

C 42740

(Pages : 2)

Name.....

Reg. No.....

**SECOND SEMESTER M.Sc. DEGREE (REGULAR/SUPPLEMENTARY)
EXAMINATION, APRIL 2023**

(CBCSS)

Botany

BOT 2C 04—CELL BIOLOGY, MOLECULAR BIOLOGY AND BIOPHYSICS

(2019 Admission onwards)

Time : Three Hours

Maximum : 30 Weightage

Part A*Answer any four questions.**Each question carries 2 weightage.*

1. Define Infrons. Write their significance.
2. What are Telomerase ? Write its function.
3. Differentiate between constitutive and facultative heterochromatin.
4. Write the full form of ELISA. Write its applications in biochemical analysis.
5. Explain the significance of satellite DNA.
6. What are mutator genes ? Write an example.
7. Explain metastasis ?

(4 x 2 = 8 weightage)

Part B*Answer any four questions.**Each question carries 3 weightage.*

8. Explain the term apoptosis. Give a short account on the proteins regulating apoptosis.
9. Write chemical composition of PAGE. How it is useful for the separation of macromolecules.
10. Explain the different banding techniques and its significance.
11. Briefly explain the meiotic irregularities and human diseases.
12. Write a short account on the cellular differentiation and specialization.

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13. Briefly explain the applications of molecular phylogenetics.
14. Write the method and application of differential centrifugation.

$(4 \times 3 = 12 \text{ weight})$

Part C

Answer any two questions.

Each question carries 5 weightage.

15. Briefly explain the types of meiosis, synaptonemal complex and significance of meiosis.
16. Write a detailed account on various process in the cell interactions
17. Give a comparative analysis of on the techniques and application of calorimetric spectrophotometry.
18. Explain the operon concept and regulation of gene expression in prokaryotes.

$(2 \times 5 = 10 \text{ weight})$