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**24-BO-42**

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

**BOTANY**

Paper - II

**[Biotechnology and Genetic Engineering]**

*[Max. Marks : 75]*

*[Time : 3:00 Hrs.]*

*[Min. Marks : 26]*

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**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**.

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- Q. 1** Give a detail account of tools and techniques used in recombinant DNA technology of Genetic Engineering. (15 Marks)

**OR**

Explain the process of making cDNA and Genomic libraries and its significance in detail.

- Q. 2** How agrobacterium mediated gene transfer is done , write down its significance also.

**OR**

Give detail account of -

- i) DNA finger printing.
- ii) Polymerase chain reaction.

- Q. 3** What are Transgenic plants which strategies are used for development of transgenic plants.

**OR**

Write in detail about (**any one**) -

- i) Ecological risk and ethical concern related to transgenic plants.
- ii) Intellectual property right.

- Q. 4** Give a complete account of basic concept characteristics and types of fermenter.

**OR**

**P.T.O.**

Write in detail (**any one**) -

- i) Basic concept, types and strategies for genome analysis.
- ii) Upstream and down stream processing of fermentation.
- iii) Genetic improvement of industrial microbes nitrogen fixers.

**Q. 5** What is the basic concept of Bioinformatics. Write down its application in biological science.

**OR**

Write in detail about (**any one**) -

- i) Protein Profiling Technology and its application.
- ii) Genomic Projects - Basic Concept.
- iii) High through put sequencing and micro arrays.

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