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25-BT-22

**M.Sc. II SEMESTER [MAIN/ATKT] EXAMINATION
MAY - JUNE 2025**

BIOTECHNOLOGY

Paper - II

[Bacterial Genetics and Genetic Engineering]

[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 all five questions. Each question carries an internal choice.
Each question carries **15 marks**.

Q. 1 Explain the process of Conjugation in detail.

OR

Write short notes on -

- i) Transposable genetic elements.
- ii) Transduction.

Q. 2 Explain structure, genetic map, lysogenic and lytic cycle of Lambda Phage.

OR

Write short notes on -

- i) Plasmids.
- ii) Restriction Modification System.

Q. 3 Describe various enzymes and other tools used in Genetic Engineering.

OR

Write short notes on -

- i) Hybridization Techniques.
- ii) Chromatin Immuno Precipitation.

P.T.O.

Q. 4 Write short notes on -

- i) Ti and Ri plasmids as vector.
- ii) Baculovirus.

OR

Write short notes on -

- i) Animal virus derived vectors.
- ii) Artificial chromosome vectors.

Q. 5 Describe CDNA and genomic libraries in detail.

OR

Write short notes on -

- i) Protein - Protein Interaction.
- ii) Isolation of mRNA and total RNA.

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