_3), thermodynamic parameters, activation free energies and its related thermodynamic parameters were calculated. All Values are discussed.

Keywords: Conductometric studies, association constant, thermodynamic parameters, calcium gluconate and calcium chloride.

ISCA-ISC-2014-Oral-11MatS-04

Thermodynamics of Barium Diphenylamine Sulfonate

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Abstract: In this paper the interaction of Barium diphenylamine sulfonate with methanol and water have been studied by using conductance properties. Limiting molar conductivity ( ), association constant (K_A) ,Walden product ($\Lambda_o \eta_o$), fluidity ratio (R_x), Fuoss-Shedlovsky parameters (S, Z and S(z)), activity coefficient ($\gamma \pm$), association constant (K_A), dissociation constant (K_D), degree of dissociation ( ), triple ion association constant (K_3), thermodynamic parameters , activation free energies and its related thermodynamic parameters were calculated from conductance measurements at different temperatures from (293.15 K – 308.15 K). The Values of () increases with increasing temperatures, the values of (K_A) increase with increasing temperatures. All values are discussed.

Keywords: Association Constant, Thermodynamic Parameters, activation free energies, Barium diphenylamine sulfonate and Methanol.

ISCA-ISC-2014-Oral-11MatS-05

Preparation and Characterization of Ternary Blend Films Containing Chitosan/ Guar Gum/Vanillin

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Abstract: The blending of polymers is one of the important techniques to obtain enhanced mechanical properties from the constituents of blend. The enhancement in the mechanical properties depends on the degree of compatibility or miscibility of polymers at molecular level. Biodegradable ternary blend films of chitosan (CS)/guar gum were prepared by solvent casting method. In this study, equal concentration (wt %) of guar gum and vanillin were blended into chitosan and tensile properties of blend films were characterized using Lloyd universal testing machine (UTM) at room temperature according to ASTM D-882 standards . With increase in the concentration (wt %) of guar gum and vanillin, tensile strength and elongation at break increases and then decreases.
Keywords: Chitosan, guar gum, vanillin, ternary blends.

ISCA-ISC-2014-Oral-11MatS-06

Spectroscopic Characteristics of Sm^{3+} doped lead Fluoroborate Glasses

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Abstract: The paper reports on the preparation and characterization of Sm^{3+} doped lead fluoroborate glasses with molar composition $PbO\text{-}PbF_2\text{-}B_2O_3$. Optical absorption spectra in the UV-VIS-NIR region reveal characteristic absorption bands of Sm^{3+} and are assigned to different transitions arising from $^6H_{9/2}$ ground state. The energy level structure has been analyzed using the free-ion Hamiltonian model. The experimental oscillator strengths are calculated and JO intensity parameters have been determined with the help of least-square fit method. The evaluated JO parameters are used to calculate the radiative properties such as radiative transition probabilities, branching ratios and lifetimes. The results are in good agreement with those reported in other matrices. The data suggest that the $^4G_{5/2}$ '! $^6H_{7/2}$ transition of Sm^{3+} in lead fluoroborate glasses could be promising for lasing action and these glass materials can be used as laser materials to be used as lasers for strong orange-red emission.
Keywords: Glasses, fluoroborate glasses, radiative properties, laser materials. Rare-earths.

ISCA-ISC-2014-Oral-11MatS-07

Physico-chemical studies on novel terpolymers for Viscosity Index Improvers.

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Abstract: Petroleum can be refined to yield lubricants and high energy fuels, such as gasoline, diesel oil, and jet fuels. The petroleum stock is limited, and therefore other methods have been sought. Polymers having high molecular weight find use as lubricating oil additives in three application areas of: viscosity-index improvers, polymeric detergents and pour-point depressants. The present work aims to find new applications of terpolymers as viscosity-index improvers in the field of lubricants. Overwhelming utilization of natural petroleum resources may be a problem in future. Therefore such type of higher molecular weight terpolymers can be used as a VI improvers (or Thickeners) and low molecular weight terpolymers can also be used as synthetic base oil. The vinyl esters are easily made in good yield from inexpensive and readily available raw materials; they are potentially low cost monomers. The study opens up new route of multi-functional synthetic lubricants.
Keywords: Viscosity Index Improvers, Terpolymers, contour length.

ISCA-ISC-2014-Oral-11MatS-08

Synthesis of terephthalic dihydrazide from PET bottle waste and its value added application as latent curing agent in DGEBA epoxy adhesive formulations

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Abstract: An efficient and economically viable process for recycling bottle grade PET wastes into a value added dihydrazide was developed. PET waste flakes were aminolysed using hydrazine monohydrate in the presence of cheap and ecofriendly sodium carbonate as catalyst. The aminolysed end product obtained was characterized by CHN analysis, FTIR spectroscopy, ^{1}H NMR spectroscopy and Differential Scanning Calorimetry (DSC). The end product characterized as terephthalic dihydrazide (TDH) was further tested as a latent curing agent in stable one pack heat curing diglycidyl ether of bisphenol A (DGEBA) epoxy adhesive formulations. Thermal curing behaviour and glass transition temperature (T_g) of the synthesised adhesive was investigated with the help of DSC. The thermal stability of the epoxy adhesive was studied by Thermogravimetric analysis (TGA). Al/Al adhesion strength of the newly synthesized epoxy adhesive was measured by lap shear strength test as a function of TDH loadings. The curing pattern and lap shear strength values of the bonded adhesive indicates that TDH is a versatile latent epoxy hardener.
Keywords: Adhesive, aminolysis, latent curing agent, polyethylene terephthalate, terephthalic dihydrazide.

ISCA-ISC-2014-Oral-11MatS-09

Synthesis and Application of Metal/Metal Oxide Nanoparticles Using *Annona Squamosa*peel Extract

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Abstract: Green nanotechnology have more care towards young researcher due to the eradication of harmful reagents and provides sustainable synthesis in an economical way.Nanotechnology involves assembly/handling of material ranging from less than micron sizes to that of individual atoms. Eventhough nanoparticles production methodology has been moved towards greener manner, yet there is a gap to identify effective process.The area of synthesis has recently developed new methodology employing bacteria and plants.We found new source ie., fruit waste as a capping agent or reducing agent for the production of metal and metal oxide nanoparticles. Thither is a report to describe the salient feature of *A. squamosa*. This plant possessvarious medicinal properties such as antimicrobial, cardiotonic activity, anti-cancerous activity and insecticidal activity. But major waste of this plant is *A. squamosa* [Custard apple] peel. We have utilized this source (custard apple peel) for the production of Ag, Pd, SnO_2, and TiO_2nanoparticles. Prepared nanoparticles have been extended to utilized in varous field such as synthetic chemistry, medicinal chemistry, etc
Keywords: A. squamosa peel Biosynthesis Ag‡Pd‡ SnO_2‡TiO_2‡catalysis Cytotoxicity.

ISCA-ISC-2014-Oral-11MatS-10

Gn/Macrocuo Nanocomposite for Supercapacitors

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Abstract: Graphene nanosheets (GN) dispersed with macroporous copper oxide (macroCuO) was investigated as an electrode material for supercapacitors. A facile and cost-effective synthesis approach was used to prepare macro-structured porous copper oxide monoliths via modified Sol-Gel route. 1, 3, 5-trimethylbenzene was used as an organic structural directing agent to enhance the pore size, pore volume, pore density and surface area of the resulting CuO hybrid templated with Pluronic P-123. GN/macroCuO nanocomposite was prepared by ultrasonication of the GN and macroCuO. The macroCuO and GN/macroCuO nanocomposite were characterized using various surface techniques. Electrochemical performance of the composite electrode was investigated using cyclic voltammetry and Chronopotentiometry. GN/macroCuO/GCE showed pseudocapacitance behavior due to the Faradaic type of capacitance involving redox process between Cu (0) and Cu (II) of porous copper oxide network. Electrochemical measurements revealed the maximum specific capacitance, energy density and power density of 417 Fg^{-1}, 58 $Whkg^{-1}$ and 17.85 kW kg^{-1}, respectively for the

supercapacitor based on GN/ macroCuO nanocomposite electrode at a current density of 0.9 Ag^{-1}. The fabricated supercapacitor device exhibited excellent cycle life with 91.4% of the initial specific capacitance retained after 1000 cycles. The results suggest that the hybrid composite is a promising supercapacitor electrode material.

Keywords: Macroporous copper oxide, graphene nanosheets, pseudocapacitor, energy density, nanocomposite.

ISCA-ISC-2014-Oral-11MatS-11

Synthesis and Applications of Silver Nanoparticle in Treatment of Cancer

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Abstract: Current world is the world of Nanomaterials. Nanotechnology is the rapidly developing field of science and Engineering with lot of practical applications. Nanomaterials have wide applications in chemical and biological industries because of their unique size-dependent properties. This paper covers synthesis of silver nanoparticles, its characterization using SEM and TEM, morphology characterization of silver nanoparticles and application of silver nanoparticles in treatment of Cancer. Study regarding multifunctional capabilities in an effort to improve efficacy of these systems against the most difficult cancer stages, including resistance for drug resistance.

Keywords: Synthesis, applications, silver, nanoparticle, treatment, cancer.

ISCA-ISC-2014-Oral-11MatS-12

Esterification of Free Fatty Acid in Rubber Seed Oil and Waste Cooking Oil Using Partially Sulfonated Polystyrene

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Abstract: The partially sulfonated polystyrene (PSS) was used as catalyst for the free fatty acid (FFA) conversion by esterification reaction in vegetable oils. PSS was prepared by sulfonation of expanded polystyrene waste (EPS) using sulfuric acid and silver sulfate. Proton NMR spectra of PSS and EPS show that the sulfonation level (f) is 27%. Acidic and water absorbing properties of the PSS facilitated the catalytic action for esterification reaction. Free fatty acid (FFA) conversion using the catalyst was done on simulated acid oil feed stock (WCO) containing oleic acid and sunflower oil, and rubber seed oil (RSO). FFA conversion is determined by analyzing the oil before and after the esterification reaction using standard titration method (STM). The results are confirmed by Gas chromatography-mass spectrometry (GC-MS). Effects of temperature, catalyst concentration, alcohol to acid molar ratio were studied. FFA conversion increased with these factors. The advantage of this heterogeneous catalyst is that it is efficient as commercial ion exchange resin and easily removable from the reaction mixture. PSS is found to reduce the acidity of WCO and RSO to less than 2%.

Keywords: Sulfonation, Ion exchange resin, Esterification, Free fatty acid, Biodiesel.

ISCA-ISC-2014-Oral-11MatS-13

Nanotechnology: Environmental Applications

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Abstract: Nanotechnology has emerged as a growing and rapidly changing field. New generations of nanomaterials will evolve, and with them new and possibly unforeseen environmental issues. Nanotechnology presents potential opportunities to create better materials and products. Nanotechnology also has the potential to improve the environment, both through direct applications of nanomaterials to detect, prevent, and remove pollutants, as well as indirectly by using nanotechnology to design cleaner industrial processes and create environmentally responsible products. Nanotechnology has potential applications in many sectors, including consumer products, health care, transportation, energy and agriculture. In addition, nanotechnology presents new opportunities to improve how we measure, monitor, manage, and minimize contaminants in the environment. While the Environmental Protection Agency (EPA) is interested in researching and developing the possible benefits of nanotechnology, EPA also has the obligation and mandate to protect human health and safeguard the environment by better understanding and addressing potential risks from exposure to nanoscale materials and products containing nanoscale materials.

Keywords: Nanotechnology, EPA, pollutants, nanoscale materials.

ISCA-ISC-2014-Oral-11MatS-14

Synthesis, Characterization and Properties of Polyanilne Based Conductive Composites

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Abstract: The discovery that it is possible to control the electrical conductivity of polymers over a range from insulating to metallic has led to substantial efforts to prepare conducting polymers for technological applications.[1-3] Polyaniline is a conducting polymer which captured the intense attention of the scientific community as a coating material for non-conducting surfaces. Polyaniline can be deposited on the surface of natural fibers by chemical polymerization. In an in-situ polymerization process, aniline is chemically polymerized from an aqueous solution[4] and deposited on the surface of the cellulose fiber. Uniform coating on the fiber can be achieved by controlling the concentration of the monomer and the oxidant. Such coated fibers can be used to prepare composites in conjunction with suitable matrix materials. In this study, polyvinyl alcohol is used as the matrix to prepare conducting composites based on coir fibers coated with polyaniline. The electrical conductivity, thermal stability and mechanical properties were evaluated as a function of filler loading and polyaniline content. The dielectric properties of the composites were evaluated. The DC electrical conductivity and thermal stability of the composites increased with the polyaniline-fibre concentration. Improved dielectric properties are achieved in Polyvinylalcohol/polyaniline/fiber composites. Higher dielectric permittivity together with lower loss tangent and conductivity makes this composite more attractive in application. Details will be presented.
Keywords: Polyvinylalcohol, polyaniline, fiber, conductivity, dielectric permittivity.

ISCA-ISC-2014-Oral-11MatS-15

A Study on the Dynamic Mechanical Behaviour of Natural Rubber /Silica Composites: Effect of Frequency and Test Mode

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Abstract: Study of dynamic mechanical properties of elastomers is of much importance as it plays a major role in the performance of rubber products under dynamic service conditions. A complete description of these properties can be obtained by dynamic mechanical experiments using a Dynamic mechanical Analyser (DMA). The dynamic mechanical behaviour of rubber products is dependent on frequency, temperature and dynamic strain. In this work, the dynamic mechanical properties of silica- filled Natural rubber composites by the frequency scanning test were evaluated using two different methods- DMA and RPA with strain amplitude of 15 μm (0.1%) and 0.5 degree (7%) respectively. The frequency dependence of the viscoelastic properties was studied over a frequency range of 0.03 to 33 Hz. The filler loading was varied from 0 to 45phr. The effect of Silane coupling agent was also evaluated. It was found that even though the strain levels are different in two test modes, the dependence of dynamic modulus on the frequency followed a similar trend. This suggests that the dynamic mechanical properties of rubber compounds can be determined even during curing. The mechanical properties were improved in the presence of coupling agent. Scanning electron microscopy showed the better filler dispersion in silane coupled silica filled composites.
Keywords: Rubber process analysis, dynamic mechanical analysis, elastomer, silane coupling agent, scanning electron microscopy.

ISCA-ISC-2014-Oral-11MatS-16

Coir Microfibers as Reinforcement in Natural Rubber

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Abstract: In this study the reinforcing potential of microfibers extracted from Coir, an important lignocellulosic fiber, is explored through a new processing method to produce eco-friendly composites. Microfibers of diameter of 8-11ìm and length 350 to 550 ìm were prepared from coir by a combination of chemical and mechanical treatments. The prepared

microfibers were incorporated into the rubber matrix as reinforcing filler for which a novel processing method based on latex stage compounding was used. The method reduces fiber agglomeration and imparts good dispersion of fibers in the matrix. The resulting composites were found to have improved mechanical properties compared to unfilled composites. The tensile strength was improved by 22%, modulus by 76% and tear strength by 122% for the new composites.

Keywords: Natural rubber, lignocellulosic fibers, short-fiber composites, mechanical properties, scanning electron microscopy (SEM), latex stage compounding.

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Flexible Ferromagnetic Nano Composites Based on Natural Rubber

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Abstract: Magnetic Fe_3O_4 nanoparticles (~20 nm) were synthesized using the chemical co-precipitation method with a view of developing flexible and easily processable ferromagnetic materials with high mouldability to be used as microwave absorbers. The nanoparticles prepared were incorporated into natural rubber through conventional mill miaxing. The composites were characterized using XRD, SEM, vibrating sample magnetometer; dynamic mechanical analyzer, cavity perturbation, thermogravimetry (TGA), and Fourier transform infrared photoacoustic spectroscopy (FTIR-PAS). A notable improvement in the mechanical properties of composites was observed upon adding Fe_3O_4 particles. Magnetic and microwave properties of the composites indicates the formation of a flexible ferromagnetic material with good microwave absorption characteristic.

Keywords: Natural rubber, nano Fe_3O_4, magnetic properies, XRD, SEM, FTIR-PAS

ISCA-ISC-2014-Oral-11MatS-18

10Mev Electron Irradiation Effects on Gainp/Ga (In) As/Ge Multijunction Solar Cells

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Abstract: In space, solar cells are the main power source for satellites. Solar cells are exposed to electrically charged particles in space which can introduce long term damage in the structure of their semiconductor materials. The paper reports the electrical performance study of 10MeV electron irradiated multijunction solar cells. The study was carried out in order to investigate the anomalous degradation of the cells in the radiation harsh environments. The current-voltage characteristics of the solar cells wereobtained under dark and by irradiating the cells under Spectrolab X-25 sun simulator with illumination intensity set to 0.1353Wcm^{-2}. The quantum efficiency for the solar cell was measured at wavelength ranging from 350nm to 1800nm for multijunction solar cells using spectral response measurement system at solar cell testing laboratory, ISRO Satellite Centre, Bangalore. Small increase in ideality factor was observed after the irradiation due to trapping of charge carriers. The short circuit current and efficiency of the solar cell decreases upon irradiation can be related to minority carrier lifetime. High energy electron irradiation decreases the longer wavelength spectral response more significantly than that of the shorter wavelength of the middle GaAs cell for the dose greater than 10kGy. This is mainly due to damage on the emitter layer and the interface of the top sub-cell, which increases the recombination velocity of the carriers and reduces the carrier life after a certain level of irradiation.

Key**words:** 10Mev, electron, irradiation, effects, gainp/Ga (In) As/Ge, multijunction, solar, cells.

ISCA-ISC-2014-Oral-11MatS-19

Geopolymer Lightweight Concrete for Environmental Protection

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Abstract: The trading of carbon dioxide (CO_2) emissions is a critical for industries. The global warming is caused by emission of greenhousegases, such as carbon dioxide to the atmosphere by the human activities. The cement industry is held responsible for some of CO_2emission, because the production of one ton of Portland cement emits approximately one ton of CO_2 into the atmosphere. Several efforts are in progress to address these issues. These include the utilization of supplementarycementitious materials such as FA, silica fume, granulated ash, rice husk and met kaolin and the development to alternate binder to Portland cement. In these efforts, the Geoploymer is much lower environmental footprint show considered promise for cement industries. In term of global warming, thegeopolymer concrete significantly reduce the CO_2emissions to the atmosphere caused by the Cement industries. Fly ash, one of the source materials for geopolymerbinder, is available abundantly worldwide, and yet its use to date is limited. The development of inorganic alumino –silicate polymer called geopolymer, Synthesized from materials of geological origin or by product materials such as fly ash that are rich in silicon and aluminum. The geopolymer paste can be used as a binder to produce concrete. In order to overcome this problem we studied the effect of sodium, Potassium and Lithium based silicate with sodium hydroxide in presence of fly ash to make geolpolymerlightweight concrete. Water /Cement ratio, Setting time, Water percolation, compressive strength and expansion in corrosive strength were measured with different concentration of sodium hydroxide liquid in molarity. IR spectroscopic and TG/DTG studies were made to have an idea about the hydration products. Heat evolution profile has been studied using TAM air calometer. SEM studies have been made to an idea about morphological changes during the hydration. Results have shown that the compressive strength value and durability testing of Lithiumbase silicate in presence of fly ash are higher as compared to normal sodium andpotassiumsilicate.

Keywords: Geopolymer, lightweight, concrete, environmental, protection.

ISCA-ISC-2014-Poster-11MatS-01

Selectivity study of strongly basic anion exchange resin Indion-102

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Abstract: Ion exchange is one of the most common techniques that have been employed for many years in chemical process industries and effluent treatment plant. The ion exchange process is very effective at transferring the content of a large volume of industrial effluent into a small volume of solid. Therefore in the present investigation attempts were made to study the thermodynamics of uni-univalent anion exchange reaction in equilibrium using strongly basic anion exchange resin Indion-102. The thermodynamic study was carried to predict the selectivity behaviour of anion exchange resin Indion-102 in chloride form for iodide and bromide ions in solution. The equilibrium constant K values for the ion exchange reactions were calculated at different temperatures from which the enthalpy values were obtained. The equilibrium constant K calculated for Cl –/ I – and Cl - / Br - uni-univalent ion exchange reaction systems were observed to decrease with rise in temperature indicating the endothermic exchange reactions having enthalpy values 3.86 and 6.36 kJ /mol respectively. The present experimental method can be extended further for different industrial grade anion exchange resins the results of which will be of considerable use in explaining the selectivity behaviour of those resins towards various univalent as well as bivalent ions in the solution.

Keywords: Ion exchange resins, thermodynamics, enthalpy, endothermic reactions, Indion-102.

ISCA-ISC-2014-Poster-11MatS-02

Comparative study of Peroxide degraded Auchlite ARA-9366 and Auchlite A-378 Anion Exchange Resins- A Thermodynamic approach

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Abstract: Ion exchange technique has attained considerable importance as a tool in both fundamental and industrial chemistry. The technique involves reversible interchange of ions between a liquid phase and solid material. Ion exchange materials are used in a number of chemical decontamination or cleaning processes and in nuclear industries for removal of radionuclide. Nowadays, ion exchange resins are not only used for separation but also used as a catalyst. In the past decade inorganic ion exchange materials have emerged as an increasingly important replacement or complement for conventional organic ion exchange resins. However in number of cases, for specific physical and chemical reasons,

organic resins cannot be replaced by inorganic ion exchangers and organic ion exchange resins continue globally in various industrial applications. Considering the day by day increasing technological applications of ion exchange materials, in the present study attempt was made to understand the performance of two closely related peroxide degraded resins Auchlite ARA-9366 and Auchlite A-378 using thermodynamic approach. The resins Auchlite ARA-9366 was a strongly basic nuclear grade anion exchange resin having crosslinked polystyrene divinyl benzene matrix, while Auchlite A-378 was a weak base non-nuclear grade anion exchange resin having macroporous crosslinked polystyrene matrix. The two resins were converted in to chloride form in a conditioning column by using 10% KCl solution. The dried resins in chloride form were treated with 30 volume (9%) H_2O_2 for 24h under continuous mechanical stirring. The degraded resins in chloride form were equilibrated separately with bromide and iodide ion solutions of different concentrations in the temperature range of 30.0 - 45.0 ºC for 3 h and the equilibrium constants (K) values for chloride/iodide and chloride/ bromide ion exchange reactions were calculated. The results indicate that during chloride/iodide exchange reactions with rise in temperature the K values decreases from 20.53 $x10^{-2}$ to 15.54 x 10^{-2} for Auchlite ARA-9366 which was higher than the K values observed for Auchlite A-378 resins which decreases from 1.96 x 10^{-2} to 0.98 x 10^{-2}. Similarly results were observed during chloride/bromide ion exchange reactions using the two resins. The decrease in K values with rise in temperature indicate exothermic ion exchange reactions which was supported by negative enthalpy values obtained during the two ion exchange reactions carried out by using both the resins. The thermodynamic data obtained here was used to predict the performance suitability of the two chemically degraded resins. The present experimental technique can be extended further to understand the performance behaviour of various industrial grade ion exchange materials exposed to different degradation conditions. Based on the results of such studies it will be possible to select suitable ion exchange materials to bring about efficient separation of different ionic species present in waste water effluents released from nuclear as well as chemical process industries.

Keywords: Nuclear grade resins, ion exchange materials, anion exchanger, thermodynamic, exothermic reactions.

ISCA-ISC-2014-Poster-11MatS-03

Peroxide degradation effect on Thermodynamics of Ion Exchange reactions using weak base Industrial grade Anion Exchange Resins Auchlite A-378

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Abstract: A wide range of ion exchange media is now available, from low cost naturally occurring organic (such as coal and peat) and inorganic (such as clay and natural zeolite) materials to expensive synthetic organics and inorganics engineered to remove specific ions. The chemistry of most ion exchange media has been extensively studied for the nuclear industry and for other applications. Ion-exchange resins are produced and commercialized in a wide range of formulations with different characteristics, and have now a large practical applicability in various industrial processes, such as chemical, nuclear, pharmaceutical, food industry, etc. The ion exchange resins are the wave of the present research and are considered as the material of next generation. Considering the extensive industrial applications of ion exchange materials in the present study attempts were made to evaluate the performance of peroxide degraded Auchlite A-378 resins. The resins Auchlite A-378 is weakly basic industrial grade anion exchange resin having macroporous crosslinked polystyrene matrix. The above resins in chloride form were were subjected to peroxide degradation using 6% (20 volume) and 9% (30 volume) H_2O_2. The degraded resins were equilibrated separately with bromide and iodide ion solution of different concentrations in the temperature range of 30.0 - 45.0 ºC for 3 h and the equilibrium constants (K) values for chloride/iodide and chloride/bromide ion exchange reactions were calculated. It was observed that during chloride/iodide exchange reactions, with rise in temperature the K values of resin degraded using 6% H_2O_2 decreases from 4.84 $x10^{-2}$ to 2.40 $x10^{-2}$ which was higher than the K values observed for the resin degraded using 9% H_2O_2 which decreases from 1.96 x 10^{-2} to 0.98 x 10^{-2}. Similar results were observed the resins during chloride/bromide ion exchange reactions. The decrease in K values with rise in temperature indicate exothermic ion exchange reactions which was supported by negative enthalpy values obtained during the two ion exchange reactions carried out by using both the resins. The thermodynamic data obtained in the present study can be used to understand the peroxide degradation effect on the ion exchange resin Auchlite A-378. The present experimental technique can be extended further to understand the degradation effect of various oxidising and reducing agents on different industrial grade ion exchange materials which are widely used in treatment of waste water effluents.

Keywords: peroxide degradation, Auchlite A-378, anion exchanger, industrial grade resin, enthalpy.

ISCA-ISC-2014-Poster-11MatS-04

Degradation Study of Polystyrene Sulfonic and Polyacrylic Carboxylic Cation exchangers

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Abstract: The present study deals with the degradation of polyacrylic carboxylic and polystyrene sulfonic cationites at high temperatures using thermal analysis (TG) combined with Scanning Electron Microscopy (SEM). The resin degradation steps were studied using Fourier Transform Infrared Spectroscopy (FTIR) technique. The major weight loss of 78% for low-acidity carboxylic cationite was observed in the temperature range of 200 to 530°C due to polyanhydrides decomposition processes through decarboxylation, finally due to total degradation of the polymeric matrix and of the depolymerisation fragments. The sulfonic cationite undergoes degradation through dehydration, followed by decomposition of sulfonic acid functional groups liberating SO_2.It was observed that strong acid ($-SO_3H^+$) cationite shows small mass loss of 55%, as against 88% mass loss shown by low-acidity carboxylic cationite. The thermal degradation study of strong acid ($-SO_3H^+$) cationite shows small mass loss of 55%, as against 88% mass loss shown by low-acidity carboxylic cationite up to 530°C. The small weight loss of strong acid cationite was attributed to the formation of sulfonyl and sulfur bridges between base polymers after dehydration reaction. These bridges made the base polymer thermally stable. On the other hand, low-acidity carboxylic cationite was easily decomposed because it contained no sulfonic acid group.
Keywords: cation exchange resins, thermal degradation, thermal analysis, SEM, FTIR.

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A New Functionalized Pd(II)-Based Mesoporous Material: An Efficient Catalyst for the Suzuki–Miyaura Coupling Reaction

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Abstarct: Palladium is one of the most crucial metals in catalysis and it is commonly used to catalyze a large variety of carbon–carbon bond forming reactions. Of these reactions, the Suzuki–Miyaura reaction is very important for constructing unsymmetrical biaryl compounds compared to other coupling reactions, which employ more reactive organometallics such as organozinc or Grignard reagents. However, common catalysts for the Suzuki–Miyaura reaction are generally based on homogeneous palladium complexes of Pd(0) or Pd(II), which causes difficulties in purification of the final product and recycling of the catalyst. Also inorganic heterogeneous Pd-catalysts show low stability due to leaching of palladium from the surfaces. Therefore the search for new efficient and recyclable heterogeneous catalysts has received much attention. Thus, functionalized ordered mesoporous silica with high surface area, e.g. MCM-41, MCM- 48 and SBA-15 having attractive nanoscale pore structure are the natural choice for heterogenization. Herein, we report the synthesis of a new Pd(II) bound heterogeneous catalyst via functionalization of 2D-hexagonally ordered MCM-41 type material with 3-aminopropyltriethoxysilane followed by the grafting with 2,6-diacetylpyridine (DAP). This material acts as a heterogeneous catalyst together with high reactivity and recycling efficiency towards Suzuki–Miyaura C–C coupling reaction.
Keywords: Mesoporous, MCM-41, palladium (II), heterogeneous catalyst

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Effect of pH values on Surface Morphology and particle size variation in ZnO Nanoparticles Synthesised by Co-Precipitation Method

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Abstract: Zinc oxide (ZnO) nanoparticles of size varying from 16 to 31 nm were synthesised by co-precipitation method using zinc acetate dihydrate ($Zn(CH_3COO)_2.2H_2O$) and sodium hydroxide (NaOH) as precursor materials. The pH value of solution was varied to study the surface morphology and particle size variations in ZnO. The X-ray diffraction peaks of all the samples corresponds to hexagonal wurtzite structure of ZnO and the data also shows significant variation in

particle size as well as the lattice strain of ZnO nanoparticles with respect to pH values of the solution. The Scanning Electron Microscopy (SEM) images show different morphology at different pH values. Hexagonal shaped nanorod structures were observed at pH value of 7 and 9, and plate like structures were observed at pH values 10 and 12.5. Fourier Transform Infrared Spectroscopy (FT-IR) confirms the formation of ZnO at ~450 cm^{-1}. UV-visible Spectroscopy (UV-vis) analysis shows symmetrical shift in the absorption edge towards the lower wavelength or higher energy region with decrease in particle size of the ZnO samples.

Keywords: Zinc oxide, wurtzite, X-ray diffraction, scanning electron microscopy, FT-IR.

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Development of Chromofluorogenic Hybrid Materials for Sensing of Nitroaromatic Explosives

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Abstract: In the last few years, the reliable and accurate detection of explosives is an issue of international concern and its detection is crucial for homeland security, environmental cleaning and military issues. Additionally, given the widespread use of explosive formulations, the analysis of explosives is also of interest in forensic research, land mine detection, and in the study of environmental problems associated with explosive residues. The recent rise in global terrorism has required that the methods followed to detect explosives should be both sensitive and low-cost. Very recently, optical detection techniques based on the design of colorimetric and fluorimetric assays have attracted a great deal of attention. In particular, the wide variety of fluorescent and dye groups, the simple instrumentation required when using colorimetric probes, and the usually low detection limit reached when employing fluorescence probes, all make the optical approach largely appealing. Based on that, here we have developed different chromofluorogenic hybrid sensor materials for optical explosives detection.

Keywords: Explosives, fluorescent probe, sensor, hybrid.

ISCA-ISC-2014-Poster-11MatS-08

Characterization Techniques and Identification of Transformation temperature in NiTi Shape Memory Alloys

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Abstract: In the present work investigations have been made on near equiatomic NiTi SMA heat treated at 660°C. The heat treated sample is characterized using Differential Scanning Calorimeter (DSC), X-Ray Diffractometer (XRD), Electrical Resistivity (ER), Differential Thermal Analysis (DTA) and Thermo Mechanical Analyser (TMA) to study the phase transformation temperatures. Field Effect Scanning Electron Microscope (FESEM), Atomic Force Microscope (AFM) and Optical Microscopes (OM) was used to explore the microstructure of SMA. The reason for the observed deviation in the phase transformation temperature from one technique to the other could be summarized as the sensitivity to identify phase change in SMA. It is observed that the XRD is a sensitive technique for the phase change. The large deviation in the transformation temperature observed in ER and TMA from that of other three can be explained as the difference in the heating/cooling method of the two techniques as well as the feature of the temperature measurements adopted by these techniques. In the microstructural characterization at room temperature the martensite lathes could be identified clearly as there is no pre-strain induced on the SMA to produce parent phase.

Keywords: Shape memory alloys, thermal analysis, transformation temperature, martensite, microstructure.

ISCA-ISC-2014-Poster-11MatS-09

Bio-Synthesis and Characterization of silver and copper Nanoparticles from Artocarpus Heterophyllus leaf and Root Extracts

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Abstract: Leaf and root extracts of Artocarpus heterophyllus were assessed for the synthesis of silver and copper

nanoparticles using rapid green synthesis route. Synthesized nanoparticles were confirmed by analyzing the excitation of surface Plasmon resonance (SPR) using UV-VIS spectrophotometry. SEM analysis confirmed the range of particle size between 32 - 58nm for silver and 48 -80nm for copper. FTIR spectrum confirms the presents of high amounts of phenolic compounds in the leaf and root extracts which possibly influence the reduction process and stabilization of nanoparticles.
Keywords: Biosynthesis, plant extracts, nanoparticles, silver and copper nanoparticles, SEM, FTIR.

ISCA-ISC-2014-Poster-11MatS-10

To Study of phonon Conductivity of in Sb in Temperature Range 2-200k

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Abstract: The recent modification of Holland's model two mode conduction, as proposed by us, known as the sharma - dubey-verma model makes use of Guthrie's classification of three-phonon scattering events. In this model, the exponent m of the temperature ie $T^m(T)$ in the continuous function of temperature and approaches unity in the high temperature region for both the longitudinal phonons as well as transverse phonons .The dispersion of acoustic branches is taken in to the account in replacing V_g/V_p^2 in the conductivity integrals and this forms the basis of the division of the conductivity integrals for the different polarization branches. The present models gives excellent agreement between theoretical and experimental values of phonon conductivity except near maximum where the scattering of phonon by point defects dominates over phonon-phonon scattering as well as the boundary scattering phonon.
Keywords: Conductivity Integral, Phonon Conductivity, Acoustic Branches.

ISCA-ISC-2014-Poster-11MatS-11

Investigation of Immiscibility in Ternary Blend Films

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Abstract: Ternary polymer blend films of poly (vinyl chloride) (PVC)/poly (vinyl acetate) (PVAc)/poly (ethylene glycol) (PEG) were prepared by solution blending and solvent evaporation technique using in tetrahydrofuran (THF) as solvent. The visual observation showed that the obtained blend films at different weight percent of poly (vinyl acetate), poly (ethylene glycol) on fixed weight percent of poly (vinyl chloride) are semitransparent indicating the immiscibility of PVC/PVAc/PEG ternary polymer blends. This immiscibility was confirmed by using scanning electron microscopy (SEM).
Keywords: PVC, PVAc, PEG, ternary blend, SEM.

ISCA-ISC-2014-Poster-11MatS-12

Triton X-100 Assisted Morphological Tuning of Hierarchically Macroporous Silver Sponges for Heterogeneous Catalysis

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Abstract: A facile, cost effective and environmentally benign sol gel approach was used to fabricate Ag monoliths using non-ionic surfactant Triton X-100 as a structural directing agent. The effect of additives like dextran, silica nano particles and 1,3,5 tri methyl benzene (TMB) on pore size was investigated. The synthesized silver monoliths were characterized by infra red spectroscopy, powder X-ray diffraction, Thermal gravimetric analysis, scanning electron microscopy and N_2 adsorption desorption. Efficient reduction of 4-nitophenol to 4-aminophenol was observed inpresence of silver monoliths and NaBH4. In particular the synthesized catalysts showed fast conversion of 4-nitrophenol to 4-aminophenol even after reuse for several cycles. The porous structure, marked surface area, ease of separation and high catalytic activity make the synthesized catalysts as promising candidates for various applications.
Keywords: Porous, Triton-X-100, Additives, Catalyst.

ISCA-ISC-2014-Poster-11MatS-13

Utilization of Rice Husk Flour in Phenol Formaldehyde Resol for Low Formaldehyde Emission and Enhanced Properties

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Abstract: The formaldehyde vapour released during processing and service of phenol-formaldehyde resins is a serious health and environmental problem. In this study rice husk (RH), a renewable agricultural residue was incorporated into phenol formaldehyde resol resins by mechanical mixing for reducing the free formaldehyde content of the resin. The RH content was varied from 0 to 2.5%. Its potential as a scavenger of free formaldehyde in resol resins and its physical, mechanical, dynamic mechanical properties and thermal stability were evaluated. The FFC of the resol resin was estimated by Waker' s titration method. The presence of hydroxyl groups and increased porosity on the surface of rice husk was found to be very useful in reducing the free formaldehyde in the resin. The results showed that the performance of RH modified resol was superior that of the neat resol. Scanning electron microscopy (SEM) showed marked changes in the morphology of the fracture surface in the presence of RH. Modified samples exhibited improved storage modulus, loss modulus and tan delta. The thermo gravimetric analysis(TGA) showed that the thermal stability of the resol resin increased with RH weight percentage.

Keywords: rice husk, phenol formaldehyde resol resin, free formaldehyde content (FFC), scavenger, scanning electron microscopy (SEM), thermo gravimetric analysis (TGA)

ISCA-ISC-2014-Poster-11MatS-14

Electrochemical Detection of Epinephrine Using Solar Graphene Modified Electrode

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Abstract: Graphene was synthesized through a chemical free and low temperature method by exfoliation of graphite oxide using focused solar radiation. The solar graphene (SG) was characterized using FTIR, XRD, TEM and Raman Spectroscopy[1]. A glassy carbon electrode (GCE) was modified with solar graphene. The solar graphene modified glassy electrode shows a well defined oxidation peak for the detection of epinephrine in phosphate buffer solution using cyclic voltammetry and differential pulse voltammetry[2].

Keywords: Electrochemical, detection, epinephrine, solar, graphene, modified, electrode.

ISCA-ISC-2014-Poster-11MatS-15

UV- Visible, Mechanical and Anti-Microbial Studies of Chitosan - Montmorillonite Clay / TiO_2 Nanocomposites

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Abstract: The development of bio-based nanocomposites are carried out with the intention of providing physical protection for food, improving food integrity, and preventing contamination from microbes and fungi [1,2]. Nanocomposites of chitosan, nanoclay (MMT-Na^+) and TiO_2 were prepared. The UV- Visible analysis of the samples was carried out using UV-Visible Spectrophotometer. Maximum absorbance was observed at 362 nm for 5wt% MMT loading. From the Tauc,s plot, it was observed that the optical band gap was found to be in the range of 2.9 to 2.2 eV. The refractive index of the material was also calculated. The structural properties were studied using X-ray diffraction (XRD) Transmission electron microscopy (TEM) Scanning electron microscopy (SEM). XRD and TEM results indicated that an exfoliated structure was formed by the addition of small amount of filler. Antibacterial activity was investigated using gram-negative bacteria and gram- positive bacteria. All have high antibacterial activity. The 30% increase in tensile strength was observed in the case of 5wt% nanofiller loading.

Keywords: Chitosan, TiO_2, montmorillonite, nanocomposites.

ISCA-ISC-2014-Poster-11MatS-16

Multistep Synthesis, Characterisation and Optimisation Studies of Compatible Star Branched Amino Polymer for Heterogeneous Catalysis

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Abstract: The term star polymer denotes a polymer with branches emanating from a common source or core. All the chains of the given macromolecule are connected to single nodules. Star branched polymers gained interest because of their compact structure, high segment density and due to very efficient synthetic method for the functionalisation of outer branch ends. Nanoscale polymeric materials with controlled architecture predetermined chemical compositions, and multiple functionalities are of contemporary interest. Synthesis and yield optimisaton of a quadribranched star polymer of epichlorohydrin with pentaerythritol core and free amino group is reported in the paper. This finds wide application in heterogeneous catalysis and nanomaterial encapsulation.
Keywords: Quadribranched star polymer, epichlorohydrin, nano polymer, amino polymer, heterogeneous catalyst

ISCA-ISC-2014-Poster-11MatS-17

Itaconic Acid Compatibilized Polypropylene/Polystyrene/Dialkyl Silane Modified Kaolin Clay Nanocomposites

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Abstract: Itaconic acid compatibilized Polypropylene/ Polystyrene/dialkyl silane clay nanocomposites were prepared by melt blending technique. The effect of modified clay and compatibilizer on the properties of nanocomposites was investigated. The degree of dispersion and morphology of nanocomposites was investigated by X-ray diffraction. The prepared nanocomposites were characterized using DSC and TGA. Thermogravimetric analysis shows improved thermal stability for compatibilized PP/PS/clay nanocomposites. The dynamic mechanical analysis reveals higher storage moduli over a temperature range of 40–125ºC for nanocomposites. The XRD result shows the increased distribution of clay layers, indicating enhanced compatibility between the polymer and clay with the addition of compatibilizer.

Keywords: Itaconic, acid, compatibilized, Polypropylene/Polystyrene/Dialkyl, silane, modified, kaolin, clay, Nanocomposites.

ISCA-ISC-2014-Poster-11MatS-18

Morphology and Tensile Properties of Chitosan/Vanillin Blend Films

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Abstract: Binary polymer blend films of Chitosan and vanillin were prepared by solution blending and solvent casting technique. The tensile properties of the blend films containing different concentration (wt %) of Chitosan/Vanillin were characterized using universal testing machine (UTM) at room temperature in air. With increase in the concentration (wt %) of vanillin, tensile strength and elongation at break increases compared to the pure chitosan film. The SEM micrograph of the pure chitosan shows smooth homogeneous surface with some straps on the top surface and vanillin blended chitosan films of different ratios shows smooth surface.
Keywords: Chitosan, vanillin, tensile properties, morphology.

