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24-MB-21

**M.Sc. II SEMESTER [MAIN/ATKT] EXAMINATION
JUNE - JULY 2024**

MICROBIOLOGY

Paper - I

[Microbial Genetics]

[Max. Marks : 75]

[Time : 3:00 Hrs.]

[Min. Marks : 26]

Note : Candidate should write his/her Roll Number at the prescribed space on the question paper.
Student should not write anything on question paper.
Attempt five questions. Each question carries an internal choice.
Each question carries **15 marks**.

Q. 1 Explain the mechanism of DNA replication occurs in Prokaryotes in detail.

OR

Write short notes on -

- i) Inhibitors of DNA replication.
- ii) Structure of DNA and its type.

Q. 2 Describe molecular nature of mutation and DNA damage due to mutation in detail.

OR

Write short note on following -

- i) Mutagen.
- ii) DNA repair system with one example.

Q. 3 Describe the process of transcription in detail and illustrate the difference between prokaryotic and eukaryotic transcription.

OR

Write short note on following -

- i) Types of RNA.
- ii) Monocistronic and Polycistronic mRNA.

Q. 4 Explain Lac operon in E.coli in detail with suitable diagram.

P.T.O.

OR

Write short note on following -

- i) Genetic Code.
- ii) Inhibitors of Protein synthesis.

Q. 5 Discuss the mechanism of transformation in detail.

OR

Write short note on following -

- i) Transduction.
- ii) Lytic Phage.

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