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IV Semester B.Sc. Degree Examination, September - 2021

**MICROBIOLOGY**

**Molecular Biology and Recombinant DNA Technology**

**(CBCS Scheme)**

**Paper - IV**

**Time : 3 Hours**

**Maximum Marks : 70**

**Instructions to Candidates:**

1. Answer **ALL** questions.
2. Draw diagram wherever necessary.

**SECTION - A**

**I. Answer the following.**

**(5×2=10)**

1. Liposome Fusion.
2. Cosmids.
3. Agrobacterium tumefaciens.
4. Linkers.
5. RFLP.

**SECTION - B**

**II. Answer any FOUR of the following.**

**(4×5=20)**

6. Explain the structure of mRNA.
7. Briefly explain Agarose Gel Electrophoresis.
8. Write a note on characteristics of bacteriophage Lambda as a Vector.
9. Briefly explain: In situ colony hybridization.
10. Discuss the potential hazards of Genetic Engineering.

**[P.T.O.]**



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**SECTION - C****III. Answer any THREE of the following. (3×10=30)**

11. Explain the Lac operon system in detail.
12. Explain the mechanism of Translation in Prokaryotes.
13. Write the working principle, procedure and applications of PCR.
14. Explain Plasmids as cloning Vectors.
15. Write a note on DNA modifying enzymes used in genetic engineering.

**SECTION - D****IV. Answer in one sentence: (10×1=10)**

16. Anticodon
17. Gene Therapy.
18. Northern Blotting.
19. SV40
20. Lysozyme.
21. Microinjection
22. EtBr
23. Insertional Inactivation.
24. Attenuation.
25. Bacteriophage M<sub>13</sub>.

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