ISCA-ISC-2014-12MSS-Guest Speaker

Inverse Optimization for Mathematical Programming Problem

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Abstract: Inverse optimization is a relatively new area of research and study of inverse optimization is useful in many branches. Since last 20 years, many applications of inverse optimization have been found in different areas such as: geophysical sciences, traffic equilibrium, isotonic regression, portfolio optimization etc. Generally, in an optimization problem, it is assumed that all the parameter associated with the objective function and constraints are known and we solve the problem for a solution which is optimal for the given parameter values. In practice, there are many situations where the parameter values are not known with certain, but some estimates of these parameters are given and also from the past experience or past practice, we have an optimal solution. In these situations, inverse optimization can be used to adjust the parameter values as little as possible so that the given feasible solution becomes optimal.

In this paper, we have discussed an inverse optimization method for recently developed field Inverse Optimization and its applications. Next the procedure for solution of different Programming problem like linear, Fractional, Quadratic and Transportation problem are illustrated. In our procedure, we have considered or reduce the linear programming formulation of the given programming problem and obtained its inverse problem as a linear program using its dual and optimality conditions. Then we obtained the modified cost coefficients using the optimality conditions for the programming problem.

ISCA-ISC-2014-Oral-12MSS-01

Characterization of Pareto Distribution through Expectation of Function of Order Statistics

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Abstract: For characterization of Pareto distribution one needs any arbitrary non constant function only by approach of identity of distribution and equality of expectation of function of random variable in place of approaches such as relation (linear) in (economic variation) reported and true income, independency of suitable function of order statistics, mean and the extreme observation of the sample etc. Examples are given for illustrative purpose.
MSC 2010 Subject Clasification: 62E10
Keyword: Characterization; Pareto distribution

ISCA-ISC-2014-Oral-12MSS-02

Measuring Multi-facet Students Involvement in the Technical Colleges: A Fuzzy Mathematical Approach

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Abstract: A Technical colleges trying to adopt so many salient features to attract students to get admission specially in private education and due to market competition. In this paper, we propose a new version of the study of student's involvement of selection of a college on the basis of the various dimension qualities. A mathematical definition for student's involvement and their degree of involvement is created in this paper to replace the traditional semantic definitions so that a single synthetic index ranged in [0, 1] can be manipulated to measure the degree of multi-facet student's involvement for the selection of technical colleges/institutes.
Keywords: syntax index, student involvement, multi-facets, fuzzy mathematics, membership functions.

ISCA-ISC-2014-Oral-12MSS-03

Small Area Estimation Methods and their Applications to measures poverty in India

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Abstract: Measurement of poverty and its estimation has been at the centre stage of planning process in all developing countries. Poverty has been in existence for many centuries in India. Scientific analysis of poverty is a sine qua non to understand the problems at hand and tackling the same for accelerated growth in poverty ridden area concerned. Poverty is a complex phenomenon with many dimensions, including insufficient access to nutrition, health, education, housing and leisure. Disparities do exist in the income as well as consumption and expenditure levels in different groups of society as also there are spatial dispersions. There are indicators for measuring incidence, depth and severity of poverty. Most of these indicators are estimated at State level with the help of data as obtained from Consumption Expenditure Surveys. For poverty alleviation programmes, as well as for planning other development strategies at mall at micro-level, small area level Estimates of poverty indicators at small domains level are necessary. Traditionally there are two types of small area estimation namely direct and indirect estimation. Direct estimators such as Sample Mean, Ratio, H.T estimators use values of the variable of interest only from the time period of interest and only from units in the domain of interest, and whereas indirect estimators borrow strength using additional information from other domains and time period under certain assumptions. Indirect approaches are mainly based on different statistical models and techniques. Implicit model based approaches include synthetic and composite estimations; whereas explicit models are categorized as area level and unit level models. Indirect or model-based small area estimators rely on statistical models to provide estimates for all small domains. Once the model is chosen, its parameters are estimated using the data obtained in the survey. This paper presents different SAE techniques to measure poverty.
Keywords: sample survey, Area level model, unit level model, direct estimation indirect estimation, synthetic estimations, composite estimations

ISCA-ISC-2014-Oral-12MSS-04

Intuitionistic fuzzy statistical tools for filters in Image processing – II

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Abstract: Image processing is a form of information processing where both input and output are images. Most of the image processing involve in treating the image as two dimensional representations and applying standard techniques to it. In real environment, images are often prone to various noise, which are generated in an image during the time of image capturing, transmission, copying, storage etc., Noise reduction by filtering is a type of image enhancing techniques and these techniques sometimes fail to handle the noise reduction. Linear filters and non-linear filters are traditional image preprocessing tools which often fail to remove the noise and tends to blur edges yielding poor quality images. Later, variety of fuzzy filters have been proposed in literature to perform filtering and smoothing of noisy images and they are proved to yield better results than classical filters. As a branch of Mathematics, Intuitionistic fuzzy sets theory provides a flexible and solid mathematical framework to cope with imperfect or imprecise information often present in digital images. Here, mathematical definitions of mean, median, mode, geometric mean, harmonic mean, maximum, minimum value, mid-point, quadratic mean of intuitionistic fuzzy data are given for designing algorithm to obtain intuitionistic fuzzy filters in image processing. As an extension of the work already done by the authors on statistical tools, this paper introduces a few more tools for filters which find its applications in image processing. An effort is made to study and evaluate the performance of the intuitionistic fuzzy filters using image quality measures.
Keywords: Intuitionistic fuzzy sets, IF statistical tools, Norm, IF filters.

ISCA-ISC-2014-Oral-12MSS-05

Operations on Index Matrix Representation of an Intuitionistic fuzzy Graph

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Abstract: The index matrix representation of an intuitionistic fuzzy graph have already been defined by the authors. To

study the role of operator in structure modification of intuitionistic fuzzy graphs, different operators like addition, multiplication are defined over intuitionistic fuzzy graphs. The characteristics of these operators are analysed and illustrated with suitable examples. In particular, this paper provides solution to the open problem raised by Prof. K.T.Atanassov about the meaning of where $_G$is the index matrix of an intuitionistic fuzzy graph G and ; $G^2 \cdot G = G^3$; $G^{n-1} \cdot G = G^n$

Keywords: Index matrix, fuzzy set, fuzzy graph, Intuitionistic fuzzy set, Intuitionistic fuzzy graph,

ISCA-ISC-2014-Oral-12MSS-06

Applications of Laplace Transform and solution for Various Fractional Differential Equations

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Abstract: In many recent works, many researchers have demonstrated the usefulness of fractional calculus in the derivation of particular solutions of a significantly large number of linear ordinary and partial differential equations of the second and higher orders. Laplace decomposition method is applied to obtain series solutions of nonlinear fractional differential equation. The methodology used is based chiefly upon some general theorems on (explicit) particular solutions of some families of fractional differential equations with the Laplace transform and the expansion coefficients of binomial series. One of the major advantages of fractional calculus is that it can be considered as a super set of integer-order calculus. Thus, fractional calculus has the potential to accomplish what integer-order calculus cannot. It has been believe that many of the great future developments will come from the applications of fractional calculus to different fields. Laplace transform is a very powerful mathematical tool applied in various areas of engineering and science. With the increasing complexity of engineering problems, Laplace transforms help in solving complex problems with a very simple approach just like the applications of transfer functions to solve ordinary differential equations. It will allow us to transform fractional differential equations into algebraic equations and then by solving these algebraic equations. The unknown function by using the Inverse Laplace Transform can be obtained.

$G \cdot G = G^2$

Keywords: Laplace transform of the fractional derivative, Fractional-order differential equations.

ISCA-ISC-2014-Oral-12MSS-07

Some common fixed Point theorem under Cone Metric space in Integral Type

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Abstract: In this paper, we prove some fixed point and common fixed point theorem for cone metric space in integral type mapping which shows that our main theorem is generalized version of some known theorems. This theorem is applicable in Fuzzy metric space and also in other type of Fuzzy metric space.

Keywords: Common fixed point, complete cone metric space, compatible maps, fixed point, rational expression, self mappings.

ISCA-ISC-2014-Oral-12MSS-08

A class of Distortion theorems involving Certain Operators of Fractional Calculus

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Abstract: Lowendes J .S define Fractional integral of order â is defined by. The object of the paper is to investigate a general class of fractional integral operators involve lowendes. Several interesting distortion theorems for various subclasses of analytic and univalent functions are proved in terms of these operators of fractional calculus. Some special cases of the results presented here are indicated.

Keywords: Class, distortion, theorems, involving, certain, operators, fractional calculus.

ISCA-ISC-2014-Oral-12MSS-09

A Formula for the Fractional Integration of Matrix Argument

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Abstract: The aim of the present paper is to give a formula for the fractional integration of by using fractional integration operator of Matrix argument
Keywords: Fractional integration, matrix variable.

ISCA-ISC-2014-Oral-12MSS-10

Common fixed point theorems in M – fuzzy metric space

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Abstract: In this paper, we prove a common fixed point theorems for four mappings under the condition of compatible mapping in complete M – fuzzy metric space. Our result is an extension of result of Namdeo and Solanki et. all.[1] and generalize several well known comparable result in the ilterature.
Keywords: Fixed point, Fuzzy metric space, M- fuzzy metric space, compatible mapping.

ISCA-ISC-2014-Oral-12MSS-11

Principal Eigenvectors of Connected Graph

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Abstract: We report our current effort on the unique positive unit eigenvector corresponding to the greatest eigenvalue of the adjacency matrix of connected graph G. In this paper we study ratio of principal eigenvector of an irreducible matrix. We determine some upper bounds and lower bounds for the entries of principal eigenvector when G is connected graph. An extensive bibliography of apposite literature is attached.
Keywords: spectral radius, shortest distance, eigenvalues, eigenvectors.

ISCA-ISC-2014-Oral-12MSS-12

Effect of Slip Parameter of a Boundary-Layer Flow for Nanofluid over a Vertically Stretching Sheet

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Abstract: Boundary-layer flow of a nanofluid past a stretching sheet for the equation of momentum and heat transfer with the corresponding boundary conditions have been investigated numerically by Runge-Kutta fourth order scheme with efficient shooting technique. The model used for the nanofluid incorporates the effects of Brownian motion and thermophoresis. A similarity solution is presented which depends primarily on Prandtl number Pr, Brownian motion number Nb, and thermophorsis number Nt. The variation of the reduced Nusselt number and reduced Sherwood number with Nb and Nt for various values of Pr are shown through the graphs. By analyzing the literature, no one studied the effect of thermal and solutal slip of a nano fluid due to vertically stretching sheet which is very important hence this study has been carried out.
Keywords: Nanofluid fluid, velocity slip, thermal slip and solutal slip.

ISCA-ISC-2014-Oral-12MSS-13

Flow and Heat Transfer of Micropolar and Viscous Fluid with Source or Sink in a Vertical Channel

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Abstract: The flow nature for mixture of viscous and micro polar fluid in the presence of source or sink in a vertical

channel is studied. The effect of governing parameter such as the ratio of Grashof number to Reynolds number, viscosity ratio, width ratio, pressure and material parameter show the similar nature keeping either source or sink the constant value. The effect of source is to increase, micro rotation velocity and temperature whereas sink is to decrease velocity, increase the micro rotation velocity and to decrease the temperature.

Keywords: Micropolar fluid, non-Newtonian fluids, grashof number, reynolds number.

ISCA-ISC-2014-Oral-12MSS-14

Characterization of Iti Systems by Using Convolution Sum

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Abstract: The major theme of the paper is the characterization of discrete-time signals and systems in time domain. Here we characterized LTI systems by their unit sample response $h(n)$ and derived the convolutions summation, which is the formula for determining the response $y(n)$ of the system characterized by to any given input response . We also deal different methods to determine the convolution.

Keywords: Discrete-time signal, LTI systems, unit sample response, input response , output response , convolution.

ISCA-ISC-2014-Oral-12MSS-15

Combined Representation of Atkinsion and Fredholm Operators in Terms of Index

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Abstract: This paper shows that a unique representation between both Atkinsion and Fredholm operators with the help of non-negative index, zero and arbitrary index in terms of index except for a rational factor whereas every Atkinsion operator with non-positive index can be represented as a finite dimensional perturbation of a left invertible Atkinsion operator.

Keywords: Atkinsion operator; Fredholm operator; Index.

ISCA-ISC-2014-Oral-12MSS-16

Inventory Model for Price and Time Dependent Demand

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Abstract: Price is most effective and significant factor for the demand of a product. In real life we observed that price and demand are inversely related. Time is another factor plays an extremely vital role and it affects the demand function to a large extent. In the modern market scenario it is vital for a marketer or manager to consider the time factor in demand function. Thus motivated by such real life aspects in this paper we developed an inventory model for the price and time dependent demand function. Optimal procurement and pricing policies are discussed. Conditions leading to concavity of the net profit function are discussed. Sensitivity analysis is presented.

Keywords: Inventory, Probabilistic Model, Product life cycle type demand, Backlogging, Pricing.

ISCA-ISC-2014-Oral-12MSS-17

Probabilistic Inventory Model for Seasonal Trapezoidal Demand

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Abstract: This paper discussesoptimal procurement and pricing policies for inventory models having seasonal trapezoidal or product life cycle type demand which is stochastic.Seasonality is an integral aspect of real life since demand for

virtually every product in every industry in every country is seasonal. During every demand season, generally the demand patterns observed for average sales of commodities by distributors is trapezoidal type, which mayfurther involve stochastic variables.Hence, probabilistic inventory models with seasonal trapezoidal type demand function will cover a wide class of products.Studying the price factor is also important which needs to be examined judiciously for better understanding of variations and pattern of demand rate. Hence, this work will be useful for the practitioners as well as for theoretical model building as numerical example, sensitivity analysis and managerial insights are presented for the model.

Keywords: Inventory, Probabilistic Model, Product life cycle type (Trapezoidal) demand, Backlogging, Pricing.

ISCA-ISC-2014-Oral-12MSS-18

Extended results on Total Domination number and dominator Chromatic number of a Graph

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Abstract: A set S of vertices in a graph G without isolated vertices is a total dominating set of G if every vertex of G is adjacent to a vertex in S. The total domination number of G is the minimum cardinality of a total dominating set in G. In this paper, we discuss recent results on total domination in graphs. A dominator coloring of a graph *G* is a proper coloring of *G* in which every vertex dominates every vertex of at least one color class. The minimum number of colors required for a dominator coloring of *G* is called the dominator chromatic number of *G* and is denoted by (G). We study several properties of dominator chromatic number and give some bounds on the dominator chromatic number of a graph.

Keywords: Chromatic number; Domination number. Total domination number, Dominator chromatic number;

ISCA-ISC-2014-Oral-12MSS-20

Plane Symmetric Inhomogenous Viscous Fluid Cosmological Models

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Abstract: In this paper various plane symmetric inhomogenous cosmological models for perfect fluid distributions is investigated. The models represent expanding, shearing and non- rotating universes in which the motion is geodetic. Different physical and geometrical properties of the model are also discussed.

Keywords: Plane symmetric cosmological models, Inhomogenous, viscous fluid.

ISCA-ISC-2014-Oral-12MSS-21

ABS Solution of Linear Programming Problems with Fuzzy Variables

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Abstract: The ABS algorithm has been studied a lot in last few years. This method has been used broadly for solving linear and non-linear system of equations comprising large number of constraints and variables. In this paper, we are using ABS method to solve linear programming problems with fuzzy variables when degeneracy has been treated correctly. The same has been verified by simplex method and graphical method of linear programming problems.

Keywords: ABS algorithm, linear programming problems and Fuzzy variables.

ISCA-ISC-2014-Poster-12MSS-01

Class of Meromorphic Functions and its Algebraic Properties

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Abstract: In the present poster presentation, I consider relative order of meromorphic functions and its extended definition with respect to Nevanlinna characteristic function. I study the asymptotic behavior of two meromorphic function, where

g is a non-constant entire function, we see that $f_1 \sim gf_2$ is an equivalence relation in the set M of collection of all meromorphic functions. Thus the set M can be partitioned into disjoint equivalent classes. Considering an entire function g having the property A and M be the collection of all meromorphic function, the set G = {[f] : f å M} with a binary composition, which is defined and see that the set G is a non-associative commutative group i.e. the class of meromorphic functions forms a non-associative commutative group.

Keywords: Meromorphic functions, relative order, property (A), non-associative group.

13. Pharmaceutical Sciences

ISCA-ISC-2014-13PCS-Guest Speaker-01

Nanotechnology and its Applications in Drug Delivery Systems

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Abstract: Nanotechnology is a revolution unfolding today with a potential of changing every facet of human life. Nanotechnology deals with materials on the length scale of 1-100 nanometers. One Nanometer is one billionth of a meter. At this incredibly small size the physical, chemical, mechanical and optical properties of materials are unique and are exploited by the scientists. In the world of nano, particles are governed by quantum mechanics and properties of materials change depending on its size. It is not the science of simply mixing nano scale materials together rather the science of understanding and precisely manipulating and controlling those materials in a useful way. The impetus for nanotechnology came from a famous talk titled "There is a plenty of room at the bottom" by the Nobel physicist Richard Feynman in 1959". Nanotechnology offers scope to manipulate surface area and thus optimize oral pharmacokinetics. By this technology improved bioavailability can be achieved for drugs where bioavailability is dissolution rate limited. Nanotechnology has the potential to give new breath of life to those NCEs which were rejected due to their poor solubility. By formulating drugs in nano carrier systems targeting can be achieved which minimizes toxicity.

ISCA-ISC-2014-13PCS-Guest Speaker-02

Ethnopharmacology, Phytochemistry and Pharmacological Evaluation of Pongamiapinnata (L.) Pierre

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Abstract: ThePongamiapinnata (L.) pierre belonging to the family Fabaceae subfamily papilionaceae is a medium sized evergreen tree popularly known as Karanja in Hindi, Indian beech in English. It is widely distributed in India, Bangladesh, China and Australia. The Pongamiapinnata (L.) pierre has been recognized in different system of traditional medicines for the treatment of different disease and aliments of human beings. It contains several phytoconstituents such as alkaloids, tannins, steroids, glycosides, demethoxy-kanugin, glabrin, kanugin, karangin, flavonoids and fixed oils. Extract of the plant posse's significant anti-diarrhoeal, anti-fungul, anti-plasmodial, anti-ulcerogenic, anti-inflammatory, anti-nonciceptive, anti-hyperglycaemics, anti-lipoxidative, anti-hyperammonic, antioxidant and analgesic activities. Roots are used for cleaning gums, teeth and ulcers. Bark is used internally for bleeding piles. Different parts of this plant are traditionally claimed to be used for the treatment of bronchitis, whooping cough, rheumatism, diarrhea, dyspepsia, flatulence, gonorrhea and leprosy to list a few. It's a source of biodiesel. It has also alternative source of energy, which is renewable, safe and non- pollutant. Therefore, the present review paper aimed to compile up to date and comprehensive information of Pongamiapinnata (L.) pierre with special reference to its Phytochemistry, various scientifically documented pharmacological activities, ethnopharacology and traditional medicinal uses along with its potential use as source of biodiesel.

Keywords: Pongamiapinnata (L.) pierre, Karanj, Phytochemistry, pharmacological evaluation, Ethnopharacology.

ISCA-ISC-2014-Oral-13PCS-01

Development and Evaluation of Polyherbal Tablet Triturate for Oral Hygene

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Abstract: Herbal remedies as a source of medicine has been a primordial practice and important constituent of health care system in India. The natural phytochemicals have a long history of use for gum and tooth problems which consist of Anti-bacterial, Astringent, Immune strengthens activities. The exploration of botanicals used in traditional medicine, may lead to development of novel preventive or therapeutic strategies for oral health. The incidence of multidrug resistance in bacterial population has increased the importance of herbal medicines. In this study we have evaluated antibacterial activity of ethanolic extract of Rubia cordifolia, Terminalia chebula, Hemidesmus indicus, Azadirachta indica, Ocimum tenuiflorum, Caryophyllus aromaticus, Cinnamomum zeylanicum, Quercus infectoria, Emblica officinalis, Terminalia chembula, Acacia Arabica against mixed dental flora. Agar well diffusion method was used to determine antibacterial activity of the extracts against mixed dental flora. This polyherbal extracts inhibit growth of dental flora and can be used for dental health or oral hygiene. Tablet triturates were prepared from above extracts and it shows good antibacterial

activity against mix dental flora. Hence the natural phytochemicals could offer an effective alternative to antibiotics and represent a promising approach in prevention and therapeutic strategies for dental caries and other dental infections.
Keywords: Antibacterial Activity, Phytochemicals, Agar well diffusion method, Tablet Triturate, Dental Flora.

ISCA-ISC-2014-Oral-13PCS-02

Development and Evaluation of Time Controlled Release Tablet of Ketoprofen for the Treatment of Rheumatoid Arthritis

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Abstract: The purpose of the study was to develop a time controlled release tablet of ketoprofen, consisting of core, coated with two layers, i.e. inner swelling and outer rupturable layer, for programmable delivery of drug at a definite time or controlled rate. Drug-excipients compatibility studies using differential scanning calorimetry (DSC) and Fourier Transform Infrared (FTIR) spectroscopy were performed. Pre-compression parameters (e.g. flow and compressibility) of core tablet powder blends were evaluated. Core tablets were prepared by direct compression of different ratios (100:0, 70:30, 50:50, 30:70, 0:100 % w/w) of spray dried lactose monohydrate (Flowlac 100) and microcrystalline cellulose (Avicel PH102) and evaluated for different evaluation parameters (e.g. hardness, weight variation). Core tablets were then coated sequentially with an inner swelling layer containing superdisintegrant croscarmellose sodium (Ac-di-sol) and an outer rupturable layer of ethyl cellulose by spraying the coating formulation in a conventional coating pan. Rupture test and dissolution studies were performed on coated tablets using 900ml of phosphate buffer pH 6.8 in the dissolution apparatus USP TYPE-II at 50 rpm and temperature of 37±0.5ÚC. DSC and FTIR studies result showed that the drug, excipients and coating materials were compatible. The core powder blend had good flow (angle of repose 30.67 ±0.22) and compressibility (Carr's index 16.17±0.12). Core tablets passed all the tablet hardness and weight variation tests. Time controlled release tablets of Ketoprofen coated with 10 mg/cm^2 swelling and 2.5 mg/cm^2 ethyl cellulose layers showed lag time of 4 hours followed by sigmoidal release pattern with 100% drug release at the 10th hour. When concentration of the ethyl cellulose coating was increased to 3.5 mg/cm^2 and 4.5 mg/cm^2, lag time increased to 5 hours and 8 hours with 100% drug release at the 12th and 15th hour, respectively. To develop the time release tablet based on swelling and rupturable coatings, several studies were necessary to identify formulation variables, which provided the desired system properties, namely a rapid drug release after a certain lag time. The influence of core composition, level of swelling layer and rupturable coating, and magnesium stearate in rupturable layer was investigated and results showed the dependence of microcrystalline cellulose, coating level of swellable and rupturable layer on lag time and water uptake study. The aim of the study was to develop time controlled release tablet of Ketoprofen. The rapid release of drug after a lag time was achieved with developed formulation. The polymer ethyl cellulose was found to be responsible for delaying the release. Thus this approach may be helpful for patients suffering from rheumatoid arthritis.
Keywords: Development, evaluation, controlled release tablet, ketoprofen, treatment, rheumatoid arthritis.

ISCA-ISC-2014-Oral-13PCS-03

Recent Trends of Diagnostic Guidelines and Non-Clinical Management with Assessment of the Role of Non-Clinical Management on Diabetes Hypertension Control among Urban PATIENTS

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Abstract: The comorbid conditions of diabetes with hypertension should be given special attention, especially in the Indian Scenario, as prevalence risen over the past few decades. Recently JNC-8 recommended the goal should be SBP<140 mm Hg and DBP <90 mm Hg for adult age group that should be attained either by life style intervention or with pharmaecological treatment. The most recent glycemic goal recommended by the American Diabetes Association, selected on the basis of practically and the projected reduction in complications over times, is in general, an HbA^{1}C level of 7%. The general consensus is that an HbA^{1}C level of e" 7% should serve as a call to action to initiate or change therapy with the goal of achieving an HbA^{1}C level of <7% that to be needed to assess the role of non-clinical management of diabetes hypertension patients and this paper was an effort on aforesaid issue. The validation cohort n=100 for intervention group and 10 for control group. The main findings of the paper; it was observed that improved in awareness, attitude and practices for good control 86 percent subjects for diabetes hypertension. On the other hand, after intervention, the changes in their control was found among 58% patients. The major changes observed in salt intake, exercising, yoga,

worship, not smoking, non-alcoholing. The dietary improvement in terms knowledge and practices among 52% subjects. The calculated value of chi-square was found much more higher (19.0) as compared to table value (3.841) at one degree of freedom and five percent significant level. Therefore null hypothesis rejected and alternate hypothesis accepted (i.e. non clinical management was primary treatment technique for good control of diabetes-hypertension).

Keywords: Diabetes, Hypertension, JNC-8.

ISCA-ISC-2014-Oral-13PCS-04

Spectrophotometric Quantitation of Mebeverine in Bulk Drug and Pharmaceutical Formulations using Multivariate Calibration Approach

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Abstract: A sensitive and accurate UV spectrophotometric method with multivariate calibration technique for the determination of mebeverine hydrochloride in bulk drug and different pharmaceutical formulations has been described. This technique is based on the use of the linear regression equations by using relationship between concentration and absorbance at five different wavelengths. The results were treated statistically and were found highly accurate, precise and reproducible. The method is accurate, precise and linear within the range 5-80 µg/ml (r=0.9966). Under optimized conditions the applied numerical method provides considerable resolving power, sensitivity, rapidity, and low cost for the quantitative analysis, quality control and routine analysis of subject compounds. There was no interference from the excipients i.e Povidone K 30, magnesium stearate, lactose and hydroxypropylmethylcellulose. This statistical approach gives optimum results for the eliminating fluctuations coming from instrumental or experimental conditions.

Keywords: Mebeverine, multivariate, Pharmaceuticlas.

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Derivatives of fluroquinolones: Its application to CoMFA and CoMSIA studies

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Abstract: Three dimensional quantitative structure activity relationship using CoMFA and CoMSIA was developed on a series of 28 fluroquinolone derivatives for prediction of anti-inflammatory activity. QSAR models with high-squared correlation coefficient of up to 0.962 for CoMFA, 0.989 for CoMSIA-I and 0.987 for CoMSIA-II were established. The robustness of the model was confirmed with the help of leave one out cross-validation having values of 0.554 for CoMFA, 0.6 for CoMSIA-I and 0.597 CoMSIA-II, respectively. Theoretical results were in accord with the experimental data. Developed models highlighted the importance of steric, electrostatistic, hydrophobic and donor descriptors for the anti-inflammatory.

Keywords: Fluroquinolone derivatives, 3D-QSAR, CoMFA and CoMSIA analysis, PLS.

ISCA-ISC-2014-Oral-13PCS-06

Impact of Pharmacy Education on Employeement Sindh Province-A Case Study

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Abstract: During the past decade, Pharmacy Education in Pakistan has passed through drastic changes, without prior arrangements of their practical implementations. In the year 2004, all the Pharmacy teaching institutions and faculties,

has been upgraded their degree from B. Pharm. to Pharm. D. (Doctor of Pharmacy), five year program, which is more clinical based. 11public and 27 private, universities/ colleges are recognized by Pharmacy Council of Pakistan (PCP). Each year about 5000 pharmacists are earning their degree of Pharm. D. The existing demand for their employment is, in Pharmaceutical Industries and not the Hospitals, but the curriculum urges them to join hospital sector or community pharmacy. Sindh is the second most populated province of Pakistan, but lacking the intervention of pharmacists in health care system. For about 45 million population, only 17 Hospital pharmacists are serving in public sector and about 185 in private hospitals.

Keywords: Impact, pharmacy, education, employeement, Sindh, province.

ISCA-ISC-2014-Oral-13PCS-07

Stability indicating Method for Simultaneous Determination of valsartan and amlodepine by RP-HPLC: its application in Pharmaceuticals, Human serum and Urine

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Abstract: Basic aim of this work was to develop a method of RP-HPLC of drugs in nano gram level, which could be applied for pharmacokinetic studies. A Sensitive RP-HPLC method has been developed which can analyse valsartan and amlodepine simultaneously in nano-gram level. This method was used to analyse mentioned drugs in dosage formulations, human urine and human serum. We used acetonitrile and water (50:50 v/v) as mobile phase, pH of mobile phase was maintained to 3, C18 column was used for separation, detection wavelength was set to 235 and 268 nm for amlodepine and valsartan respectively, and flow rate was adjusted to 1 ml / minutes.

During validation, all the parameters of validation were checked according to ICH. After getting fruitful results in dosage formulations, in-vitro analysis of urine and serum, this method was also used for pharmacokinetics studies in Pakistani human volunteers. All the results of pharmacokinetics obtained as expected. Additionally this work can be used in R and D laboratories.

Keywords: Stability, indicating, method, simultaneous, determination, valsartan, amlodepine.

ISCA-ISC-2014-Oral-13PCS-09

Comparitive study on the Antidiabetic activity of the Bark extracts of Syzygium caryophyllatum (L.) Alston and Syzygium zeylanicum (L.)DC

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Abstract: The antidiabetic effect of the methanol extracts of S.caryophyllatum and S.zeylanicum bark was investigated in streptozotocin and alloxan - induced diabetic rats. Alloxan and streptozotocin were administered as a single dose of 100 and 50 mg / kg body weight respectively to induce diabetes. Blood glucose level, Oral glucose tolerance test, body weight were the parameters studied. Serum biochemical parameters such as SGPT and SGOT were also estimated. Glibenclamide was used as standard drug.

Administration of extract at 200 and 400 mg /kg body weight significantly increased body weight, decreased blood glucose levels, increased glucose tolerance and decreased SGPT and SGOT levels. But both the extracts were more effective at the concentration of 400 mg / kg body weight with ***P < 0.001. Our findings justify the traditional use of S.caryophylltum in treating diabetes and possible therapeutic value of S.zeylanicum bark for the better control of diabetes mellitus.

Keywords: Alloxan, Glibenclamide, Streptozotocin, OGTT.

SCA-ISC-2014-Oral-13PCS-10

Phytochemical screening, in vitro antioxidant and in vitro Anti-inflammatory activity of Polyalthia fragrans (Dalz.) Bedd. – An endemic species of Western Ghats

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Abstract: Polyalthia fragrans (Dalz.) Bedd. belongs to the family Annonaceae a least explored endemic species of the Western Ghats. The present study deals with the investigations on the phytochemicals in vitro antioxidant, and in vitro antiinflammatory activity in the dried extracts of leaf and stem bark of Polyalthia fragrans. The presence of several physiologically active phytochemicals such as alkaloids, phenols, flavonoids, tannins was recorded. Crude methanol, ethyl acetate, chloroform and aqueous extracts of the leaf and stem bark were evaluated for antioxidant activity by DPPH and reducing power assay, antiinflammatory activity by HRBC membrane stabilization method. The IC_{50} values of 56.17 µg/ml, 113.84µg/ml, 131.57 µg/ml and 387 µg/ml for DPPH activity were observed in methanol stem bark, ethyl acetate stem bark, methanol leaf and ethylacetate leaf extracts respectively. The reducing power of extracts was very potent which increased with increasing concentration of sample. The maximum membrane stabilization of Polyalthia fragrans was found to be 97.87% and 97.67% of ethyl acetate extract of stem bark and leaf methanol extract respectively followed by 95.74% of stem bark methanol extract and 93.02% of leaf ethyl acetate extract, the moderate activity of water and chloroform extracts of leaf and stem found to be 76.57% and 73.23% at a dose of 200 ìg/ml. Membrane stabilisation for the standard Diclofenac sodium was found to be 84.43% at a dose of 200 ìg/ml.
Keywords: Polyalthia fragrans, Phytochemicals, Antioxidant, Anti-inflammatory.

ISCA-ISC-2014-Oral-13PCS-11

A Qualitative Study on Behavioral pattern of Women towards Natural delivery and Cesarean section

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Abstract: Behavior may be innate or acquired and pregnancy is a physiological phenomenon with multidimensional processes including physical, social, physiological, cultural and mental aspects. The purpose of this qualitative research was to study the behavioral pattern cum attitude of women towards the natural delivery and cesarean section. For this cross-sectional study, 100 women who were attending either E.S.I. hospital or G.HC.P.L. Kanpur, India, for their pregnancy or visiting gynecologist with previous experience of pregnancy were selected. 57% women were having previously pregnancy experience and 43% were inexperienced, among 57% of women previously experienced, 50% were having normal delivery and 7% caesarean delivery; and from 43% inexperienced 31% were expecting normal as their choice and 12% caesarean as their choice. 55% were able to give their self opinion on physician's recommendation for caesarean. The collection tool of information was a questionnaire based on the theory of planned behavior.
Keywords: Behavior, pregnancy, qualitative, natural/normal delivery, cesarean section.

ISCA-ISC-2014-Oral-13PCS-12

Comparative Analysis of Effects of Ricinus Communis Flowers and Glibenclamide on Diabetic Male Swiss Albino Mice Based on Antioxidant Enzyme Markers and Their Genetic Expression

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Abstract: Lack of glucose metabolism, hyperglycemia and increasing evidences of oxidative stress majorly affects the diabetics. The over-production of Reactive Oxygen Species (ROS) leads to variations in the normal values of oxidative stress biomarkers, such as superoxide dismutase (SOD), catalase (CAT), glutathione peroxidase (GPx). This study was done to compare the treatment of *R communis* flower extract (RCFE) against the known standard drug Glibenclamide on the antioxidant enzyme activity and their genes in diabetes induced male swiss albino mice. For this, healthy experimental animals were divided into four groups of seven mice each, namely: Normal Control (NC), Diabetic Control (DC),

Glibenclamide Treated (GT) and Flower extract Treated (FT). The animals of groups DC, GT and FT were made diabetic by a single injection of Alloxan. The animals of groups NC and DC were treated with normal saline, while those of groups GT and FT were treated with Glibenclamide and RCFE respectively for a period of 45 days. After the treatment the tested animals were dissected and the oxidative status of their liver homogenates was analyzed by various biochemical assays. RNA isolated from the liver of treated animals was used to study the expression of genes encoding SOD, CAT and GPx by qPCR analysis. It was observed that the genetic expression of antioxidant marker enzymes and their activities, both were reduced to a great extent in group DC as compared to NC. The treatment with RCFE almost restored the lowered genetic expression as well as the enzyme activity, which the treatment with Glibenclamide could not. Thus it was concluded that treatment of diabetic animals with hydro-ethanolic extract of *R communis* flowers was better than that of the standard drug, Glibenclamide.

Keywords: Diabetes, oxidative stress, glibenclamide, *R communis* flower extract, qPCR

ISCA-ISC-2014-Oral-13PCS-13

Histopathological Changes and Antidiabetic Properties of *Pithecellobium Dulce* Pods Extract of Hepatic, Renal and Pancreatic Organs in Alloxan Induced Diabetic Male Mice

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Abstract: To investigate the protective effects of *Pithecellobium dulce* pod extract in alloxan induced diabetic male mice, 24 male swiss albino mice of 25-32 gm were used. The selected animals were divided in 4 groups, I Normal Control (NC), II Diabetic Control (DC), III Glibenclamide Treated (GT) and IV *P. dulce* pod extract treated group (PDPE). Diabetes was induced to DC, GT and PDPE by a single intraperitoneal injection (IP) of alloxan monohydrate of 150mg/kg body weight. All mice of group IV were orally administered by a single dose of 300mg/kg BW/day of PDPE extract whereas mice of diabetic group III were treated with glibenclamide (10mg/kg of bw) for 45 days. Fasting Blood Glucose levels of all the four groups were measured using blood glucose test strips of Dr. Morpen's glucometer at a regular interval of 0, 15, 30 and 45 th days and various tissue homogenates viz liver, kidney, pancreas were used for the estimation of enzymatic antioxidants such as Superoxide dismutase (SOD), Catalase (CAT) and Glutathione peroxidase (GPx). Hepatic, Renal and Pancreatic tissues from the four groups were studied for histological changes, induced after Alloxan injection and subsequent extract treatment. Results obtained from the study shows significant reduction in FBG levels after the 45 days treatment of PDPE and normalized enzymatic antioxidants to such an extent that helped in the reduction of oxidative damage in the tissues of diabetic animals. histomorphological examination shows regeneraion of tissues to their normal state. It can be concluded from this study that the pods of *P. dulce* shows significant favorable effects in various physiological and histopathological parameters distorted during diabetic demonstration and these effects are correspondent to the standard drug treated glibenclamide group.

Keywords: Diabetes mellitus, antioxidants, histopathology, alloxan and glibenclamide.

ISCA-ISC-2014-Oral-13PCS-14

In vitro and *in Vivo* Antidiabetic Effects of Hydro-Ethanolic Extract of *Ricinus Communis* Bark on Diabetic Swiss Albino Mice

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Abstract: Diabetes characterizes of hyperglycemia due to absolute or relative insulin deficiency. Management of diabetes without side effects is still challenge. With this perspective, this study was carried out evaluating the antidiabetic potential of *Ricinus communis* bark extract (RCBE) *in vitro* by estimating the á-amylase and á-glucosidase activities and *in vivo* by treating Alloxan induced diabetic mice with RCBE and estimating their Fasting Blood Glucose (FBG) levels and Hepatic glycogen content. For the *in vivo* study, healthy experimental animals were divided into four groups of seven mice each, namely: Normal Control (NC), Diabetic Control (DC), Glibenclamide Treated (GT) and Bark extract Treated (BT). The animals of groups DC, GT and BT were made diabetic by a single injection of Alloxan. The animals of groups NC and DC were treated with normal saline, while those of groups GT and BT were treated with Glibenclamide and RCBE respectively for a period of 45 days. FBG levels were constantly measured during this duration. After the treatment the tested animals were dissected and their liver homogenates were prepared to analyze hepatic glycogen content. The

results prove that RCBE exhibited a dose dependent increase in the percentage inhibition of á-amylase and á-glucosidase enzymes with an IC_{50} value of 668 ìg/ml and 624 ìg/ml respectively. RCBE treatment also helped in significantly restoring the increased FBG levels and hepatic glycogen content as in DC.Thus revealing that hydroethanolic extract of *Ricinus communis* bark can be employed as a potent antidiabetic.

Keywords: Diabetes, Hyperglycemia, antidiabetic, Glibenclamide, *R communis* bark extract.

ISCA-ISC-2014-Oral-13PCS-15

Enhancement of Dissolution of Lercanidipine Hydrochloride using Solid Dispersion Technique

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Abstract: Lercanidipine hydrochloride (LER) is a BCS class II antihypertensive drug which results in limited oral bioavailability of about 10%. The objective of the present study is to enhance the dissolution rate and thus the bioavailability of LER by solid dispersion technique. Study involved preparation of molecular dispersion of LER in a polymeric matrix of Polyethylene Glycol-6000. Solid dispersions of LER were prepared using fusion and solvent evaporation techniques by varying drug to polymer ratio employing factorial design. The studies showed that LER solid dispersions demonstrate increased solubility and dissolution rate in comparison with physical mixture and pure drug. Solid dispersion prepared by solvent evaporation and fusion techniques showed improved release of 93.7% and 57% respectively as compared to pure drug and physical mixture 37.2% and 38.9% respectively in 1 hour. Absence of interaction between drug and polymer was confirmed by DSC and IR studies. It can be concluded from the above studies that solid dispersion can be the method of choice for increasing the solubility, dissolution and thus the bioavailability of LER. It is also observed that out of two techniques employed for preparing solid dispersion, solvent evaporation technique shows challenging results.

Keywords: Solid dispersion, lercanidipine hydrochloride, PEG 6000, DSC, IR.

ISCA-ISC-2014-Oral-13PCS-16

Formulation of an Intranasal Mucoadhesive Microemulsion of Quetiapine Fumarate for the Treatment of Schizophrenia

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Abstract: Schizophrenia is a highly disabling disease responsible for the loss of social contacts of the affected person. Quetiapine fumarate, a drug of choice, is available only as tablets and extended release tablets and suffers from the drawback of poor oral bioavailability (9%) and drug loss due to first pass metabolism. The attempt is made to formulate intranasal mucoadhesive microemulsion with the view to provide faster onset of action and improved bioavailability. The excipients used were peceol (oil), tween 20 (surfactant), PEG 400 (cosurfactant) and HPMC K4M (mucoadhesive agent). The optimized formulation was evaluated for transparency, staining test, mucoadhesive strength, discharge rate, zeta potential, spray pattern, *in vitro* diffusion study etc. The optimized formulation showed 11.45 folds higher solubility and release of 69.67 % at the end of three hours. It also showed good mucoadhesive strength and stability with a drug content of 98.3 %. Hence it can be concluded that the formulation with enhanced solubility can have potential of improving bioavailability of quetiapine fumarate. Also there is a scope for the reduction in dose of the drug. Hence, the mucoadhesive microemulsion of quetiapine fumarate can be a better alternative than the available formulations.

Keywords: Quetiapine fumarate, mucoadhesive microemulsion, peceol, tween 20, PEG 400

ISCA-ISC-2014-Oral-13PCS-18

Digital Audio Watermarking Techniques

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Abstract: On-line distribution of digital multimedia including images, audio, video and documents has proliferated rapidly in recent years. Along with the ease by which the digital formatted data can be copied and edited, copyright infringement like illegal reproduction and distribution has arisen and greatly spoilt the originators' passion for innovation. To prevent such iniquities, the enforcement of ownership management has claimed more and more attention. As a result, a novel watermarking technique is developed for authentication and copyright protection. Digital watermarking is the

process that embeds copyright information as 'watermark' into the multimedia object, so that the watermark can be extracted later to make an assertion about the ownership. An audio watermark is a unique electronic identifier embedded in an audio signal, typically used to identify ownership of copyright. Watermarks have also been used to embed format-independent metadata in audio/video signals in a way that is robust to common editing. In this paper we will discuss some techniques of the audio watermarking.

