

[SPDBT-101]
M.Sc. DEGREE EXAMINATION

Biotechnology
I YEAR

CELL BIOLOGY AND GENETICS
(Effective from the admitted batch 2009-10)

Time: 3 Hours

Max.Marks: 70

Instructions: All parts of the unit must be answered in one place only.
Figures in the right hand margin indicate marks allotted.

1. Answer any **Four** of the following: (4x5 = 20)
- a) Cell cycle check points
 - b) Write short notes on tight junctions
 - c) What do you know about chloroplast genome
 - d) Compare and contrast sex influenced with sex limited traits
 - e) Pleiotropism
 - f) Map units
 - g) Gene frequency

Answer one question from each unit.
Each question carried 10 marks:

UNIT-I

2. a) Explain in detail the various stages of meiosis and add a note on its significance 10
- OR**
- b) What are the types of transporters of cell membrane. Write in detail about their role in transport across the cell membrane 10

UNIT-II

3. a) Explain the structure and functions of endoplasmic reticulum on the basis of enzymes associated with them 10
- OR**
- b) Describe the lysosomes and narrate polymorphism in lysosomes 10

UNIT-III

4. a) Discuss in detail the non-mendelian inheritance, explain what it is? 10
- OR**
- b) Give an account on principles and applications of back cross and test cross 10

UNIT-IV

5. a) What is sex determination. Name various mechanisms of sex determination. Give an account of genetically controlled sex determination mechanism 10
- OR**
- b) Describe the mechanism and significance of crossing over 10

UNIT-V

6. a) How many ways, can a base in DNA be altered to produce a mutation? Narrate with an example of each and add a note on significance of mutations 10
- OR**
- b) Write an essay on extra chromosomal inheritance 10

[01/IY/210]