



K25U 0837

Reg. No. :

Name :

**IV Semester B.Sc. Degree (C.B.C.S.S. – OBE-Regular/Supplementary/
Improvement) Examination, April 2025
(2019 to 2023 Admissions)**

GENERAL AWARENESS COURSE IN MICROBIOLOGY

4A13MCB : Molecular Biology

Time : 3 Hours

Max. Marks : 40



Answer **all** questions. **Each** question carries **1** mark.

1. Chargaff's rule.
2. DNA gyrase.
3. Reverse transcriptase.
4. Molecular chaperones.
5. Corepressor.
6. Klenow fragment.

(6×1=6)



Answer **any 6** questions. **Each** question carries **2** marks.

7. Describe Avery's experiment that proved DNA as genetic material.
8. What are transposons ?
9. Discuss the differences between prokaryotic and eukaryotic ribosome.
10. Explain the central dogma of molecular biology.
11. Explain induction and repression of genes.

P.T.O.



12. Describe the structure of a nucleotide.
13. Explain the structural organization of Trp operon.
14. How the eukaryotic mRNA is different from prokaryotic mRNA ? (6×2=12)

PART – C

Answer **any 4** questions. **Each** question carries **3** marks.

15. Structure of nucleosome.
16. Rolling circle replication.
17. RNA dependent RNA polymerases.
18. Post translational modification of polypeptides.
19. Methods of genetic recombination.
20. RNA processing. (4×3=12)

PART – D

Answer **any 2** questions. **Each** question carries **5** marks.

21. Write in detail about the enzymes and accessory proteins involved in DNA replication.
 22. Discuss the mechanism of transcription in prokaryotes.
 23. Define genetic code. Describe the salient features of genetic code.
 24. Discuss the mechanism of regulation of Lac operon. (2×5=10)
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