

Faculty of Science

B. Sc (Biotechnology) I-Year, CBCS –I Semester Examinations -June, 2023**PAPER: Cell Biology and Genetics**

Time: 3 Hours

Max Marks: 80

Section-AI. Answer any *eight* of the following questions (8x4=32 Marks)

1. Golgi apparatus
2. Polytene chromosomes
3. Telomere
4. Senescence
5. Spindle assembly
6. Synaptonemal complex
7. Incomplete dominance
8. Penetrance and Expressivity
9. X-chromosome inactivation
10. Recombination frequency
11. Two-point test cross
12. Chloroplast inheritance

Section-B

II. Answer the following questions (4x12=48 Marks)

- 13.(a) Outline the structure of a prokaryotic cell with labelled diagram.
(OR)
(b) Give an account of chromosomal structural aberrations.
- 14.(a) Explain various stages of meiosis and mention its significance
(OR)
(b) Discuss about various phases of eukaryotic cell cycle.
- 15.(a) Explain the concept of multiple allelism with a suitable example.
(OR)
(b) Explain the mechanism of sex determination in *Drosophila*.
- 16.(a) Give the experimental cytological evidence for crossing over.
(OR)
(b) Explain non-mendelian inheritance with suitable examples.
