

D 102122

(Pages : 2)

Name.....

Reg. No.....

**SECOND SEMESTER M.Sc. DEGREE (REGULAR/SUPPLEMENTARY)
EXAMINATION, APRIL 2024**

(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. Write the genetic cause of down syndrome
2. What are Telomerase ? Write its function
3. Explain density gradient centrifugation.
4. What are mutator genes ? Write an example.
5. Explain Replisomes. Write its function.
6. What are Interferons ? Write their function.
7. What is Lyophilization ?

(4 × 2 = 8 weightage)

Part B

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

8. Write a short account on the synaptonemal complex and its significance in meiosis.
9. Briefly explain the translational and post translational events.
10. Explain the DNA replication in prokaryotes.
11. Explain the procedure of PAGE.
12. Briefly explain the molecular mechanisms of cellular differentiations.

Turn over

13. Write a short account on the specific events in the cell cycle and their significance.
14. Briefly explain different types of heterochromatin.

(4 × 3 = 12 weightage)

Part C

*Answer any **two** questions.
Each question carries 5 weightage.*

15. Briefly explain the organization of eukaryotic chromosome.
16. Write an essay on the programmed cell death.
17. Write a brief account on the principle and applications of various types of chromatography.
18. Write an account on the regulation of gene expression in eukaryotic cell.

(2 × 5 = 10 weightage)