

SECOND SEMESTER M.Sc. DEGREE EXAMINATION, APRIL 2024
(Regular/Improvement/Supplementary)

ZOOLOGY**FZOL2C04: CELL & MOLECULAR BIOLOGY****Time: 3 Hours****Maximum Weightage: 30****Part A: Answer any *four* questions. Each carries 2 weightage.**

1. Briefly discuss about miRNA.
2. Provide a brief account on active centres of ribosomes.
3. Explain the role of chaperones in post-translational modification of proteins.
4. Write a brief account on special features of interrupted genes.
5. Give a brief account on Alu family.
6. Briefly explain sexduction.
7. Briefly discuss different types of cell cycle check points.

(4 × 2 = 8 weightage)**Part B: Answer any *four* questions. Each carries 3 weightage.**

8. Discuss the special features of human mitochondrial genome.
9. Briefly explain DNA mismatch repair mechanism.
10. What are transposons? Explain composite transposons in bacteria.
11. Describe the molecular mechanism involved in homologous recombination of DNA in eukaryotes.
12. Discuss the role of apoptosis in cancer.
13. With suitable examples, explain point mutations that alter the genetic code.
14. Briefly discuss the process of initiation of prokaryotic translation.

(4 × 3 = 12 weightage)**Part C: Answer any *two* questions. Each carries 5 weightage.**

15. Discuss different models of DNA replication.
16. Write an essay on post transcriptional modification of eukaryotic mRNA.
17. Explain the organization of globin genes in man and its evolution.
18. Describe the structure and mechanism of regulation of Tryptophan operon.

(2 × 5 = 10 weightage)