

A-1229

Total Pages : 3

Roll No.

BOT-554

M.Sc. Botany (MSCBOT)

Plant Molecular Biology and Biotechnology

Examination February, 2026

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 a marker ? Describe in detail about the types of markers.
2. What are the basic steps in plant tissue culture technique and also discuss the role of chemicals in this technique.
3. What is Polymerase chain reaction (PCR). Describe its principle, procedure and applications.
4. Discuss in detail about transgenic plant. What are the benefits of using transgenic plants ?
5. In the context of Biotechnology. Discuss cryopreservation elaborating the concepts and its applications.

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 short note on Bt Cotton.
2. Write a short note on somatic hybridisation
3. Discuss any one Secondary Metabolites

4. Discuss about Non-repetitive and Repetitive DNA
5. What is Biotechnology ? Write a brief account of its scope and importance.
6. Give a brief account of patent and copyright.
7. What do you mean by biosafety ? Why is there a need of biosafety ?
8. What do you understand by plant metabolomics ? Explain.