Keywords: Digital, audio, watermarking, techniques.

ISCA-ISC-2014-Oral-13PCS-19

Convolvulus Pluricaulis Choisy Attenuates Chronic Hypoxic Stress-Induced Behavioral Alterations and Oxidative Damage in Mice

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Abstract: Hypoxia causes damage in different body organs including brain. Hypoxic stress can cause cellular damage and neuro degeneration by inducing the reactive oxygen species. *Convolvulus pluricaulis* (CP) demonstrated neuroprotective effect in restraint stress-induced behavioral and biochemical alterations in mice in our previous study. The present study was designed to investigate the effect of neuroprotective effect of *Convolvulus pluricaulis* (CP) on acute hypoxic stress-induced behavioral alterations and oxidative damage in mice. Hypoxic stress in mice was induced for a period for a period of 2 hr for 6 consecutive days. *Convolvulus pluricaulis* (100 and 200 mg/kg) was administered 30 minutes daily before the animals were subjected to hypoxic stress. After inducing hypoxic stress on 6th day, various behavioral tests for anxiety, locomotor activity and nociceptive threshold were assessed, followed by oxidative parameter tests (malondialdehyde, glutathione, catalase, nitrite and protein), subsequently. Exposure to 2-hr chronic hypoxic stress for 6 days caused severe anxiety like behavior, antinociception and impaired locomotor activity as compared to naive animals. Biochemical analyses revealed an increase in malondialdehyde, nitrites concentration, depletion of reduced glutathione and catalase activity as compared to naive control animal brain. Pretreatment with *Convolvulus pluricaulis* for 6 days in a dose of 100 mg/kg and 200 mg/kg significantly attenuated hypoxic stress-induced behavioral (improved locomotor activity, reduced tail flick latency and anti anxiety like effect) and oxidative damage as compared to control (naive).Present study highlights significant neuroprotective effect of *Convolvulus pluricaulis* against chronic hypoxic stress induced behavioral and biochemical alterations.

Keywords: Hypoxia, stress, behavior, oxidative stress, convolvulus pluricaulis.

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Development of Pharmacopeia Quality Standards for Evaluation of *Linum Usitatissimum Linn.* with Special Reference to Banda District of UP, India

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Abstract: *Linum usitatissimum Linn.* is an important plant cultivated in the various part of Banda District and widely used as a household remedy for various purposes. Flaxseed (*Linum usitatissimum L.*) is rich in health-promoting bioactive compounds. Among plant foods, flaxseed has the highest content of lignins, mainly in the form of secoisolariciresinol diglucoside (SDG). Flaxseed oil also has a very high concentration of the essential omega-3 fatty acid. In present study entitled "Development of Pharmacopeia Quality Standards for Evaluation of *Linum usitatissimum Linn.* of Banda District of Utter Pradesh" were subjected to Microscopic, Physico-chemical and phyto-chemical analysis and chemo profiling of flaxseed. During microscopic and physico-chemical analysis churna has been prepared as siddhyog sangrah and the preparation was standardized according to guidelines of Ayurvedic Pharmacopoiea, viz extractive values, Ash value, pH value, Moisture contents etc. For the Phytochemical investigation drug extract has been prepared by using soxhlet extraction assembly and presence of different active ingredients has been determined qualitatively. HPTLC chromatographic technique has been carried out for chemo profiling of drug. These studies on Flaxseed (*Linum usitatissimum Linn.*) and investigated data were reproducible, precise and may be considered as a method for its quality control.

Keywords: Omega-3 fatty acid, siddhyog sangrah, standardization, chemo profiling, Quality Standards, reproducible.

ISCA-ISC-2014-Oral-13PCS-21

The Effects of Chitosan Coating on Antimicrobial Propensity of Fe_3O_4 Nanoparticle

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Abstract: Iron oxide nanoparticles (IONPs), having advance physico-chemical properties, are widely used in the field of biological and pharmaceutical sciences. In this study, IONP was synthesized by co-precipitation method followed by surface modification using biocompatible chitosan molecules. IONP and chitosan coated iron oxide nanoparticle (CS-IONP) were characterized and evaluated for their antimicrobial activity. The crystal structure of both IONP and CS-IONP was studied by X-ray diffraction spectroscopy, and was assigned to magnetite (Fe_3O_4) crystal. Comparison of Fourier transform infrared spectroscope and X-ray diffraction data for both NPs confirmed the coating of chitosan. The shape and size of IONP and CS-IONP was measured as spherical particles with diameter of 10-20 nm using field emission scanning electron microscopy. The antimicrobial activity of IONP and CS-IONP was evaluated against *Bacillus subtilis* and *Escherichia coli* by growth kinetic study and colony forming unit measurement. The antimicrobial propensity of the NPs was correlated with the reactive oxygen species (ROS) production in bacterial culture upon the NP treatment. IONP showed relatively higher ROS production; however, chitosan coating reduced the ROS production upon contact with bacterial culture. To the end, presence of biocompatible chitosan molecule reduces the antimicrobial propensity of IONP by reducing ROS production on treatment.
Keywords: Iron oxide NPs, coprecipitation, chitosan, antimicrobial propensity, ROS.

ISCA-ISC-2014-Oral-13PCS-22

Advances in Renewable Biopolymer-Based Excipients for Colon Drug Delivery System: An Overview

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Abstract: Most of the colonic drugs, peptides and proteins have been reported to be unstable in the gastric environment and prone to absorption in the upper gastrointestinal tract (GIT), and as a result, cause lowering of drug bioavailability and reduction of their efficiency against inflammatory bowel diseases (IBD). Therefore, to protect drugs from an undesired release in the upper GIT and to deliver it to the colon, pharmaceutical industries have made an endeavor to develop renewable biopolymer-based excipients. Thus the present review includes an overview on the development of various approaches for colon drug delivery system (DDS).
Keywords: Time and pH-dependent formulations; enteric coatings; microbially triggered approaches; colon drug delivery system.

ISCA-ISC-2014-Poster-13PCS-01

Anti-inflammatory and Analgesic properties of the rhizome Extract of Alpinia malaccensis

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Abstract: The present study deals with the antinociceptive and anti-inflammatory potential of methanolic extract of rhizomes of Alpinia malaccensis in Swiss albino mice. The antinociceptive activity was assessed at the intraperitonal doses of 250 and 500 mg/kg body weight using the acetic acid-induced writhing. The anti-inflammatory potential was studied by subplantar administration of carrageenan in the right hind paw of mice at the doses of 250 and 500 mg/kg body weight. The extract produced significant ($p<0.05$) reduction of neurogenic pains with the decrease in the number of writhings and inhibited carrageenan induced mice paw oedema. These findings suggest that the Alpinia malaccensis possess potent analgesic activity and anti-inflammatory activity.
Keywords: A. malaccensis, anti-inflammatory activity, analgesic activity.

ISCA-ISC-2014-Poster-13PCS-02

Antimicrobial Screening of Caesalpinia Pulcherimma (L.)SW. Against Pathogenic Microorganism

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Abstract: Caesalpinia pulcherimma (L.) Sw. belong to family Leguminosae and subfamily Caesalpinoideae. It has been selected for antimicrobial screening against pathogenic bacteria and fungi. Different plant parts (alcoholic extracts), whole plants (extracted sequentially with different organic solvents) and metabolites-rich fractions have been tested against the indicator human pathogenic bacteria (Escherichia coli, Staphylococcus aureus (Gram +ve), Pseudomonas aeruginosa (Gram +ve), and Salmonella typhi (Gram -ve), and fungi (Aspergillus flavus, Aspergillus niger, Fusarium moniliforme and Rhizoctonia bataticola). The ethanolic extracts of leaves was showed maximum activity against P. aeruginosa (IZ = 16 mm). The isolated flavonoids were effective against all test bacteria and fungi but quercetin exhibited maximum activity against E. coli (IZ = 26 mm). â-sitosterol was shown higher activity against S. aureus (IZ = 28 mm) and lanosterol were highly effective against E. coli (IZ = 18 mm). The anthraquinones are highly effective against all test organisms. Minimum inhibitory concentration test was performed by modified agar well diffusion method. MIC value 2×10^4 mg/disc was recorded against A. flavus, A. niger, F. moniliforme and R. bataticola with flavonoids, phytosterols and anthroquenones extracts.
Keywords: Bioactive compounds, Caesalpinia pulcherrima, , fungi, metabolites-rich fractions, pathogenic bacteria.

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Guideline for Implementing an Effective Corrective and Preventive Action (Capa) Program in Pharmaceutical Industry

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Abstract: The pharmaceutical company should have a system for implementing corrective and preventive actions resulting from the investigation of complaints, product rejections, non- conformances, recalls, deviations, audits, regulatory inspections and findings, and trends from process performance and product quality monitoring. CAPA is A systematic approach that includes actions needed to correct (correction), avoid recurrence (corrective action) and eliminate the cause of potential nonconforming product and other quality problems (preventive action). It is important to establish an effective corrective and preventive action (CAPA) program that includes the investigation, impact assessment of deviation and identification of causes for deviation occurrences and suggesting resolutions for elimination of causes for existing undesirable conditions to prevent or minimize future deviations and preparing deviation reports. The procedure is applicable for Deviations occurring during manufacturing process or testing deviations, including those related to approved procedures and methods, equipment, and facilities (including utilities). Non-conforming raw materials, parts, semi finished materials, in- process materials, packing and packaging materials or un-released finished products. Environmental monitoring results for air, water, or surface exceeding alert or action levels.
Keywords: Corrective and preventive action (CAPA), Standard operating procedures (SOPs), Pharmaceutical industry, Good Manufacturing Practices (GMP), Deviation

ISCA-ISC-2014-Poster-13PCS-04

Bioactive Guided Fractionation of Compounds from Leaf of Flowering Plant in Acanthaceae Family

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Abstract: Natural products once served humankind as the source of all drugs, and higher plants provided most of these therapeutic agents. Today, natural Products (and their derivatives and analogs) still represent over 50% of all drugs in clinical use, with higher plant-derived natural products representing ca. 25% of the total. The World Health Organization estimates that 80% of the people in developing countries of the world relyon traditional medicine for their primary health care, and about 85% of traditional medicine involve the use of plant extracts.This means that about 3.5 to 4 billion

people in the world rely on plants as sources of drugs. Taking into the above fact, bioactivity guided fractionation of extracts from the leaves of flowering plant were carried out. From the active extract 7 compounds were isolated and its cytotoxicity studies were done. From the results, we found that the plant can be further explored from which we can obtain active ingredient which helps the society.

Keywords: Natural product‡leaf‡soxhelet‡extract.

ISCA-ISC-2014-Poster-13PCS-05

Synthesis of Some Novel Derivatives of 1,4-Benzothiazine as Anti-Inflammatory Agents

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Abstract: Nonsteroidal anti-inflammatory drugs (NSAIDs) are among the most widely prescribed and used drugs in the community for rheumatologic as well as nonrheumatologic conditions. Although they are effective in the treatment of inflammation, their routine and long-term administration is limited due to their gastrointestinal ulceration and renal side effects. Newer improved molecules are needed with lesser side effects and improved physical properties. In view of these facts, a series of newer 1,4-benzothiazine derivatives were synthesized and evaluated for anti-inflammatory activity. Equimolar quantity of 2-aminothiophenol and ethylchloroacetate were condensed to obtain 2*H*-benzo[b][1,4]thiazin-3(4*H*)-one (1),which was methylated by methyl iodide to produce 4-methyl-2*H*-benzo[b][1,4]thiazin-3(4*H*)-one (2). 4-Methyl-2*H*-benzo[b][1,4]thiazin-3(4*H*)-one was refluxed with hydrazine derivatives to yield compounds (3a-c) which was oxidised by hydrogen peroxide to yield compounds (4a-c).These derivatives were characterized by FTIR, ^{1}HNMR and Mass Spectroscopy. The newly synthesized compounds were screened for anti-inflammatory activity using "Carrageenan induced paw oedema method". These compounds showed promising anti-inflammatory activity as compared to that of the standard drug.

Keywords: Anti-inflammatory, 1,4-Benzothiazine, Paw oedema method, 2-Aminothiophenol, Hydrazine.

ISCA-ISC-2014-Poster-13PCS-06

Synthesis of 1,4-Benzothiazine Derivatives as Novel Antimicrobial Agents

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Abstract: The antimicrobial era is threatened by high levels of antibiotic resistance, the limited number and disparate availability of effective antibiotics against diverse bacterial species. These include the search for potentiators of the activity of known antimicrobial agents and the development of hybrid agents, novel membrane-active drugs, and inhibitors of bacterial virulence and pathogenesis. The proposed work is concentrated on developing the hybrid agents such that the 1,4-Benzothiazines is combined with hydrazines; both possessing diverse pharmacological activities including the antibacterial one. It is aimed at synthesizing diverse heterocycles as anti-infective agents, as the 1,4-Benzothiazines and hydrazines (separately) are found as good antimicrobial agents. Keeping these in view new prototypes were designed by combining both hydrazines and 1,4-Benzothiazines, and synthesized hybrid molecules investigated for their in vitro antimicrobial activities. Melting points of all derivatives were recorded in open glass capillaries using paraffin bath. Purity of the compounds were identified by performing Thin Layer Chromatography and visualized by exposure to iodine vapours. These derivatives were characterized by FTIR, ^{1}HNMR and Mass Spectroscopy. Equimolar quantity of 2-amino-4-nitro-thiophenol and ethylchloroacetate condensed with 30 ml alcohol and 10% KOH, the compound **(1)** obtained was recrystalized and refluxed with hydrazine derivatives to yield compounds, which was oxidised by hydrogen peroxide to yield 1,4-Benzothiazines derivatives**.** The antibacterial activities for these derivatives were performed against gram-positive bacteria *S. aureus, B. subtilis, B. cereus,* and gram-negative bacteria *E. coli, K. pneumonial* and the antifungal activities against fungi *A. niger* and *C. albicans* by disk diffusion method.

Keywords: Anti-bacterial, Anti-fungal, 1,4-Benzothiazine, disk diffusion method, Hydrazine.

ISCA-ISC-2014-Poster-13PCS-07

Skin Permeation of Carvedilol from Polymeric Film Containing Penetration Enhancers for Transdermal use

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Abstract: A matrix dispersion transdermal delivery system of Carvedilol was designed and developed using different polymers and penetration enhancers to explore their feasibility for transdermal application. The transdermal films were prepared by the casting method on mercury surface and evaluated for physicochemical characteristics such as weight variation, thickness, folding endurance, tensile strength, hardness, surface pH, swellability, water vapour permeability, percent flatness and drug content. The possible drug polymer interaction was studied by UV, DSC, FTIR and TLC studies. The *in vitro* drug permeation was carried out using keshary chein diffusion cell. The optimized formulations were used for skin irritation, stability, scanning electron microscopy and *in vivo* studies. There is no significant chemical interaction between the drugs and the excipients. The formulations exhibited satisfactory physicochemical properties. Combination of polymers HPMC K4M/ PVP containing Oleic acid as penetration enhancer showed the best results. The transdermal drug delivery system was free from any apparent skin irritation, ascertaining their safety for topical application. The drug was found to be intact and stable in the TDDS on storage. The *in vivo* studies in rabbits indicated that the Carvedilol transdermal films provided steady state plasma concentration with minimal fluctuations and improved bioavailability. The Carvedilol transdermal films developed in this study have great utility and are viable option for effective and controlled management of hypertension.
Key words: Transdermal, Carvedilol, penetration enhancers, *in vitro* permeation, Hypertension.

ISCA-ISC-2014-Poster-13PCS-09

Role of Amla in Type 2 Diabetes Mellitus - A Review

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Abstract: *Emblica officinalis* (Amla) is widely used in the Indian system of medicine and believed to increase defense against diseases. Amla is known for its therapeutic properties and holds a reputed position in the Ayurvedic and Unani system of medicine. The biological effect of Amla has been attributed to the antioxidant properties of the low-molecular hydrolysable tannins present in the fruit. Amla is the richest source of Vitamin C and contains gallic acid, ellagic acid and flavonoids. The galleoellagi tannins in the fruit preserve the vitamins under all conditions. The use of Amla as antioxidant, antihyperglycemic agent, antihyperlipidemic, immunomodulatory, antipyretic, cytoprotective, and gastroprotective agent has been reviewed earlier. In the present review, the nutritional value of Amla, it's chemical constituents, medicinal properties and use of amla in improving Blood Glucose metabolism in Type 2 Diabetes Mellitus have been discussed to provide collective information. Amla, being a rich source of the polyphenols and a mixture of phytochemicals can act as a hypolipidemic agent reducing the risk of cardiovascular complications in diabetics. Thus amla may be used as a supportive therapy for diabetics.
Keywords: Amla, Nutrition Value, Medical Properties and Type 2 Diabetes Mellitus.

ISCA-ISC-2014-Poster-13PCS-10

Greensyntheses, Characterization and Antibacterial Study of 2-Methyl Cyclohexanol

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Abstract: The green chemical synthesis and characterization of 2-Methylcyclohexanol employing biocatalyst (whole cells of Baker's Yeast in their free as well as immobilized form in optimum mixture of glycerol and water) and Electrochemical technique are reported. The electrochemical behavior of 2-Methylcyclohexanonewas analyzed using cyclic voltammetry at glassy carbon electrode (GCE) and then electrochemical reduction is carried out using constant current electrolysis. Effect of scan rate and pH on the reduction reaction peaks has been calculated. The kinetic parameters were also calculated and the process was found to be diffusion controlled. The product, 2-Methylcyclohexanol obtained was purified and then characterized by spectroscopic techniques.2-Methylcyclohexanol is found to be potential bioactive material against the pathogenic bacteria.
Keywords: 2-Methylcyclohexanol, biocatalysts, cyclic voltammetry, constant current electrolysis, glassy carbon electrode.

ISCA-ISC-2014-Oral-14PhyS-01

Thermodynamic and Structural Behaviour of In-Bi liquid Alloy

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Abstract: The multidisciplinary uses and desirable properties of the alloys have drawn considerable attention of the present day researches to study and predict the thermodynamic and structural properties of liquid alloys. The present work is focused on the study of thermodynamic and microscopic structural properties of In_Bi liquid alloy at 900 K on the basis of regular associated solution model. To understand these properties, we have computed the mole fractions of the complex assuming the existence of In_2Bi complex as energetically favoured in the initial melt. The thermodynamic behaviour of the liquid system has been analyzed by computing free energy of mixing (G_M/RT), enthalpy of mixing (H_M/RT), entropy of mixing (S_M/R) and activities of of the monomers (a_{In} and a_{Bi}). The compositional contributions of the heat of mixing of the monomers and the heat of formation of the complexes to the net enthalpy change have also been studied. The microscopic structural properties of the alloy have been studied by computing concentration fluctuation in the long wavelength limit ($S_{CC}(0)$), chemical short range order parameter (α_1) and the ratio of mutual to intrinsic diffusion coefficients (D_M/D_{id}). Both the theoretical and the experimental values of are found to be less than the ideal values at all compositions which indicates the ordering (hetero-coordinating) nature of In-Bi liquid alloy at 900 K. The theoretical values of are found to be negative and are found to be positive greater than one which further verifies the ordering nature of the liquid system. All the interaction energy parameters are found to be negative and temperature dependent, and the In-Bi liquid system is found to be weakly interacting.
Keywords: In-Bi liquid alloy, energetically favoured, hetero-coordinating, interaction energy parameters, temperature dependent.

ISCA-ISC-2014-Oral-14PhyS-02

Study of Non-radiative energy transfer from Tb(III) to Ho(III)ions in Borax Glasses

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Abstract: In the present work, the study of emission of terbium Tb(III) with varying concentration of holmium Ho(III) in zinc Borax glass has been studied. Decrease in emission intensity of Tb(III) with increasing Ho(III) concentration indicates a non-radiative energy transfer from Tb(III) to Ho(III). The energy transfer mechanism, energy levels of Tb(III) and Ho(III) involved in energy transfer and other parameters necessary for the quantitative study e.g. energy transfer efficiencies, transfer probabilities, critical transfer distance etc. have been Calculated.
Keywords: Non-radiative energy transfer, zinc borax glass, fluorescent spectra.

ISCA-ISC-2014-Oral-14PhyS-03

Nuclear Power: The Green Alternative

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Abstract: Nuclear energy is the use of exothermic processes to produce useful heat and electricity. The term includes nuclear fission, nuclear fusion and nuclear decay. Nuclear power is not a new technique to produce energy but it is not widely used. There are two ways to produce nuclear energy. These two ways are fission and fusion. The fission process works with kinetic energy, which can be turned into heat. In the fusion process the nuclei of atoms combine or fuse together. By doing this mass is lost in this process. In turns that mass is converted into energy. The nuclear plants emit low level of radiation but inside there are high level of radiation. The sources of radiation in plants are fuel rods. The nuclear plants have many plans in keeping these rods cool. Nuclear power plants on the other hands are on the opposite side of the pollution spectrum they do not produce any pollutants in the air, which means nuclear power have minimal environmental

impact, during normal operation. at present coal is a major source of energy but its byproducts are so_2, co_2, no_2 , mercury, lead which are the main cause of greenhouse effect. Nuclear power is safer, cleaner and cheaper to run than the burning of coal to produce energy. By increasing nuclear power production, we can help protect the earth and the health of people on it.

Keywords: **N**uclear, power, green, alternative.

ISCA-ISC-2014-Oral-14PhyS-04

Synthesis and characterization of Pr3+ and Gd3+ doped Zinc Oxide nanocrystals

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Abstract: One-step aqueous solution method was used to synthesise the ZnO and Pr and Gd-doped ZnO nanocrystals. X-ray Diffraction (XRD), Scanning Electron Microscopy(SEM), Transmission Electron Microscopy (TEM) and Energy Dispersive X-ray (EDX) analysis have been used to characterize these nanocrystals. The XRD studies revealed that the ZnO and Pr and Gd-doped ZnO had wurtzite structure. The analysis of composition by EDX confirmed the presence of Pr in these nanocrystals. The quality of the syntheised ZnO and Pr and Gd-doped ZnO nanocrystals was good. At room temperature, these ZnO and Pr and Gd-doped ZnO nanocrystals show diamagnetism. Pure and Pr and Gd-doped ZnO nanocrystals were prepared from the mixture of zinc acetate, Praseodymium acetate, Gadolonium carbonate and potassium hydroxide aqueous solutions. The dopant is substituted onto zinc sites in the wurtzite lattice uniformly, with no detectable phase impurities or clustering. Pr and Gd- doped Zinc Oxide nanocrystals display diamagnetism at room temperature, which is in contrast with the earlier reported data on Rare-earth doped nanocrystals.

Keywords: Nanocrystals, Zinc oxide, SEM, TEM, EDX, Rare-earths.

ISCA-ISC-2014-Oral-14PhyS-05

The Abundance of Neutrinos in our Universe

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Abstract: The study of neutrinos is important in particle physics because neutrinos typically have the lowest mass and hence are the examples of the lowest energy particles. It is produced in weak interaction as chirality eigenstates. Because of the relativistic boost of the decaying particle, the neutrinos are produced as a beam rather than isotropically. Different types of neutrinos are generated from different sources such as: Artificial, Geological, Atmospheric, Solar, Supernovae and Big-Bang. In this article, I have emphasized on the plenty of neutrinos in the universe which are generated from the various sources.

Keywords: Chirality eigenstates, degeneracy, supernovae, dark matter, cosmological expansion, galactic.

ISCA-ISC-2014-Oral-14PhyS-06

Study of Thermo-elastic properties for Geophysical minerals at High temperatures

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Abstract: The study of thermal and elastic properties of geophysical minerals in the high temperature region provides an adequate understanding of thermodynamical models. The extreme conditions of high pressures and high temperature are relevant to the interiors of earth and other planets. Such minerals of earth and planets are complex form ionic compounds. With the help of thermodynamic models and formulation to be analysed in the present study, it will be possible to determine the thermal and elastic properties of geophysical minerals. We have study the following minerals: NaCl, MgO and Mg_2SiO_4.We have determined and reported the values of thermal expansivity and isothermal bulk modulus.

Keywords: Thermal expansivity, isothermal bulk modulus, Geophysical minerals, PACS: 62.20; 64.30; 65.40.

ISCA-ISC-2014-Oral-14PhyS-07

Manipulating Light in a Quantum Well Bragg's Structure

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Abstract: A theoretical study of light propagation in resonant photonic band gap Bragg's structure in one dimensional case is analyzed. By manipulating the band gap and other parameters of resonant photonic band gap structure the scope of stopping, storing and releasing a light pulse is investigated. The ability to slow down the propagation speed of light, and to coherently stop and store optical pulses, becomes important in controlling light and has profound implications in optical communications such as optical delay and switching application. The photonic band structure, along with the optical wave's eigenfunctions, is used to derive characteristic properties of the quantum-well RPBG such as usable bandwidth, polariton damping, group-velocity dispersion, and anti-reflective coating which are important for light-delay applications.
Keywords: Bragg's structure, quantum well, optical delay, exciton, group index, polariton, subluminal.

ISCA-ISC-2014-Oral-14PhyS-08

Electron Field Emission from Highly Aligned Patterned Carbon Nanotubes

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Abstract: Present work reports on an effective method to control the density of Carbon Nanotubes (CNTs) by reducing the catalyst metal density using copper mask grid. In this method, the growth of CNTs take place at selective site only and in pattern to improve the field emission properties of CNTs based field emitters by reducing screening effect. For the growth of CNTs, iron catalyst is deposited on silicon substrate by RF sputtering technique. CNTs are synthesized by Chemical Vapour Depositions (CVD) technique at the selective catalyst site on Si substrate. Pattern growth of CNTs is characterized by Scanning Electron Microscope (SEM) and Raman spectroscope. Field emission measurements attribute that pattern growth of CNTs is successfully employed to achieve high current density at low threshold field due to reducing screening effect. As-grown patterned CNTs exhibits a maxium current density of 17 mA/cm^2 at lowest turn-on field 2V/μm. It is found that the maximum current density of pattern growth of CNTs significantly improved as compared to the continuous growth of CNTs. These results are important for application of CNTs for high density electron current source and flat panel display devices.
Keyword: Carbon Nanotube, Chemical vapour deposition, Field Emission, Turn-on Field.

ISCA-ISC-2014-Oral-14PhyS-09

Promoting Quality Science Education, Ensuring Sustainable Future for All

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Abstract: Science is something fallible,alive and therefore exciting.Such a model will meet wider aims of science education and at sometimes is more likely to encourage students to want to study it.Education is the best weapon require to conquer the whole world-NELSON MANDELA. The factual information that dominates the syllabi is not supported by any kind of activity,students have no option but to memorise the facts.the consequence of this,that students find science not only difficulty but also boring.To overcome this,UNESCO has mooted the goal of Scientific and Technology Literacy(STL)for all.Every citizen need to be aware of trends in science,scope with technology in everyday life,and take considerd positions on science related issues to overcome social related problems.the following steps to be taken to promote a quality science education.*science viewed as active exploration, teacher viewed as facilitator, areas of study set by child's interest,evaluation based on multiple criteria, multiple way to collect and record data,individual and small group investigation,science viewed as integrated text on curriculum For a sustainable life science is essential,without understanding the fact and just memorizing it,new inventions cannot be made by all in this technological life. On the whole, science should be a servant but man should be a master.
Keyword: Promoting quality science education, ensuring sustainable future.

ISCA-ISC-2014-Oral-14PhyS-10

Role of Additives (Zn and S) on the Structural and Electrical Properties of Cdse Thin Film

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Abstract: The effect of additives (Zn and S) on the dc conductivity and high field behavior has been investigated. Current-voltage (I-V) characteristic have been measured at various fixed temperature. It has been found that at low voltage ohmic behavior is observed however at high field superohmic behavior is observed. Analysis of the data show the presence of space charge limited conduction. The density of state near the Fermi level has been calculated by using dc conductivity (Mott parameter) and SCLC measurement data. The temperature dependent dc conductivity has also been evaluated, which is due to thermally activated tunneling of charge in the band tail of localized state.
Keywords: Thin film, chalcogenide glasses, Dc conductivity, SCLC, DOS.

ISCA-ISC-2014-Poster-14PhyS-01

Modulational instability of One Dimensional Nonlinear Electron Acoustic Waves in Two Electron Temperature Plasma

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Abstract: The effects of non thermal electron distribution on finite amplitude non linear electron acoustic waves is studied in an collisonless homogenous and unmagnetized plasma which consist of cold and hot electrons as well as ions. A nonlinear Schrodinger equation is derived to study the modulational instability of finite amplitude electron- acoustic waves by using the standard reductive perturbation technique. It is found that the presence of nonthermally distributed electrons modifies the domain of the modulational instability and solitary structures. Possibility of stationary states of the wave packets that can appear as envelope solitons under different conditions is explored. The present investigation is relevant to observation from the Viking satellite in the dayside auroral zone.
Keywords: Waves, oscillations and instabilities in plasma and intense beams.

ISCA-ISC-2014-Poster-14PhyS-02

Activation Energy of Electrical Conductivity of Some Binary Crystal

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Abstract: This investigation involved the synthesis and Electrical properties of Crystals of p-dimethylaminobenzaldehyde and o-phenylenediamine Ligand with Co(II) and Cr(VI) metal. This investigation also involved electrical properties of Schiffbase obtained from p-dimethylaminobenzaldehyde and o-phenylenediamine Ligand. An electrical conductivity of all crystals and schiffbase was measure at different temperature. Crystals and schiffbase were combined and form a tabulate of 6 mm diameter. It was heated at a 1°C / min. From the conductivity of crystals resistivity was also carried out and hence Specific resistivity was also carried out from the size of tabulate. Activation energy (E) of all crystals was calculated using the available data.
Keyword: Electrical conduction, electrical conductivity, specific resistivity, activation energy.

ISCA-ISC-2014-Poster-14PhyS-03

Growth of ZnO Nanorods using Hydrothermal for Gas Sensing Application

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Abstract: In this paper; synthesis of ZnO nanorods by hydrothermal route with various parameters has been reported. C-axis oriented growth of nanorods and wurtzite (hexagonal) crystal structure is confirmed by XRD. The SEM images

show oriented growth of nanorods with size of 200 nm to 500 nm. Effect of synthesis parameters such as concentration of precursors and temperature on growth of the ZnO nanorods has been discussed. Room temperature sensing of H_2S gas for 10 and 50 ppm has been studied. The ZnO nanorods show response and recovery times of 3-4 minutes and 1-2 hours, respectively.

Keywords: Room Temperature Gas Sensor, ZnO Nanorods, Hydrothermal.

ISCA-ISC-2014-Poster-14PhyS-04

Application of SCADA (Supervisory Control and Data Acquisition System) in Science: An animation of Stefan Boltzmann Law

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Abstract: This paper involved application of SCADA in the field of science especially for Physics. In this paper authors build up controlled animation of Stefan Boltzmann Law in the interest of students. A Wonderware (Intouch 9.0) with Visual Basic Language SCADA development system was used to build up animation. Entire animations build up in two separate windows in single combined application. One window will provide experimental platform and second window will provide Table, Graph and Result. An application have all required components such as Variable Power source, Bulb, Volt meter, Ameter, Cables etc which were used in the actual experiment. Students can perform experiment on the SCADA platform and after completion of experiments on SCADA platform they can produce desired tabulation, Calculation and Graphs. This animated application help students to execute experiments at their home also.

Keywords: SCADA, Stefan Boltzmann law, animation in science, visual basic language, flowchart.

ISCA-ISC-2014-Poster-14PhyS-05

Molecular dynamics simulation of lithium oxy-fluoride glasses with Er3+ ions

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Abstract: The devitrification of erbium-doped oxyfluoride glasses has attracted the interest of researchers due to the ease of control of crystalline phase formation. In this present study, the divitrification process of Lithium oxy-fluoroborate glasses Li_2O-Li_2F_2 – PbF_2-B_2O_3 doped with Er3+ ions was studied. Molecular Dynamics simulations were performed on the devitrification properties of these glasses. EXAFS measurements were carried out and the results confirm that crystallization do occur in the immediate neighbourhood of the rare-earth ion. Both experimental an theoretical results indicate the role of Erbium ions in the crystallization behavior of these glasses.

Keywords: Simulation, molecular dynamics, devitrification, EXAFS, Rare-earths

ISCA-ISC-2014-Poster-14PhyS-06

Synthesis and Characterization of divalent Metal tungstate Nanocrystals containing rare-Earth Ions

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Abstract: Calcium tungstate and Strontium tungstate nanocrystals containg < 1ml% Samarium and Praseodymium were syntheised in a microwave assisted hydrothermal route within a time span of 45 minutes to 3 hours. The nanocrystals formed were characterized by SEM and were found to be of the size in range 120nm – 400nm in the case of rare-earth containing Calcium tungstate and Strontium tungstate nanocrystals where as the pure nanocrystals has the size of 60nm – 120nm. Raman spectra were recorded and the results were consistent with those reported for the bulk metal tungstates.

Keywords: Nanocrystals, metal tungstates, SEM, Raman spectra, EDX, Rare-earths.

ISCA-ISC-2014-Poster-14PhyS-07

Spray Pyrolysis Growth and Characterization of Cobalt Doped ZnO Nanoparticle Thin Films

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Abstract: Undoped and cobalt doped ZnO thin films with intended cobalt content 1, 3 and 5 at% are deposited at 400º C on glass substrate by spray pyrolysis method. The deposited films are characterized by UV-visible absorption and transmission spectroscopy, X-ray diffraction (XRD), Scanning electron microscope (FESEM) with EDAX and Resistivity measurement. The band gap of ZnO thin film increases from 3.28 to 3.34 eV with cobalt doping. The transmittance spectra show that both doped and undoped films exhibit an average transmittance of 75% in the wavelength region of 400 - 800 nm and sharp UV-absorption edges. X-ray diffraction reveals that all the ZnO thin films have polycrystalline wurzite structure and the intensity of (100) peak was found to increase with increase in doping. The XRD and EDAX results confirm that Co^{2+} replaced Zn^{2+} in the ZnO lattice without changing the wurtzite structure. The surface morphology of undoped and Cobalt doped ZnO thin films shows nanoparticle clusters. The room temperature sheet resistance is found to increase with increasing cobalt content in the ZnO thin films. The increase in sheet resistance may be due to forming the deep impurity levels in the band gap and hence decrease in the electron carrier concentration in the grown films.

Keywords: Spray, pyrolysis, growth, characterization, cobalt, doped, nanoparticle, films

ISCA-ISC-2014-Poster-14PhyS-08

Promoting Quality Science Education a Sustainable Future for All!

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Abstract: World science day for peace and development is celebrated on worldwide on November 10. The day offers an opportunity to widen public knowledge in debates on emerging scientific issues and relevance of science in daily lives. It is scarce to see young scientist in India because now a days we acquire knowledge only through seeing observation instead getting knowledge by practical method. As a proof to this statement Mr. Amidhaba Mukerjee, the Director of the University of science Education and Information Technology of Delhi {his article of science of INDIA} stated that "we are not able create a young scientist of quality and high skills". Earlier day's science for children:Race, ethnicity, language and culture gender, socio economic status influence the knowledge and experience that students have learn science by actively engaging in science practices.Science in elementary school stages: A variety of presentation models are used to accommodate different learning styles and students are given opportunities to interact and share ideas with their peers. The scientific contributions of individuals from all ethnic origins are recognized and valued. Science in high school stages: Actively learning in the atmospheric science classroom and beyond through high-attitude ballooning eliminating the textbook learning, science, with cell phones, research and teaching.Promoting quality education**:** Acknowledge and encourage our children's interests and natural abilities in science and help them further develop their interests and abilities. Provide your children easy access to science learning resources such as books, educational toys and games, videos-DVD's and online or computer based resources. Conclusion: Children are naturally curious about the world. Parents, teachers can nurture this curiosity by creating a positive and safe environment "our goal is utilizing quality science education to spark student's curiosity from an early age"

Keywords: Promoting, quality, science, education, sustainable, future.

ISCA-ISC-2014-Poster-14PhyS-09

Quality Science Education- A New Pathway

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Abstract: In the 21st century, many people believe science to be one of the most important subjects that students must be taught. Among the numerous studies, health is considered to be one of the most important topics in the scientific world. People with an education in the area of science are able to make changes in the world. The effects of technology underlie

early twenty-first century global challenges. Science-based technology, has offered the promise of a better world through the elimination of disease and material improvements to standards of living. At all scales, the role of science and technology is crucial; scientific knowledge and appropriate technologies are central to resolving the economic, social, health and environmental problems that make current development. The Scientific and Technological (SandT) community can make a leading contribution to tackle major problems identified in the Millennium Declaration. Whatever the cultural, geographical, socio-economic and environmental setting, a strong partnership between the SandT community and other members of civil society, the private sector and governments is a fundamental prerequisite for sustainable development.

Keywords: Quality, science, education, new, pathway.

ISCA-ISC-2014-Oral-15PESS-01

Lean Body Mass of Indian National Volleyball Players

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Abstract: Volleyball is a complex game of simple skills. The volleyball court is a rectangular field with the size of 9 × 9 m on each half separated by a net of 2.43 m in height in the middle. For this study total 300 male Senior and 234 male Youth volleyball National players of various states were selected to measure and analysis of Motor fitness, Anthropometric Measurements and Physical fitness.
Lean body mass is simply an estimation of how much we weigh without the body fat - how much the bones, organs and muscles weighed. As the other factors are assumed to be relatively static, by monitoring the LBM we can get a fairly accurate estimate of the amount of muscle we are gaining or losing. It is a critical number to know whether we were trying to lose or gain weight. It is a much more important than the bodyweight. People with the same bodyweights but different LBMs can look radically different (see Muscle Weight Vs. Fat Weight below)
Keywords: Lean, body, mass, Indian, national, volleyball, players.

ISCA-ISC-2014-Oral-15PESS-02

Ocular Health Status and its Impact on Selected Psycho-motor Abilities of Sportspersons

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Abstract: Ocular health status is a neglected area of research in sports, despite the usefulness of ocular system in terms of sports performance and injury prevention has been propagated by many sports optometrists. Since ocular health is affected by nutrition, ethnic background, socio economic status and various other factors, it is worthwhile to assess and explore the impact of ocular health status on psycho-motor abilities of Indian sportspersons. Hence, the present study was conducted to find out the effect of ocular health status on selected psychomotor abilities of female sportspersons. Sample comprise of 50 interuniversity female sportswomen (Av. age 22.36 yrs) who took part in sports such as basketball, table tennis, badminton, judo, kabaddi, volleyball were selected as sample. Hand eye coordination of the subjects was assessed by mirror drawing test while simple reaction time was assessed by Nelson's test. Ocular health status consists of ocular examination for visual acuity, errors of refraction, cover-uncover test and asthenopia. Results indicate that hand eye coordination in female sportswomen with normal ocular health status was significantly better as compared to subjects who need ophthalmic corrections due to ocular health problems. Similarly simple reaction time is significantly faster in sportswomen with normal ocular health status as compared to female sportswomen with deficient ocular health status. It was concluded that ocular health of sportspersons should be monitored from time to time because deficient ocular health status negatively affect psycho-motor abilities.
Keywords: Ocular health status, psychomotor abilities, female sportswomen.

ISCA-ISC-2014-Oral-15PESS-03

A Comparative Assessment of Neurosis in Jail Inmates: With Reference to Sports Recreational Programme

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Abstract: Neurosis or emotional instability is linked to anti social behaviour. On the other hand sports has been known to develop personality characteristics. To explore the possibility of sports recreation programme in controlling neurosis among jail inmates, present study was planned. To conduct the study, 50 jail inmates serving their sentences under various sections of Indian Penal Code were selected for the study. Samples were drawn from the Central Jail of Bilaspur with due permission. These selected subjects then divided into two groups i.e. experiment and control group with equal number of subjects assigned randomly in each group. Experimental group received 03 months recreational sports

programme which includes half an hour for physical exercise and 1 hour team game while subjects grouped into control group did not receive such programme. For the purpose of tapping neuroticism dimension of personality, Hindi version of Eysenck's four dimensional PEN inventory prepared by Menon (1978) was used. Pre-post research design was used in the present study. The changes in pre-post neuroticism scores were observed through gain score. Results indicate that three months sports recreation program has been instrumental in reducing neurosis in jail inmates belonging to experimental group. Therefore it may be concluded that recreational sports can be included in the reformative programs prepared for jail inmates.

Keywords: Jail inmates, neurosis, recreational sports.

ISCA-ISC-2014-Oral-15PESS-04

A Comparative Study of Hand-Eye Coordination in Pahari Korva Boys: A Primitive Tribe

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Abstract: This comparative study examined the hand eye coordination of boys from selected age groups belonging to tribal community Pahari Korva of Chhattisgarh state. To conduct the study, 300 tribal Pahari Korva boys from age group 10+, 11+, 12+, 13+, 14+ and 15+ were selected. From each age group, 50 tribal Pahari Korva boys were selected. Similarly 300 non tribal boys from boys from age group 10+, 11+, 12+, 13+, 14+ and 15+ were selected. From each age group, 50 non tribal boys were selected. Mirror drawing test was chosen as instrument to assess hand eye coordination. Results reveal significant difference in hand eye coordination of 10+, 11+, 12+, 14+ and 15+ years age group between Pahari Korva tribal and non tribal boys with Pahari Korva boys showing better hand eye coordination than non tribal boys. Therefore it may be concluded that due to surrounding environment Pahari Korva boys possess better hand eye coordination as compared to non-tribal boys of same age group.

Keywords: Pahari Korva Tribe, hand eye coordination, non-tribal.

