



K25U 0838

Reg. No. :

Name :

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

**GENERAL AWARENESS COURSE IN MICROBIOLOGY
4A14MCB : Microbial Genetics and rDNA Technology**

Time : 3 Hours

Max. Marks : 40

PART – A

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

1. Insertion sequences.
2. Temperate phages.
3. Tautomerization.
4. Phagemids.
5. Viral vector vaccines.
6. Blue white screening.

(6×1=6)

PART – B

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

7. Describe the chromosomal theory of inheritance.
8. Write on yeast mating types.
9. Discuss the use of replica plating technique for mutant isolation.
10. Discuss the use of DNA ligase in rDNA technology.
11. What are antisense RNAs ?

P.T.O.



12. Differentiate genotype and phenotype.
13. What is the mechanism of UV-induced mutagenesis ?
14. What are shuttle vectors ?

(6×2=12)

PART – C

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

15. Discuss the Mendelian laws of inheritance.
16. Write a note on mitochondrial inheritance.
17. Describe Ames test and its application.
18. Write a note on restriction endonucleases.
19. Describe the production of recombinant insulin.
20. Describe Mendelian dihybrid cross.

(4×3=12)

PART – D

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

21. Write a note on the different types of plasmids.
22. Discuss the mechanism of bacterial transformation.
23. What are mutagens ? Write on the mechanism of mutagenesis by different mutagens.
24. Describe various methods used for the introduction of foreign genes into host cells.

(2×5=10)
