



Paper Code : 11122

B.Sc. I Semester Degree Examination (NEP), April 2023
Subject : BIOTECHNOLOGY (Paper – I)
Paper – DSC – I : Cell Biology and Genetics

Time : 2 Hours

Max. Marks : 60

- Instructions :** 1) Attempt *all* the questions.
2) Draw diagrams/flow charts *wherever* necessary.

SECTION – A

1. Answer **any five** of the following in 2 or 3 sentences. (5×2=10)
- a) Simple diffusion
 - b) Cisternae
 - c) Zygotene
 - d) Define genetics
 - e) Dihybrid cross
 - f) Bivalents
 - g) Microtubules.

SECTION – B

- Answer **any four** of the following. (4×5=20)
- 2. Write brief note on incomplete dominance with an example.
 - 3. Structure of chloroplast.
 - 4. Describe the structure of polytene chromosome.
 - 5. Write brief account on cell cycle and phases of cell cycle.
 - 6. Describe sex linked inheritance with reference to haemophilia.
 - 7. Write about structure of plasma membrane.

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SECTION – C

Answer any three of the following.

(3×10=30)

8. Explain in detail structural aberrations in chromosomes.
 9. Define meiosis and explain in detail prophase – I of meiosis.
 10. Explain complementary gene interaction with an example of flower colour in sweet pea.
 11. Explain the law of independent assortment.
 12. Write about ZW – ZZ and ZO – ZZ type of sex determination.
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