ISCA-ISC-2014-Oral-15PESS-05

A Comparative Study of Psycho-Motor Abilities of Tribal and Non-tribal Gymnasts

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Abstract: The main aim of the present study is to compare selected psycho-motor abilities of male Indian gymnasts of tribal and non tribal origin. To conduct the study, 100 gymnasts, who took part in state level gymnastic championships held in various parts of India, were selected as sample. Out of these 100 selected subjects, 50 have tribal origin (Av. age 18.22 yrs) and the same number i.e. 50 have non tribal origin (Av. age 17.91 yrs). To determine hand-eye coordination of the selected subjects, Mirror Drawing Test was used. Simple reaction time of the selected male gymnasts was assessed by Nelson Test. The results reveal no significant difference in selected psycho-motor abilities of male gymnasts with tribal and non-tribal origin. It was concluded that psycho-motor abilities of male gymnasts did not differ significantly on the basis of their tribal, non-tribal origin.

Keywords: Tribal, Non-tribal, Psycho-motor abilities, gymnasts.

ISCA-ISC-2014-Oral-15PESS-06

A Comparative Study of Social and Emotional Intelligence between University Sportspersons and Non-Sportspersons

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Abstract: The construct of social intelligence includes Patience, Recognition of Social Environment, Confidence, Sensitivity, Sense of Humour and Co-operativeness while emotional intelligence is related with managing emotions of oneself as well as others. Keeping the importance of these two variables in life, the present study was planned to compared social and emotional intelligence of university sportswomen and non-sportswomen. 100 female university players (Average

age 21.64 years) of various games and 100 female non players (Average age 22.68 years) were selected as sample. The sample in the present study is mainly collected from Universities operational in central India. Social intelligence scale prepared by Chadha and Ganeshan (1986) and sports emotional intelligence test prepared by Agashe and Helode (2008) are the tools used to collect the data. The results reveal that social and emotional intelligence of female sportswomen was found to be significantly higher as compared to non-sportswomen. It was concluded that two main components of multiple intelligence i.e. social and emotional can be improved with participation in competitive sport as far as female varsity students are concerned.

Keywords: Social intelligence, Emotional intelligence, Sportspersons, non-sportspersons.

ISCA-ISC-2014-Oral-15PESS-07

A Comparative Study of Hostile Aggression among Varsity Sportspersons Participating in Combative and Non-combative Sports

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Abstract: In the present study, hostile aggression was compared among male university sportspersons on the basis of nature of sports they are taking part. To conduct the study, 50 male interuniversity players (Ave. age 22.48 years) of various combative sports such as boxing, judo, wrestling, and martial arts were selected as sample. To fulfill the basic objective of the study, 50 male interuniversity players (Ave. age 23.92 yrs) of various non combative sports i.e. table tennis, tennis, volleyball, hockey were also selected as sample. The entire sample for the present study comprised interuniversity players from central India. Hostile aggression was assessed by Sultania's Aggression Inventory (2006). Results indicate that participating in combative and non-combative sports did not influence hostile aggression among male interuniversity players. It was concluded that nature of sports eg. participation in combative and non-combative sport do not invoke hostile aggressive tendencies.

Keywords: Hostile aggression, Combative Sports, Non-Combative Sports

ISCA-ISC-2014-Oral-15PESS-08

Assessment of Emotional Maturity in Physically Disabled Adolescent Girls: With Reference to Participation in Sports

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Abstract: Adolescence is a period of rapid biological changes which also affect psychological state of girls. This is even troublesome for physically disabled adolescent girls because apart from biological changes they have additional problem of physical disability. Hence, whether active participation in sports act as moderating factor as far as emotional maturity is concerned or not, is an issue that is unexplored so far. With this objective present study is conducted to compare emotional maturity of physically disabled adolescent girls on the basis of their participation in sports. 50 physically disabled adolescent female sportspersons (Av. age 17.92 yrs) who took part in state level sports competitions organised for physically disabled persons were selected as sample. Another set of 50 physically challenged adolescent female non sportspersons (Av. age 16.66 yrs.) were also selected as sample for the present study. To assess emotional maturity of selected subjects, five dimensional emotional maturity scale prepared by Singh and Bhargava (1990) was preferred. Results reveal that emotional maturity of physically disabled adolescent female sportspersons was found to be significantly better as compared to their counterpart. Therefore it may be concluded that participation in sports manages to strengthen emotional maturity in adolescent females.

Keyword: Physical disability, adolescence, participation in sports, emotional maturity.

ISCA-ISC-2014-Oral-15PESS-09

Comparative Study in Sports Emotional Intelligence of Male Players Participating in Traditional Indian Games

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Abstract: The purpose of present study was to compare psychological quality i.e. emotional intelligence of student male

players taking part in traditional Indian games Kabaddi and Malkhamb. Randomly selected 50-50 male players participating in Inter Varsity Kabaddi and Malkhamb tournament were served as sample for this study. The sports emotional intelligence test prepared by agashe and Helode (2006) was adopted to collect the data. After statistically analyzing the data significant difference was observed in between mean value of Malkhamb and Kabaddi players. On the basis of result, it canbe conducted that traditional Indian games provide student to build their psychological quality.

Keyword: Comparative, study, locus, control, sportspersons, involved, high, low.

ISCA-ISC-2014-Oral-15PESS-10

A Study of Positive Mental Health in Physically Challenged Adolescents: With Special Reference to Participation in Recreational Sports and Gender

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Abstract: The present study was conducted to see the effect of participation in sports and gender upon positive mental health of physically challenged adolescents. To conduct the study, 25 physically challenged adolescent boys (Ave. age 16.12 years) as well as 25 physically challenged adolescent girls (17.12 yrs) who took part in recreational sports activities organised for physically challenged persons by various institutions, were selected as sample. Another set of 25 physically challenged adolescent boys (Ave. age 17.10 yrs.) and 25 physically challenged adolescent girls (Ave. age 17.09 yrs) who do not take part in recreational sports, were taken as sample. Positive mental health of selected subjects was assessed by three dimensional mental health inventory prepared by Agashe and Helode (2007) was administered. A four-fold 2x2 ANOVA design was used to analyse the data. Results indicate that physically challenged adolescents associated with recreational sports have shown more magnitude of positive mental health as compared to physically challenged adolescents who do not take part in recreational sports. It was also found that positive mental health of physically challenged adolescent boys was found to be significantly superior as compared to physically challenged adolescent girls. The two factor interaction effect of participation in sports and gender on positive mental health of physically challenged adolescent did not meet the criteria of statistical significance. It was concluded that participation in sports and gender, alone and not in interaction with each other affect positive mental health of physically challenged adolescents.

Keywords: Adolescence, physically challenged, recreational sports, gender.

ISCA-ISC-2014-Oral-15PESS-11

Effect of Percent Body Fat on Ball Controlling Ability of Tribal and Non-tribal Male Hockey Players

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Abstract: The present study was conducted to analyse the effect of percent body fat on ball controlling ability of tribal and non tribal players. To conduct the study 50 tribal male hockey players (Average age 21.67 years) and 50 non-tribal male hockey players (Average age 23.12 years) were selected as sample. The criteria of selection of sample were participation in Inter University hockey tournament. SAI Hockey Skill Test was used to ascertain ball controlling ability of the selected subjects while selected anthropometric measurements were taken to assess percent body fat. 2x2 ANOVA technique was used in the present study. Results reveal that ball controlling ability of male hockey players with lower level percent body fat was significantly higher as compared to that of male hockey players with higher levels of body fat percentage. It was also observed that ball controlling ability of tribal male players were far superior as compared to non tribal male hockey players. The two factor interaction effect of level of body fat percentage (high-low) and tribal non-tribal belongingness on ball controlling ability of male hockey players was not found to be statistically significant. It was concluded that body fat percentage as well as tribal-non tribal belongingness affect ball controlling ability of male hockey players but not when combined together.

Keywords: Hockey, Ball control, percent body fat, tribal, non-tribal.

ISCA-ISC-2014-Oral-15PESS-12

Effect of Recreational Sports on Personality Profile of Delinquent Children

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Abstract: The present study was conducted to see the effect of recreational sports programme on personality characteristics of children detained in reformative homes of Chhattisgarh. 200 child delinquents (Av. age 15.44) detained in reformative homes of Chhattisgarh served as sample for the present study. Out of these 200 selected subjects, 100 subjects each were than randomly assigned into experimental and control group. The subjects of experimental group received 6 months recreational sports programme which includes physical training as well as one hour of sports such as kabaddi and football. Subjects from control group did not receive such play therapy. To measure extraversion and neuroticism dimension of personality, JEPI prepared by Helode (1985) was used. The pre and posts test (after 6 months) gain scores for each dimensions was calculated and compared with each other. Result reveal that extraversion and neuroticism among delinquent children belonging to experimental group was significantly reduced after 6 months of recreational sports programme as compared to delinquent children of control group. It was concluded that recreational programme created and implemented for delinquent children is useful for their personality development.
Keywords: Delinquent children, extraversion, neuroticism, recreational sports.

ISCA-ISC-2014-Oral-15PESS-13

A Comparative Study of Positive Mental Health between Secondary Student Athletes and Non-athletes

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Abstract: The present study compared positive mental health between secondary student athletes and non-athletes. To conduct the study, 50 secondary student athletes (Ave. age 15.12 years) who regularly take part in competitive sports were selected as sample. Another set of 50 secondary student non-athletes (Ave. age 15.82 yrs) were also selected as sample. The selection of sample was done in captial city of Chhattisgarh. Three dimensional Junior Positive Mental Health Inventory prepared by Agashe and Helode (2013) were the choice of psychological tool to assess positive mental health of selected subjects. Results indicate no statistically significant difference in positive mental health of secondary student athletes and non-athletes. It was concluded that sports participation do not necessarily influence positive mental health as far as secondary students are concerned.
Keywords: Positive mental health, secondary students, athletes, non-athletes.

ISCA-ISC-2014-Oral-15PESS-14

Assessment of Multiple Intelligence of Coaches and their Level of Achievements

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Abstract: In the present study, multiple intelligence in sports coaches has been compared with varying degree of achievement. To conduct the study, 50 male coaches (Average age 43.24 years) who coached the teams that were stood in first three positions in various sports event were randomly chosen and grouped as high achievers. To fulfil the objectives of the study, 50 male coaches (Average age 39.13 years) who coached the team that came in bottom three places in various sports events were also chosen and grouped as low achievers. To assess non verbal intelligence, Mehrotra's (1984) Mixed Type Group Test of Intelligence (MGTI) was used while five dimensional sports emotional intelligence test prepared by Agashe and Helode (2008) was preferred to assess sports emotional intelligence of the selected subjects. Another form of intelligence i.e. social intelligence was assessed by social intelligence scale prepared by Chadha and Ganeshan (1986). The results reveal that non verbal, social and emotional intelligence of high achieving coach is significantly superior to that of low achieving coach. It was concluded that coaching ability is significantly influenced by multiple intelligence.
Keywords: Multiple intelligence, coaches, achievements.

ISCA-ISC-2014-Oral-15PESS-16

A Comparative Study of Academic Achievement of Secondary Student Athletes and Non-athletes

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Abstract: The present study compared academic achievement of secondary students on the basis of participation in competitive sports. To conduct the study, 100 secondary student athletes (Ave. age 16.65 years) taking part in competitive sports event meant for 14-17 years age group were selected as sample. 100 secondary student non-athletes (Ave. age 16.02 yrs) were also selected as sample. The selection of sample was from various govt. and private educational institutes operational in Bilaspur Chhattisgarh. Academic achievement of selected subjects was ascertained by marks obtained in previous examination. Results indicate that academic achievement of secondary students taking part in competitive sports did not differ significantly with non-athlete secondary students. It was concluded that academic achievement of student at secondary level is not affected by their participation in competitive sports.
Keywords: Secondary Students, Academic Achievement, Athletes, Non-athletes.

ISCA-ISC-2014-Oral-15PESS-17

A Comparative Study of Mental Toughness between Urban AND Rural Interuniversity Judo Players

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Abstract: The major objective of the present study is to compare mental toughness of interuniversity athletes on the basis of their urban-rural belongingness. For present study, 100 male judo players who took part in national/university level judo competitions were selected as sample. Equal number of subjects were selected on the basis of urban-rural belongingness. To assess mental toughness, 6 dimensional mental toughness inventory, prepared by Tiwari (1994) was used. Results reveal that mental toughness of urban male judo players is significantly higher as compared to rural male judo players at .01 level of significance. On the basis of results, it may be concluded that rural male judo players should be subjected to psychological training program so that they become mentally tough which is the basic criteria for sports performance.
Keywords: Judo, Mental toughness, urban-rural.

ISCA-ISC-2014-Oral-15PESS-18

Narcissism in Competitive Bodybuilders: With Reference to Urban-Rural Belongingness

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Abstract: The present study was aimed to compare narcissism between urban and rural bodybuilders. 50 male body builders (Average age 28.47 years) who took part national level competition were selected as sample in the present study. Out of these 50 selected subjects, 25 bodybuilders are living in urban and 25 are living in rural areas. For measuring narcissism as a psychological trait Hindi version of Raskin and Hall's (1979) Narcissistic Personality Inventory (NPI) prepared by Helode, Hasan and Helode (2008) was used. Results reveal that urban male bodybuilders exhibited significantly greater magnitude of narcissism as compared to rural male bodybuilders. The results are discussed in the light of individualist theory.
Keywords: Narcissism, bodybuilders, urban-rural.

ISCA-ISC-2014-Oral-15PESS-19

Personality Disorders in Adolescent Girls: with Reference to Obesity

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Abstract: The aim of the present study is assess comparatively personality disorders between obese and normal adolescent

boys. 200 obese adolescent girls (Av. age 16.25 yrs.) and 200 normal weight adolescent girls (Av. age 16.67 yrs.) from various govt. and private schools of Chhattisgarh were selected to serve as sample for the present study. The criterion for selection of subjects was based on WHO (1995) classification of body mass index (BMI) which BMI between 18.0-24.99 is considered to be normal weight while BMI >30 is considered to be obese. To assess personality disorder, Jodhpur Multiphasic Personality Inventory prepared by Joshi and Malik (1981) was preferred. Results reveal that personality disorders namely anxiety, phobia, obsessive-compulsive reaction, conversion reaction, hysteria dissociate, neurotic depression, neurosthenia, social intraversion and insight about the neurotic problems they are facing are significantly more prevalent in obese adolescent girls as compared to normal adolescent girls. It can be concluded that obesity in girls during their adolescent period can severely make them susceptible to develop personality disorders.
Keywords: Adolescence, obesity, personality disorders.

ISCA-ISC-2014-Oral-15PESS-20

Self Confidence of Retired Soccer Players: With Reference to Ageing

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Abstract: The present study was conducted to see the effect of ageing on self confidence of retired football players. To conduct the study, 50 retired football players from age group i.e. 31-35, 36-40, 41-45, 46-50, 51-55 and 56-60 years respectively were selected as sample. In all 300 retired football players from each age groups were selected. The criterion for selection of football players for the presentation was participation in any state level tournaments during their sporting career. To assess self confidence of selected subjects, Pandey's Self Confidence Inventory (1983) was used. One way ANOVA technique was used to analyse the data. The result indicates no significant impact of ageing on self confidence of retired football players. Therefore it may be concluded that self confidence in retired soccer players remains the same even after retirement from competitive sports throughout the later life.
Keywords: Ageing, Self confidence, retired soccer players.

ISCA-ISC-2014-Oral-15PESS-21

Effect of Ocular Muscle Imbalance on Skill Ability of Junior Hockey Players

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Abstract: It is believed that athletes need certain visual abilities to perform at the highest level. However, despite the need for understanding ocular muscle balance and visual fatigue in hockey not only for talent identification but also in sports performance, very few studies have been conducted in the past in this regard still very little information is available on effect of ocular muscle imbalance on skill ability of hockey players, hence the present study was planned. The present study was conducted to find out the effect of ocular muscle imbalance on skill ability of hockey players. 100 state level junior male (Ave. age 16.23 yrs) and 100 female hockey players (Ave age 16.82 yrs.) were selected as sample. The criteria for selection of subjects were participation in state level hockey competitions in the state of Chhattisgarh. Random sampling method was preferred choice in the present investigation. Ocular muscle imbalance was tested at Department of Ophthalmology, All India Institute of Medical Science, Raipur. To assess basic fundamental skills of hockey, three dimensional SAI Hockey Skill Testing for Talent Spotting at Young Age was used. The results clearly indicate that hockey skill ability of junior hockey players is significantly affected by ocular muscle imbalance. It was concluded that ocular muscle balance is the key factor as far as execution of basic skill in field hockey is concerned.
Keywords: Ocular muscle imbalance, skill ability, hockey.

ISCA-ISC-2014-Oral-15PESS-22

A Comparative Assessment of Reaction towards Frustrating Situations between Elite and Non Elite Kabaddi Players

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Abstract: The aim of the present study was aimed to compare reactions of elite and non elite male kabaddi players towards frustrating situations. For present study, 100 male elite (Ave. age 22.17 yrs) and 100 sub-elite kabaddi players (Av. age 20.97 yrs) were selected as sample. The selected kabaddi players from elite group participated in national championship while sub-elite group consists of state level kabaddi players. Frustration to Reaction Scale prepared by

Dixit and Shrivastava was used to assess frustration tolerance of selected subjects. Results indicate frustration related aggressive behaviour, fixation, and resignation is significantly higher in non-elite kabaddi players as compared to elite male kabaddi playerssignificant difference in that frustration tolerance of elite male kabaddi players is significantly higher as compared to sub-elite male kabaddi players but no significant difference was observed in frustration regression between two groups. It was concluded that elite kabaddi players cope with frustrating situation more efficiently as compared to non elite kabaddi players..

Keywords: Reactions to Frustration, Kabaddi, Elite, Non elite.

ISCA-ISC-2014-Oral-15PESS-23

Construction of Floating Serve Test in Volleyball

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Abstract: The purpose of the study was to construct floating services test. Forty male Volleyball players were selected from the Inter Collegiate Volleyball Tournament to serve as subject for this study. The criterion measure was the scores obtained on the Russell and Lange Serving Test in Volleyball. A floating service test was developed through objective techniques to collect the data. After the analysis of data reliability was found 0.954, objectivity 0.964 and validity to be found 0.888. Therefore the test for the floating Service through objective technique was found to be reliable, objective and valid for the evaluation of Volleyball players.

Keyword: Floating Serve, Construction of Test.

ISCA-ISC-2014-Oral-15PESS-25

Evaluation of Body Composition with Reference to Footballers of Manipur

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Abstract: The purpose of this paper is to investigate and highlight new and existing research of body composition on different footballers of Manipur for the promotion of their performance.Altogether sixty footballers were recruited for the present study. The locales were classified into three groups as SAI, State and National levels footballers comprising twenty subjects in each group. All the required measurement were made in the off practice session and during the morning hours. Heights were determined using a stadiometer, and body mass using the scale within the Tanita body fat analyzer. All body composition measurements were made in a hydrated state.As evidenced by the F- value 21.325(.000), the age of the study population found to be significant but the height and weight remained insignificant. Though, statistically significant difference existed in BMI of the footballer, the entire teams retained the normal BMI. In respect of Kcal, a significant difference is still exist i.e. F=5.183(.009). The higher % of fat (11.80±5.88) is being found in state level football players of Manipur whereas inmate football players of SAI depicted the low % of fat with the mean value 8.46±2.73. The average score 58.25±4.91 of the fat free mass (FFM) is highest in national footballer descended by SAI (55.62±4.35) and state (53.59±5.39). Likewise, the same is also is noticed in total body water (TBW) viz. national (42.64±3.60), SAI (40.70±3.19) and state (39.23±3.93). Interestingly, it is also seen that % of fat, FFM and TBW is found to be significant among the different football team at a confidence level of 95%.The body composition quantified by age, BMI, Kcal, % of fat, FFM and TBW among the national, state and SAI football players of Manipur are significance at a confidence level of 95%. However, this significance does not seen in height and weight among the footballers of this study population.

Keywords: Body composition, football, SAI, state, national, Manipur.

ISCA-ISC-2014-Oral-15PESS-26

A Study of Attitude towards Games and Sports of Senior Secondary School Boys and Girls

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Abstract: In the present study, an attempt has been made to compare the Study of Attitude towards games and sports of senior secondary school boys and girls. The Present study was confirmed to the Senior Secondary student studying in

various school of Sirsa.Total 400 Student 200 Boys (Player and Non player) and 200 Girls (player and non players) were taken from the study.The age ranged between 15 to 16 years."Attitude towards games and sports by Prof. Darshan Singh" Questionnear was selected for the study. The data were analyses with the help of suitable statistical techniques like mean, standard deviation, t-test etc.

Keywords: Attitude, boys, girls, sirsa, senior secondary school, player, non-players.

ISCA-ISC-2014-Oral-15PESS-27

Effect of Motor Educability and Tribal and Non Tribal Belongingness on Physical Skills of Male Players

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Abstract: The purpose of the present study was to see the effect of motor educability and tribal, non tribal belongingness on physical skills of male players. To conduct the study 200 tribal boys player and 200 non-tribal players were selected as a sample from different areas of Vidarbha region of Maharashtra state. Thus total 400 samples were selected for the proposed research work. The age group of the sample ranged between 13 to 18 years.To measure motor educability of samples Metheny Johnson test was used.To find out the physical skill of tribal and non tribal players physical skill test prepared by B. Johnson was used. This test is highly valid and reliable for the school going students.Result found that, effects of motor educability upon physical skill of male players have found to be statistically significant. The main effect of tribal-non tribal belongingness also found statistically significant. The interaction effects of motor educability and tribal-non-tribal belongingness on physical skill of male players have able to show their influence.

Keywords: Effect, motor, educability, tribal, tribal, belongingness, physical, skills, male players.

ISCA-ISC-2014-Oral-15PESS-28

Effect of Motivational Techniques on the Parformance Offootballplayers

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Abstract: The purpose of this study was to determine the effect of motivational technique on the performance of footballers. Motivational techniques used were extrinsic reward are, refreshment, money, gift, prizes and competition. Fifteen young age group footballers of greater Indore, belonging to the range of 10 to 14 years age were selected as subjects for this study.The subjects were dividing into two equated groups i.e. experimental groups and control groups. Along with regular football training the experimental group was also given motivational training where as the control group only received football training for estimating the performance of football players SAI Skill Test was used for testing the significance relationship the group Ancova was used and the level of significance chosen for the study was set at 0.05 level of confidence.

Keywords: Effect, motivationa, techniques, parformance, offootball, players.

ISCA-ISC-2014-Oral-15PESS-29

Attitude of School/College Students towards Cricket

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Abstract: Education makes an attempt to develop man in terms of his multidimensional personality. It brings out the potential of an individual for his own self-realization and incidentally for the development of society of which he is a member. Participation in physical education activities developing physique contributes to building up self-confidence, reduction of anxiety level and outgoing tendency or extroversion. As such proficiency leads to increase success in physical activity. The attitude of students towards physical education has a significant role to play in its development attitude in sports is defined as mental and neural state of readiness organized through experience, exporting a direction or dynamic influence upon the individual's response to all subjects with which it is related. In the present study we have analyzed attitude of students towards playing the Cricket. This study is based on questionnaire method and performed among the students of Gwalior-Chambal division. The questionnaire was provided to male/female sports persons of the age group ranging for 16 to 24 years. The performed study is significant, to determine the degree of subject liking of

different aspect of cricket, It to determine the degree of subject disliked of different aspect of cricket and furthermore, It would also help progressive programme of cricket as well as to be reinforced the favorable attitude. The results are discussed in detailed research paper.

Keywords: Attitude, school/college, students, towards, cricket.

ISCA-ISC-2014-Oral-15PESS-32

Skin conductance indices as predictors of faster reactions and movements in elite Malaysian players

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Abstract: Autonomic indices of subjective feeling of emotionality have been initiated in highly organised research set-ups and it's the most current enriched practice in sports science research. Present attempt was to investigate onto the predictive contributions of such psychobiological indices in relations to complex reaction and movement performance ability of the elite players. Numerous researches have already confirmed that expert players eliminate irrelevant cues, which enable them to effectively anticipate action requirements and to use cue-related information better than the mediocre players. Present study was intended to identify intricate relationship between the ability of the high performing players (Elite soccer, hockey and volleyball players of Malaysia) in anticipating relevant cues for faster reactions and corresponding electrodermal indices. Altogether one-hundred and twenty-nine Malaysian top-rated players volunteered as the participants in this study. Simultaneous evaluation of autonomic arousal modulation (tonic components of skin conductance activity) was done when the players were engaged in cue-related anticipatory task, associated with complex reaction performance. Perceived sense of competence as well as the subjective feelings of apprehension of loosing was explored, and attempts were made to identify the obscure subjective expression of cognitive-emotional make-up, in explaining differential performance outcomes evident in the participants.

Keywords: Skin Conductance, Amplitude, Reaction ability, Movement time, peak performance.

ISCA-ISC-2014-Oral-15PESS-33

Simulation of Real-time Sport Performance based on Force- Motion Analyses and Psychobiological Evaluation on Elite South-East Asian Soccer Players

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Abstract: Peak soccer performance requiring faster reactions to visual stimulation performance occurs at the extreme limits of human abilities. Visuomotor coordination is an overt as well as a covert activity, whereby a person experiences sensory motor feelings that re-integrate reality experiences. This ability includes neuromuscular, physiological, and emotional involvement; as well as motor coordination and bilateral symmetry in coordination. Eighty elite young-adult soccer players of Malaysia were randomly selected as the participants in this study. Present study was intended to identify potential contributor and confounders for real-time soccer performance on the basis of telemetric assessment of psychobiological indices during performance-specific force-motion analyses.

Analyses of cortical inhibition; autonomic arousal modulation along-with psychomotor evaluation of whole-body reaction ability and analyses of force-impact; centre of mass and gravity were done on all of the participants, which however revealed that players observed with moderately symmetric movement coordination were better able to utilize the beneficial impacts psychobiological competence. Attempts were made to identify the potential contributors in explaining pathways to both excellent and debilitative soccer performance outcomes, and the sustainable yet differential impacts of long-term introduction of Sc biofeedback training was observed as having significant impact on performance excellence in soccer.

Keywords: Soccer; coordination; force-motion; biofeedback; peak performance

ISCA-ISC-2014-Poster-15PESS-01

A study of Physiological Changes in College Level Students by Weight Training Exercise

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Abstract: The purpose of this study is to compare the physiological changes in college level students by weight training exercises. Subjects were randomly selected from the students studying in Samaj vidya visharad Mahadev Desai College, Gujarat Vidyapith, Sadra. Students were divided in two groups one was experimental group and other one was control group. Body fat was measured by body composition analyzer in physical education laboratory similarly fat free mass, body mass index were also measured. This data were collected and analyzed. Mean was calculated for experimental group and control group, significance difference was tested by t-ratio at 0.05 level. Significant difference was found in body fat , fat free mass and body mass index by weight training exercises.
Kewords: Physiological, fat free mass, body weight, fat mass and weight training.

ISCA-ISC-2014-Poster-15PESS-02

A Comparative Study of Hemoglobin of Non Sports Participated Adolescent Girls in Four District of Gujarat, India

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Abstract: The objective of the study was to determine and compare the hemoglobin between Non Sports participated adolescent girls in four districts of Gujarat. One hundred Non sports participated girls were selected as subjects from each district of Gujarat like Ahmadabad, Rajkot, Gandhinagar and Junagardh (total 400 girls) for the purpose of this study. Age of the subjects was from 11 to 17 years. The Hemoglobin measured was carried out in capillary blood samples using the cyanmethemoglobin method with the use of Bio-chemistry analyzer. The researchers and lab technicians went to different districts and conduct test and collecting the required data. To compare the Non sports participated girls belonging to different district of Gujarat in the hemoglobin level, the static group comparison design was employed. For the comparison of the hemoglobin in Non sports participated adolescent girls in four district of Gujarat the one way analysis of variance ANOVA test was applied. Non-sports participated girls were found significant difference between four districts Ahmedabad, Rajkot, Junagadh and Gandhinagar in Hemoglobin level. Mean value of hemoglobin were 8.94, 10.55, 9.32 and 9.66 respectively. Result showed that highest level of hemoglobin in Rajkot district (10.55) and lowest level of hemoglobin in Ahmedabad district (8.94).
Keywords: Hemoglobin, Non Sports participated, Gujarat, Adolescent girls and Cyanmethemoglobin

ISCA-ISC-2014-Poster-15PESS-03

A Comparative Study Body Composition of Sports Participated and Non Sports Participated Adolescent Girls in Four District of Gujarat, India

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Abstract: The objective of the study was determine and compare the body composition between Sports participated and non sports participated adolescent girls in four districts of Gujarat. One hundred sports participated girls and one hundred non-sports participated girls were selected as subjects from each district of Gujarat like Ahmadabad, Rajkot, Gandhinagar and Junagardh (total 800 girls) for the purpose of this study. Age of the subjects was from 11 to 17 years. Body composition status was evaluated according to standard procedures. Body composition was measured by Body composition analyzer. For the comparison of the Body composition in sports participated and non sports participated adolescent girls in four district of Gujarat the T- test was applied. When compared weight with sports participated girls and Non-sports participated girls, result indicated that sports participated girls weight (43.82 kg) is little bit more than non – sports participated girls weight (43.77 kg). When compared body mass index with sports participated girls and Non-sports participated girls, result indicated that sports participated girls body mass index (18.22) and non – sports participated girls body mass index (18.84). When compared fat percentage with sports participated girls and Non-sports participated girls, result

indicated that sports participated girls fat percentage (18.04) is less than non – sports participated girls fat percentage (21.21). When compared total body water with sports participated girls and Non-sports participated girls, result indicated that sports participated girls total body water (25.68) and non – sports participated girls total body water (25.04).

Keywords: Sports, participated girls, Boby composition, BMI, Fat % and TBW

ISCA-ISC-2014-Poster-15PESS-04

Attitudes of Principals of Colleges of Various Universities in Gujarat towards Physical Education and Sports

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Abstract: The purpose of the study was to find out the attitudes of principals of different colleges of Gujarat towards Physical Education and Sports. A total of 348 principals have selected randomly as subjects for the purpose of the study. Questionnaire was constructed and developed by the research scholar in consultation with the subject experts. All the essential items regarding attitudes were incorporated in the questionnaire. The questionnaire was administrated to subjects through contact. Detailed instructions were explained well to the subject before administration of the questionnaire to assure them that the responses given would be kept strictly confidential and utilized for the research purpose only. On the basis of researchers own experience, expert's opinion and available literature it was hypothesized that there would be no significant difference between attitudes of subjects towards physical education and sports. The study has revealed that the principals of the North Gujarat have more positive attitudes towards physical education and sports then the principals of Central Gujarat. The principals of North Gujarat are having more positive attitudes towards physical education and sports than the principals of Sourashtra area.

Keywords: Physical Education, Attitudes, Sports, Gujarat and Principals

ISCA-ISC-2014-Poster-15PESS-05

Effect of Socio-Economy Status and Anxiety on the Performance of Physical Education Students

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Abstract: Some competitors do better when their anxiety level are high and that moderate level of anxiety seems to elicit increase in performance. Some performers react adversely to the competitive situation by reacting states hyper – anxiousness which often results in the inability to achieve optimum levels of performance. Hence, it is generally considered that performance is optimal at intermediate level of anxiety. The athletes for the study have been selected from Gujarat Vidyapith, Ahmedabad. Socio – economoc status is independent variables and based on Socio – economoc status criteria. A sample of 120 athletes were selected on whom anxiety scale was administrated, to asses the level of anxiety. Subsequently, categories based on level of anxiety were made. The other variable like religion and sex were taken to match the sample. Thus there are an equal number of sports persons on variables like socio economy status, anxiety religion and sex. Result of the study was high socio economy status sports person have significantly higher performance in 100 meters sprints than low socio economy status sports person. There is a significant effect of anxiety on sports performance. Lower anxiety group achieved better. There is a significant sex difference in sports performance, male achieved better than females. Religion is found to be insignificant factor in sports performance.

Keywords: Socio - economy status, religion, anxiety, sprints and sex.

ISCA-ISC-2014-Oral-16EduS-01

Enhancement in Duration of Teacher Education Programmes: An Opinion Analysis

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Abstract: Teacher Education is concerned with the programmes designed for preparation of competent potential teachers and if the UNESCO Report's view is taken in to account, it has to be admitted that 'the purpose of teacher preparation should be to develop in each student his general education and personal culture, his ability to teach and educate others…….all awareness of the principles which underlie good human relations and a sense of responsibility to contribute both by teaching and example, to social, cultural and economic progress'. Since, cultivation of personal culture including work and service culture as well as of development of awareness and exemplification by own behaviour is considered as not possible through a course of very short duration like that of few months in case of B. Ed and other teacher education programmes, the governing body National Council for Teacher Education (NCTE) has taken a decision regarding enhancement of the duration of teacher education programme at graduate and post graduate levels from one year to two years with effected from the coming academic session of 2015. With the query regarding feasibility and suitability of this decision in mind, an attempt has been made to know about the views of various stakeholders of teacher education in this regard, especially about the economic feasibility of such enhancement in the duration of programmes like B. Ed and M. Ed from July, 2015 and for this purpose an opinion survey was conducted by the investigator using a small inventory and after selecting a random sample of 100 teacher educators, school teachers, university administrators concerned with decision making and managers of self financing institutions running teacher education programmes either at graduate or post graduate levels. The findings indicated that the opinion is in favor of increasing the duration of the programmes, from legal point of view because one year duration is considered as appropriate usually for certificate or diploma courses but not for any degree course and majority of university administrators and teacher educators have no objection in this regard as well from economic point of view too, perhaps because of public support and grants though they said that it is not good from social point of view as the prospective teachers have to make wait for another long year for their job placement. On the other hand, the private and self financing institutions have not given their opinion in favor of such abrupt increase in duration either from economic standpoint or from social point of view especially when enhancement in duration is proposed simultaneously both at UG and PG levels. They have not supported such decision from student's point of view and the existing and available physical and human resource base. To analyze the data, percentage and chi-square values, employing the chi-square test of goodness of fit were computed and trend of opinion was also analyzed to draw conclusion though the findings of such pilot study could not be generalized but an inclination of opinion is obtained to know about the public mind in general and specialists and stakeholders, in particular.
Keywords: Enhancement, duration, teacher, education, programmes, opinion, analysis.

ISCA-ISC-2014-Oral-16EduS-02

Objectives of Education of India and Britain: A Comparative Study

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Abstract: Education plays an important role in the development of any Nation and the Objectives of Education create and control the picture of that Nation. They affect the problems and progress of any Nation. The present paper is based on the same objectives of Education of India as well as Britain. To study the Objectives of Education of India, To study the Objectives of Education of Britain, To Compare the Objectives of Education of India and Britain.
Keywords: Objectives, education, India, Britain, comparative, study

ISCA-ISC-2014-Oral-16EduS-03

Effect of Eye-Hand Coordination and Gender on Academic Achievement of Aecondary Students

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Abstract: The aim of the present study is to find out whether hand-eye coordination and gender alone or in interaction

with each other affect academic achievement of secondary students. 100 boys (Ave. age 16.09 yrs.) and 100 girls (Ave. age 16.09 yrs.) studying in various govt. and private secondary schools of Chhattisgarh were selected as sample. Mirror Drawing Test was used to assess hand eye coordination of selected subjects. Academic achievement of the selected subjects was ascertained by their previous years academic performance in the final examination. 2x2 ANOVA design was adopted as statistical method for data analysis. The result reveals that secondary students with good eye-hand coordination have excelled more in academics as compared to their counterparts with low level of eye-hand coordination. It was also found that academic achievement of boys was significantly better as compared to girls. The interaction effect of eye-hand coordination and gender on academic achievement of secondary students was not found to be statistically significant. Therefore, it was concluded that eye-hand coordination and gender alone but not in interaction with each other can predict academic achievement of secondary students.

Keywords: Eye-hand coordination, gender, academic achievement, secondary students.

ISCA-ISC-2014-Oral-16EduS-04

Perception of Sexual Harassment among School Girls

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Abstract: Sexual harassment, Rural girls, Urban girls, Perception Sexual harassment may be defined as unwanted and unwelcome sexual behaviour. Physical behaviour's may include touching that is uncomfortable, embarrassing, and/or offensive unwanted groping, pinching, or patting. Sexual harassment is not limited, however, to physical acts. Using crude or sexually inappropriate language can be considered sexual harassment if it creates an uncomfortable environment for someone else. Sexual harassment may also include offensive jokes, comments, greetings, verbal teasing, or inappropriate name-calling or spreading sexual rumors, writing sexual graffiti on bathroom walls, sending crude e-mails or letters, and displaying sexual drawings or pornography. Individuals who experience sexual harassment feel fearful, intimidated, manipulated, and over powered. The study was conducted in Panchkula District of Haryana state. One urban and one rural co-educational Senior Secondary school was selected. From each selected school, 25 girl students from classes 7th, 8th, 9th and 10th was selected randomly, thus selecting 100 rural and 100 urban school girls making a total sample of 200 girls. Twenty five mothers of selected girls each from rural and urban areas were also selected as per availability, thus comprising a sample of 50 mothers. Result revealed that rural a large majority of (92%), urban (81%) and total (86.5%) respondents admitted about prevalence of sexual harassment. Both in rural (83%) and urban (79%) areas, strangers were the perpetrators of sexual harassment followed by elderly men (66% and 69% resp.). The other perpetrator in other were driver/servant (30 % and 40%), friends(36% and32%), boyfriend(26% and 25%), teacher/coach other staff members(30% and 21%) and relatives(21% and 12%). As far as safety within home was concerned, majority of rural girls (72%), urban girls (84%), rural mothers (92%) andurban mother's (94%) felt that the girls were safe at home, which indicated that that though mothers were aware of safety of girls they did not perceived as much threat of unsafely at home as their daughters perceived. Similarly regarding safety outside the home, cent per cent rural as well as urban mothers perceived that the girls were not safe outside home while this percentage was 97 per cent among rural and 95 per cent among urban girls. This feeling was higher among mothers than girls. Majority of girl respondents felt safe with father and brother both in rural (81% and 75% resp.) and urban (96% and 83% resp.) areas. However majority of rural girls felt unsafe with servant/driver (56%) followed by extremely unsafe (30%). Similarly for visitors and relatives, most of girls felt unsafe (48% % 36% resp.) and extremely unsafe (25% and 19% resp.). Even with cousin brother, 13 per cent felt unsafe and 11 per cent felt extremely unsafe. Further, 60 per cent of rural and 52 per cent of urban girls faced harassment in school at any given time. Unwelcome touching, grabbing, hugging and pinching were reported by senior boys and class fellows. It was astonishing to note that in 21 per cent of cases unwelcome touching grabbing by teachers was also reported.

Keywords: Perception, sexual, harassment, school, girls.

ISCA-ISC-2014-Oral-16EduS-06

A Comparative Study of Empowerment Level among Professional and Non Professional College Girls in Relation to Academic Achievement in Selected Colleges of Kota University, India

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Abstract: For continuous and sustainable development of country it is important that the development should be wholistic.The World Bank has identified education as one of the key element so poverty reduction and as a primary

development assistance goal. The promotion of young women's education and empowerment as a development goal is based on a dual agreement; that social justice is an important aspect of human welfare and is intrinsically worth perusing and that empowerment is means to other ends. Sources of information: The size of sample consist of 600 college graduate level college girls studying in University of Kota, Kota. Sample was drawn each professional and nonprofessional stream (300+300) among professional stream, girls pursuing B.C.A, B.B.A, B.Ed were selected and among nonprofessional BA, B.Com and B.Sc girls were selected. 100 samples from each stream were selected:

Tools and Techniques of Research: The following tools were used by the researcher to collect data on the selected variables. Tools-Socioeconomic status: The test named socioeconomic status scaled by Rajbir Singh, Radheshyam and Satish Kumar was used to measure socioeconomic status of college girls. Academic achievement: The scores obtained by the students in the academic examinations were taken as a measure of their academic achievement. Empowerment test for adolescent girls by Dr. Devendra Singh and Dr.Alpana Singh was used for data collection. Statistical techniques-Mean, standard deviation, T – test and correlation were used for the analysis of data. The results of the study revealed that there was no significant difference in the mean scores of empowerment, socioeconomic status and academic achievement among professional and non professional college girls. There was high correlation of empowerment and socioeconomic status and very low correlation of empowerment and academic achievement among professional and non professional college girls.

Keywords: Comparative, study, empowerment, professional, non professional, college, girls in relation, academic achievement, university.

ISCA-ISC-2014-Oral-16EduS-07

Evolution of Environmental Education in Ancient India

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Abstract: Ancient Indian culture advocates environmental education. Every sacred writings in India consider human as a part of nature. Indian philosophy describes environment not only as physical entity but also living one have active participation including human being. Nature's capacity to satisfy everybody's needs has been acknowledged, provided harmony and balance is maintained between man and environment. According to Rigveda there are three kinds of God, the celestial, the aerial and terrestrial and harmony between these three and human being is necessary for balance in the universe. To highlight the importance of various components of environment, various rituals have been institutionalized in our culture. Some mountains, trees, lakes, birds and animals have been considered sacred in Indian culture and are still being worshipped. Festival and events solemnizing the worship of Kailash and Govardhan mountains, Ganga, Jamuna and Saraswati rivers, Mansarovar lake, cowdung, falcon, animals, peepal and banyan trees and tulsi plant are still celebrated in India.

Keywords: Evolution, environmental, education, ancient India.

