

CHAPTER 8
APPENDICES

A. Abbreviations

❖ MDR	= Multi Drug resistance
❖ MRSA	= Methicillin Resistance <i>Staphylococcus aureus</i>
❖ ESBL	= Extended Spectrum β -Lactamase
❖ QRDR	= Quinolone-resistance-determining region
❖ AAC	= Aminoglycoside acetyltransferase
❖ AAD	= Aminoglycoside adenylyltransferase
❖ PBP	= Penicillin binding Proteins
❖ PDR	= PAN drug resistance
❖ HGT	= Horizontal gene transfer
❖ LGT	= Lateral gene transfer
❖ IS	= Insertion Sequence
❖ Tn	= Transposons
❖ ISCR	= Insertion Sequence Common Region
❖ RC	= Rolling circle
❖ ORF	= Open reading frame
❖ MRIs	= Multi resistant Integron
❖ CIs	= Chromosomal Integrations
❖ SIs	= Super Integrands
❖ CS	= Conserved Sequence
❖ mrhA	= Mannose Fucose resistant haemagglutinin gene
❖ 59-be	= 59-base element
❖ DHFR	= Dihydrofolate reductase
❖ TMP	= Trimethoprim
❖ PABA	= p-aminobenzoic acid

❖ DHPS	= Dihydrofolate synthetase
❖ SUL	= Sulphonamide
❖ CLED	= Cystine Lysine Electrolyte Deficient agar
❖ SXT	= Co-trimoxazole
❖ FEP	= Cefepime
❖ AMP	= Ampicillin
❖ CIP	= Ciprofloxacin
❖ GEN	= Gentamicin
❖ MIC	= Minimum Inhibitory Inhibition
❖ STM	= Streptomycin
❖ KAN	= Kanamycin
❖ SF	= Sulphafurazole
❖ TMP	= Trimethoprim
❖ AK	= Amikacin
❖ NET	= Netilmicin
❖ ERIC	= Enterobacterial Repetitive Intergenic Consensus
❖ MBL	= New Delhi Metallo β -lactamase
❖ TE	= Tris EDTA
❖ TBE	= Tris Borate EDTA

COMPOSITION OF MEDIA AND REAGENTS

❖ MacConkey Agar:

Ingredients	Quantity (gms/ml)
Peptic digest of animal tissue	1.5g
Casein enzymic hydrolysate	1.5g
Pancreatic digest of gelatine	17g
NaCl	5g
Lactose monohydrate	10g
Bile salts	1.5g
Neutral red	0.03g
Crystal violet	.001g
Agar agar	13.5g
pH	7.1±2

❖ Mueller Hinton Agar:

Ingredients	Quantity (gms/ml)
Meat infusion powder	2g
Acid Hydrolusate of casein	17.5g
Starch	1.5g
Agar agar	17.5g
pH	7.3±2

❖ Peptone Water:

Ingredients	Quantity (gms/ml)
NaCl	5 g
Peptone	10 g

❖ **Simmon Citrate Agar:**

Ingredients	Quantity (gms/ml)
Magnesium sulphate hepta hydrate	0.2 g
Ammonium dihydrogen phosphate	0.2 g
Di-sodium ammonium phosphate	0.08 g
Tri-sodium citrate dehydrate	0.2 g
NaCl	5g
Bromo Thymol blue	0.08 g
Agar	15 g
pH	6.8±2

❖ **Cystine Lactose Electrolyte Deficient Agar**

Ingredients	Quantity (gms/ml)
Gelatin peptone	4 g
Casein peptone	4 g
L-Cysteine	0.12 g
Agar	15 g
Beef extract	3 g
Lactose	10 g
Bromo Thymol Blue	0.2 g
pH	7.3±2

❖ **Triple sugar iron agar:**

Ingredients	Quantity (gms/ml)
Casein enzymic hydrolyate	15 g
Peptic digest of animal tissue	5 g
Meat extracts	3 g
Yeast Extract	3 g

NaCl	5 g
Lactose Monohydrate	10 g
Sucrose	10 g
Glucose anhydrous	1 g
Ferric ammonium citrate anhydrous	0.5 g
Sodium thiosulphate anhydrous	0.5 g
Phenol red	0.024 g
Agar agar	12 g
pH	7.2±2

❖ **Gram strain:**

- Crystal violet
- Solution A

Ingredients	Quantity (gms/ml)
Crystal violet (90% dye content)	2 g
Ethyl alcohol (95%)	20 ml

- Solution B

Ingredients	Quantity (gms/ml)
Ammonium oxalate	0.8 g
Distilled Water	80 ml

❖ **Gram's Iodine:**

Ingredients	Quantity (gms/ml)
Iodine	1 g
Potassium iodide	2 g

Distilled water	80 ml
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❖ **Ethyl alcohol (95%):**

Ingredients	Quantity (gms/ml)
Ethyl alcohol (100%)	95 ml
Distilled water	5 ml

❖ **Safranin:**

Ingredients	Quantity (gms/ml)
Safranin (25% solution in 95% ethyl alcohol)	10 ml
Distilled water	90 ml

❖ **Methyl red solution, 0.2%:**

Ingredients	Quantity (gms/ml)
Methyl red alcohol	0.1 g in 300ml 95% ethyl
Distilled water	upto 500 ml

❖ **Christensen's Urea Agar:**

Ingredients	Quantity (gms/ml)
Peptone	0.1 g
Glucose	0.1 g
NaCl	0.5 g
Mono potassium Phosphate	0.2 g
Phenol red (1.2%)	1.2 ml
Agar	2 gm
Distilled water	100 ml
pH	6.8

❖ **Kovac's reagent:**

Ingredients	Quantity (gms/ml)
Para-dimethyl amino benzaldehyde	5 gm
Isoamyl alcohol	75 ml
Conc. HCL	25 ml

❖ **Voges- Proskauer broth:**

Ingredients	Quantity (gms/lit)
Peptone	7 g
Dextrose	5 g
Di-potassium phosphate	5 g
pH	6.9±2

❖ **5% Naphthol:**

Ingredients	Quantity (gms/lit)
Naphthol	5 g
Absolute ethyl alcohol	100 ml

❖ **40% Potassium hydroxide:**

Ingredients	Quantity (gms/lit)
Potassium hydroxide	40 g
Distilled water	100 ml