

**A-878**

Total Pages : 3

Roll No. ....

**BOT-554**

**M.Sc. BOTANY (MSCBOT)**

**(Plant Molecular Biology and Biotechnology)**

2nd Year Examination, 2024 (June)

Time : 2:00 Hrs.

Max. Marks : 70

**Note :-** This paper is of Seventy (70) marks divided into Two (02) Sections 'A' and 'B'. Attempt the questions contained in these Sections according to the detailed instructions given therein. *Candidates should limit their answers to the questions on the given answer sheet. No additional (B) answer sheet will be issued.*

**Section-A**

**Long Answer Type Questions**      2×19=38

**Note :-** Section 'A' contains Five (05) Long-answer type questions of Nineteen (19) marks each. Learners are required to answer any *two* (02) questions only.

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( 1 )

P.T.O.

1. What is Biotechnology ? Describe the Plant Tissue Culture techniques.
2. Describe the Regulation of Gene Expression in eukaryotes.
3. What are genomics and proteomics ? Write a note on its applications.
4. What are molecular markers ? Describe the types and tools to identify molecular markers.
5. What are Cloning Vectors ? Describe their type and importance in biotechnology.

### **Section–B**

#### **Short Answer Type Questions**      4×8=32

**Note** :- Section ‘B’ contains Eight (08) Short-answer type questions of Eight (08) marks each. Learners are required to answer any *four* (04) questions only.

1. Write a note on PCR and transgenic plants.
2. Describe somatic hybridization.
3. Write a note on Intellectual Property Rights (IPR).
4. What are restriction endonucleases ? Describe its role in biotechnology.

5. What is Genome ? Write a brief of notes on the genome of cell organelles in the plant body.
6. What is Cryopreservation ?
7. Write a short note on enzymes used in molecular cloning.
8. Write a note on biosafety.

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