

25P215

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Name:

Reg.No:

SECOND SEMESTER M.Sc. DEGREE EXAMINATION, APRIL 2026

(CBCSS - PG)

(Regular/Supplementary/Improvement)

CC19PZOL2C05 - MOLECULAR BIOLOGY AND CYTOGENETICS

(Zoology)

(2019 Admission onwards)

Time : 3 Hours

Maximum : 30 Weightage

Part-A

Answer any *four* questions. Each question carries 2 weightage.

1. Explain enzymology of DNA replication.
2. Comment on point mutations that alter genetic code.
3. Differentiate between monocistronic and polycistronic mRNA.
4. Explain Antisense RNA.
5. Define LINE.
6. Differentiate between Turner's and Klinefelter's syndrome.
7. Explain the morphological and ultrastructural properties of cancer cells.

(4 × 2 = 8 Weightage)

Part-B

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

8. Describe the inhibitors of DNA replication.
9. Give an account of major kinds of DNA damage and its repair.
10. Explain RNA editing? Mention the role of gRNAs.
11. Discuss about Cot value and complexity of genome.
12. Describe Tn family.
13. Describe the details of virus induced cancer.
14. Describe the methods of genetic transfer in bacteria.

(4 × 3 = 12 Weightage)

Part-C

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

15. Describe post-translational modifications of proteins. Mention the role of molecular chaperones.
16. Explain about organization, special features and evolution of interrupted gene families
17. Describe the details regarding genetic recombination.
18. Explain mendelian inheritance in humans with examples. Give a short note on extrachromosomal inheritance.

(2 × 5 = 10 Weightage)
