D 122465 **(Pages : 2)** **Name.....**

Reg. No.....

SECOND SEMESTER M.Sc. DEGREE (REGULAR/SUPPLEMENTARY) EXAMINATION, APRIL 2025

(CBCSS)

Botany

BOT2C04—CELL BIOLOGY, MOLECULAR BIOLOGY, AND BIOPHYSICS

(2019 Admission onwards)

Time : Three Hours Maximum : 30 Weightage

Part A

Answer any **four** *questions.*

1. What is lyophitization ?
2. Explain C-value paradox.
3. Define perimosomes. Write its function.
4. Explain Beer-Lambert's law and its applications.
5. Define molecular evolution.
6. Write the significance of telomerase.
7. Write the application of molecular phylogenetics.

(4 × 2 = 8 weightage)

Part B

Answer any **four** *questions*

8. Briefly explain operon concept.
9. Give an account on the human diseases caused by meiotic irregularities.
10. Explain different types of banding and their applications.
11. Briefly explain transcription and post transcriptional events.

Turn over

12. Write an account on the origin of eukaryotic genomes.

13. Give an account on the different types centrifuges.

14. Write the molecular mechanisms of cell differentiation.

(4 × 3 = 12 weightage)

Part C

Answer any **two** *questions.*

15. Briefly explain the procedure and application of PAGE and agarose gel electrophoresis.

16. Give an account on the various carcinogenic agents and genetic basis of malignant transformation.

17. Briefly explain the process of DNA replication in eukaryotes.

18. Give an account on the specific events in cell division and its significance.

(2 × 5 = 10 weightage)