

Q.P. Code – 42440

Fourth Semester B.Sc. Degree Examination, April/May 2019

(Semester Scheme – CBCS)

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

Answer any **TEN** questions in one or two sentences each :

(10 × 2 = 20)

1. Introns
2. Protein inhibitor
3. Repressor
4. Cosmids
5. Ti plasmid
6. BAC
7. Linkers
8. Electroporation
9. PFGE
10. Metagenomics
11. RFLP
12. Transcriptomics

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PART – B

Answer any **SIX** questions :

(6 × 5 = 30)

13. Explain fine structure of gene.
14. Write a note on characteristics of model organisms.
15. Give an account of salient features of plasmids.
16. Explain gene transfer method by Liposome fusion and microparticle bombardment.
17. Write a note on :
 - (a) Insertional inactivation
 - (b) Homopolymer tails
18. Describe :
 - (a) DNA microarray
 - (b) Animal pharming
19. Discuss potential hazards of genetic engineering.
20. Define Proteomics and its types.

PART – C

Answer any **FOUR** questions :

(4 × 10 = 40)

21. Describe the types of RNA and its functions.
22. Discuss bacteriophage as a cloning vector.
23. Explain in detail invitro construction of rDNA molecule.
24. Describe Agarose gel electrophoresis.
25. Give an account of BLAST and Genbank.