ISCA-ISC-2014-Oral-16EduS-08

Promotion Quality Education for a Sustainable Future for All

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Abstract: At present the earth is globally warmed, irritated and inserted by the adverse effects of new technological inventions and by various human activities like burning tyres, plastics , radioactive materials, high level of carbon dioxide, CFC, CO, emissions, deforestation, polluting the water, land resources by dumping waste and thus reducing the naturality and aesthetic view of earth like melting of glaciers mountains leads to extinction of ice land flora and fauna and by the marine pollution makes marked destruction of the aqua habitants. It is a high time to make a change to ecofriendly living by adapting the alternative sources and make use of nature available resources and save non-renewable resources like fuel, coal, electricity to the future generations.

Keywords: Promotion, quality, education, sustainable, future.

ISCA-ISC-2014-Oral-16EduS-09

Case Study of Juvenile Delinquency in the context of Coaching Students with reference to Kota City, India

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Abstract: For juveniles and youngsters of today, traditional patterns of guiding the relationships and transitions between family, school and work are being challenged. The extension of the maturity gap (the period of dependence of young adults on the family) and, arguably, the more limited opportunities to become an independent adult are all changes influencing relationships with family and friends, educational opportunities and choices, labour market participation, leisure activities and lifestyles. Juvenile delinquency is a major problem of the society and it's destroying the ethics, morals, traditions, culture and respect. In India Kota in Rajasthan is a place where lakhs of students are coming to take coaching for their competitive exams but apart from studies they are indulging in several crime, delinquent behaviour and acts. In this paper researcher tries to find out the causes and effect on society of Juvenile delinquency. Self constructed questionnaire and checklist were used to collect data. In-depth interviews were conducted with psychologists, doctors, police officers and care takers of rehabilitation centres and borstal. 100-100 psychologists, police officers, parents, borstal and hostel care takers were selected as sample through purposive sampling method. It's an analysis of delinquent behaviour of juveniles as mostly delinquents are associated with the stealing, forged signatures, damaging property of schools and their coaching, bullying and mockery, torturing, using abusing language, exhibitionism, homo sexuality, hetero sexuality, making sexual suggestions, masturbation, obscene drawing and pictures, regardless of gender, robbery, smuggling, drug trafficking, truancy etc. but very less students are involved in committing suicide, prostitution, murder and rape because some where still they afraid from law, punishment, social disgrace and their morals. Their characteristics, reasons such as psychosocial factors which considered family influences, films and television, school factors, peer group and geographic influences and scholastic attainment, body build and disabilities, physiological characteristics, hyperactivity, personality characteristics, and genetic factors. As a result it was found that parents' observation and supervision must require controlling and yoga, meditation, motivational seminar and conferences, individual and group counselling are the sources to stop diverting children in criminal acts.

Keywords: Juvenile delinquency, delinquent behaviour of children, juvenile crime, yoga to juvenile criminals.

17. Commerce, Law and Management

ISCA-ISC-2014-Oral-17CLM-01

Status of IPR and Patent Law in Educational Institutions –A Case Study of Kota District of Rajasthan, India

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Abstract: In the era of globalization and emergence of modern science like biotechnology, the legal characterization and treatment of trade related processes and products are popularly known and defined as intellectual Property.As we know that India is second biggest country in trem of population. It is assumed that in coming year India has a largest number of young population and Indian Brain is very well known in world. But unfortunately, when we talk about education related to Intellectual Property Rights (IPR) and Patent law the status is very low. Our students who are in college or in university did not know about IPR and Patent law. In such situation it is very difficult to protect our Intellectual property. In such condition it is necessary to analysed the present Status of IPR and Patent Law in Educational Institutions. So that we can evaluate and can suggested some idea by which can give information related to IPR and Patent law. Present study is an small attempt to evaluate and analysed the status of IPR and Patent Law In Educational Institutions of Kota District Of Rajasthan.

Keywords: Intellectual property rights, patent law, education.

ISCA-ISC-2014-Oral-17CLM-02

Global Research: Enhancement, Reforms and Commercialization: A 21st Century Perspective

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Abstract: Integrating the Intellectual Assets as well as Intellectual Property requires a good understanding the core competencies, the prevalent business environment, future trends in technology and the socio-economic infrastructure and requisite knowledge of emerging markets. Once the core competencies are identified, they need to be built up, protected by way of IPRs, enforced whenever or wherever there is a danger of infringement or dilution of rights and consolidated as and when the market throws up such opportunities. This paper speaks of need for focused and dedicated approach towards building of core competencies, protection and capturing new business opportunities thrown up by the market.

Keywords: Innovation, intellectual property rights, core competencies, protection and business opportunities.

ISCA-ISC-2014-Oral-17CLM-03

Financial Health of Indian Cement Industry: A Study of Selected Cement Companies in India using Z-Score Analysis

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Abstract: Cement industry is one of the oldest and capital, transport and energy intensive industries in all the economies across the globe.The industry, in Indian context, is led by the immense growth in housing sector andinfrastructural development.The financial health of companies plays a significant role in the overall growth of the concerned industry and its sustainable contribution in country's development. Poor financial health threatens not only the survival of the company that leads to its failure but also affects overall standing of the industry. The present paper explores the status of financial health in terms of liquidity, solvency, profitability and financial efficiencyof selected cement companies in India. It analyses profitability in relation to total investment, sales and shareholders' funds of cement companies in Indian Cement Industry for the period of seven years. It also deals with analysis of operating efficiency and evaluation of earning power analysis of the companies under study India using Altman Z-score analysis.
Themultiple discriminant analysis finds that four out of the five companies studied are in 'Good' zone. The study shall be useful to all corporate professionals, policy makers and researchers for appraising financial health of companies in general and cements companies in particular.

Keywords: Liquidity, financial efficiency, financial health, profitability, Z-Score, solvency, cement industry.

ISCA-ISC-2014-Oral-17CLM-04

Role of Indian Judiciary in evolvement of Environmental law

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Abstract: Environmental Modern technological man's craze for more and more material wealth and physical comforts has unknowingly pushed him into the world of unsustainable trade, commerce, and industry, for the carrying of which, a number of developmental activities-hazardous and non-hazardous involving excessive use of science and technology necessarily take place. So long as such activities are permitted to be undertaken without properly assessing their significant adverse effects upon the environment and ecology they are most likely to cause inexpressible damage to the human beings, flora, fauna, soil, water, air, climate, landscape, intricate web of interrelationship between and among these factors, material assets and the cultural heritage. The researcher will analyze various landmark judgments like MC Mehta V. Union of India. Thus, the cases discussed above clearly will try to justify the attempt of Indian Judiciary enforcement of the environmental laws and notifications emphasizes on adopting a balanced view, taking all relevant factors in to account, towards environment and development and seems reluctant to interfere with well considered decisions of the executive / administrative agencies regarding developmental activities where the risk / danger to the environment and ecology is either negligible or certainly manageable through best available science and technology.
Keyword: Environment, law, flora, fauna, judgments.

ISCA-ISC-2014-Oral-17CLM-05

NGOs a link between the Rural Women Entrepreneurs and City Dwellers

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Abstract: Organic vegetables are in full swing in the present era. It is into demand because of health conscious customers due to the higher risk in problems like obesity and diabetes. Such infected people are being recommended by the doctors to eat vegetables and fruits organically grown and produced. In the earlier days farmers had full faith in the fertilizers for agriculture. But now a days due to the changed trend and the harmful effects of the pesticides on the grains and food items people are becoming more aware and cautious. This new trend especially in the city dwellers has made them incline towards organic stuff. The farmers have also realized and are showing interest in organic farming. The rural women entrepreneurs must make a link to such customers and the organic farmers. They must get connected to NGOs in the city and move the organic products from the farmers to the customers. They will market the products and earn the profit as no middleman exists through this link. Hence, this paper deals with the development of the rural women entrepreneurs for a good cause and the city dwellers are also gaining from the other side.
Keywords: Organic farming, rural women entrepreneurs, NGOs, a link, city dwellers,

ISCA-ISC-2014-Oral-17CLM-06

Economic Importance of Commercial Synergy of Urban and Tribal Community: A case study of Kosa Silk in Champa, Chhattisgarh, India

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Abstract: This paper surveyed and identified that "Kosa Silk" a Non-Timber Forest Products (NTFP) It has great importance in the rural-urban livelihood of inhabitants of Champa in Chhattisgarh. Research article is based on primary data. A well-structured questionnaire is used to obtain primary data from hundred randomly selected respondents (producers and marketers) in Chanmpa. Information gathered that many Tribal are depending on this NTFP for their livelihood. They are the ancient producer of cocoons (source of Kosa Silk) and weavers of Kosa Silk. A local urban community i.e. 'Devangans' are the original proponents of products made from Kosa Silk. 'Devangans' identified that the Kosa silk produced in "Champa" is treated as the best silk all over the word and they observed that this fabric may develop a big market for their livelihood. Result shows that majority of the respondents were male in urban community but in case of tribal 53% were male and 47% were female too. The mean age of respondents was 42 years in urban community and 47% in tribal community. 100% of the respondents had at least primary education in urban community and only 43% had

primary education in tribal community. Thus Economic importance of Kosa silk became synergy of these communities which has generated job opportunities of Tribal and develop the market for Kosa Silk in all over the world for urban community of Champa. Kosa Silk became marketable NTFP and an important means for economic growth and sustainable forest management in Champa.

Keywords: Kosa Silk, Non-Timber Forest Products, Devangans, Coocons and Economic growth.

ISCA-ISC-2014-Oral-17CLM-07

Challenges Encountering Enforcement of Arbitral Award: Analysis

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Abstract: With the phenomenon of modern day business becoming more globalized and more and more countries having gradually moved into an integrated economic e paradigms, it has become imperative that the principles and practices of international arbitration particularly of the enforcement of international arbitral awards are predominantly uniform, certain and above all effective . Now over a period of time, the countries with modern international arbitration regimes through various legislative and non-legislative measures have increased the awareness and realization on the part of their respective judiciaries to the nature of, and expectations in, international arbitration and in this regard a considerable success has been witnessed in the recognition of international arbitration awards pursuant to the New York Convention which has generally been uniform worldwide. However, cases reported recently demonstrate that national courts still retain the power, either under legislation or their own judicial precedents to sabotage enforcement despite the Convention's requirements undermining the very objectives of international arbitration. These cases to much extent has erode confidence in the international arbitral process, particularly the challenges faced by the arbitral awards regarding its enforcement has caused doubts as to the advantages of resolving international commercial disputes through arbitration as the benefits of speed and efficiency have been stripped off from international arbitration. This situation highlights as well as necessitates the need to revisit the enforcement of arbitral awards regimes particularly in developing countries. A detail analysis as to challenges encountering arbitral awards during the time of their enforcement have been discussed in the present article followed by recommendations to make good the loops.

Keywords: Challenges, encountering, enforcement, arbitral, award, analysis.

ISCA-ISC-2014-Oral-17CLM-08

Motivation: A Comparative Study on Effectuated Factors which Contribute Success in Organisation

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Abstract: Time has changed for organizations and their employees. As extrinsic rewards become very limited under organizational retrenchments, organizations should rely heavily on other types of rewards, such as intrinsic rewards, to improve the performance of those employees who have been overwhelmed with a perception of job insecurity. In this paper the analysis has been done on motivational factors in various private organisations. Sample size of 100 is taken for the purpose of analysis made from primary and secondary data. Out of the total sample most of the respondents are male and many are between 50 and above. Most of the respondents are Graduate and have professional qualification. Most of the respondents have 10-15 years of long association with the organization. Almost all the respondents are satisfied with the motivational factors like work environment, career advancement, job security and work life balance of the organization, and only fewer respondents are dissatisfied with motivational factors like work environment, career advancement, job security and work life balance of the organization.

Keywords: Work environment, career advancement, job security and work life balance.

ISCA-ISC-2014-Oral-17CLM-09

Green economy: A Road Map towards Sustainable Development

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Abstract: Green economy can be seen as capitalism's best hope to create jobs, restore growth, and limit climate change…

or it can have more negative connotations. (Bob Jessop, UNRISD conference 2011) The Brundtland Commission Report entitled *Our Common Future* (1987) defined Sustainable Development as "development, which meets the needs of the present without compromising the ability of future generations to meet their own needs". The three pillars of sustainable development are social, economic and environment. The challenge of sustainable development is to maintain balance between environmental imperatives and economic growth (Seelos and Meir, 2005). Since 1990's sustainable development is part and parcel of five year plans of Indian planning. A green economy results in improved human well-being and social equity,while significantly reducing environmental risks and ecological scarcities (UNEP, 2011). In the present era Green Economy and Green National Income Accounting have become the core issues of policy debates. India is likely to come with Green National Income accounting by the year 2015. In a Green economy, the public and private sector investments bring about multiplier increase in national income and employment. However, still this concept is in evolutionary state in emerging economies because of the perception that Green growth is always less than standard Keynesian growth and costlier (Mini Govindan, 2012). Massive public and private investments combat with negative externalities like carbon emissions and pollution, improves resource efficiency, and prevents the damage to the biodiversity and ecosystem. However, public expenditure, policy reforms and regulation changes are required as a support system to these investments.

Keywords: Economic welfare, Green GNP, multiplier, sustainable development.

ISCA-ISC-2014-Oral-17CLM-10

Roll's Royce's Aero Engine Division and its Supply Chain Management

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Abstract: The overall objective of this report is to demonstrate if the business unit Rolls Royce aero engine division uses the present supply chain values productively in order to estimate if the company holds competitive advantage. Supply Chain Management is an approach which is helpful in managing across confines of a company. (Body et.al. 2011).The report evaluates whether the organisation's supply chain applies the active concepts and if so how they are correlated to its value chain as supply chain. Major tools for evaluation used are, Porter's Value Chain 4V's (Volume, Variety, Variation, Visibility), Supply Chain Management. Data has been composed from Books, research reports, Internet sources, archives and articles. The objective of the report is to examine and disclose if Rolls Royce aero engine division supply chain is able to attain competitive advantage for the organisation. The Company has Proved its competitive advantage over the years, but there is less threat of new competition in the operating industry and a loyal customer base from which the company gains overall supply chain advantage. The company has taken steps in the logistics and procurement sectors to save revenue and gain an advantage over its competitors.

Keywords: Supply chain management, porter value chain, variety.

ISCA-ISC-2014-Oral-17CLM-11

A Study on Customer Satisfaction of Credit Cards and Atm Services in Banks

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Abstract: The peace of research has tried to through some light on the satisfaction of the credit/ ATM card. Now even you are maintain your account with the bank, in which you hardly visit to its branch for amount deposit or withdrawal .This has become possible with the help of information technology and innovative products of technology. The purpose of research the structured questionnaire has been administered and collected from card holders. It is being recommended that banks should proactively monitor customer's preferences with regard to use of this delivery channel for effective response. Bank should focus on important aspects of security and privacy as well as efficient operation of ATM. Statistical analysis has been done Z test and percentage analysis for preparing pie chart and 5 hypotheses has been constructed. After that it can be concluded that the card holders are satisfied with the services provided by the bank.

Keywords: Satisfaction, ATM card, credit card, services.

ISCA-ISC-2014-Oral-17CLM-12

Healthcare Management and Insurance

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Abstract: Indian healthcare sector has made significant improvements in the last 50 years and is poised for rapid growth but still India's healthcare expenditure is amongst one of the lowest expenditure globally. The public healthcare facilities are still insignificant in terms of quality and accessibility. The private health sector has developed rapidly accounting for about 75% of healthcare expenditure. With the proliferation of various health care technologies, this quality care in private sector has become very expensive and unaffordable by a large section of population. Most of the developed markets have catered to manage high quality health care mainly by pooling the risk through insurance. Indian health insurance market is in nascent stage at present contributing only about 4% to the total healthcare expenditure with about 70% of the health care cost being met out-of-pocket. This high out-of-pocket expense reflects low health insurance coverage in India. The recent reforms like National Rural Health Mission (NRHM) for rural population and the Rashtriya Swasthya Bima Yojana (RSBY) for the BPL families are important milestones in health care but not without challenges. Revising the existing schemes, making tailor made schemes according to the demography, expanding, man-powering and improving the existing infrastructure, are some of the measures which could help in reducing out-of-pocket health expenditure and improving health care in the country.
Keywords: Healthcare, insurance, healthcare expenditure, national rural health mission, rashtriya swasthya bima yojna.

ISCA-ISC-2014-Oral-17CLM-13

Nexus between Climate Business and Poverty Reduction in India

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Abstract: Environment matters greatly to people living in poverty. The Assessment Reports published by the Intergovernmental Panel on Climate Change (IPCC) show that developing countries and the poorer sections of the population will be hit particularly hard due to the climate change. Their prospects of fair access to food, clean water and other resources will continue to deteriorate and their health will suffer. The steep rise of poverty issues in the climate change agenda stems from UNFCC text preamble which recognizes the legitimate priority needs of developing countries for the achievement of sustained economic growth and the eradication of poverty. The Kyoto Protocol (COP-3), that came into force from 2005 made provisions of carbon trading to achieve the quantified emission reduction targets and poverty eradication in developing countries through Clean Development Mechanism (CDM). However, the spatial and sectoral inequity of the CDM projects ignores the majority of the poor in developing countries. Small-scale projects are found to be the best tool in the CDM system to address poverty alleviation. Unfortunately, the number of small scale projects and their issuance success are very low in comparison of the large scale projects. The spatial distribution of CDM projects and its portfolio is also biased in India. The energy sector has the dominant share in project portfolio, the benefit of which may not be adequately reaped by those languishing below poverty line. The poverty alleviation potential of CDM projects is ambiguous for rural poverty alleviation and there is a weak nexus between climate business and poverty reduction. To exploit the full potential of Climate Business, there should be regionally balanced growth of the CDM projects with clear and transparent socio-economic assessment of the projects. Last but not the least, the projects should be designed to accelerate growth of agriculture and allied activities.
Keywords: Kyoto protocol, clean development mechanism (CDM), poverty alleviation.

ISCA-ISC-2014-Oral-17CLM-14

Performance Appraisal Management in Aviation Industry

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Abstract: Now day's aviation industry plays a vital role in global economy. It's a key factor between air and land based transportation of goods and passengers. It is a part of international supply chain networks. Performance Appraisal is the systematic evaluation of the performance of employees and to understand the abilities of a person for further growth and development. The main Objectives of Performance Appraisal is to maintain records in order to determine compensation

packages, wage structure, salaries raises, etc. and to identify the strengths and weaknesses of employees to place right person on right job. It is said that performance appraisal is an investment for the company that can be justified by following advantages: Promotion, Compensation, Employees Development, Selection Validation, Communication and Motivation. In this research paper we tried to identify the techniques of Performance Appraisal followed in aviation industry and to identify how the performance of the employees is improved and enhanced.

Keywords: Aviation industry, employees, performance appraisal, appraisal systems.

ISCA-ISC-2014-Poster-17CLM-01

Factors Affecting the Sustainable Development of Urban Tourism in Iran

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Abstract: Today, sustainable development of tourism as a strategy for the development of cities, especially remote cities is a relatively new idea, the importance of which has been realized by policy makers. So far as this type of tourism can be used as an alternative for income, creating jobs and making positive changes in the income of cities . In order to further develop the tourism industry in cities, factors affecting the growth and development of this industry in the country side are needed to be identified. In this regard, it is first necessary to identify the factors affecting tourism development in urban areas. Then, using laboratory techniques of test and evaluation of fuzzy DEMATEL decision making as one of appropriate decision making techniques that deals with systematic relations between variables, relations among factors influencing the development of urban tourism are studied and modelized. The results of fuzzy DEMATEL method showed that factors affecting the development of urban tourism include proper planning and management, education and training of manpower in the field of tourism, direct supervision of the government and institutions on those active in the field of tourism, the presence of experts fluent in live languages of the world beside tourism attractions, culturalization of tourism development and promotion of tourism host culture among city residents, efforts to increase security in the area, environmental legislation to toughen charges and further restrictions.

Keywords: tourism, urban tourism, Dematel fuzzy technique, Iran.

ISCA-ISC-2014-Poster-17CLM-02

Production and Profitability of Bio Cotton

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Abstract: Cotton, the most important fibre crop of India plays a dominant role in its agrarian and industrial economy. It is the backbone of our textile industry, accounting for 70% of total fibre consumption in textile sector, and 38% of the country's export. Although area under cotton cultivation in India is 11.7 million hectare which is the highest in the world, i.e., 25% of the world area but Cotton productivity and profitability in India is quite low as compared to world standards. This is due excessive use of fertilizers, herbicides, insecticides, growth regulators, defoliants and desiccants which increased the cost of production and the fertility of soil detoriates, also it causes immense ecological imbalances and human hazards as reported by WHO.This has basically prompted the demanded of organically cultivated, eco-friendly cotton commonly known as bio cotton. Bio cotton (Organic cotton) production requires careful planning so as to realize optimum yield. It includes a number of factors like minimum use of fertilizers and chemicals to control insect pests, disease, weeds and growth regulators, Site selection, crop rotation, variety and skills to manage organic crop.

Keywords: Production, profitability, Bio Cotton, Crop, economy, fertilizers, growth.

18. Library Science

ISCA-ISC-2014-Oral-18LS-01

Internet and its Use in the Engineering Colleges of Udaipur, Rajasthan: A Case Study

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Abstract: This study aimed at the Internet use and its impact among the Engineering colleges of Udaipur: Structured questionnaire were designed to collect the data. The survey found out that, 92.85% of the total respondents use Internet only for e-mail, 85.71% respondents are using Google as the favorite search engine for accessing information, and 53.33% were not satisfied with the printing and downloading facilities available in their colleges. The present study demonstrates and elaborates the various aspects of Internet use such as, frequency of Internet use, most frequently used place for Internet use, purposes for which the Internet is used, use of Internet services, ways to browse the information from the Internet, problems faced by the users and satisfaction level of users with the Internet facilities provided in the colleges. The result of the survey also provided information about the benefits of the Internet over conventional documents. It was found that the Internet had become a vital instrument for teaching, research and learning process of these respondents. Some suggestions have been set forth to make the service more beneficial for the academic community of the engineering colleges under study.

Keywords: Internet use, teachers, students, Udaipur, Rajasthan.

19. Language and Literature

ISCA-ISC-2014-Oral-19LL-01

Cultural-Linguistic Intelligence for l2 Learners through Technology

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Abstract: English unquestionably is a "Global Lingua Franca" in a sociolinguistic context and required in almost every field and professions. There are already about 4 billion people from all parts of the globe who understand and speak English at least in the basic level. Through technology economic, social cultural and religious influences are spreading its wings even in remote areas and English is a language which easily absorbs influences from local variations and cultures that it comes into contact with. Some linguists refer to it as glocal language even. This paper is an exploratory inquisition into the perception of a group of second (L2) language learners of English. Drawing upon data gathered from two rounds of in-depth interviews with 25 participants from Uttrakhand and Garwal the study found that these L2 learners displayed different degrees of association with their local and global cultures, as EFL learners. While some participants expressed their preference to foreground either their local or global identities, some other participants reconciled their local identities and embraced hybrid, or regional identities in EFL communication.

The analysis suggests that communication coupled with Global cultural acquaintance; could offer myriad options for L2 learners and give rise to hybrid linguistic practices. Finally, the paper points to the need of acknowledging the role of individuality in identity construction in ELF settings. language and cultural Intelligence is a module which can be offered to university graduates for enhancing cultural acquaintance and language enrichment in terms of its in-depth understanding and appreciation as these both are two vital component of any society and complementary to each other. Without language culture can't be understood and without understanding culture; language cannot be grasped while parallel study can improve English language skills in understanding, analyzing, writing, listening, verbal communication, as well as grammar, terminology and pronunciation. The linguistic study of the genres of web-based News, cultures, values, trends festivals and information displayed through various sites can be explored and added in form of structured syllabus, first of all acquainting students with national cultures and in advance level taking them to international tour of cultural corridors through technology can be of great help in following ways. Language learning through contemporary affairs, economical and cultural discussions will give students general awareness and ability to participate in GDs and debate. It will help them in assisting vital, decisive thinking and report writing skills. It will give opportunity to ESL faculty to to inspect, explore and provide a creative discussion forum to augment linguistic interest of each student. It will enhance subject related vocabulary, and communication skills of students.

Keywords: Cultural-Linguistic, intelligence, learners, technology.

ISCA-ISC-2014-Oral-19LL-02

How Places get translated: A Reading of Parts of Robinson Crusoe in Light of George Steiner's the Hermeneutic Motion

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Abstract: Translation has traditionally been considered as an act of removing the text from the source language and placing it in the target language. However, as it evolved, translation studies was found to be applicable not only for studying various ways of translating texts, and dealing with 'words on paper', as it were, but non-linguistic aspects like culture, architecture, food, etc. as well. In this paper, I propose to look at and explain how geographical sites get translated. For that, I have tried to look at the events occurring in the text 'Robinson Crusoe', especially that part of his adventure when he spends time on the island, i.e. his 'transactions' with the Island of Despair, as it has been called, in light of 'The Hermeneutic Motion' proposed by George Steiner in his 1975 book 'After Babel'. Crusoe's stay on the island, being marooned and adapting to it, finally 'transforming' it can be looked at as a phenomenon of translation of the island. After showing how the island gets translated, I have put forth certain aspects of our daily lives like our food, things that we use, dressing styles and even some architectural structures of Pune city to demonstrate that we, ourselves, lead translated lives.

Keywords: Translation, hermeneutic, cultural translation, architecture, crusoe.

ISCA-ISC-2014-Oral-19LL-03

वैज्ञानिक तत्वः वाल्मीकि रामायण के आलोक में

श्रीमति गुप्ता ऋतु[1], जैन वर्षा[2] और नीता दोहरे[2]
[1]आर्य कन्या स्नातकोत्तर महाविद्यालय, झांसी, उप्र, भारत
[2]संस्कष्त विभाग बुन्देलखण्ड विश्वविद्यालय, झांसी, उप, भारत

सारांशः वाल्मीकी रामायण संस्कुत साहित्य जगत का सर्वाधिक लोकप्रिय काव्य है, ऐसा कहना अतिश्योक्ति नहीं होगी। यह काव्य ज्ञान का सागर है। जिसमें कुछ तत्वो को निकाल कर उन्हे विज्ञान की दर्षष्टि से देखना ही मेरे शोध का आधार है। वस्तुतः यह महाकाव्य अनेकों अचम्भित घटनाओं से परिपूर्ण है। जिनकी पष्ष्ठभूमि में कोई न कोई गूढ रहस्य अवश्य प्रतीत होता है। सीता जन्म, हनुमान द्वारा समुद्र लंका गमन, विमान वर्णन आदि ऐसे प्रमुख एवं प्रचलित बिन्दु है जहां विज्ञान ही विज्ञान है।
खोजशब्दोः वैज्ञानिक, तत्व, वाल्मीकि रामायण, आलोक।

ISCA-ISC-2014-Oral-19LL-04

The Timeless Nature of Saint Literature

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Abstract: Even the people, who call themselves modern, turn to the works of saints for finding moral values. The saints, in their literature have always criticised blind faith, polytheism, caste system, etc. They have always maintained that, despite the various names and forms by which God might be known, he is one, and that has been their principle. Their literature, even today, is an effective way of upliftment and betterment of the society. It has always tried to instil and preserve the values of purity, humanity, kindness etc. A thread of humanity and equality runs through the works of saints all over India. The works of Saints Dnyaneshwar, Namdev, Tukaram and others have transcended their spatio-temporal boundaries and are as relevant today as they were earlier. In various areas and various languages, these saints tried to bring about a positive change in society, for example Kannada literature of Veershaiva Dharma talks about uniting the men and being humanitarian, Ramkrishna Paramhans and Swami Vivekanand tried to bring about equality through their work in Bengal and the list goes on. One could observe that this literature endorsed a formative revolt in its style by choosing the spoken languages over Sanskrit, and by discarding other barriers/binaries like the "good" and the "bad", passing on the message that "All humans are one".
Keywords: Timeless, nature, sain, literature.

ISCA-ISC-2014-Oral-19LL-05

The Representation of Creative Women and their Language in Some Women's Writings

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Abstract: Contemporary feminist, philosophers, social and literary theorist and critics has been the first to call attention to the existence of a fundamental alliance between "woman" and "body". They have shown how women within our duality system of language and representation, are typically situated on the side of irrationally, silence, oppressed, and as pleasurable object while men are situated on the other side of reason, discourse, cultured and intelligent. The aim of the paper is to examine how feminine writing resists linguistic, historically and physically imprisonment placed on women forced to enter language through a masculine rhetorical economy. The feminine writing represents expression not only as writing but also as lived experience through the recreation and through the body. Usually we know that sex and body is a marker that separates masculine and feminine expression and experience. In the phallocentric society, women considered as second position. Even in economically, socially and historical stages they are far behind in compare to men. In this paper I want to explore some feminists' views on creative writing and writing through women's body and their language, for instance Cixous, Gilman and Chopin .With reference through these feminists and their writing I want to explain that how writing become weapon for women.
Keywords: Patriarchy, domination, oppression, feminine writing, self- identity, equality

ISCA-ISC-2014-Oral-19LL-06

मुद्राराक्षस में राजनैतिक तत्व

जैन वर्षा[1] और गुप्ता ऋतु[2]
[1]संस्कष्त विभाग बुन्देलखण्ड विश्वविद्यालय झांसी, उप्र, भारत
[2]आर्य कन्या स्नातकोत्तर महाविद्यालय झांसी, उप्र, भारत

सारांशः मुद्राराक्षस नई शैली से युक्त भिन्न नाटक है जिसमें नायिका प्रेम इत्यादि तत्वों का अभाव होने पर भी किसी भी क्षण नीरसता प्रतीत नहीं होती है। यह नाट्य चाणक्य की कूटनीति पर आधारित है। अतः यहॉ रातनैतिक तत्वों का अथाह भण्डार है, इसी तत्व का दिग्दर्शन चन्द्रगुप्त के इस कथन से ही हो जाता है'' बिना युद्ध के ही आर्य चाणक्य ने दुर्जेय शत्रु सेना को परास्त कर दिया। मुद्राराक्षस में राजनैतिक महत्वाकांक्षा का ऐसा विषय दिखाया है जो राजनैतिक होते हुये भी व्यापक है एवं देशकालं की सीमा से बद्ध नहीं है । मैं अपने शोध के माध्यम से इन्हीं तत्वों को प्रकाशित करने का प्रयास करूगी।

खोजशब्दः मुद्राराक्षस, राजनैतिक, तत्व।

ISCA-ISC-2014-Oral-19LL-07

Represetntation of Farmology in Ved in Context of Eocology

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Abstract: It has been noticed that from the time immemorial the primitive men had depended upon vegetables, fruits, flowers, birds and animals for their life and peace. The study of Vedic Aryans shows that they gave up their wandering life and they lived good life. They had developed themselves in the field of Agriculture. The study of their farmology becomes very important in context of Ecology. Aryans were good Agriculturists. They had a very good knowledge of agricultural. The presentation of land, Farms, Instruments of farming, the proper management of irrigation, planting of crops and knowledge of crops in Ved so its study becomes important in the context of ecology.

Keywords: Represetntation, farmology, context, eocology

ISCA-ISC-2014-Poster-19LL-01

Punjabi Language and Literature: An Overview

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Abstract: Punjabi language is classified as a member of the Indo-Aryan subgroup of the Indo-European family of languages. It believed to have developed as a distinct language from the ShauraseniApabhramsha around the 11th century. Other early influences on punjabi include Indo-Aryan and pre-Indo-Aryan languages. India is a country of 122 languages; among these 22 are official languages declared by government of India. Punjabi language is world's 12th most widely spoken language in India, Pakistan, and other parts of the world were the punjabis have migrated eg. UK, Canada, Malaysia, Saudi Arab, U.S.A, Singapore. The earliest Punjabi Literature is found in the fragments of writings of the 11th nath yogis Gorakshanath and Charpatnah which is primarily spiritual and mystical in tone, notwithstanding this early yogic literature, the punjabi literary tradition is popularly seen to commence with FariduddinGanjshakar (1173–1266), whose sufi poetry was compiled after his death in the *AdiGranth*the *Janamsakhis*. Stories on the life and legend of Guru Nanak (1469–1539), are early examples of punjabi prose literature. Punjabi diaspora literature has developed through writers in the United kingdom, Canada, Australia, and U.S.A,between britishpunjabis and their immigrant parents as well as experiment with surrealism, science-fiction and crime fiction. Punjabi language and literature has grown rich from ancient times to today's modern outlook, where it has flourished in India and abroad acting as a bond between different nations.

Keywords: Punjabi, language, literature, Indo-Aryan.

20. Social and Humanity Science

ISCA-ISC-2014-20SHS-Guest Speaker-01

Development of Science Communication through Regional Languages

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Abstract: In order to make India more scientifically advanced and embed scientific temper in people, science communication must reach to the audience. So, there is an urgent need for the development of scientific materials in Indian languages to reach every corner of our country. There is a strong need of innovative institutes including the web resources which provided quality contents in various Indian languages. The learning and understanding becomes more effective if we provide material in Indian languages. Links such as e-lectures,e-books,e-glossaries,e-magazines, e-articles and e-biographies, e-questionnaires are available. Videos of various invited talks may be uploaded for the purpose. There is a potential role of journalists who comes from scientific background and Science Congress may become a platform for it.Present work describes the results of a small survey carried out on a group of traditional scientists and traditional journalists. Results state an encouraging scenario for interactive programs viz. conferences, seminars, workshops and science congress. However it was reflected that scientists prefer detail, data and methodology; journalists prefer application and importance. Scientists remain to be rational, cool and objective; journalists like emotion and drama, even then the motive is same. This reflects the need of science communicators, particularly in India.
Keyword: Communication, Science, Journalists and Indian languages.

ISCA-ISC-2014-Oral-20SHS-01

Displacement, Resettlement and Rehabilitation in North Bihar: A Concern

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Abstract: Disasters in India involves displacement are currently a cause of growing concern everywhere. The warrisome aspect is that it is the poor and backward who are hurt most in the process, becoming poorer than before. This paper based on the primary survey and experiences with people displacing from the Kosi flood in North Bihar, which provides a vivid firsthand account of suffering of those who lose their fertile land and are forced to relocate their familiar every year from one to another place. The consequences of displacement are particularly dire for the locals, as they are deeply attached to their ancestral lands and find it virtually impossible to readjust in other places. As there is no resettlement and rehabilitation policies for the disaster induced displacement displaces, the impacts and consequences are far more for them. This paper focus on the major impacts of displacement in the area and resettlement and rehabilitation plan need for the kosi displaces, as it is going on an even bigger scale than before, it is important that resettlement and rehabilitation packages should be designed as it improve the lives and livelihood of displaces.
Keywords: North Bihar, Kosi, Displacement, Resettlement, Rehabilitation.

ISCA-ISC-2014-Oral-20SHS-02

The Effects of Indian Classical Dance on Health: Oxidative Stress and Associated Diseases

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Abstract: Indian classical dance is the paragon of Indian heritage, it is a form of art that holds the sublime essence of beauty and connection to God. The valuable unexplored abundance this art-form beholds is its scientific connection to health, which was explored in this research. Oxidative stress is the physiological stress that develops in the body due to free radicals and affects various organs causing aging and related disorders. The effect of classical dance on oxidative stress and overall health was studied. A simple but elusive scheme of experiments was applied in this research. A questionnaire survey provided basic idea of the overall health of the subjects. The research was conducted in three main phases. The primary phase analyzed the biochemical parameters. The secondary phase focused on ROS quantification, lipid peroxidation, and oxidative stress determination. The tertiary phase studied the presence, level and expression of Heat Shock Proteins (HSP).The HSP levels were significantly lower in dancers when compared to sedentary subjects. The overall research concluded that the oxidative stress level in dancers is significantly lower than the sedentary subjects

and 'Indian classical dance' affects human health positively.

Keywords: Indian classical dance, human health, heat shock protein (HSP), oxidative stress, ROS (Reactive Oxygen Species).

ISCA-ISC-2014-Oral-20SHS-03

Research Driven Innovations with Global Responsibility (A Critical Appraisal of Enhancement, Reforms and Commercialization (Science and Technology for Human Welfare)

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Abstract: Man. the Homo Sapiens, has existed and even flourished for millions of years and advanced from a food gathering jungle man to e- commercial man of today. In this context Globalization offered huge opportunities for people to communicate with each other, to learn and to grow and to participate in a influence decision making values of tolerance empathy and human rights. Information, ideas, art, propaganda, money, telecommunication ,media, commodities ,investments etc. to project *gone global* enhanced economic and social life for human welfare. It is science, technology, and research driven innovations alone that has solved the problems of hunger and poverty, of insanitation and illiteracy, of superstitions and deadening customs and traditions of vast resources running to waste of a rich country. At every turn we had sought its aid and the future appraised enhancement, reforms and commercialization for human welfare. Productive engagement of our youth in agriculture, manufacturing and value based services provided the key for a balanced growth of the country. which paved the science, technological global research driven innovative path for ensuring prosperity with peace and inclusiveness under a creation of a synergy of academia with research; research with industry, with economy and economy with the well being of our people (I e. human welfare). In this communication, correlation is explored relating to the human development skills and innovative responsibilities towards (i)co-existence, better quality of life, (ii) to equip themselves to face challenges of 21st century [i.e. current situation, challenges and advancements duly cohessed with researches, reforms and commercialization with science, technology and innovations in 21st century ,(iii) (efforts on entire ecosystems towards human development skills and innovative responsibility towards -children, youth, women and senior citizens, biotic, abiotic and energy sectors) to focus on *Social transformations*(result of Research driven Innovations with global responsibility for attaining continuous enhancement, reforms and commercialization(Science and Technology for Human Welfare).

Keywords: Science, technology, research, innovation, global responsibility, human welfare.

ISCA-ISC-2014-Oral-20SHS-04

Scope for the Study on Bio-archaeological Perspective of Ancient Science

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Abstract: Most recently the report of the first unequivocal case of ancient brain surgical practice, known as trepanation, observed in a Bronze Age Harappan skull. And a decade ago, a Neolithic skull from Burzahom in the Kashmir Valley was reported with multiple trepanations as the first case from the Indian subcontinent. Animals and Plant products have augmented human culture since time immemorial. Perhaps, ethno-biology is the first science that originated with the evaluation or existence of man. Bio-archaeology developed by the merging of perspectives from skeletal biology and archaeology as the disciplines pushed themselves out of a state of mutual intellectual crisis. Bio-archaeology is at the forefront in documenting the evolution and adaptation of human populations. To supplement the bio-archaeological study we need to include agriculture, horticulture, ethno-medicine, ethnic population, races and language etc. The objective of the paper is to find out the scope and discuss the development of bio-archaeological research from the Neolithic-megalithic sites from central India. A considerable amount of data has been collected from the Neolithic-megalithic sites with applied standard archaeological and anthropological methods.

Keywords: Bio-archaeology, megalithic, neolithic, skeletal, diseases.

ISCA-ISC-2014-Oral-20SHS-05

Aging challenges Among Indian weaker section

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Abstract: In India, certain sections of population, viz, the schedule caste, scheduled tribes, the other backward classes, and the minorities have been historically at a disadvantage. These sections have been facing educational, social economic and political backwardness since long. Today this section facing challenges of Aging. In India, the number of elder persons was 5.8% (25.5 million) in1961. In 1991 this figure increased to 6.7% (56.6 million). In 2011, it is estimated to increase to 8.1% (96 million) that is expected to grow to 137 million in 2021. The size of Indian elderly (60 years and above) is expected to triple in the next few decade. The present study focused on aging problems among weaker section, especially schedule caste in developing state of Madhya Pradesh. The specific problems this group be face can be grouped as Financial, Health, Psycho Social and problems of family adjustment. These problems widely seen in rural area . The familial problems are mainly concerned with neglect and poor upkeep and in its wake give rise to emotional and psychological problems associated with sickness. Health and medical care is a major problem for this aged group. The majority of SC aged groups have financial problems. He doesn't fulfill their basic requirements due to financial crisis. This research paper highlighting the major aged problems of weaker section. We also examined the govt. policy and welfare programmes for this vulnerable group.
Keywords: Weaker section, vulnerable group, minorities, schedule caste, schedule tribe.

ISCA-ISC-2014-Oral-20SHS-06

The Use of Sciences in Archaeology: Some Fresh Observations

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Abstract: Archaeology is now concerned not only with man as a social being, artist and craftsman but also as a scientist, technologist, philosopher and thinker. Today we find the signs of changes as the present period of transition in Indian archaeology, such as multidisciplinary research, the questioning of diffusion theories and growing concern with problems of social structure, economic process, settlement pattern, colonization, urbanization, and metallurgy etc. Archaeological excavations yield various artifacts, pottery, structural remains, and these finds in turn create many a question about their function, technology, origin of raw materials, their C14 dating, etc. these questions can be answered only with the help of sciences. Even such ordinary things as bones of animals and seeds of fruits need to be identified with the help of zoology and botany. In this paper, the author analyzes the observation of recent development on the use of sciences to identifying the archaeological materials. Standard Archaeological tools and techniques have been applied for the identified the materials for the present study.
Keywords: Archaeology, science, C14, artifacts, observations.

ISCA-ISC-2014-Oral-20SHS-07

Core Issues of General Loksabha Election 2014

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Abstract: The year 2013 has been a silent witness to several landmark events. There were several bills passed by the Parliament, a few key court judgments, nature's fury and other news that made the headlines. Over all it was an eventful year. Here we wrap-up the main events of the year 2013 for you.
Keywords: Core, issues, general, loksabha, election.

