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25-BO-42

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

BOTANY

Paper - II

[Biotechnology 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 Write down the basic concept, principle and scope of biotechnology. What are the possible ecological risk and ethical concern related to it.

OR

Explain intellectual property rights in detail.

Q. 2 Describe the tools and techniques of recombinant DNA technology in detail.

OR

- i) cDNA Library.
- ii) Polymerase Chain Reaction.

Q. 3 What is genetic improvement of Industrial Microbes. Explain in detail.

OR

Explain Fermenter under the following heading -

- i) Basic concept
- ii) Characteristics of Ideal Fermenter
- iii) Types of Fermenters

Q. 4 Explain strategies for development of transgenic plant with suitable examples in detail.

OR

P.T.O.

Describe in detail -

- i) Agrobacterium mediated gene transfer.
- ii) Transposon mediated gene tagging.

Q. 5 Write down the basic concept, types and strategies for genome analysis in detail.

OR

Describe in detail -

- i) 2-D Gel Electrophoresis.
- ii) Chromatography.

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