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24-BT-22

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

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

**Q. 1** Explain Transformation in detail.

(15 Marks)

**OR**

Write short note on the following (**any two**) -

(7½ Marks each)

- i) Gene Mapping.
- ii) Insertion Sequences.
- iii) Genetic Analysis.

**Q. 2** Describe Gene regulation in detail.

(15 Marks)

**OR**

Describe Restriction modification system.

(15 Marks)

**Q. 3** Describe Restriction Enzymes in brief.

(15 Marks)

**OR**

Describe Hybridization techniques.

(15 Marks)

**Q. 4** Write note on following -

(7½ Marks each)

- i) Plasmids.
- ii) Lambda Vectors.

**OR**

**P.T.O.**

Write note on Following -

(7½ Marks each)

- i) Baculovirus.
- ii) Plant based vectors.

**Q. 5** Describe Transformation.

(15 Marks)

**OR**

Describe Gene Expression in detail.

(15 Marks)

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