ISCA-ISC-2014-Oral-20SHS-08

Perception of Farmers about Environemtal Risk in Peticides Use

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Abstract: Ten villages from two tahsils of Akola district of Vidarbha region in Mahrashtra State were selected purposively

based on the criteria of highest acreage under cotton and vegetable crops. Three vegetable crops namely Tomato, Brinjal, Onion and one cotton cash crop were purposively selected based on the similar criteria. Thus, 120 farmers from ten villages, twelve from each were selected randomly. The data was collected by administering a pre-tested interview schedule and statistical test were applied for analysis. The analysis of the profile of sampled farmers indicated that majority of respondents were of 36 to 50 yrs age group, had medium level of education with medium land holding, medium cropping pattern, medium source of irrigation, medium farm implements, medium social participation's, medium extension contact and medium source of pesticide. Majority (52.50%) of the respondents were medium perceivers of environment risk in pesticidal use.71.67 per cent of the respondents are moderately perceived as a harmful phenomenon which is characterized by residue formation on edible plant products, followed by 70.84 per cent are moderately perceived as neither beneficial nor harmful, followed by 62.50 per cent are moderately perceived as spoilage of agriculture produce and contamination of plant environment by pesticides.

Keywords: Environmental risk, farmer's, perception, pesticides.

ISCA-ISC-2014-Oral-20SHS-09

The Contribution of Media in Revival of the Classical Music (With special reference to electronic media)

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Abstract: Since ancient times, there is a continuous change in the social conditions of human life. And in this modern era our society has underwent a drastic change, which is basically a result of Changes in human values. As an impact of these changes all over, our social life has become much complex. All over the globe, we find people busy in carrying out their tasks and daily chores. Being busy round the clock, a person finds it difficult to spare time for his own sake like for obtaining mental peace or for entertainment. In this age of complex social life the only thing providing relief to a man is the music specially the classical music. The classical music plays an important role in cultivating sanity amongst human beings. The efforts of media to reach out to masses can't be ignored. Thus, we can say in today's complex social life the media has given its unique contribution to prevail or to revive the classical music in our society.

Keywords: Contribution, Media, Revival, Classical, Music.

ISCA-ISC-2014-Oral-20SHS-10

A Comparative Study of Locus of Control among Sportspersons Involved in High And Low Physical Activity Game

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Abstract: The present study compared locus of control between university sportspersons involved in high and low physical activity games. In the present study chess and acquatics were chosen games representing low and high physical activity games. For the present study, randomly selected 50 interuniversity male swimmers (Ave. age 21.23 yrs.) and 50 interuniversity male chess players (Ave. age 22.42 yrs.) were chosen as sample and grouped in as sportspersons involved in low physical activity game. To assess locus of control among selected subjects, Hindi version of Rotter's Locus of Control Scale prepared by Kumar and Shrivastava (1983) was adopted. Results indicate that swimmers believe more firmly than chess players that external factors do play a part in sports performance. It was concluded that intensity of physical activity required in a particular sport influence locus of control.

Keywords: Comparative, study, locus, control, sportspersons, involved, high, low.

ISCA-ISC-2014-Oral-20SHS-11

Industrial Water Pollution and its Impact on Fishermen Community under Musi River Catchment Area, Heyderbad, India

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Abstract: This paper mainly focuses on the Industrial water pollution and its impact on fishermen community under musi river catchment area which is highly polluted and creating negative externalities to the economic conditions of the

musi river catchment area people. In this context the major source of pollution of the Musi River is untreated or partially treated domestic and industrial wastewater from the urban area of Hyderabad and surrounding areas, like the point source and non point source pollution. We are conducted the survey under musi river catchment area four villages, the selection of this four villages based on the distance. According to the survey total fisher men community was drastically effected by the industrial wastewater releases in the river, fishes died due to water pollution and the fisher men community lost their occupation due to the water pollution, weed is growing in the tanks and the levels of BOD, COD, TDS, TSS, and some other chemical elements are coming down in the tanks due to which, fish are dying. Even survived, the fish are less in weight when compared to the weights of previous year, and the relative income has substantially decreased for the fisher men the fisher men are getting skin allergies due to entering into the polluted water

Keywords: Wastewater, river musi, water pollution, industrial pollution, fisher men community.

ISCA-ISC-2014-Oral-20SHS-12

Illness Perception and Coping among Hypertension Parients

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Abstract: This study examined the illness perception and coping among the hypertension patients. The purpose of the study was to understand how hypertension patients perceive their problem of illness and how they cope with it. The study was carried out in Bhopal and Lalitpur District with hypertension patients aged between 26 and 75 years. Findings revealed that patients suffering from hypertension have different degrees of perception for different aspects of illness and the differences in the frequences of various coping behaviour.The correlation between illness peception and coping behaviour of patients suffering from hypertension.

Keywords: Hypertension patients, illness perception, copying behaviour.

ISCA-ISC-2014-Oral-20SHS-13

Employment Generation in Urban Informal Sector: A Study of City of Greater Hyderabad

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Abstract: The informal sector is highly heterogeneous in nature. It depicts a picture of unorganized, unregulated, unregistered and labour-intensive activities. This sector with its historical presence in the rural economy has now become an integral part of urban economy due to the changing socio-economic structure of the country. The state of Telangana is no exception to this trend with Greater Hyderabad providing the impetus to the rapid urbanization process. The significance of the informal sector as a tool of employment generation is undeniable for Greater Hyderabad. The objective of the study is to analyze the employment generated by the informal sector in Greater Hyderabad. The informal sector has been playing a significant role in the economy of Greater Hyderabad by contributing high percentage to the total employment generated in the city. The present paper focuses on the jobs created in the informal sector in the ten-year period. Acknowledging the significance of this sector the paper offers some policy suggestions for the optimum utilization of human resource operating in it.

Keywords: Informal sector, employment generation, urbanization, greater Hyderabad.

ISCA-ISC-2014-Oral-20SHS-14

A Historical Transition of Banjara Community in India with Special Reference to South India

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Abstract: An incisive insight into the literature on Banjara Community clearly indicates that ample literature has been produced by the Western and Indian scholars. Yet the treatment of the problem is exponential. Deep delve into the process of historical transition of the Banjara Community enables us to focus on various controversial issues and complexities of historical significance. Issues like historicity, location, ethnicity, categorization, caste-clan dictomy and the communities identity continued to gravitate the attention of the scholars and researchers alike lack of unanimity

among the scholars has added perplexity to the puzzle. Ambiguous explanations given by the community historians have further complicated the clear-cut understanding of the process of historical transition. The antiquity of this Banjara Community is traceable to Harappa and Mohenjodaro. Its influence continued to spread and retain its relevance down the centuries to shape and reshape the course of history. My paper however strives to focus on historical transition within the context of India from 12th Century A.D. till 1950's. Such a treatment might look intellectually awesome and anarchic. Despite it a depiction of the historical transition is inevitable to bridge several centuries old to bridge several centuries old transitional life of the Banjara Community. My paper also unfolds important milestones coupled with phases of migration from North to South India. Thus this is divided into the following, Introduction, Phases of transition and the Conclusion.

Keywords: Historical, transition, community, reference.

ISCA-ISC-2014-Oral-20SHS-15

Biopsychosocial Experiences Based on Perception of Coronary Artery Disease Patients: A Medical Anthropological Study

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Abstract: Coronary heart disease (CHD) is the leading cause of death in many countries. Psychosocial factors have not received adequate attention in the cardiovascular aetiological studies. In the present study, biopsychosocial experiences and perceptions of medically diagnosed patients of coronary heart disease at PGIMER were investigated based on psychometric analysis using DS14 scale and in-depth interview. The results revealed that family history, unhealthy eating habits, sedentary life style, stress, anxiety and depression (type D personality) were major determinants. Pearson chi-square test revealed no significant gender differences for type D personality in coronary artery disease. Cardiac patients require multiple-level treatment from a variety of clinical professionals including cardiologists, psychologists, physical therapists and non-paramedical staff; besides effective medical intervention by these experts, effective psycho-social support by family or friends or others may provide a holistic and multidimensional treatment.

Keywords: Biopsychosocial experience, Coronary Heart disease, cardiac patients, experiences, personality.

ISCA-ISC-2014-Oral-20SHS-16

Forced Migration: A Study of Two Communities

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Abstract: Forced migration—the experience of being forced from one's home by such factors as persecution, conflict, generalized violence, or human rights violations—currently affects millions of people worldwide and has achieved the status equal to any other population problem. The current study compares two communities – West Pak Refugees, minority Hindus and Sikhs form Pakistan who sought refuge in India during the partition of 1947 and wars of 1965 and 1971, and Kashmiri Migrants, comprising of Hindu pandits, who were forced to flee their homes in Kashmir due to the 1989 insurgency in the valley. Although the shared experiences of migration include exposure to violence and trauma, forced exodus, and post-displacement stressors like ambiguity, acculturation, resettlement stress, discrimination and labeling, variability exists in terms of the nature of political turbulence prior to displacement, the length of time of displacement, sources of support, the social and economic conditions in which displaced persons were located, and the demographic characteristics of the displaced population. The present study assumes significance as part of an exercise to understand the emerging pattern of commonalities and differences in psycho-social profiles as developed by migrant segments of population displaced from their original habitat due to politico- ethnic compulsions.

Keywords: Forced migration, west pak refuges, Kashmiri migrants, psycho-social profiles, stress, social support.

ISCA-ISC-2014-Oral-20SHS-17

Spiritual and Physical Wellbeing: A Perspective in Ageing

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Abstract: Spirituality moderates positive relationships with various measures of life. Life satisfaction, psychosocial wellbeing, physical and mental health are also proven to be helpful in the quest for meaning and purpose in life in relation to spiritual wellbeing. Understanding an individual's spiritual perspective becomes increasingly important,

considering physical illness, disability, loss of loved ones, loneliness, depression and mortality etc. during ageing years.Interest in spirituality and aging has increased recently, owing to overwhelming evidence of positive health outcomes linked to spirituality. Increasing longevity in modern society puts spiritual needs of ageing adults at the forefront of societal priorities. The research work attempts to present the relationship between the spiritual wellbeing and physical wellbeing among 100 ageing adults belonging to middle income group of Hindu ethnicity across the gender,along with discussing the importance of spirituality for successful ageing.To summarize, we can say that spirituality appears to play an important and adaptive role in aging adults. It leads to a better quality of life and life satisfaction, as well as longevity in the older practitioners. In addition, along with encouraging healthy lifestyles, religious spiritual groups may promote access to better healthcare and preventive programs.

Keywords: Spiritual wellbeing, physical wellbeing, life satisfaction, quality of lifeand successful ageing.

ISCA-ISC-2014-Oral-20SHS-19

Gender Practices and Women in India: A Feminist Perspective

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Abstract: There is several gender practices practised in the world. India is not exception to that. It has been quite questionable that why those practices always undermine women sexuality. Religious scriptures, even science also assess that women are inferior to men. Sometimes it is said that women are devoid of all qualities of decision making. They have no talents, qualities to be recognised as superior as men. The whole world is bent on to prove that the women are inferior beings. The women have been left in the lurch in this patriarchal world system. The power system is centred in the hands of the male sexuality. In India, basically, the caste system, and the patriarchal social system have made the environment muddled for the women section. These systems have diminished the possibility for women to become empowered and developed. Women of the whole world are living life under hardship in this world. Gender-based violence is defined as violence that reflects the existing asymmetry in the power relations between men and women and that perpetuates the subordination and devaluation of the female as opposed to the male. This violence exists within the framework of the patriarchy as a symbolic system that engenders an array of day-to-day practices which deny women their rights and reproduce the existing imbalance and inequity between the sexes. The difference between this kind of violence and other forms of aggression and coercion lies in the fact that in this case the risk factor or source of vulnerability is the mere fact of being a woman.

Keywords: Gender practice, violence, patriarchy, scriptures.

ISCA-ISC-2014-Oral-20SHS-20

Farming Science in Veda

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Abstract: Knowledge and Science word found in India. The 'Knowledge' word comes in Sanskrit language "Vidhya". In Vedic Science the food was most important for men. For the Food items required the farming must impotent for us. Our Vedic Science also explained the farming was very essential in this time. Farming Science also important factor of soil, without soil we cannot grow the crops. After that the Instrument also important role play forms any type of farming. All the farming instrument we can boil, Cuts and growth the crops. After that main important factor was watering, watering also important role play. Without watering our crops not growth. After that the crops and their nuts also useful for all over the world.That why Soil, Nuts, Watering, Animals, Instruments and other things must useful for the Farming Science."Vedic Farming Science was useful for us".

Keywords: Farming, science, veda.

ISCA-ISC-2014-Oral-20SHS-21

Status of Socio-Demographicand itsSpatial Variationin India: 2011

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Abstract: The present study has been investigated of demographic condition in India. Demographic is a section of the population sharing common characteristics, such as age, sex, sex-ratio, class, growth, literacy etc. it is determine of

living condition of peoples. Status of socio-demographic does decide of development of country. India is a country of striking socio-demographic diversity. This study is based on secondary data collected from Census of India, 2011. The present study has been investigated of social demographic condition in thirty five states and union territories of India. Social demographic have been measured by two indicators whichthefirst indicator sex-ratio and other indicator literacy rate. While the formula for sex-ratio was number of females per thousand males. And the formula for computing literacy rate on 1991 was $= \frac{\text{Number of literate persons aged 7+years}}{\text{Population aged 7+years}} \times 100$ The spatial variations in social demographic have been studied at district-level. The sex ratio is ranging between 534 to 1184 and literacy rate range36.1 percent to 97.91 percent at district-level in India respectively.

Abstract: Status of Socio-Demographicand itsSpatial Variationin India.

ISCA-ISC-2014-Oral-20SHS-22

Accurate Perception-Correct Expression: The essence of Higher Education

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Abstract: Today we live in an era where "most people know the price of everything and the value of nothing". The purpose of the ancient Indian Education was to upgrade the level of the human perception rather than the mundane knowledge.. The higher-most object of human life is to obtain 'G*yan*', which is not just collection and accumulation of information but understanding and implementing the fundamentals of existence – our own and that of the entire universe, which in turn is a prerequisite for self-realization. However, exactly its opposite prevails. It is not to point out that the entire system is defective, but requires a proper rethinking and dovetailing to bring in desired expected qualities. To maintain our cultural, social and economic goals we have to educate our next generation by adding value education in Higher education curriculum. In recent years, an expansion of cross-border higher education initiatives is characterized by (a) the growing imperative of higher education institutions to internationalize; (b) to integrate an international/ intercultural dimension into teaching, research and community service – in order to enhance the academic excellence and to result in a better understanding of the practices, particularly in the context of varying realities. A person should have ability to discriminate between 'right' and 'wrong' in whatever situation. A wise person will emphasize more on humanity rather than selfish gains." Bahu jan hitaay Bahu jan Sukhaay" should remain in his mind and heart while earning and struggling for the survival. To see and act correctly at the very moment is the virtue to be developed in everyone. This will lead to contentment of his own existence. Our paper will focus on different aspects of virtues and imparting value-added quality education and the role of educational institutes at different levels. This will inculcate positive values and integrity of character in the students and how this concept, with a conscious, consistent and catalytic endeavour for improvement can contribute towards building up a healthier society that can in the context of varying realities, look various problems into the eyes and come up with viable solutions.

Keywords: Self realization, essence of education, virtues, catalytic endeavour, healthier society.

ISCA-ISC-2014-Poster-20SHS-01

Hiv/Aids Epidemic in India: the Geographical Analysis

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Abstract: HIV infection was detected in India in 1986, five year after the detection of AIDS in the United States of America. The virus has spread all over the country although there is geographic variation. There are estimated 5.1 million people infected with HIV with an overall estimated adult prevalence below 1 per cent. Surveys carried out in different sub-populations have yielded prevalence estimates, but data on HIV incidence are limited. According to the National AIDS Control Organisation (NACO) India has 5.2 million HIV-positive people and an HIV-prevalence of 0.9 percent of adults1 – about the same as the global average, or the sero-prevalence in North America, Eastern Europe and Central Asia. India's epidemic is concentrated in some 200 districts, most of them in six of the country's 28 states – namely Andhra Pradesh, Karnataka, Maharashtra, Manipur, Nagaland and Tamil Nadu. This paper will focus on the regional scenario and distribution in India and its cause and responses with primary and secondary data available from different institutions and government offices. A multi-disciplinary approach combining targeted interventions like early identification and treatment and expanding and strengthening VCTCs and long-term strategies like awareness oriented

to behavioural change especially among vulnerable populations, young people and women, steps towards improvement of literacy, status of women and overall development, reduction in poverty and development of primary prevention interventions like vaccines and microbicides will have to be considered for effective prevention and control of AIDS in India.

Keywords: HIV, India, distribution, prevention, control measures, response.

ISCA-ISC-2014-Poster-20SHS-02

'Not so fragile': Stress, coping and resilience as experienced by female Kashmiri migrants

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Abstract: Kashmir, once known for its pristine beauty, is today hailed singularly as a land of international dispute, terrorism, violence, and constant unrest. However, the onset of insurgency in 1989 marked a new chapter of atrocities. In the name of ethnic cleansing, Kashmiri Hindu pandits were forced to leave their homeland for generations and seek refuge in their own country as migrants, leaving behind a legacy of torture, rapes, killings and forced exodus. The most unfortunate of the lot had been the Kashmiri pandit women, who had been reported to be exposed to gender-based discrimination, exploitation, rape, molestation, and violence, and were found to be at risk not only in the communities from which they fled, but also in their adopted homelands and while en route from their homeland to the place of refuge. Further it was found that women were additionally burdened with the responsibility of survival of their children and other family members, and for the preservation of their cultural heritage. Despite the trauma, these women have learned to live with their trauma to tell magnificent tales of human resilience. This study identifies sources of their stress, coping and resilience through their own words.

Keywords: Resilience, stress, trauma, Kashmiri migrants, coping.

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Phulkari: a Long Journey from Past to Present

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Abstract: Present paper talks about a period textile called Phulkari, with reference to its revival in rural areas of Punjab. It is based on the research work. The art of silk embroidery on Phulkari, chaddars and baghs (women's shawls) originated in Punjab in 15th Century. In olden days phulkari and baghs were parts of dowry given to a bride as a gift at the time of her wedding. An integral part of the Punjabi Culture, this custom slowly died down by 1950s owing to various factors, but regained popularity in 1990s on more commercial scale. A traditional Phulkariwas prepared putting in a lot of hard work spanned over months and years by the elderly women of the household, to be given to the daughter of the family on their weddings. The period Phulkaris were made for personal adoration with pure silk floss (pat) whereas the contemporary phulkaris made today for more commercial purposes have taken the shape of a commodity and are currently sold in both local and foreign markets. This new popularity is owing to the unfading lure, beauty and artistry to attract local and foreign buyers. The newly emergent trend of commercialization of this period textile, embroidered with synthetic silk floss, entails more profit motive than its original purpose of body-adornment and keeping a rural tradition alive. Although, numerous products are produced with phulkari embroidery in Punjab for the purpose of this paper Phulkari refers to women's chaddars or shawls prepared by using this particular type of embroidery.

Keywords: Phulakari, bagh, culture, Punjab.

ISCA-ISC-2014-Oral-1AFS-45

Charectere Association Studies in post Rainy Sorghum (*sorghum bicolor* l.) Genotypes

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Abstract: The present study was conducted with 48 genotypes involving 25 land races, 20 advanced breeding lines and 3 varieties, for post flowering drought tolerance of post rainy sorghum (*Sorghum bicolor* L. An experiment was conducted to determine the character association for grain yield and its component characters and their direct and indirect effects to provide necessary information that could be useful in *post rainy* sorghum improvement programmes aimed at improving grain yield. The significant and positive association of grain yield per plant with Panicle dry weight, days to 50 % flowering and total biomass. Grain yield per plant was strongly correlated with plant height, SCMR, leaf dry weight, 1000 grain weight, RLWC and number of leaves per plant. Total biomass had highest direct effect (28.33), followed by stem dry weight, panicle dry weight, leaf dry weight and days to 50% flowering. Indirect effect on grain yield/plant were also estimated it was found that panicle dry weight showed maximum indirect effect via total biomass while indirect effect of total biomass was also positive via stem weight and panicle dry weight.
Keywords: Post rainy sorghum, Correlation, Path analysis and Drought tolerant.

ISCA-ISC-2014-Oral-1AFS-46

Transgenic Approach in Improvement of Rapeseed and Mustard

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Abstract: The genus *Brassica* is an important member of the Brassicaceae family, which comprises of several economically important species which yield edible roots, stems, leaves, buds, flowers, seeds and condiment. Breeding objectives in *Brassica* genus are high seed yield, early maturity, shattering resistance, resistance to biotic and abiotic stresses, improving oil quantity and herbicidal resistance. For salt tolerance the *codA* gene used for biosynthesis of glycinebetaine from *Arthrobacter globiformis* for transforming *Brassica juncea* cv. Pusa Jaikisan through *Agrobacterium* mediated transformation. The stable insertion of the *codA* gene in the shoots obtained on medium with kanamycin and hygromycin was confirmed by PCR analysis of the *npt*II gene. The transformed seedling-derived hypocotyl explants with a disarmed *Agrobacterium tumefaciens* strain GV3101 was used development of rain-fed variety of mustard. The pure and active form of the recombinant lectin peptides for estimation of their sensitivity potential against feeding nymphs of mustard aphid [*Lipaphis erysimi* (Kaltenbach)], a major sap-sucking insect pest of Indian mustard [*Brassica juncea* (L.) Czern.] was used for resistance variety development. The expression of a class I basic glucanase gene was used under the control of CaMV 35S promoter, in Indian mustard and its genetic resistance against *Alternaria* leaf spot. Alternaria blight, Aphid, white rust, abiotic stresses (drought, salinity and frost etc.), high erucic acid and high glucosinolates are the major problems associated with Indian mustard breeding. Canola quality in mustard is also developed having low erucic acid and low glucosinolate content. Biotechnological approaches such as transgenics for protection against mustard aphid, Alternaria blight, salt tolerance, herbicide resistance and transgenic male sterility are helpful in overcoming the limitations of conventional breeding methods.
Keywords: Agrobacterium tumefaciens, disease resistance, tolerance, brsassica

ISCA-ISC-2014-Oral-1AFS-47

Performance Evaluation of Tent Dryer for Vegetable Drying

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Abstract: A tent dryer was constructed for the purpose of drying of fresh Vegetables. The tent dryer was tested for its performance against a simultaneous open sun drying of vegetables. The capacity of dryer is 8-10 kg per batch. During the experiments, vegetables were dried to the final moisture content of 10-12 % from 80-90 % w.b. in one day of

drying in the tent dryer as compared to two to three days of drying in the open sun drying. Experimental drying curves showed only a falling drying rate period. Samples dried in the tent dryer were completely protected from birds, insects, rain, dusts and the quality of dried samples were better as compared to that of open sun.

Keywords: Fresh vegetables, Sun drying, Tent dryer.

ISCA-ISC-2014-Oral-1AFS-48

Storage and Application System for Efficient Water Utilization in Major Crops of Uttarakhand Hills through Participatory Approach

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Abstract: A total of 89 multilayered cross laminated film lined tanks (total capacity 4046 m³) were digged with farmers participation along with 21 demonstrations on installation of micro irrigation system in different villages of Almora and Pithoragarh districts of Uttarakhand. Demonstrations on production technologies for various hill crops had been laid out in approx. 18 ha area. Farmers gained very good profit by using MIS for off season vegetables and orchards along with 80 per cent reduction in labours. On an average, they earned a profit of Rs. 5000 per nali (200 sq m) per year from off season vegetables. Besides, they could save 75 per cent water as compared to conventional methods. Among various demonstrations an increase of 72.4 per cent was recorded in yield of QPM 9 variety of maize. Among wheat demonstrations in irrigated conditions VL Gehun 907, VL Gehun 802 and VL Gehun 829 gave 27.78, 8.6 and 6,3 per cent more yield than farmer practice, respectively. However, under rainfed condition the demonstration yield was 27.36 per cent superior to local variety. VL 62 variety of rice recorded 31.87 per cent more yield than the local cultivar of rice.

Keywords: MLCL tank, Efficient Water Utilization, MIS, Uttarakhand Hills, Farmer's Participation

ISCA-ISC-2014-Oral-1AFS-49

Genetic Diversity Analysis of Black gram (*Vigna mungo* L.) through Morphological Markers

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Abstract: Genetic divergence among 22 genotypes of black gram for ten morphological characters revealed considerable genetic diversity among genotypes and led to their grouping into five clusters. Cluster IV was the largest comprising about 10 genotypes followed by cluster V and III which contained 6 and 4 genotypes. The clusters I and II each had only 1 genotype, respectively. Number of branches per plant contributed maximum towards divergence followed by biological yield per plant and plant height. The genotype PANT-U30 showed early flowering and early maturity characters that are potential processes for better crop productivity. Ward's hierarchical cluster analysis grouped the genotypes into two clusters, cluster I and II that were apart at 25 rescaled values.

ISCA-ISC-2014-Poster-1AFS-20

Integrated Management of Alternaria Leaf Spot of cabbage (*Brassica oleracea* var. capitata)

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Abstract: Investigations aimed to workout management strategy using fungicides, biocontrol agents and botanicals. The fungicides, namely Maccani, Thiram, Pristine, Nativo, Tebuconazole 60FS, Raxil 2DS, Folicur-Tebuconazole, Hexaconazole respectively were found most effective in inhibiting mycelial growth of the pathogens at all three concentrations (0.05, 0.1 and 0.2 % a.i.). However, Dithionon, Pyraclostrobin at 0.1% and SAAF, Mancozeb, Dithionon, Boscalid, Pyraclostrobin at 0.2% concentration were most effective to inhibit the growth of *A. brassicicola*. Among the five Neem-based formulations, the maximum mycelial growth of *A. brassicicola* and rate of sporulation was controlled

by Achook, showing maximum inhibition at 1, 2 and 3% and good extent of inhibition of sporulation at 1.0% conc., followed by Neem oil at 1, 2 and 3%. The Saponin of plant origin, *Quillij aaponaria* bark extract showed maximum mycelial growth inhibition and reduced rate of sporulation of *A. brassicicola* at 1.0, 0.5 per cent concentration. In the i*n vitro* studies for evaluating comparative efficacy and mode of antagonism on local isolates of BCAs, *T. viride* recovered from cabbage rhizosphere used. The efficacy of *T. viride* (ICRISAT) found to be highly effective against *A. brassicicola in- vitro.* The fungicides, oil cakes, neem formulation and bio-control agents which found effective *in vitro*, further evaluated as seed treatment individually as well as in different combination for suppression of cabbage Alternaria leaf spot in field conditions, where integration of seed treatment with *T. viride* + 3 sprays with Nativo @ 0.15% showed minimum per cent disease incidence, maximum per cent disease control and maximum yield of cabbage. Integrated management proved more effective over their individual applications as well as over the untreated control.

Keywords: Cabbage, *Alternaria brassicicola*, Fungicides, Botanicals and Biocontrol

ISCA-ISC-2014-Poster-1AFS-21

Potential reservoirs of whitefly transmitted begomovirus causing chilli leaf curl disease

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Abstract: A total of nineteen weeds viz., *Abutulon theopharasti, Achyranthus aspara, Ageratum conizoides, Amaranthus viridis, Boerhavia diffusa, Calotropis gigantean, Cannabis sativa, Commelina benghalensis, Digera arvensis, Eclipta alba, Euphorbia hirta, Gloe, Ipomoea pestigridis, Malvestrum spp., Parthenium hysterophorus, Phylanthus niruri, Physalis minima, Tribulus terrestris* belong to twelve different families were collected from inside and outside of chilli (*Capsicum annum*) fields in Punjab at random. Out of these, *Eclipta alba*, *Ageratum, Malvestrum, Ipomoea, Abutulon, Cannabis and, Commelina benghalensis* showed typical leaf curl symptoms, vein clearing was however predominant symptom exhibited by all the symptomatic weed spp.Rest of weeds did not possess any symptom. TotalDNA was extracted using CTAB method and quantified and subjected to polymerase chain reaction (PCR) using begomovirus specific primers. Among all the weed spp.,*Commelina benghalensis* was found positive for begomovirus with expected fragment size of ~ 575 bp.of core protein (CP) region, the DNA sample of others did not show any amplification. Furter Rolling Circle Amplification (RCA) technique was adopted to develop conctamer of circular DNA of virus. The RCA product was used then as template in PCR and showed amplification for all the symptomatic as well as asymptomatic weed spp. Except the *Calotropis* and *Parthenium* with expected band size of ~ 575 bp. The amplified product was cloned and sequenced. The phylogenitic analysis revealed the presence of chilli leaf curl, tomato leaf curl Jodeypur and papaya leaf crumple virus in weed samples. To our knowledge *Commelina benghalensis*, *Boerhavia,Arachnia*, Gloe and *Ipomoea pestigridis* are the new hosts of begomoviruses which were not reported so far.

Keywords: Reservoirs of whitefly, Chilli leaf curl, Begomovirus and weed.

ISCA-ISC-2014-Poster-1AFS-22

Path analysis for yield and its component traits in Opium Poppy (Papaver somniferum L.)

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Abstract: Twenty diverse genotypes including three checks were evaluated in Randomized block design for the study of path coefficient among the yield and yield contributing traits at Instructional farm Rajasthan College of Agriculture, Udaipur during rabi season 2012-2013. Data were recorded for days to 50 % flowering, peduncle length, plant height, number of leaves palnt^{-1}, number of effective capsules palnt^{-1}, diameter of main capsule, stem diameter, seed yield palnt^{-1}, husk yield palnt^{-1}, latex yield palnt^{-1}, harvest index for seed yield, harvest index for latex yield, morphine content and seed oil content. Path coefficient analysis permits separation of correlation coefficients into direct and indirect effects

provides actual information on contribution of characters and thus forms the basis for selection to improve the yield. Number of effective capsules palnt^{-1}, stem diameter and peduncle length exerted highest positive direct effect on seed yield palnt^{-1} and latex yield palnt^{-1}. It means a slight increase in any one of the above traits may directly contribute towards seed yield and latex yield. Highly positive indirect effects on latex yield palnt^{-1} exerted by seed oil content, days to 50% flowering and husk yield palnt^{-1} via number of effective capsules palnt^{-1} while, highly positive indirect effects on latex yield palnt^{-1} exerted by seed oil content, days to 50% flowering and diameter of main capsule via number of effective capsules palnt^{-1}. This suggests that the above traits were the important indirect contributors to seed and latex yield palnt^{-1} via number of effective capsules palnt^{-1}. The characters identified above as important direct and indirect contributors on seed and latex yield are helpful for consideration in formulating selection strategy for developing high yielding varieties. The remaining estimates of the indirect effects in the analysis were too low to be considered important.

Keywords: Path coefficient, Opium, Seed yield, Latex yield.

ISCA-ISC-2014-Poster-1AFS-23

Character Association in Eggplant (*Solanum melongena* L.)

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Abstract: Brinjal or eggplant (*Solanum melongena* L.) is an important solanaceous crop of sub-tropics and tropics. Brinjal is a perennial herbaceous plant spiny, without spines, grown as annual belonging to family Solanaceae, sub family Solanoideae, genus *Solanum,* species *melongena*. There are multifarious uses of brinjal. Unripe fruits are primarily consumed as cooked vegetable in various ways and dried shoots are used as fuel in rural areas. It is low in calories and fats, contains mostly water, some protein, fibre and carbohydrates. It is a good source of minerals and vitamins and rich in total water soluble sugars, free reducing sugars, amide proteins among other nutrients. Yield is a complex and highly variable character, and is a result of cumulative effect of its component characters. Therefore, it is advisable to back up certain close associations which are understood to have been found between yield and its contributing characters. Consequently, a considerable improvement can be brought about in a desired direction. It is therefore, necessary to study the nature of the association between yield and its components. Study of the genetic association of the major character contributing to the final expression of yield would be helpful in two ways from breeder's point of view. In present study total yield exhibited significant and positive correlation with all the characters except days to 50% flowering, days to first fruit harvest, number of primary branches per plant and fruit length. Highest positive and significant correlation for total yield was exhibited with total fruit weight per plant. Days to 50% flowering and days to first fruit harvest exhibited negative correlation with total yield. These results indicate that by selecting genotypes for fruit weight, number of fruits per plant, and fruit diameter, breeder can select for higher total yield. Total yield showed negative correlation with days to 50% flowering therefore it would be possible to select high yielding genotypes with early maturity.

Keywords: Character, Association, Eggplant.

ISCA-ISC-2014-Oral-2AVFS-38

Studies on Textural Properties of *Gulabjamun* from *Khoa* Prepared by Blending of Buffalo Milk with Sweet Corn Milk

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Abstract: *Gulabjamun* prepared by blends of buffalo milk with sweet corn milk was prepared from different proportion of sweet corn milk. The hardness of the finished product were found to be 1910.15, 2707.05, 2127.94 and 2913.20 gm for treatment T_0, T_1, T_2 and T_3, respectively and 4538.45 for market sample. Brittleness of the finished product was found to be 15.829, 15.520, 13.250, 16.654 and 18.200 cm. Cohesiveness of the finished product were found to be 0.24, 0.33, 0.35, 0.42 and 0.25. Elasticity of the finished product was found to be 7.77, 8.47, 8.97, 9.45 and 6.30 mm. Chewiness of the finished product was found to be 3681.95, 7571.99, 6782.91, 11753.16 and 7246.86 g-s. Gumminess of the finished product was found to be 473.44, 895.05, 756.13, 1245.54 and 1097.15 g.
Keywords-: *Gulabjamun,* Sweet Corn Milk, Texture.

ISCA-ISC-2014-Oral-2AVFS-39

Inhibitory effect of some plant pellets on different developmental stages of *Callosobruchus spp.*

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Abstract: Plants plays important role in controlling the insect pests. They have power to repel insects, deter feeding and oviposition. They are bio-degradable, safer and cheaper and show effective control of insect pests that have become resistant to other insecticides. In present research work four common desert flora and their combination were used to evaluate their insecticidal properties against the test insect C*allosobruchus spp.* infesting the stored moong beans. The plants used for research work were *Azadirachta indica*, *Eucalyptus globulus, Fagonia cretica* and *Balanites aegyptiaca.* The leaves of these plants were used in the form of pellets and doses of these plant pellets are applied @ 0.5, 1 and 2gm per 100gm of seeds . All the treatment caused significant result in comparison to control. *Azadirachta indica* found most effective at all three doses. Insecticidal properties of plant pellets were increased with increasing doses.
Keywords: Botanicals, Bio pesticides, Plant product, Desert flora, *Callosobruchus.*

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Spatial and Temporal Variation of a Macroalgae Species: *Iyengaria Stellata* on Dwarka Coast, Gujarat, India

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Abstract: Macroalgae represents the ecological base of many close-shore tropical and temperate marine ecosystems. The shore platform of Dwarka from Gujarat state of India is a case environment where diverse macroalgae species grow in different seasons. For this study, the shore platform of Dwarka was divided into three sections: i) northern, ii) central and iii) southern. In order to study the seasonal dynamics of the macroalgae species at this site, macroalgae species were collected through intensive fieldwork/*in situ* survey in four months (April, June and October, 2013 and January, 2014) representing different seasons. Total fifty eight taxa of macroalgae have so far been recorded, out of which Chlorophyta and Rhodophyta have twenty taxa each while rest eighteen belong to Phaeophyta. General observations reveal that Chlorophyta dominate in the subtidal zone while Phaeophyta species dominate in rock pools near the cliff base. Out of the fifty eight taxa of macro algae, all taxa showed seasonal presence except one species: *Iyengaria stellata* (Børgesen) Børgesen. This particular species have been recorded all through the four sampling months. This species has been found intensively in the northern and southern sections of the shore platform and is characteristically absent in the central section. Frequency of *Iyengaria stellata* is higher in the southern section as compared to the northern section. This study highlights the spatio-temporal variations observed in *Iyengaria stellata* species on the shore platform of Dwarka.
Keywords: *Shore platform, Dwarka, Macroalgae, Iyengaria stellata, Seasonal Variation*

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Zooplankton fauna and its ecological features in a desert pond ecosystem at Churu, Rajasthan

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Abtract: Rajasthan is endowed with different topographic characters. In northwest part of the state, the Thar desert lies, where extreme condition like scarcity of water, low rainfall, high temperature fluctuations, dust storms, poor vegetation and animal life prevail. In the adverse conditions of desert water is the most important limiting factor for existence and distribution of biotic communities. In the Indian desert fewer but varied bodies of water are present in the form of ponds, tanks, reservoirs, tanka, naadis, johra, beri and bawari and few perennial lakes etc. The present study was carried out during September 2012 to February 2013 to investigate the diversity and population density of Zooplankton at 'Sethani ka Johra' in Churu district (27^0 24'N to 29^0 00N' latitude and 73^0 40'E to 75^0 41'E longitude). Physical – Chemical limnology of the studied biotopes revealed that the pond was shallow with turbid, alkaline, hard, slightly saline and well oxygenated water. The Zooplankton fauna was represented by Protozoans, Rotifers and Arthropods. Protozoans include thirteen species belonging to two classes- Mastigophora and Ciliata. Rotifers represented by eight species. Arthropods were represented by two classes – Crustacea and Insecta. Crustacea includes eight species belonging to three orders – Ostracoda, Cladocera and Copepoda. Nauplii, the larval forms of many Crustaceans, occurred in pond during the study period. Insecta includes ten species belonging to two orders - Coleoptera and Hemiptera. Order Diptera and Odonata were represented only by larval forms.
Keyword: zooplankton, environment, sensitive, johra, Physical – Chemical limnology, population density.

ISCA-ISC-2014-Oral-3BS-54

Metagenomics: Science of Microbiological Diversity

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Abtract: Metagenomics which is also known as Community Genomics, Ecogenomics or Environmental Genomics is the study of genetic material directly from environmental samples. This is a relatively new field of genomic research that enables the study of organisms that are not easily cultured in a laboratory. Culturing the organisms in the laboratory is an

old process known form since 18th century. The first bacterial culture media were broths made either by infusion or by enzymatic digest of meat from various sources. The early attempts to isolate bacteria were restricted to those associated with various diseases. However, later on the organisms isolated were used at industrial scale for the production of various beneficial products. The scientist do realize from very beginning that it is not possible to cultivate all the organisms present in the sample at a particular time, however the extent of unculturability is much higher than estimated. It is now realize that we are grossly ignorant of bacterial life on earth. Environmental microbiologist estimate that less than 2% of bacteria can be cultured in the laboratory. One must be very clear at this moment that unculturability means the organisms are unable to grow on laboratory media due to one or other reason otherwise these organisms are very well growing rather flourishing in one or other natural environment.

Keyword: Metagenomics, Science, Microbiological, Diversity.

ISCA-ISC-2014-Oral-3BS-55

Physicochemical Study of Soil Samples of Different Zones of Neemuch

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Abstract: The naturally occurring unconsolidated material on the surface of the earth that has been influenced by parent material, climate (including the effects of moisture and temperature), macro and micro-organisms, and relief, all active over a period of time to produce soil that may differ from the material from which it was derived in many physical, chemical, mineralogical, biological and morphological properties. Many scientists have described soil as the skin of the earth and have studied it in great detail because its properties are different from the properties of each of its components. The science of pedology emphasized the study of soil as a natural phenomenon on the surface of the earth. Therefore, the pedologist is interested in the appearance of the soil, its mode of formation, its physical, chemical and biological composition, and its classification and distribution (Bridges, 1997). A method of investigating physicochemical systems that makes possible a determination of the nature of the interactions between the components of a system through a study of the relations between the system's physical properties and composition. The principles of physicochemical analysis were established in the late 19th century by J. Gibbs, D. I. Mendeleev, and J. van't Hoff. The analytical method received its development in the research of H. Le Châtelier, G. Tammann, H. Roozeboom, and, in particular, N. S. Kurnakov and his school. Physicochemical analysis is based on the phase rule and on the principles of continuity and correspondence, which were introduced by N.S. Kurnakov.

Keywords: Physicochemical analysis, soil, Pedology, Edaphology, Neemuch.

ISCA-ISC-2014-Oral-3BS-56

Biochemical Study of Neuroprotective Effect of *Asparagus racemosus* on Stress Induced

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Abstract: Oxygen, the life supporting molecule is a known precursor to the formation of harmful reactive oxygen species (ROS). ROS are mostly oxygen centred radicals which possess unpaired electrons ex. Superoxide dismutase anion , hydroxyl radical and H_2O_2. ROS can virtually damage any biological molecule in its vicinity such as DNA, essential proteins and membrane lipids. This particular feature is well described with a word "oxidative stress". Growing data from experimental studies suggest that it plays a key role in various neurological disorders viz. Parkinson's, Alzheimer's disease, stroke, cerebral ischemia. Modified lifestyle diseases like Diabetes mellitus, Aging is also attributed to this stress. The central nervous system is especially vulnerable to free radical damage because of brain's high O_2 consumption, its abundant lipid content and relatively less antioxidant profile. The present study evaluates the neurodegeneration in brain due to stress. Simultaneously counteracting effect of methanolic extract of *A. racemosus*, a phytoestrogen, was evaluated in swiss albino rat model. Significant results were obtained in this study. Thus, *A. racemosus* possess antioxidative and neuroprotective properties.

