

PG Odd Semester (CBCS) Exam., December—2018

LIFE SCIENCE AND BIOINFORMATICS

(1st Semester)

Course No. : LSBCC-101

(Genetics and Molecular Biology)

Full Marks : 70

Pass Marks : 28

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

Answer **all** questions

1. Define gene and allele. What are the laws of inheritance? Citing suitable example, discuss the laws of inheritance. 2+2+10=14

OR

2. Write short notes on the following : 7×2=14
(a) Extra-chromosomal inheritance
(b) Germinal verses Somatic mutants
3. What is Hfr strain? With reference to conjugation, discuss how interrupted mating can be used to map genes. 7+7=14

OR

4. Write short notes on the following : 7×2=14
(a) Pedigree analysis
(b) Polygenic inheritance
5. Write short notes on the following : 7×2=14
(a) Excision repair mechanism
(b) Genetic code

OR

6. Explain the events at the replication fork with suitable diagrams. 14
7. Write short notes on the following : 14
(a) Termination of transcription
(b) Capping and polyadenylation

OR

8. Write a note on the process of translation of protein. How does the process differ in prokaryotes and eukaryotes? 14

(3)

9. Write short notes on the following : 14

(a) Tumor suppressor genes

(b) Role of chromatin in gene expression

OR

10. Write a note on apoptosis describing intrinsic and extrinsic pathways. 14
