

Roll No. :

Total No. of Questions : 11]

[Total No. of Printed Pages : 3

BPP-1083

M.Sc. (Previous) Examination, 2022

MICROBIOLOGY

Paper - II

**(Microbial Genetics, Molecular Biology and Techniques
of Genetic Engineering)**

Time : 3 Hours]

[Maximum Marks : 75

Section-A

(Marks : 2 × 10 = 20)

Note :- Answer all *ten* questions (Answer limit **50** words). Each question carries **2** marks.

Section-B

(Marks : 5 × 5 = 25)

Note :- Answer all *five* questions. Each question has internal choice (Answer limit **200** words). Each question carries **5** marks.

Section-C

(Marks : 10 × 3 = 30)

Note :- Answer any *three* questions out of five (Answer limit **500** words). Each question carries **10** marks.

Section-A

1. (i) Define Genome.
- (ii) What are Frame Shift Mutations ?

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- (iii) Define Linking Number of DNA.
- (iv) What do you understand by G. C. Content of DNA ?
- (v) Define Reverse Transcription.
- (vi) What is β -(beta) Galactosidase ?
- (vii) What is EcoRI ?
- (viii) What is DNase I ?
- (ix) Draw a map for pBR 322.
- (x) What are Phagemids ?

Section-B

2. What is the difference between F^+ , F^- and Hfr Cells ?

Or

Write a short note on Luria-Delbruck Experiment.

3. Differentiate between Coding Vs Non-coding DNA.

Or

Write a short note on DNA Repair.

4. Write briefly about the properties of Genetic Code.

Or

Write a small note on heat shock response in Bacteria.

5. Write a short note on Southern Hybridization.

Or

Write a short note on Northern Hybridization.

6. Write a short note on c-DNA Libraries.

Or

Explain in brief about Site Directed Mutagenesis.

Section-C

7. Write in detail about Gene Transfer in Bacteria.
8. Explain in detail about transposons and mechanism of Transpositions.
9. Write in detail about negative regulation of gene expression in Bacteria.
10. Write a detailed note on RFLP and its applications.
11. Explain the various applications of Genetic Engineering.