Keywords: Oxidative stress, ROS, Brain, Antioxidant, neuroprotective, Phytoestrogen *Asparagus racemosus*

ISCA-ISC-2014-Poster-3BS-66

Larvicidal potential of various essential oils against *Anopheles stephensi* (*Diptera, Culicidae*)

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Abstract: The essential oils such as orange (*Citrus sinensis*), mentha (*Mentha piperata*), eucalyptus (*Eucalyptus globulus*), and lemongrass (*Cymbopogan citratus*) were screened for their toxicity against third instar of *Anopheles stephensi* larvae. The larvicidal action of different essential oils were analysed at various concentrations (100- 500 ppm) against *A. stephensi* under suitable laboratory conditions (Temp-28 °C, RH-70%). The percentages of mortality were calculated for each oil after 24 h and 48 h. Among all the tested essential oils, the mentha essential oil was observed to be the most effective oil in controlling the larvae of *A. stephensi* causing 100% mortality after 48 h with LC_{50} of 44.66 ppm, whereas the least toxicity was recorded with orange oil with LC_{50} to be 1015.60 ppm. The order of effectiveness of essential oils were found to be mentha > lemongrass > eucalyptus > orange. The results suggest that the mentha oil is very effective against the larvae of *A. stephensi* and have the potential to be formulated into suitable product for mosquitoes control.
Keywords: Essential oils: *Citrus sinensis, Mentha piperata, Eucalyptus globulus, Cymbopogan citratus* Mosquitoes: *Anopheles stephensi,* Larvicidal.

ISCA-ISC-2014-Poster-3BS-67

A Comparative Evaluation of Anitifungal Activity of Ethanolic extracts of certain mosses of Rajasthan

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Abstract: A study was carried out to evaluate the antifungal properties of moss *Bryum argenteum, Bryum capillare and Bryum cellulare* extracts on fungal speceis *Drechslera maydis,* the causal organism of southern corn leaf blight using pour plate method. Ethanolic extract was used against selected test fungi for antimicrobial assay. The results revealed that the colony diameter and fresh weight of test fungi was reduced in response of all concentrations ranged from 10-100 per cent. Results of this study suggested that ethanolic extracts of all the plants showed good antifungal activity but in varying degrees. The highest inhibition in colony diameter and fresh weight of colony was observed in ethanolic extract of *Bryum argenteum*
Keywords: Bryophytes, *Bryum argenteum, Bryum capillare, Bryum cellulare*, Antifungal potential, Phytochemical screening.

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Phytochemical Screening and Antifungal Activity of *Terminallia arjuna*

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Abstract: *Terminalia arjuna* commonly known as "Arjun" (family-Combretaceae) is a medicinal plant. A qualitative phytochemical analysis was performed to check the presence of secondary metabolites like alkaloids, steroids, volatile oil, fat, tannin, carbohydrate, saponin and flavonoids in the selected plant. Plant extracts were obtained by successive extraction of leaf and stem bark powder in soxhlet apparatus by using a series from non polar (petroleum ether) to polar (water) solvents. The constituents of taken plant are generally used against human diseases. In the present study the plant extracts were screened against the economically important phytopathogenic fungus *Pythium aphanidermatum*. The plant extract gave the significant inhibition of fungus. The assay was performed by poisoned food technique. *Pythium aphanidermatum* was isolated from infected rhizome of ginger.
Keywords: Phytochemical, screening, antifungal, activity, terminallia, arjuna.

ISCA-ISC-2014-Oral-4CS-44

Microwave Synthesis, Characterization and Antibacterial Activity of Coumarins

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Abstract: Coumarin is a phytochemical (benzopyrone) used as drugs and dyes. The benzopyrones are a group of compounds whose members include coumarins and flavonoids. Dietary importance of benzopyrones is quite significant as these compounds are found in vegetables, fruits, seeds, nuts, coffee, tea and wine. Coumarins are widely used as additives in food, perfumes, cosmetics, pharmaceutical and optical brightner. Coumarin and its derivatives can be synthesized by various methods such as Pechman reaction, Perkin reaction, Reformatsky reaction and Knoevenegal reaction. Series of coumarins have been synthesized by Pechmann reaction through inexpensive microwave irradiation using an easily available catalyst oxalic acid. Microwave irradiation method is a simple procedure having short reaction time with excellent yields of products in the absence of solvent. Various compounds were synthesized by microvave irradiation. Melting point of the Synthesised compounds were determined and further characterized by TLC, IR, NMR and MASS spectroscopy. They were also evaluated for biological activity. Some of these compounds show significant activity against both gram positive and gram nagative bacteria. Compound 8-(p-nitro phenyl azo) 5-hydroxy-4methyl coumarin and 4-methyl-2-H benzocoumarin exhibited significant activity against Staphylococcus and Bacillus and compound 3-acetyl coumarin did not show any inhibitory action. Whereas in the case of gram negative bacteria compound 8-(p-nitro phenyl azo)5-hydroxy-4methyl coumarin and coumarin show inhibitory action but compound 5,7 dihydroxy 4-methyl coumarin and 3-acetyl coumarin did not show any activity.
Keywords: Coumarin, gram positive bacteria, gram negative bacteria, oxalic acid, microwave irradiation.

ISCA-ISC-2014-Oral-4CS-45

Synthesis and Characterisation of Poly (Vinylpyrrolidone)–Copper (ii) Complexes

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Abstract: Transition metals show many remarkable applications in the field of biological sciences, chemical and pharmaceutical industries. Coordination compounds of the transition metals find their use in almost every field of human life. In the proposed work we have selected a copper salt for complexing with poly(vinylpyrrolidone) ligand. Copper compounds are used as bacteriostatic substances, fungicides and food preservatives. Poly(vinylpyrrolidone) is a water soluble polymer having many eco-friendly uses which are the results of its unique properties like low toxicity, biological compatibility, comparatively inert behavior towards salts and acids, complexing ability, resistance to thermal degradation in solution and film forming ability. Keeping these properties of copper and poly(vinylpyrrolidone) in view and with the objective of synthesizing more environment friendly compounds, complexes of poly(vinylpyrrolidone) and copper were prepared by using aqueous solution of PVP(30K) and alcoholic solution of hydrated copper chloride at room temperature with different molar composition. Crystalline polymer-metal complexes were obtained by evaporation of the solvent. They were characterized by solubility studies, CHN analysis, FTIR, ^{1}H-NMR and ^{13}C-NMR. Procedure was repeated with aqueous solution of the salt also. The spectral analysis of the reactants and the complexes confirmed the formation of expected complexes. The conditions for better complexation were optimized.
Keywords: ^{13}C-NMR, FTIR, ^{1}H-NMR, Copper chloride dihydrate, Poly (vinyl pyrrolidone).

ISCA-ISC-2014-Oral-4CS-46

Kinetics and mechanism of removal of phenol from aqueous solutions with flyash

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Abstract: Adsorption technique is widely used for removal of toxic organic contaminants from aqueous streams. Although commercial activated carbon is an effective adsorbent, it's widespread used is restricted due to its high cost and substantial

lost during regeneration. The aim of this study is to investigate the possibility of flyash as an alternative adsorbent for phenol removal from aqueous solution .The removal of phenol from aqueous solution by flyash were investigated under various conditions of contact time, particle size, pH, concentration and temperature. The level of uptake of phenol by flyash decreased with increasing particle size and pH but increases with temperature. Rate constants for different conditions were evaluated in terms of first-order kinetics. The study is followed the pseudo-first-order rate kinetics and is found that the sorption data fit well the Lagergren equation.The main mechanisms involved in the removal of phenol from solution by flyash were the interaction obetween lone pair of electron present on oxygen atom of OH group of the phenol and the silica an d alumina present as major constituent at the surface of the flyash. It was found that these low cost flyash adsorbent demonstrated good removal capability of phenol and hence can be used economically on large scale.

Keywords: Sorption, Flyash, Phenol, Kinetic parameter, Lagergren equation.

ISCA-ISC-2014-Poster-4CS-63

Synthesis and Characterization of Functionalized Polyaniline Having Methyl Violet as Pendant Groups

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Abstract: Methyl violet – substituted polyaniline is prepared by oxidative polymerization of aniline in an aqueous acidic media using tosic acid as dopent and ammonium per sulphate as oxidant. Substitution of methyl violet (dye moieties) on polyaniline backbone takes place in the presence of butyl lithium. The structures of methyl violet – substituted polyaniline was elucidated by fourier transform infrared (FT-IR), fluorescence spectra, XRD and differential scanning calorimetery (DSC). Molecular weight is determined by gel permeation chromatography (GPC) and viscosity method. Conductivity and band gap of methyl violet substituted polyaniline was computed by a two-probe conductometer.

Keywords: Aniline, methyl – violet, butyl lithium, viscosity, conductivity measurement

ISCA-ISC-2014-Poster-4CS-64

Adsorption as Green Technology for the Removal of phenol from Water and Wastewater using Coal Flyash as Adsorbent

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Abstract: Adsorption technique is widely used for removal of toxic organic contaminants from aqueous streams. Although commercial activated carbon is an effective adsorbent, it's widespread used is restricted due to its high cost and substantial lost during regeneration. The aim of this study is to investigate the possibility of coal flyash as an alternative adsorbent for phenol removal from aqueous solution .The coal flyash is characterized through Fourier transform (FT-IR) which show the presence of quartz, alumina, haematite and different mineral matters. Batch studies are performed on synthetic wastewater involving parameters like different particle size of flyash, pH effect and temperature. The experimental data are analyzed by Langmuir models in order to describe the equilibrium isotherms ($R^2 > 0.96$). The adsorption of phenol decreased with increasing particle size and pH but increases with temperature. The study showed that coal flyash could be used as a new and efficient adsorbent material for the removal of phenol from aqueous solution. It was found that these low cost flyash adsorbent demonstrated good removal capability for phenol and hence can be used economically on large scale.

Keywords: Adsorption, Isotherm, Low Cost Adsorbents, Langmuir, Flyash, FT-IR

ISCA-ISC-2014-Poster-4CS-65

Comparative Study of Sonolytic, Photocatalytic and Sonophotocatalytic Degradation of Methylene Blue

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Abstract: The treatment of dye containing wastewater by conventional methods, such as flocculation, air sparging and activated carbon adsorption are quite ineffective in decolourization of wastewater since dyestuffs are recalcitrant and

difficult to remove by these processes due to their low molecular weight and high water solubility, which can be get over by sonophotocatalytic oxidation technology. This modification can improve the efficiency of wastewater treatment. The simultaneous use of ultrasound and semiconductor based photocatalysis is known as sonophotocatalysis. Methylene Blue dye (D) was degraded in the presence of ZnO semiconductor (PC) under ultrasound (US), visible light (VL) and under both. Under ultrasound, the degradation of dye was very slow and in the presence of visible light, degradation was faster than sonolysis. By the simultaneous use of ultrasound and visible light, the degradation was very fast.

Keywords: Sonophotocatalysis, degradation, ultrasound, methylene blue.

ISCA-ISC-2014-Poster-4CS-67

Conducting and Antimicrobial properties of Novel Dye Substituted Polyanilines

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Abstract: By varying the dye moieties conducting and antimicrobial properties of chemically synthesized polyanilines was found to be affected. The dye–substituted polyanilines were characterized by various analytical techniques including UV–visible spectroscopy, IR spectroscopy, fluorescence spectroscopy, Thermal gravimetric analysis (TGA) and X – Ray Diffraction (XRD). To study the antimicrobial behavior of the synthesized polyanilines different microorganisms, including the bacteria *Escherichia coli* (MTCC 442), *Pseudomonas aeurginosa* (MTCC 441), *Staphylococus aureus* (MTCC 96), and *Staphylococus pyogenus* (MTCC 443) and fungal strains *Candida albicans* (MTCC 227), *Aspergillus niger* (MTCC 282) and *Aspergillus clavatus* (MTCC 1323), were chosen based on their clinical and pharmacological importance.

Keywords: Conducting, antimicrobial, properties, novel, dye, substituted, polyanilines.

ISCA-ISC-2014-Poster-4CS-68

Microwave enhanced synthesis of some benzamide derivatives under solvent free conditions

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Abstract: An environmentally benign, efficient and facile route is developed for the preparation of phthalimide derivatives by using LiBr as a catalyst under solvent free condition and microwave exposure. In comparison to conventional synthesis involving tedious workup, excessive use of solvent and extra labour for separation and purification of compounds, the present method indicates operational simplicity, shorter reaction time and higher yields which can prove this procedure as a useful alternative for the synthesis of heterocycles. The potent antimicrobial effects of the synthesized compounds were investigated.

Keywords: Phthalimide, LiBr, Solvent free condition, Microwave exposure.

ISCA-ISC-2014-Poster-4CS-69

Synthesis and Characterisation of Benzimidazole Derivatives Containing N-Methyl Piperazine Moiety and their Antimicrobial Potential

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Abstract: New 2-phenyl-4-(N-methyl piperazino)-aryl substituted benzimidazoles were synthesized by condensation of substituted aryl halides with 2-phenyl-4-(N-methyl piperazino)-benzimdazole (I) under anhydrous conditions in presence of K_2CO_3 and acetone. Compound (I) was obtained by condensation of 4-(N-methyl piperazine)-benzoic acid (II) with o-phenylenediamine in 4N HCl. Compound (II) was achieved by reaction of N-methyl piperazine with p-chloro benzoic acid in benzene. Synthesis of compounds was confirmed by FTIR, NMR and MASS spectral data. All the synthesized compounds were screened for antibacterial activity against the pathogenic Strains *Escherichia coli, Klebseilla pneumoniae* and *Staphylococcus aureus* while antifungal activity was evaluated against *Aspergillus niger* and *Aspergillus flavus*. Standard antifungal Griseofulvin and antibacterial Streptomycin were also assayed under similar conditions for comparision while DMF was used as a control solvent.

Keywords: N-methyl piperazine, benzimidazole, antimicrobial activity

ISCA-ISC-2014-Poster-4CS-70

Synthesis and Electrochemical Studies of Schiff Base of Sulpha Drug and other important compounds

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Abstract: In the present study, Schiff base used has been synthesized by the condensation of 1-acetyl-2-naphthol with sulphanilamide and sulphathiozole using alcohol as the reaction medium. The structure of the synthesized compound has been confirmed on the basis of elemental analysis and spectral data of compound. Electrochemical kinetic parameters of the Schiff base in DMF and alcohol media were measured using Cyclic Voltammetry technique on glassy carbon electrode (GCE) at several sweep rates, different concentrations and pH. A single diffusion controlled irreversible reduction peak has been reported. The charge transfer coefficient ($á_n$), diffusion coefficient ($D_0^{1/2}$) and rate constant ($k°_{f,h}$) values have been reported.
Keywords: Charge transfer coefficient ($á_n$), diffusion coefficient ($D_0^{1/2}$), rate constant ($k°_{f,h}$) , Schiff base and Cyclic Voltammetry.

ISCA-ISC-2014-Poster-4CS-71

A Brief Review on Phthalocyanine

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Abstract: phthalocyanine was discovered in 1928 by accidently, the phthalocyanine molecule is very important due to its chemically stable nature against heat, acid, alkali and wear and tear, and thousands of tons are produced annually because of their applications in materials science, liquid crystals, Langmuir-Blodgett films, electro chromic devices, gas sensors, non-linear optical devices, catalytic processes, solar energy absorbing material and pigments and dyes production. After its discovery an abundance of data on the synthesis and its industrial applications are available in chemical literature. The present paper shows all landmarks of phthalocyanine from its invention and future aspect and probability of newer modified phthalocyanines which more use full in solar energy absorption and other activities.
Keywords: Phthalocyanine, gas sensors, non-linear optical devices.

ISCA-ISC-2014-Poster-4CS-72

Efficient photocatalytic degradation of monochrotophos catalyzed by C-TiO2

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Abstract: A visible-light responsive C doped TiO2 has been synthesized *via* sol–gel precipitation method, with different percentage of carbon dopant. The photocatalytic activity of carbon doped TiO2 was evaluated by using monochrotophos as a model pollutant. The photocatalytic performance of the prepared photocatalysts was compared with the activity of pure TiO2 under VIS irradiation. The carbon doped catalyst shows higher activity than the pure under visible light irradiation.
Keywords: Efficient, photocatalytic, degradation, monochrotophos, catalyzed.

ISCA-ISC-2014-Poster-4CS-73

Photochromic behaviour of Hexacyanoferrate (II) in m-Cresol Purple

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Abstract: Photchromism is a light induced reversible change of colour. Photochromic dyes are used in textile industries for evaluation of photochromic textile during traditional colour measurement. In the present paper the photochromic behavior of Hexacyanoferrate in phthalein system was observed Spectrophotometrically .Hexacyanoferrate (II) ejects electrons, which abstracts H^+ from indicator molecule and this molecule of the indicator changes into their quinonoid form which is coloured.The effect of various parameters like pH,concentration of reactants,light intensity ,etc.were observed on photochromic behaviour shown by these system.A tentative mechanism was proposed for this phoochromic behaviour.
Keywords: Photochromism, phthalein,m-cresol purple

ISCA-ISC-2014-Oral-5CITS-19

Cloud Computing Security Issues

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Abstract: Cloud computing is set of resources and services offered through the Internet. Cloud services are delivered from data centers located throughout the world. Cloud computing facilitates its consumers by providing virtual resources via internet. Security has remained a constant issue for Open Systems and internet, when we are talking about security cloud really suffers. Lack of security is the only hurdle in wide adoption of cloud computing. Cloud computing is surrounded by many security issues like securing data, and examining the utilization of cloud by the cloud computing vendors. The wide acceptance www has raised security risks along with the uncountable benefits, so is the case with cloud computing. The boom in cloud computing has brought lots of security challenges for the consumers and service providers. How the end users of cloud computing know that their information is not having any availability and security issues? Every one poses, Is their information secure? This study aims to identify the most vulnerable security threats in cloud computing, which will enable both end users and vendors to know about the key security threats associated with cloud computing.
Keywords: Cloud Computing, Scalability, Infrastructure, IT.

ISCA-ISC-2014-Oral-5CITS-20

High Bandwidth Wireless Networks for Value Added Services

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Abstract: These days the volume of traffic carried over wireless IP networks is growing rapidly. The most of traffic is the tremendous growth in multimedia applications such as video, voice, video-conferencing and social networking to name a few. Wi-Fi is used on many different devices like laptop computers, personal data assistant (PDA), palmtops and mobile phones every day and is on the rise. Consumers want to be connected all the times to social networks, the Internet and their favourable applications. They also want value added services like video-on-demand, surveillance, online gaming (cloud-based), e-governance and e-education.Internet Protocol (IP) was originally designed for best-effort delivery in which every user receives the same level of services. This type of delivery does not guarantee the minimum bandwidth for multimedia applications. According to the latest report of CISCO "Visual Networking Index 2013-2018," globally, IP video traffic will be 79 percent of all consumer Internet traffic in 2018.75 percent of Internet traffic will connect via wireless networks by 2018. Most of that (64 percent) will be on Wi-Fi networks. In Namibia, events like droughts and floods occur more frequently due to the increase in temperature which is predicted in the whole country.High bandwidth wireless networks are seeing the potential benefits of having instant wireless communications during disasters such as fires, floods, snow storms and infrastructure failure.The presentation suggests the mechanism to support multimedia traffic over the wireless network and facilitate true quality of service (QoS) on an IP-wireless network.
Keywords: High, Bandwidth, Wireless, Networks, Value, Added, Services.

ISCA-ISC-2014-Oral-5CITS-21

Cloud Computing – A Saviour of Environment?

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Abstract: We are living in an era where, among other things, our environment is constantly under the threat of rapid innovations and developments taking place in the field of Information and Communication Technology (ICT). According to a report by Gartner, it is estimated that the ICT industry generates about 2% of the total global CO_2 emissions. Cloud computing, being an emerging technology also raises significant questions about its environmental sustainability. The cloud computing features of large shared virtualized datacenters and workload consolidation point at significant energy savings. However, increase in the demand of resources may result in more carbon emission and aggravate the problem of global warming. In this paper, an attempt has been made to explore the features of cloud computing and analyze their

impact on the environment.

Keywords: Information and Communication Technology (ICT), Cloud computing, Virtualized datacenters, Workload consolidation, Environmental sustainability etc.

ISCA-ISC-2014-Oral-5CITS-22

Comparisons of Delay, Load and Throughput in 802.16/WIMAX by Varying the Network Size

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Abstract: WIMAX is growing up like rapid fire and has become the most emerging and competitive technology in the telecommunications industry which offers variable and high data rate,QoS, seamless mobility in a network. For the simulation of various types of wireless networks, a simulation program tool OPNET modeler is available. In this paper, three different WIMAX networks are taken and evaluated. The modeler is used to study networks with 4, 18 and 30 mobile workstations.The results obtained are helpful in evaluating QoS attributes for WIMAX Network and it has been observed that by increasing the number of mobile nodes for WIMAX Network an optimized value of QoS parameters is obtained. Performance of parameters denotes the quality of services like delay, Throughput, load have been discussed.
Keywords: WIMAX, QoS Parameters, IEEE 802.16, OPNET, QoS, Delay, Load, Throughout.

ISCA-ISC-2014-Oral-5CITS-23

Particle Swarm Optimization based K-Prototype Clustering Algorithm

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Abstract: Clustering in data mining is a discovery process that groups a set of data so as to maximize the intra-cluster similarity and to minimize the inter-cluster similarity. The K-Means algorithm is best suited for clustering large numeric data sets when at possess only numeric values. The K-Modes extends to the K-Means when the domain is categorical. But in some applications, data objects are described by both numeric and categorical features. The K-Prototype algorithm is one of the most important algorithms for clustering this type of data. This algorithm produces locally optimal solution that dependent on the initial prototypes and order of object in the data. Particle Swarm Optimization is one of the simple optimization techniques, which can be effectively implemented to enhance the clustering results. But discrete or binary Particle Swarm Optimization mechanisms are useful for handle mixed data set. This leads to a better cost evaluation in the description space and subsequently enhanced processing of mixed data by the Particle Swarm Optimization. This paper proposes a new variant of binary Particle Swarm Optimization by integrating the concepts of K-Prototype clustering algorithms to reach global optimal solution .The proposed algorithm is implemented and evaluated on standard Hepatitis, Post Operation Patient, Australian Credit, German Credit Card and Statlog Heart benchmark datasets taken from UCI machine learning repository. The performance of K-Modes, K-Prototype and Particle Swarm Optimization based K-Prototype clustering algorithm is measured in terms of four external validity measures namely Rand Index, Jaccard Index, F-Measure and Entropy. The comparative analysis proved better performance for all experimented mixed numeric and categorical datasets. It shows the superiority of the proposed algorithm to produce the optimal number of clusters.
Keywords: Clustering, Centroid, K-Mode, K-Prototype Algorithm, Particle Swarm Optimization.

ISCA-ISC-2014-Oral-7EngS-Chem-07

Comparison of Concentration Profiles for A Porous Catalyst Slab

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Abstract: There are many engineering problems which are modeled by difficult nonlinear differential equations. An important example, in this respect, is the reaction-diffusion process inside a porous catalyst. The study of this problem has been a subject of great interest for chemical engineers since many chemical reaction processes are described by gas-solid heterogeneous catalytic systems. The amount of costly catalysts to be used in the reactor and the proper design of the reactor are primarily dictated by the prediction of diffusion and reaction rates inside the catalyst. Therefore, it becomes an essential task to obtain the accurate solution of the model equation of the reaction-diffusion process. We assumed each point on the interior of catalyst surface was accessible to the same concentration. But there are many situations where this equal accessibility will not be true. Therefore the rate of reaction throughout the pellet will vary. To account for variations in reaction rate throughout the pellet, we introduce a parameter known as the effectiveness factor. Lee and Kim[1] has proposed simple closed form formula for approximation of effectiveness factor. Gottifredi and Gonzo[2] has predicted effectiveness with a very simple and practical procedure and found error less than 4% for all Thiele modulus value. Li et. al.[3] has calculated effectiveness factor by using third order polynomial model. The present work revisits the well-known problem of diffusion and reaction in a catalyst slab in which a single reaction is taking place under steady state and isothermal condition. Here the model equation of second order nonlinear ordinary differential equation, has been developed by applying the material balance over the cylindrical pore of slab geometry of reactant species. Following assumptions have been considered while deriving the model: Catalytic reaction diffusion process occur at steady state, Single reaction is taking place inside the catalyst pellet of characteristic length L, Isothermal condition prevail inside the catalyst pellet, There is Negligible external mass transfer resistance, The edges of slab are sealed so that diffusion occur in one dimension only. In our work we performed steady state material balance on reactant species across the elementary section of slab as it enters, leaves and reacts in a catalyst slab using Fick's law of diffusion The model equation is obtained by applying mass balance. The model equation has been numerically solved with the help of MATHEMATICA software for different reaction order and kinetics to not only obtain the concentration profile of reactant inside the catalyst pellet but also the effectiveness factor, which plays an important role in the design of catalytic reactors. Thus obtained values of effectiveness factor have been compared with those found from various existing approximate analytical relations, and usefulness and limitations of these relations in predicting the effectiveness factor have been highlighted.

Keywords: Effectiveness factor, diffusion, Catalyst , Thiele modulus , approximation formula.

ISCA-ISC-2014-Oral-7EngS-Chem-08

Comparative study of Klann linkage in two types of model- copper sheet model and brass sheet model

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Abstract: A continually and rapidly evolving technology of powder metallurgy indulges most metals and alloy materials to be formed and fabricated into wide range of shapes. In simple terms Powder metallurgy is concerned with the production of metal powders and converting them to useful shapes. In this technique, material is machined up to a semi-finished and finished product. The two model of mechanical spider are based on Klann mechanism. First model of mechanical spider is created from a sheet of copper and another one is made from alloy of copper (Cu-Zn i.e. Brass). The material (sheet) of second model of mechanical spider was produced by powder metallurgy. As the Powder metallurgy continually introduces new and higher performing material with desired properties, the study of this model was done to create a mechanical model which could bear load in extreme conditions be it temperature fluctuations, resistance towards electrical conductivity etc. As the experimental observations two models were tested on mechanical properties like strength, ductility, elasticity, toughness, resilience, malleability, brittleness, hardness, fatigue, creep, wear and tear resistance. The analysis of both the models based on mechanical properties of material used, derived some conclusions which are comparatively drawn. Further experiments with different shapes and material (metals or alloys) would suggest wider aspect of application and improvement scope in the model.

Keywords: Klann Mechanism, Alloy, Mechanical properties, Cu alloy, mechanical spider

7. Engineering Sciences-Textile

ISCA-ISC-2014-Oral-7EngS-Textile-08

Bio-processing of green Bamboo Textiles

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Abstract: Bamboo, a woody-stemmed green grasses, can be converted into bio-degradable textile fibre. Exploring bamboo and its green processing is an innovative approach towards green environment. Conventionally hazardous chemicals are employed in processing of this fibre to make it suitable for textile applications. Green status of bamboo fibre is lost by this environmentally hazardous process. In this study an effort has been made to preserve the green status of this fibre through bio-processing. Enzymes having various activities on noncellulosic constituents of bamboo fibre have been used in different combinations under various process parameters to get environmentally friendly pretreatment which is the major step in processing of bamboo textiles. This enzymatic pretreatment successfully removed various noncellulosic constituents to desired level. The optimum treatment conditions resulted in weight loss of 6.3% and corresponding removal of noncellulosics. This pretreatment replaces hazardous conventional caustic soda process. Bio-processed and conventional samples were analyzed for their chemical composition and found to be similar. Performance in terms of physico-chemical properties like, tensile strength, absorbency, whiteness index etc of enzyme pretreated samples found to be at par with conventional sample. Thus, the pretreatment, the main step of textile wet processing of bast fibre can be successfully performed in environmentally friendly manner.

Keywords: Bamboo textiles, enzymes, bio-processing, pretreatment, absorbency, nincellulosics

8. Environmental Sciences

ISCA-ISC-2014-Oral-8EVS-56

Seasonal Variations ofsome Physico- Chemical Parameters of Bolinj Ram Mandir Talao, Virar, Palghar, Maharashtra, India

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Abstract: Bolinj ram Mandir Talao is situated in Bolinj, Near Virar Town ,Palghar District, Maharashtra at 19° 28' 0'' N and 72° 47'60'' E. Talao water is used for various purposes like Ganpati Idol Immersion, ritual ceremony, washing, irrigations etc. Present paper deals with Seasonal variations of some important Physico- Chemical parameters of Bolinj Ram Mandir Talao, Virar. Most of the parameters are Turbidity, pH, Carbonatesand Bicarbonates, B.O.D., Sulphate, Hardness etc. Our observation suggest that Talao water is fairly contaminated by adopting and implementing modern scientific-cum-technological measures, the lake can be
reconstituted for a variety of purposes.
Keywords: Bolinj, Talao, Parameters.

ISCA-ISC-2014-Oral-8EVS-57

Evaluation of Seasonal variations in Physicochemical Properties of *z*-minor canal of Gang Canal in Sriganganagar (Raj.)

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Abstract: Gang Canal was introduced to Sriganganagar in 1927 by Maharaja Ganga Singhji of Bikaner estate. Its one of the minor near Sriganganagar city is known as *z*-minor. It supplies water mainly for irrigation and drinking purpose to different villages. This study aimed to record and evaluates seasonal variations in the physicochemical parameters of canal water like Temperature, Transparency, pH, Total alkanity, Dissolved Oxygen(DO). Seasonal variations has been observed in above water quality parameters.
Keywords: Gang Canal, *z*-minor canal, Physicochemical parameters, Seasonal variation, Sriganganagar etc.

ISCA-ISC-2014-Oral-8EVS-58

Study of diversity and population of zooplankton at Harsholav pond of Bikaner

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Abstract: Water is the most essential element of life and without it life cannot exist. The body uses water for digestion, absorption, transporting nutrients, and building tissues and all other activities. Harsholav pond of Bikaner has been studied to evaluate the suitability of water for domestic use and maintaining for drinking, irrigation and other purposes. Bikaner district lies in arid zone of Western Rajasthan and is a part of Thar Desert. The investigations were carried out in Harsholav pond located at Bikaner district from September 2012 to November 2013. Monthly zooplankton samples were collected. Zooplanktons are the primary consumers of the process of food chain. Aquatic ecosystem consists of physical, chemical and biological factors. Physical chemical factors are not alike in all water bodies; they change either due to natural or artificial processes. Zooplanktons are good indicators of the change in water quality because they are strongly affected by environmental conditions and by other living species within water body and respond quickly to changes in water quality.Various zooplanktonic faunal species were found which were typically adapted for the given conditions of existence. Zooplankton population were represented by four genera of Protozoa group, namely, *Paramecium caudatum, Euglina sociobilis* A*moeba proteus, Chilomonas paramecium*, 3 genera of group Rotifera namely *Brachionus calyciflorus, Keratella tropica, Trychocera longiseta*, 7 genera of crustacea group 3 cladocerans, namely, *Bosmina sp. Daphnia carinata, Moina brachiata*, 2 copepods, namely *Mesocyclops leukarti, Diaptomus glicialis,* 2 ostracods, namely, *Cypris sp. Nauplius larva, and one insect larvae chironomus larvae.*Total zooplankton population were ranged from 320 -1060 No./l among them Crustacea constituates the dominant group throughout the study period, total protozoans were ranged from 40 to 320 No./l, total rotifers were ranged from 40 to 240 No./l , total crustaceans were ranged from 140 to 440 No./l, and total insect larvae from 20 to 60 No./l.
Keywords: Study, diversity, population, zooplankton, Harsholav, pond, Bikaner.

ISCA-ISC-2014-Oral-8EVS-59

Status and scope of renewable energy with special reference to solar and wind energy in Rajasthan

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Abstract: As a developing country India is facing a huge problem of energy crisis, which could only be eradicated by the use of alternate energy resources. With India's increasing demand of energy, serious efforts need to be taken by the government to avoid a severe energy supply crunch. Government and concerned individuals are working to make the use of renewable resources a priority, and lessen the irresponsible use of natural supplies through increased conservation. Solar and wind energy both are non-polluting and renewable energy resource. These sources of energy reduces burden of emission of carbon dioxide in the atmosphere. It is extremely beneficial to minimize global warming and climate change. In this study, we analyzed the current status of solar and wind energy in Rajasthan, which is a helping hand for sustainable development. Here, it is concluded that solar as well as wind energy both are a very powerful and useful source of energy. There is wide range of scope with respect to these energy resources, so that the upcoming problems of energy crisis can be reduced.

Keywords: Renewable energy, Energy crisis, Sustainable development, Wind energy, Solar energy.

ISCA-ISC-2014-Oral-8EVS-60

Green Technology: A step towards the future of sustainable environment

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Abstract: Technology is application of knowledge to practical requirements. Green technology includes various aspects of technology which help us to reduce the human impact on the environment and create ways of sustainable development. Population growth, natural resource run out, vanishing natural habitat, food resources, urbanization, various kind of pollution (air, water, soil nuclear, etc) from various anthropogenic activities, energy demand (electricity), climate change are some of the many environmental issues which has drawn serious attention of the scientific world in the past few decades. The crossing of 400 ppm mark by carbon di oxide (co2) in our atmosphere in 2013 is a mirror of our efforts (as per Mauna Loa Observatory, Hawaii, USA). Contamination in fresh water has stopped access to clean water to some 780 million people and 3.4 million people dying each year from a water related disease around the world (WHO). After so many researches in agriculture nearly 870 million people around the world are suffering from chronic undernourishment (more in development countries). In this context Green Technology can be applied to get some permanent and natural solutions in the world famous city of lakes: Udaipur (Rajasthan, India).In which point source treatment of municipal waste water can be done before this water get merge or mixes in Ayad River whose cleaning project is under serious consideration. Point source separation of solid waste can be done to separate the biodegradable and non-biodegradable waste, out of which biodegradable waste can be used for composting or generating electricity and non-biodegradable waste can be sent for recycling and land filling. The city planners should concentrate on management of green spaces which are being rapidly converted into residential or commercial land. As the city is surrounded by beautiful Aravali hills, vertical expansion (i.e. multistorey residential and business complexes) should be promoted to save the hills. Policies regarding rain water harvesting (roof water) should be implemented strictly to recharge water table. Storm water can be used to recharge aquifers by porous tiles on the pavements. Increasing the green cover by planting native species and protecting the existing ones can lead to revival of old or original ecosystem and biodiversity. And management of catchment area of the lakes can provide permanent water supply to the city. Thus simple but very effective techniques can provide long lasting, cheaper in long run, eco friendly and sustainable solutions for the previously discussed unmanageable environmental problems.

Key words: Green Technology, environment, pollution, sustainability, development.

ISCA-ISC-2014-Poster-8EVS-50

Physico-Chemical Properties of Water of Ottu Reservoir in District Sirsa, Haryana, India

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Abstract: Of all the natural resources, water is unarguably the most essential and precious. Life began in water and life is nurtured by water. Physico-chemical properties of Water are very important for understanding the metabolic events in aquatic ecosystem. Present investigation were carried out Physico-Chemical Properties of Water of Ottu Reservoir in district Sirsa(Haryana) India .Water sample were collected for a period of April 2012 to June 2013 using plastic container . The sampling points were selected on the basis of their importance.water samples were taken to the laboratory and analyzed. The analysis was done for the parameters like tmo.Temp,Water Temp.,Trancperency,Turbidity, pH, Total Dissolved Solids, Electrical Conductivity, Total Hardness, DO, FreeCO2,BOD,COD,Total Alkalinity, Chloride,Nitrate,Sulphate,Phosphate. pH shows that OttuReservoir water is alkaline in nature. pH,Total hardness, EC,chloride,nitrate and sulphate was found with in the WHO permissible limits.
Keyword: Ottu Reservoir, Physico – chemical, irrigation. BOD, TDSetc

ISCA-ISC-2014-Poster-8EVS-51

Heterogeneous photo-Fenton-like degradation of Evans blue using Copper Pyrovanadate ($Cu_2V_2O_7$) as a Catalyst

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Abstract: This work deals with the degradation of non-biodegradable azo-dye (evans blue) by the heterogeneous photo-Fenton like processes using copper pyrovanadate ($Cu_2V_2O_7$) as a catalyst, which have been prepared by wet chemical method. These catalysts were characterized by different techniques such as scanning electron microscopy (SEM), energy dispersive X-ray (EDX), X-ray diffraction (XRD) and Fourier transform infrared spectroscopy (FTIR). The effect of various parameters such as initial pH, concentration of dye, amount of catalyst, amount of H_2O_2 and light intensity on the reaction rate has also been studied. The various parameters like chemical oxygen demand (COD), conductance, pH, TDS, salinity and dissolved oxygen (DO) for the reaction mixture has been determined before and after treatment. A tentative mechanism involving $^{\bullet}OH$ radicals as an oxidant for degradation of dye has also been proposed. The rate of photo-Fenton degradation of dye follows pseudo first order kinetics. More importantly, the catalyst was very stable and could be reused for at least four cycles when operated under near neutral pH.
Keywords: Copper pyrovanadate, chromium tetravanadate, heterogeneous, degradation and photo-Fenton.

ISCA-ISC-2014-Poster-8EVS-52

Degradation of Coomasie Brilliant Blue R-250 By Heterogeneous Copper Modified Iron Oxides Prepared at Different Temperatures

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Abstract: This study makes a comparison among Cu loaded Fe_2O_3 as photo –Fenton like catalyst heated at different temperatures (400°, 600°, 800°, 1000°C) to investigate the degradation of coomasie brilliant blue dye R-250. Copper modified iron oxide has been prepared at different temperatures (400°, 600°, 800°, 1000°C) by co-precipitation method using $FeSO_4{\cdot}7H_2O$ and $CuSO_4.5H_2O$ as starting compounds. The photocatalysts have been characterized by scanning electron microscopy (SEM), X-ray diffraction (XRD) and infrared spectroscopy (IR). The effect of operating parameters, such as pH, concentration of dye, amount of catalyst, amount of hydrogen peroxide and effect of light intensity have been studied on the rate of reaction. Observed degradation efficiency was found to be highest in the Cu modified Fe_2O_3 heated at 600°C. Quality parameters of dye solution before and after photo-Fenton degradation have been determined. Copper modified iron oxide has been prepared in two different molar ratios (2:1 and 1:1). It has been found that the rate of reaction is slightly higher in catalyst with 1:1 molar ratio of iron and copper. A tentative mechanism involving $^{\bullet}OH$ radical as an oxidant for the photocatalytic degradation of brilliant blue R- 250 dye has been proposed.
Keywords: Heterogeneous photo–Fenton; spectrophotometric; modified iron oxide, coomasie brilliant blue R-250

ISCA-ISC-2014-Oral-9FMS-19

Recent Advances in Herbal Drugs Formulation used for Liver Disease

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Abstract: Liver cirrhosis is one of the most common chronic diseases in the world. The rate of liver diseases increases as communities adopt western lifestyles and become urbanized. Drug induced liver injury accounting ninth leading cause of death in western and developing countries. Medicinal plants have very important place as they not only maintain the health and vitality of human beings and animals. India is the largest producer of medicinal plants and is rightly called the "Botanical Garden of the World". India is one of the world's 12 biodiversity centers with the presence of over 45000 different plant species. Herbal medicines have been used in the treatment of liver diseases for a long time. Several molecules from plant sources have been found as potential hepatoprotective agents with diverse chemical structures. Although, a big list of hepatoprotective phytomolecules was reported in the scientific literature, but only few were potent hepatoprotective agents against various types of liver diseases i.e. silymarin, andrographolide, neoandrographolide, curcumin, picroside, kutkoside, phyllanthin, hypophyllanthin, and glycyrrhizin have largely attracted the scientific community.
Keyword: Recent, advances, herbal, drugs, formulation, used, liver, disease.

ISCA-ISC-2014-Oral-9FMS-20

Summer Season Diatoms of Four Tributaries of Beas River (Himachal Pradesh) -A pilot forensic study

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Abstract: Every year a large number of people drowned in different types of water bodies. Diatoms are amongst the important biological Forensic evidences found in these type of cases. Use of this evidence can be helpful in establishing ante- and post-mortem drowning in medicolegal investigations. Diatoms also plays an important role in characterization of water bodies in order to find out the probable site of drowning, especially when question about the exact place of drowning arises. Himachal Pradesh is state of a complex network of rivers, channels, lakes, ponds and tributaries. The present study is based on the tributaries of Beas River which mostly covers the world famous valley of Kullu and Kangra. Beas River rises from 3,978 meters (above sea level) high Rohtang pass (which is a high mountain on the eastern *Pir Panjal Range* of the Himalayas around 51 km from Manali) and its different tributaries (commonly called Belt) which cover most of the northern part of Himachal. In the present pilot investigation, an attempt has been made to accounts for the summer seasonal study of tributaries (khads) of Beas River on the diatom diversity and their distribution during this time. The results of the study revealed the occurrence of various varieties of diatom. Some forensically important species and genera have been found which encourage us to generate the Diatomological Maps (D- maps) from the data generated in the present study. It is hoped that the findings of the present study goes a long way in solving the suspicious drowning cases and identification of exact drowning site.
Keyword: Summer, season, diatoms, four, tributaries, beas, river.

ISCA-ISC-2014-Oral-9FMS-21

Molecular Beacons: New era of sparkling lights for disease diagnosis

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Abstract: Molecular beacons, The DNA hairpins functionalized with a fluorophore at one and a quencher at another end consists of stem and loop where nucleotides in stem are self complementary while loop sequence complements to target molecule. Closed conformation persist in target molecule absence thus fluorophore and quencher are in close proximity leading to FRET (Fluoroscence Quenching). Addition of target sequence to the molecular beacon initiates the hybridization

breaking the FRET phenomenon enhancing fluorescence. Molecular beacons present many advantages such as ease of synthesis, molecular specificity, unique functionality, structural tolerance to various modifications and easy introduction of signal transduction mechanism. They can differentiate between even single mismatch nucleotide due to their unique thermodynamic and structural properties thus providing them high degree of molecular specificity. Molecular beacons have been immobilized to solid support that adds to their reusability. Sensitivity of PCR can be combined with the specificity of molecular beacons thus can be used for quantitative analysis of genetic material, SNP, Mutations etc. Genetic screening of mutations and SNPs provide important information for disease diagnosis and drug therapy.Multiple genes, environmental and lifestyle factors and their interactions affects this complex trait like hypertension and diabetes type 2.

