D2ABT2301 **(1 Page)** **Name.....**
Reg.No.....

SECOND SEMESTER M.Sc. DEGREE EXAMINATION, APRIL 2024
(Regular/Improvement/Supplementary)
BOTANY
FBOT2C04: CELL BIOLOGY, MOLECULAR BIOLOGY AND BIOPHYSICS

Time: 3 Hours **Maximum Weightage: 30**

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

1. Explain the Structure of IgG.
2. Explain the working principle of cellulose acetate electrophoresis.
3. What is the mechanism of buffer action in life systems?
4. Define C value paradox.
5. Write a short note on the phenomenon of metastasis.
6. Differentiate heterochromatin from euchromatin.
7. Comment on enhancers and silencers.

(4 × 2 = 8 weightage)

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

8. Explain cell cycle and each events with their significance.
9. How haploidy and aneuploidy affect the phenotype change in human.
10. Explain types of Electrophoresis with diagram.
11. Write on cell cycle regulations and meiotic defects.
12. What are carcinogens? How they affect the genetic level of organisms functions?
13. Explain primosomes and spliceosomes.
14. Write a short note on DNA repair mechanisms.

(4 × 3 = 12 weightage)

Part C: Answer any *two* questions. Each carries 5 weightage.

15. Write a detailed account on chromatin organization with detailed diagram and details of chromosome banding.
16. Explain the different concepts of gene action.
17. What is Autoradiography? Explain its principle, procedure and applications in biological studies.
18. Write an essay on structural chromosomal aberrations and their significance with detailed illustrations.

(2 × 5 = 10 weightage)