

Q.P. Code – 42440

Fourth Semester B.Sc. Degree Examination, September 2020

(CBCS – Semester Scheme)

Microbiology

**Paper MBT 4.3 – MOLECULAR BIOLOGY, GENETIC ENGINEERING
AND BIOINFORMATICS**

Time : 3 Hours]

[Max. Marks : 90

Instructions to Candidates :

- 1) Answer all questions.
- 2) Draw diagrams wherever necessary.

PART – A

I. Answer any **TEN** questions in one or two sentences : (10 × 2 = 20)

1. mRNA
2. 80S Ribosome
3. Attenuation
4. Bacteriophage
5. ECORI
6. Adapters
7. Insertional inactivation
8. Microinjection
9. cDNA libraries
10. Golden rice
11. SWISSPROT
12. Phylogenetic tree

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PART – B

- II. Answer any **SIX** of the following : (6 × 5 = 30)
13. Explain Lac operon in E.coli.
 14. List the properties of Cosmids.
 15. Write a note on DNA manipulative enzymes.
 16. Describe the methods of joining of DNA molecules.
 17. Write a note on :
 - (a) DNA hybridization
 - (b) Agrobacterium tumefaciens
 18. Describe :
 - (a) Gene therapy
 - (b) Bt cotton
 19. Write a note on DNA fingerprinting.
 20. Explain structural and functional genomics.

PART – C

- III. Answer any **FOUR** of the following : (4 × 10 = 40)
21. Describe the mechanism of protein synthesis in Prokaryotes.
 22. Discuss plasmids as cloning vectors.
 23. Explain in detail the screening and selection of recombinant host cells.
 24. Explain PCR and its types.
 25. Write a note on Human genome project.
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