Keywords: Molecular beacons, DNA hairpins, Fluoroscence Quenching, fluorophore and quencher,signal transduction, FRET.

ISCA-ISC-2014-Oral-9FMS-22

Prevalence of Oral Squamous Cell Carcinoma in Udaipur Population

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Abstract: Oral cancer is one of the most fatal health problems faced by the mankind today. In India, because of cultural, ethnic, geographic factors and the popularity of addictive habits, the frequency of oral cancer is high.Squamous cell carcinoma accounts for 90% of all oral cancers. It may affect any anatomical site in the mouth, but most commonly the tongue and the floor of the mouth. It usually arises from a pre-existing potentially malignant lesion, and occasionally *de novo*; The use of tobacco and betel quid, heavy drinking of alcoholic beverages and a diet low in fresh fruits and vegetables are well known risk factors for oral squamous cell carcinoma. In the last 30 years, the 5-year survival rate of patients with oral SCC has not improved despite advances in diagnostic techniques and improvements in treatment modalities. Indeed, the incidence and prevalence of oral SCC are increasing. The present study is designed to determine the prevalence of Oral Squamous Cell Carcinoma in patients who attended the outpatient department, at pacific dental college and hospital Udaipur during a period of 24 months from 2013-2014.

Keywords: Oral squamous cell carcinoma, precancer, tobacco, betelquid.

ISCA-ISC-2014-Oral-10FCCS-19

Sustainable Designs for the Diminishing Craft of Ahmedabad (Mata-Ni-Pachedi)

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Abstract: Mata-Ni-Pachedi is a 300 year old ritual painting craft of Ahmedabad. This craft of Ahmedabad classified under *Kalamkari* with its unique features, significance and deeply rooted sentiments of the crafts persons, as well as hangings has been practiced over a period of time. "*Mata-Ni-Pachedi"* is locally known as temple hangings from Gujarat. . These hangings or backdrops represent the epics of myths and Devi or mother goddess. It was identified as a rectangular piece of fabric with Mother Goddess as centre motif with bold colours like red and black. Different incarnations of Goddess *Durga* were painted on the *Pachedi* according to the different communities. Mata-Ni- Pachedi craft is vanishing today as it is not as much popular as other traditional craft in Gujarat as craftsperson has rigid this craft to only sacrifice ceremony purpose. Product diversification is one method to popularise this craft. The research was planned in such a way to develop product using Mata-Ni-Pachedi craft by keeping the sentiments and retain the essence of craft as it is. On the experiment bases some products made after surveying market for the sustainability of products. And constructed the products by changing its base material and colouring material to the material crafts persons used before for making article. After the products were exhibited in various Handicraft stores and Online, it was found that the idea of diversifying product was appreciated by the public as well as the craft persons. And after finding out positive changes in products even crafts persons are also ready to give new look to their traditional craft.
Keywords: Sustainable, designs, diminishing, craft, Ahmedabad.

ISCA-ISC-2014-Oral-10FCCS-20

Outreach Dental Health Programmes- From Concrete Giants to Rural Communities in India

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Abstract: Background Health is an important asset of a community. It is defined as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.Oral health means more than good teeth, it is integral to general health and essential for well-being. It implies being free of chronic oro-facial pain,oral pathology,malignancy, birth defects such as cleft lip and palate, and other diseases and disorders that affect the oral, dental and craniofacial tissues, collectively known as the craniofacial complexOutreach Programme is an initiative originally supported through the Social Inclusion/Community Regeneration Executive programme. The Programme aims to assist public sector organizations by working in partnership with communities and providing financial assistance to innovative demonstration projects designed to test new approaches to meeting community need.Despite great achievements in the oral health of populations globally, problems still remain in many communities around the world - particularly among underprivileged groups in developed and developing countries. Given the extent of the problem, oral diseases are major public health problems. Their impact on individuals and communities, as a result of pain and suffering, impairment of function and reduced quality of life, is considerable.
Keywords: Community, Oral health, Outreach, Rural India, Disease

ISCA-ISC-2014-Oral-10FCCS-21

Role of Mobile Dental Unit in Community Health Services

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Abstract: Background the introduction of mobile clinics into dentistry dates back to 1924. They have beensuccessfully used to provide dental treatment to schools, disabled patients, rural communities, industries and armed forces of various countries.Mobile Dental Vans (MDV) are desirable model of clinical practice in a non-conventional setting.accessibility of oral health care services has been identified as a key barrier or challenge for rural–dwelling individuals and those that

are home bound or living in long term care facilities. Mobile dental delivery models remove this barrier and are thereby said to in- crease access and utilization of dental services for those otherwise not accessing care in traditional dental settings.Over the years significant improvement in health has been witnessed. However, this improvement has been experienced unequally across the population, being higher among better off. India is a developing country with second highest population in the world. A mismatch exists between oral health professionals and the population they serve. About 80% of dentists work in major cities in India, compared to the population where more than 70% of the Indians reside in the rural areas. The dentist to population ratio is 1:10,000 in urban areas whereas 1:150,000 in rural areas. Even with a workforce of 118,000 qualified dentists in the country, the most basic oral health education and simple interventions are also not available to vast majority of population.

Keywords: Mobile Dental Units, Rural Communities, Population, Health

ISCA-ISC-2014-Oral-10FCCS-22

Behavioural Disorder (Attention Deficit Hyperactivity Disorder) in Children & Homoeopathy

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Abstract: Attention Deficit Hyperactivity Disorder (ADHD) is a psychiatric disorder of neurodevelopment type in which there are significant problems of attention,hyperactivity or acting impulsively which are not appropriate for a person's age , resulting from chemical imbalance or deficiency in certain neurotransmitters which help brain to regulate behaviour. It is a condition in which a person's inability to focus and concentrate on a task purpose interfere with his or her ability to be productive. It is important to realise that during certain stages of development, the majority of the children tend to be inattentive, hyperactive or impulsive. Pre-schoolers have a great deal of energy and they run everywhere. But this doesn't mean that they are hyperactive. Certain diagnostic criteria have to be ascertained before a child is diagnosed with the disorder.ADHD may only be suspected once the child's hyperactivity ,distractability ,lack of concentration or impulsivity start affecting school performance ,friendships or behavior at home and difficulty in adjusting in the society and develops into an antisocial personality if not treated or the hyperenergy diverted in some positive activity. ADHD is Diagnosed by an assessment of a person's childhood behavior and mental development, ruling out effects of drugs ,medications and other medical or psychiatric problems. Data regarding child's behavior at home and at school, from parents and teachers causing significant impairment in academic /social activities are taken into account

Keywords: Hyperactivity, ADHD, Behavioural Disorder, Attention Disorder.

ISCA-ISC-2014-Oral-13PCS-23

Role of Free Radicals in Pathogenesis of Diabetes

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Abstract: Oxidative stress has been implicated in various pathological conditions involving diabetes, cardiovascular disease, cancer, neurological disorders, ischemia/reperfusion etc. Increased oxidative stress has been proposed to be one of the major causes of the hyperglycemia-induced trigger of diabetic complications. Diabetes mellitus with an alarmingly rising incidence is a cluster of abnormal metabolic paradigm. Under the normal conditions the antioxidant defense system within the body can easily handle free radicals that are produced. Various mechanisms of increased oxidative stress have been proposed in Diabetes. They are advanced glycation end products, alterations in GSH metabolism, GSH homeostasis, GSH dependent enzyme, impairment of SOD and polyol pathway. Plants like *Cucrcuma longa, Momordica charantia, Santalum album, Withania somnifera, Andrographis paniculata, Phyllanthus niruri,, Vitis vinifera, Emblica officinalis* etc. used in traditional medicine have shown to be effective against diabetes with free radical involvement.
Keywords: Role, Free, Radicals, Pathogenesis, Diabetes.

ISCA-ISC-2014-Oral-13PCS-24

In vitro screening for acetylcholinesterase inhibition of *chenopodium album, brassica juncea* and *brassica rapa*: a potential therapy for alzheimer's disease

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Abstract: Alzheimer's Disease (AD) is a progressive neurodegenerative disorder characterised by the irreversible loss of neurons, particularly in the cortex and hippocampus. AD is the most common cause of dementia leading to a slowly progressive and irretrievable ruination of mental health. It is one of the most threatening diseases to the elderly population with an increasing incidence particularly in India. The clinical symptoms of AD include progressive memory loss, cognitive and communication impairment, disorientation to physical surroundings and language etc. The destructive and degenerative condition is pathologically characterized by the formation of amyloid plaques, neurofibrillary tangles and loss of neurons and synapses as well. The pathology of AD is a complex and multifaceted one with several pathogenic pathways are believed to contribute to the progression of the disease, viz., amyloid plaque deposition, neurofibrillary tangle formation, inflammatory cascade, oxidative stress and cholinergic deficit. Although etiology of AD has not been fully elucidated yet, modern treatment strategies typically comprise of anticholinesterases, antioxidants, á- and â-secretase inhibitors, and *N*-methyl-D-aspartate (NMDA) receptor antagonists. In light of the potential side effects of the current medications, there is an increasing trend to explore the potential of herbal medicine as an alternative or complimentary therapy for AD. In this paper an attempt is made to explore the potential of *Chenopodium album, Brassica juncea*and *Brassica rapa*to manage AD. The in –vitro screening for acetylcholinesterase inhibition by extracts prepared from these plants has been carried out. On the basis of detailed experimental work it has been found that the standardised hydroalcoholic extracts of all the selected plants significantly inhibit acetylcholinesterase activity and therefore possess the potential to be developed as an effective therapy for Alzheimer's disease. It is submitted that further animal studies are required to be carried out to confirm the anti-Alzheimer potential of these plants.
Keywords: Alzheimer's disease, dementia, cognitive, in-vitro, pathology.

ISCA-ISC-2014-Oral-13PCS-25

Effect of cinnamon consumption on metabolic features of type 2 diabetes in adult male subjects

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Abstract: The present study was conducted to determine the effect of oral administration of cinnamon (*cinnamomum cassia*) on type 2 diabetic male subjects. Thirty type 2 diabetic male subjects were randomly divided into two groups (15 in each) experimental and control. Experimental group was supplemented with 2 g cinnamon powder filled in capsules (each capsules contained 0.5g cinnamon powder and subjects were advised to take four capsules/day) for six weeks.

Another group of 15 subjects served as control. Fasting and post prandial blood glucose BMI, blood pressure and lipid profile were estimated at initial level (0 day), after three weeks and finally after six weeks. After intervention the mean fasting blood glucose (FBG), post prandial blood glucose (PPBG), systolic blood pressure (SBP), serum cholesterol (SC) and Low density lipoprotein (LDL) levels were reduced significantly ($P<0.001$) in experimental group (FBG: 148.73± 3.69 mg/dl to 120.66± 4.70, PPBG: 187.66±3.29 to 163.6 ±5.09, SBP: 126.13 to 121.40 mmHg, SC: 183.66 to 164.93 mg/dl, LDL: 104.73 to 89.93 mg/dl) compared with control group. A reduction in BMI, diastolic blood pressure (DBP), serum triglycerides (TG), and very low density lipoprotein (VLDL) was observed at six weeks compared to baseline in the experimental group however the changes were not statistically significant. There was slight improvement in high density lipoprotein (HDL) of experimental group but not significant. Whereas, no significant change in any parameter of control group was observed.

Keywords: Fasting blood glucose, post prandial blood glucose, blood pressure, lipid profile

ISCA-ISC-2014-Poster-13PCS-11

Role of Amla in Type 2 Diabetes Mellitus - A Review

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Abstract: *Emblica officinalis* (Amla) is widely used in the Indian system of medicine and believed to increase defense against diseases. Amla is known for its therapeutic properties and holds a reputed position in the Ayurvedic and Unani system of medicine. The biological effect of Amla has been attributed to the antioxidant properties of the low-molecular hydrolysable tannins present in the fruit. Amla is the richest source of Vitamin C and contains gallic acid, ellagic acid and flavonoids. The galleoellagi tannins in the fruit preserve the vitamins under all conditions. The use of Amla as antioxidant, antihyperglycemic agent, antihyperlipidemic, immunomodulatory, antipyretic, cytoprotective, and gastroprotective agent has been reviewed earlier. In the present review, the nutritional value of Amla, it's chemical constituents, medicinal properties and use of amla in improving Blood Glucose metabolism in Type 2 Diabetes Mellitus have been discussed to provide collective information. Amla, being a rich source of the polyphenols and a mixture of phytochemicals can act as a hypolipidemic agent reducing the risk of cardiovascular complications in diabetics. Thus amla may be used as a supportive therapy for diabetics.

Keywords: Amla, Nutrition Value, Medical Properties and Type 2 Diabetes Mellitus.

ISCA-ISC-2014-Oral-14PhyS-11

A study on variation of indoor radon concentration -influenced by geological parameters, mining activity and ground water in some parts of Karnataka state, INDIA

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Abstract: Environmental pollution and management of water is a national and international priority today. Our environment is continuously irradiated by naturally occurring radioactive elements and their decay products found in the earth's crust.^{222}Rn, a noble radioactive gas produced by decay of ^{226}Ra, is a member of the ^{238}U series. Radon concentration measurements in water and atmosphere are necessary to understand the effect of ^{222}Rn on human health. Epidemiological studies reveal that the exposure to radon and its progeny is the one of the main causes of lung cancer after smoking. The high concentration of radon in ground water poses a potential health risks in two ways by inhalation and ingestion. In the present study, the radon concentration in indoor air atmosphere and in drinking water have been determined by collecting various drinking water samples from bore well, tank, tap and river water from different locations in parts of Karnataka state and were estimated by using Solid State Nuclear Track Detector (SSNTD) technique and Emanometry technique. The radon concentration in indoor atmosphere is mainly depends upon uranium and thorium content beneath the earth surface and radon exhalation from surrounding rocks and soil fractures, stoma and fissures, but also on exhalation from building materials and radon in domestic water supply, ventilation condition, type of building materials used for construction. Radium content and permeability of the building ground have been found to be useful indicators of indoor radon concentrations. The present study highlights the variation of indoor radon concentration with water used for different purposes and estimates the dose to the publics of this study area. The estimated total equivalent effective dose is higher than the global average. According to US EPA and WHO report majority of the drinking water samples and their radon concentration exceeds the reference levels.
Keywords: Radon, emanometry, emanation, HPGe, inhalation, granites, ingestion.

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Electronic and Elastic Properties of PbFCl-type compounds: A First Principles Study

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Abstract: Density functional theory (DFT) is an extremely successful theoretical approach for the description of ground state properties of solids. We have employed the CRYSTAL09 code[1] of Torino group to deduce the electronic and elastic properties of BaFX (X= Br and Cl). The alkaline-earth fluoro-halides (popularly known as matlockite compounds) form an important class of materials with respect to a variety of potential applications such as room temperature hole burning, radiation detection and pressure sensors[2, 3]. Some crystals of such mixed dihalides, such as BaFCl and BaFBr, are also used in spectroscopic and nuclear detectors[4]. They also find application as *in situ* pressure gauges for experiments with diamond anvil cells at high temperatures[3]. In the present work, charge density maps, band structure, density of states and elastic properties of BaFX have been computed and are discussed. An overall good agreement is found with the available experimental and theoretical results. The band structure calculations show that these compounds are direct-gap semiconductors with the valence band maximum and the conduction band minimum at G point.
Keywords: Electronic, Elastic, Properties, compounds, Study.

ISCA-ISC-2014-Oral-15PESS-34

A Comparative Study of Frustration Tolerance between Tribal and Non Tribal Female Sportspersons

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Abstract: Present study compared frustration tolerance among female sportspersons on the basis of their tribal-non tribal belongingness. To conduct the study, 50 female tribal sportspersons (Av. age 22.09 yrs) and 50 female non-tribal sportspersons (Av. age 21.79 yrs) were selected as sample. The criteria for selection of sample was set to participation in University level competition in any sporting event. Frustration tolerance of selected subjects was assessed by FRTO prepared by Rai (1988). The results indicate that the tolerance to frustrating situations is significantly higher in female non tribal sportspersons as compared to female tribal sportspersons. It was concluded that frustration tolerance in female sportspersons vary according to their tribal-non tribal belongingness.
Keywords: Frustration tolerance, tribal, non-tribal, female sportspersons

ISCA-ISC-2014-Oral-15PESS-35

Self Confidence - Importance in Sportsmen

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Abstract: Self Confidence is a player's belief in their ability to perform well in any situation, practice or game. Confidence is derived from a baseline assessment of past performances; training, and preparation, As Competency or skill mastery grows. Confidence becomes proportionately stronger. In order for player to develop high levels of confidence, they must have a clear understanding of factors that boost and undermine their confidence, such as high expectations. Confidence is a core mental game skill because of its importance and relationship to other mental skills. Confidence as mindset based on tangible sources playing well or positive experiences in their sport. Confidence also varies depending on the task that is their defensive play. Doubt, indecision and negative thoughts are the opposite of confidence.
Keywords: Self confidence, sports, Athletics, Performance, Skill, Training, Experience.

ISCA-ISC-2014-Oral-15PESS-36

Relationship of Homework on Yogic Exercises on Flexibility and Breath-holding-A Hypothesis

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Abstract: Physical education is an integer part in the development of the child. Today in India physical education is not treated on par with other subject. The science and technological revolution of the century necessitates that special efforts be inculcate an attitude towards lifetime fitness in each individual. The school hence is the best place where this could be nurtured.
Keywords: Relationship, homework, flexibility.

ISCA-ISC-2014-Poster-15PESS-06

Physical Fitness for Good Health Exercises with A Partner

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Abstract: The ways and means for developing physical fitness are many, as are the training methods towards an end. Involving usage of weights as dumbbells, rods with weight plates, expanders, sand belts, medicine balls and multi-gym equipment among others. All these imply a great deal of expense and space; they also can be hazardous, with not inconsiderable chances of inflicting injury. Therefore, one of the best answers to how one exercises or trains for physical fitness is that program me that involves a partner who will serve the purpose of external resistance-The same purpose

that is served by the weights, the gym equipment etc., Muscular strength flexibility, joints mobility and other physical fitness components can be developed through proper' use' or coordination with a partner in place of such equipment. Such exercises are very useful to all age groups, particularly so for young people. Apart from which exercising with a partner is generally more fun than exercising alone a fact that by itself could ensure that one exercises more regularly and methodically. Even activities like swimming and running and gain from partner participation.

Keywords: Physical, Fitness, Good, Health, Exercises, Partner.

ISCA-ISC-2014-Oral-16EduS-09

Case Study of Juvenile Delinquency in the context of Coaching Students with reference to Kota City

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Abstract: For juveniles and youngsters of today, traditional patterns of guiding the relationships and transitions between family, school and work are being challenged. The extension of the maturity gap (the period of dependence of young adults on the family) and, arguably, the more limited opportunities to become an independent adult are all changes influencing relationships with family and friends, educational opportunities and choices, labour market participation, leisure activities and lifestyles. Juvenile delinquency is a major problem of the society and it's destroying the ethics, morals, traditions, culture and respect. In India Kota in Rajasthan is a place where lakhs of students are coming to take coaching for their competitive exams but apart from studies they are indulging in several crime, delinquent behaviour and acts. In this paper researcher tries to find out the causes and effect on society of Juvenile delinquency. Self constructed questionnaire and checklist were used to collect data. In-depth interviews were conducted with psychologists, doctors, police officers and care takers of rehabilitation centres and borstal. 100-100 psychologists, police officers, parents, borstal and hostel care takers were selected as sample through purposive sampling method. It's an analysis of delinquent behaviour of juveniles as mostly delinquents are associated with the stealing, forged signatures, damaging property of schools and their coaching, bullying and mockery, torturing, using abusing language, exhibitionism, homo sexuality, hetero sexuality, making sexual suggestions, masturbation, obscene drawing and pictures, regardless of gender, robbery, smuggling, drug trafficking, truancy etc. but very less students are involved in committing suicide, prostitution, murder and rape because some where still they afraid from law, punishment, social disgrace and their morals. Their characteristics, reasons such as psychosocial factors which considered family influences, films and television, school factors, peer group and geographic influences and scholastic attainment, body build and disabilities, physiological characteristics, hyperactivity, personality characteristics, and genetic factors. As a result it was found that parents' observation and supervision must require controlling and yoga, meditation, motivational seminar and conferences, individual and group counselling are the sources to stop diverting children in criminal acts.
Keywords: Juvenile Delinquency, Delinquent Behaviour of Children, Juvenile Crime, Yoga to Juvenile Criminals.

ISCA-ISC-2014-Oral-16EduS-10

Strengthening Qualitative Education in Schools through Integrating E-Learning Method

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Abstract: This paper describes about the status of education and the changes brought in learning from Vedic period to present scenario. May the concepts and making have been changed but we are following the same principles only. The qualitative enhancement in teaching method has been focused on learning of learner as well as individual development. The concept of e-learning have not only upgraded grade but literally have made the students oriented to object learning. This e-learning method is upgrading very fast in future which might create "The empires of the future which are the empires of the mind" [Winston Churchill]
Keywords: Teaching methods, E-learning, ICT, CBT

ISCA-ISC-2014-Oral-16EduS-11

An effective roll of science and technology in educational innovation

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Abstract: We have been using technology so much these days in each and every domain of our lives, be it education or the regular household work, that have we ever taken out a second to wonder if it's leaving a positive impact on our work or it's just that we have been relying too much on it that we've become habitual to it, ignoring the direction of its impact?

Earlier, technology in education was a debatable topic amongst the society. Everyone had their own views on modernizing education and making it technology aided. There were a huge number of positives and negatives to education technology. But, gradually as technology was embraced by the educational institutes, they realized the importance of technology in education. Its positives outnumbered the negatives and now, with technology, education has taken a whole new meaning that it leaves us with no doubt that our educational system has been transformed owing to the ever-advancing technology. Technology and education are a great combination if used together with a right reason and vision.

Keywords: Effective, science, technology, educational, innovation.

ISCA-ISC-2014-Oral-16EduS-11

A Study To Assss The Level Of Knowledge About Selecte First Aid Measure And Its Important Among Her Secondary School, Kirumambakkam, Puducherry

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Abstract: The statistical view in India about the mortality and morbidity due to accidents is about 16% out of which more than 75% is due to inadequate or ignored care or first aid. The school children are more active and have a high level of motor aggravation. This curiosity may sometime leads to accident which seeks immediate attention. So there is a need of knowledge regarding first aid among school students To assess the level of knowledge about the first aid in the selected high school students, Puducherry This is a non-experimental descriptive study. 30 students of 9th standard were selected through non-probable convenient sampling technique and the data are collected through structured questionnaire based on the review from the books, journal and internet. out of the 20 structured questions none of the student had adequate knowledge, about 23.3% had moderately adequate knowledge and 76.7% had inadequate knowledge. From this study it is realized that students are having least knowledge regarding the first aid. Inclusion of basic first aid measures in the high school syllabus in the practical perspective may improve the status.

Keywords: Study, Knowledge, Selecte, Measure, Secondary, School, Kirumambakkam, Puducherry.

ISCA-ISC-2014-Oral-16EduS-12

A study to assss the level of knowledge about selecte first aid measure and its important among her secondary school, kirumambakkam, puducherry

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Abstract: The statistical view in India about the mortality and morbidity due to accidents is about 16% out of which more than 75% is due to inadequate or ignored care or first aid. The school children are more active and have a high level of motor aggravation. This curiosity may sometime leads to accident which seeks immediate attention. So there is a need of knowledge regarding first aid among school students. To assess the level of knowledge about the first aid in the selected high school students, Puducherry. This is a non-experimental descriptive study. 30 students of 9th standard were selected through non-probable convenient sampling technique and the data are collected through structured questionnaire based on the review from the books, journal and internet.Out of the 20 structured questions none of the student had adequate knowledge, about 23.3% had moderately adequate knowledge and 76.7% had inadequate knowledge. CONCLUSION: From this study it is realized that students are having least knowledge regarding the first aid. Inclusion of basic first aid measures in the high school syllabus in the practical perspective may improve the status.

Keywords: Study, knowledge, about, selecte, important.

ISCA-ISC-2014-Oral-17CLM-15

Legal Regulation of Clinical Trials in India

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Abstract: Clinical trials are the key to the discovery of latest diagnostic methods and to develop modern drugs for treatment of diseases. India is becoming prime location for transnational pharmaceutical companies to conduct such trials. In our country a large heterogeneous population, lower trial costs, world class research and data processing facilities, well trained medical community, use of English language, increasing government incentives etc. are contributing in this respect. There are many international legal instruments to govern clinical trials, such as Universal Declaration of Human Rights, International Health Regulations, Nuremberg Code and Declaration of Helsinki, World Health Organisation Guidelines, Universal Declaration on Bioethics and Human Rights, Good Clinical Practice Guidelines etc..In India, the Constitution, Drugs and Cosmetics Act 1940, Drugs and Cosmetics Rules, Good Clinical Practices Guidelines 2001, ICMR Guidelines, DBT Guidelines, the Environmental Protection Act 1986, the Right to Information Act 2005, Acts, Rules and Codes of ethics of several professional bodies etc. directly or indirectly regulate and control clinical trials. Despite all this, several deaths and gross violation of rights of citizens have taken place due to negligence during these trials. There is also no statutory mechanism for payment of compensation in such cases. Indian judiciary in several judgments have shown serious concerns for regulation of clinical trials. The existing legal provisions should be properly implemented and a comprehensive statutory framework is needed to deal with all facets of clinical trials for uninterrupted medical research without compromising with the rights of people in India.

Keywords: Disease, Pharmaceutical, Judgments, Heterogeneous, Laws.

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Library management through Electronic Resource Management Systems with special reference to availability literature of medicinal plants in Libraries of Rewa Division

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Abstract: In current scenario used of electronic resource management become much popularized for the management of libraries. Use of self developed servers, online journals and database is very useful for the gathering information among the student of university and colleges. Electronic resources management systems are very helpful for the managing and acquiring the information about medicinal plants. With the help of such resources we can gather any information in huge quantity within the few seconds. In the present study entitled "Library management through Electronic Resource Management Systems with special reference to literature of medicinal plants in Libraries of Rewa Division" some of libraries has been surveyed and status of e resource management has been analyzed. During investigation we have reported that libraries has these literatures in the form of online articles and online books a part from that libraries also have self license of various national and international journals. Some of the organizations have locally developed electronic resource management systems. These efforts lay the foundation for the collection of latest literatures and very helpful for the students and researcher of biological sciences.

Keywords: Library, management, electronic, resource, management, systems.

ISCA-ISC-2014-Oral-19LL-08

Language Lab: Its Importance and role in Learning English as a Second Language

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Abstract: Communication implies carrying and receiving of messages in which language is being used as a medium to serve the purpose. People speak many languages throughout the world but when it comes to talk about the Global Language there emerges the name of English. It is not easy to learn any foreign language and that is what the biggest hurdle of the way of all those students who want to develop command over the global language. As, the vocabulary, pronunciation, way of expression etc. are altogether different from the respected native language, students find it too hard to get proficiency in it. This need to be acquainted with the Global Language requires some solutions. Language laboratory is a technological approach to impart the related knowledge of English. It not only offers a new way to get affinity with the language but by making it more interesting accelerates the process of learning too. It is a break through to all the traditional teaching pedagogies. Audio – visual study material, advance soft-wares' assistance and scope for the related exercises give a good boost to the students' spirit of learning. It provides an interactive learning environment that enables the students to get practical knowledge of the acquired proficiency in the language.
Keywords: Language, lab, importance, learning, english, second, language.

ISCA-ISC-2014-Oral-19LL-09

Social Awareness and Social Message in Bhas Natya Chakra

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Abstract: Its drama is regarded as the highest achievement of Sanskrit literature.It utilised stock characters, such as the hero (nayaka), heroine (nayika), or clown (vidusaka). Actors may have specialised in a particular type. Kâlidâsa in the 3rd-4th century CE, is arguably one of ancient India's greatest Sanskrit dramatist. Three famous romantic plays written by Kâlidâsa are the Mâlavikâgnimitram (Mâlavikâ and Agnimitra), Vikramôrvaúîyam (Pertaining to Vikrama and Urvashi), and Abhijñânaúâkuntalam (The Recognition of Shakuntala). The last was inspired by a story in the Mahabharata and is the most famous. It was the first to be translated into English and German. Úakuntalâ (in English translation) influenced Goethe's Faust (1808–1832).The next great Indian dramatist was Bhavabhuti (c. 7th century CE). He is said to have written the following three plays: Malati-Madhava, Mahaviracharita and Uttar Ramacharita. Among these three, the last two cover between them the entire epic of Ramayana. The powerful Indian emperor Harsha (606–648) is credited with having written three plays: the comedy Ratnavali, Priyadarsika, and the Buddhist drama Nagananda. Other famous Sanskrit dramatists include Œhudraka, Bhasa, and Asvaghosa. Though numerous plays written by these playwrights are still available, little is known about the authors themselves.
Keywords: Social, awareness, social, message, bhas, natya, chakra.

ISCA-ISC-2014-Oral-19LL-10

कृषि विज्ञान और वेद

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Abstract: प्राचीनकाल से विश्व की ज्ञान–विज्ञान देनेवाले जो कोई देश हो तो भारत है। भारतीय ऋषिमुनियों ने उसका संग्रह वेद ग्रंथो में ही किया है। "विद्" धातु से वेद शब्द बना हुआ है। जिसका अर्थ है "ज्ञान"। अधतन समय में हम जिसे Science के रूप में विज्ञान अर्थ लेते है। "वेदग्रंथ" ही भारतीय विज्ञान की गंगोत्री है। भोजन मानव की महत्वपूर्ण आवश्यकता होने के कारण पशुपालन के पश्चात् "कृषि" मानवीय आजीविका का प्रमुख साधन रहा है, जो सामान्यतया मिट्टी की संरचना स्थलीय जलाशयों की उपस्थिति के साथ ही उस क्षेत्र के वातावरण के कारण (Environmental factors) पर आधारित रहता है। वे देश के आर्थिक विकास में महत्वपूर्ण है। हमारे महान वैज्ञानिक ऋषिमुनियों ने कृषिविज्ञान को वेदग्रंथो में जो वर्णन दिया है वह आज के समय में भी उतना ही महत्वपूर्ण है। जिसे दर्शाना मेरा मुख्य ध्येय है।
Keywords: कृषिविज्ञान और वेद।

ISCA-ISC-2014-Oral-20SHS-23

SAARC Possibilities: India-Bangladesh Connectivity, A focus on Transit

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Abstract: India's relations with Bangladesh have gone through several ups and downs over the past four decades. Poor transport and connectivity, between the two close neighbours in South Asia, have cost their economies dear. Both countries usually boil down to the issue of transit that will connect mainland India with its Northeastern states through Bangladesh territory. The South Asian Association for Regional Co-operation (SAARC) is on the way to celebrate its thirtieth anniversary in November 2014, the time has come for an assessment of its performance in the past three decades, and an evaluation of its spirit which is embedded in the form of regional co-operation especially Indo-Bangladesh . Its aim is to accelerate the process of economic and social development in member states (particularly India and Bangladesh) through joint action in agreed areas of co-operation.
Keywords: Possibilities, Connectivity, focus, Transit.

ISCA-ISC-2014-Oral-20SHS-24

Tribal Education of Dang District in Gujarat

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Abstract: The importance of Education in our country since Ancient age. But India's sovereignty has been sub-division in different times, its influence on Education. Tribal Development is essential to the Education sector in India as well as in Gujarat State. In Gujarat State, Education of Sociology, Science and Technology, we can see the importance of tribal Education. The reorganizing the importance of education in Gujarat tribal to amend section 15 (4) and 46. But this is true of other social groups in Gujarat to know in women's literacy. The tribal people students can stop the teaching for the cause of poverty. In my article the details is also shown in percentages. Dang district of Gujarat was the main explanation in my article, so here it accounts for 95% of tribal population. There was 1023 girls students was studied in class 8th in the year of 2007 - 2008; after that those students studied in class 10th, the ratio of girls student was less about 350. That means the increase the level of class as well as students strength was decrease. Besides lot of the language problem in tribal student. I hope that education will improve in coming years.
Keywords: Tribal, Education, Dang, District, Gujarat.

ISCA-ISC-2014-Oral-20SHS-25

Topic: A Sociological Study of the Role and Development of ASHA and ASHA Resource Centre Organised By NRHM (Special Reference To Kota District)

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Abstract: The Government of India and Government of Rajasthan have launched a National Rural Health Mission to address the health needs of rural population, especially the vulnerable sections of the society. Many a times the villages are not connected by public or private transport system making her more difficult to achieve the objectives and goals of providing quality health care for the poor and oppressed sections of the society. So the new band of community based functionaries, named as Accredited Social Health Activist (ASHA) is proposed in the NRHM who will serve the population of 1000 and 500 in hilly and desert terrene. ASHA is the first port of call for any health related demands of deprived sections of the population, especially women, children, old aged, sick and disabled people. Department of Medical and Health at State and at Centre is looking at ASHA as a change agent who will bring the reforms in improving the health status of oppressed community of India. The investment on ASHA will definitely result in to better health indicators of state and at large the country. My study reflects about all the above mentioned duties and responsibility of ASHA to improve the health of society.
Keywords: Sociological, study, role, development, centre organised.

ISCA-ISC-2014-Oral-20SHS-26

Scientific Reason behind blind religious beliefs and miracle

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Abstract: In the modern human lifestyle is most depending on the use of science and technology faith in god can give honest lifestyle and people get mentally peace and happiness. To understand the difference between faith and unfaith is necessary today's use of the because few of people use of science teaching and shows its magic and they spread religious unfaithfully for Example Potassium permanganate and mixing glycerin. When chemical process is done the faze is produce this type of scientific experiment the people who do not know its secret they believe that it is a magic. This type of people who show this experiment are cheating and hide the scientific secret and innocent as well as uneducated people are cheated by them and they earn money from those people. Show we have to stop this type of cheating and tell the people. What is the fact reason behind this magic to awake the people this type of programme should be done.
Keywords: Scientific, reason, behind, blind, religious, beliefs, miracle.

ISCA-ISC-2014-Oral-20SHS-27

Assessment of socio economic conditions and role of rag pickers in municipal solid waste management in Allahabad city UP, India

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Abstract: Rag pickers play an important role in solid waste management but rag picking is one of the most neglected sectors. The major objective of the study has been to find out the existing socio – economic and health considerations of rag pickers in city of Allahabad. The study also focuses on the prevailing hierarchy in this sector. The survey highlights the issue of hierarchy and explains the reasons of its maintenance. In the work hierarchy denotes the ratio of the involvement of the three major members: male, female and children. The paper is an output of the primary survey conducted in the Allahabad city of U.P. The research is mainly based upon a detailed questionnaire. The survey sample was taken on the selected pocket area within city of Allahabad. With reference to the survey data the study further aims to fulfill the need and highlight the importance of rag pickers. The survey aims to bring forth the unseen part of the story on the front line.
Keywords: Ragpickers, Municipal solid waste, Landfill sites, dumping grounds, recycling.

ISCA-ISC-2014-Oral-20SHS-28

Enhancement of Marginalised communities and capacity building in context to development of society

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Abstract: Development practice is generally most concerned with improving the livelihoods of vast swathes of a country or a population before the same can be done for the few individuals who "fall through the cracks". But is this not the very same reason for which some of the current development challenges exist? Entire countries have fallen through the cracks… Today's social justice approach means justice for all, not just the majority – and these are achievable objectives. Conventional wisdom creates images of these groups in our minds. But there's a problem with that: do we know whether marginalised or at-risk groups remain the same over time? Are we overlooking some groups because they are closer to the mainstream than we think – and yet they are excluded? In the social environment too, groups of people or communities may have the experience of being excluded. Their marginalisation can be because they speak a different language, follow different customs or belong to a different religious group from the majority community. They may also feel marginalised because they are poor, considered to be of 'low' social status and viewed as being less human than others. Sometimes, marginalised groups are viewed with hostility and fear. This sense of difference and exclusion leads to communities not having access to resources and opportunities and in their inability to assert their rights. They experience a sense of disadvantage and powerlessness vis-a-vis more powerful and dominant sections of society who own land, are wealthy, better educated and politically powerful. Thus, marginalisation is seldom experienced in one sphere. Economic, social, cultural and political factors work together to make certain groups in society feel marginalized.
Keywords: Enhancement, Marginalised, Communities, Capacity building, Development

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Behaviour Management Techniques in Children During Dental Treatment

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Abstract: Dental treatment in general public is considered very fearful especially with children its management is widely agreed to be a key factor. Dental practitioners are expected to recognize and effectively treat childhood dental diseases that are within the knowledge and skills acquired during dental education. Safe and effective treatment of these diseases often requires modifying the child's behaviour. Behaviour management is a continuum of interaction in-volving the dentist and dental team, the patient, and the parent directed toward communication and education. Its goal is to ease fear and anxiety while promoting an understanding of the need for good oral health and the process by which that is achieved. A dentist who treats children should have a variety of behaviour guidance approaches and, in most situations, should be able to assess accurately the child's developmental level, dental attitudes, and temperament and to predict the child's reaction to treatment. Successful behaviour guidance enables the oral health team to perform quality treatment safely and efficiently and to nurture a positive dental attitude in the child. A child's future attitude toward dentistry may be determined by a series of successful experiences in a pleasant dental environment.
Keywords: Behaviour management, child behaviour, paediatric dentistry, behaviour guidance , dental care.

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Way to Study Indigenous Knowledge and Indigenous Knowledge System

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Abstract: This paper is based on how to study Indigenous Knowledge and Indigenous Knowledge System (IK and IKS). Some questions have been raised and probable answers given. The main problem is regarding methodology. Definition and categorization of IK/IKS are also situational. IK and IKS are to be separated. IKS as a global knowledge system has to be understood. Hidden and open ended IK/IKS should have different methodologies. Symbols, cognition, post-structuralism, post-modernism, humanitarianism are different perspectives. There are as many research approaches. Rapid Rural Appraisal has got special attention. IKS itself is a methodology. We have to realize the ground situation also concentrating on the area as well as approach to the area. Study can be etic and/or emic. Probable rationale of approach is to be formulated. We have to realize situations like IK/IKS versus civilization, global services from IKS, and traditional knowledge system and IKS. We also have to better understand colonial realm of the term "indigenous" and keep in mind the aspects like Indigenous Rights according to ILO.
Keywords: IK; IKS; methodology.

ISCA-ISC-2014-Poster-8EVS-55

Study on bacterial load and 16S rRNA gene analysis of some selected Bacteria associated with freshwater fishes in Udaipur region

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Abstract: The quantitative analysis of bacterial flora associated with the skin of freshwater fishes in Udaipur region was determined. Four different types of fishes were catch, identified as *Notopterus notopterus, Labeo rohita, Heteropneustus* and *Catla-catla* from Pichola lake and brought to laboratory, total bacterial load were calculated on nutrient agar at 37^0 C by using pour plate method. The highest bacterial load ($5.1X10^5$ CFU/gm) were found on the skin of *Notopterus notopterus* and the minimum ($4.0X10^2$ CFU/gm) on *Labeo rohita* was recorded. A total 18 bacterial isolates were isolated from all collected fishes for the identification of bacterial species associated with freshwater fishes in Udaipur region. Phenotypic characterization of each isolates was carried out by studying morphological characteristics and carbohydrate fermentation. Molecular typing was attempted to find out the similarity or difference in genetic structure of some selected bacteria with the help of 16S rRNA gene amplification and Amplified Ribosomal DNA Restriction Analysis (ARDRA). These findings provide consumers insight into fish quality, potential health risks of raw fish consumption, and the impact of storage conditions on bacterial load of raw fish.
Keywords: Freshwater fish, Total Bacterial load, Genomic DNA, 16S rRNA gene, Amplified Ribosomal DNA Restriction Analysis (ARDRA), PCR.

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समाजिक एकता तथा समरसता स्थापित करने में राजस्थान के प्रमुख सन्तों का योगदान

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सारांषः– मध्यकाल में समाज में व्याप्त बुराइयों को दूर करने के लिए हमारे समाज में एक समुदाय का प्रादुर्भाव हुआ। उस सन्त समुदाय ने किस प्रकार लोगों को जाग्रत कर समाज को संगठित तथा समाज में एकता और समरसता स्थापित की। मैं इन बिन्दुओं को स्पश्ट करने का प्रयाज करूगी।

खोजशब्दः– समाजिक एकता तथा समरसता स्थापित करने में राजस्थान के प्रमुख सन्तों का योगदान।

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Comparison of Physico-Chemical Parameters of Various Water Bodies in and Around District Khandwa MP Omkareshwar, Indirasagar and Singaji (Back-WATER), India

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Abstract: Present study was focused on the assessment of water quality of various water Bodies in Khandwa. Three water Bodies Indira sagar; Omkareshwar and Singaji (Back-Water) were selected on the Basis of their different location and different uses. Omkareshwar and Indira sagar Dam located in urban area and Singaji (Back-Water) in located rural areas. Indira sagar Dam and Omkareshwar Dam (Reservoir) are the main source of Potable water in Omkareshwar and Khandwa. All these three water resources are used for different purpose, so water Pollution in these water Bodies are caused by different sources. In this study water quality of Indira Sagar, Omkareshwar and Singaji (Back-Water) was assessed for period of two years. The Parameter like D.O, B.O.D, C.O.D and other Parameter were studied during the study.

Keywords: Water pollution, Dissolved Oxygen, Biochemical Oxygen Demand.

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