

SECOND SEMESTER M.Sc. DEGREE EXAMINATION, APRIL 2022
(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. What is C-value index?
2. Explain the concept of colinearity.
3. What are applications of molecular phylogenetics?
4. Briefly explain various stages of mitotic interphase.
5. Explain basic principle of spectrophotometer.
6. What are the significances of meiosis?
7. Write a short note on scaffold and its significances.

(4 × 2 = 8 weightage)

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

8. Explain chromosome banding and its significances.
9. Elaborate on telomerase and its functions.
10. Describe the structure of IgG with neatly labelled diagram.
11. Explain various types of special chromosomes.
12. Briefly explain the molecular mechanism of mutation.
13. Discuss various pathways leading to cell death.
14. Briefly explain deciphering the genetic code.

(4 × 3 = 12 weightage)

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

15. Discuss various events in protein synthesis.
16. Write an essay on DNA replication.
17. Describe various types of electrophoresis, their working principle, merits and demerits.
18. Write an essay on chromosomal aberrations and its significances.

(2 × 5 = 10 weightage)