

556665



DCBT101

Reg. No.

--	--	--	--	--	--	--	--

I Semester B.Sc. Degree Examination, March/April - 2024

**BIOTECHNOLOGY**  
**Cell Biology and Genetics**  
**(NEP Scheme)**  
**Paper : I**



Time : 2½ Hours

Maximum Marks : 60

**Instructions to Candidates:**

All parts are compulsory.

**PART - A****I. Answer any Four of the following.****(4×2=8)**

1. Synaptonemal complex.
2. Telomere.
3. Apoptosis.
4. Back cross.
5. Multiple allelism.
6. Epistasis.

**PART - B****II. Answer any Four of the following.****(4×5=20)**

7. Describe in detail structure and functions of mitochondria. **(3+2)**
8. Differentiate between plant cell and animal cell. **(2.5+2.5)**
9. Give a detailed account on stages of prophase in Meiosis - I. Write it's significance. **(3+2)**
10. Write a note on complementary genes. Illustrate with example of flower colour in sweet peas. **(5)**
11. Give an overview of induced and spontaneous mutation. **(2.5+2.5)**
12. What is plastid inheritance? Explain by citing example of mirabilis Jalapa. **(2+3)**

**[P.T.O.]**



(2)

DCBT101

**PART - C**

**III.** Answer any **Four** of the following.

**(4×8=32)**

13. Comment on cell division. Explain the stages of Mitosis. **(3+5)**
  14. Illustrate the ultrastructure and function of chromosome. **(5+3)**
  15. With a neat labelled diagram, explain folded fibre and nucleosome model. **(4+4)**
  16. What are chromosomal abberations? Explain in detail. Add a note on it's significance. **(2+3+3)**
  17. What is meant by maternal inheritance? Explain with example of Kappa particle inheritance in paramecium **(3+5)**
  18. Write a note on physical and chemical mutagens. **(4+4)**
-