

A-1215

Total Pages : 3

Roll No.

MSCBOT-604

M.Sc. Botany (MSCBOT)

Molecular Biology and Biotechnology of Plants

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.

A-1215

(1)

P.T.O.

1. Provide a comparative analysis of different types of RNA.
2. Mention about different applications of biotechnological tools and techniques.
3. Write short notes on the following :
 - (a) GATT
 - (b) Genetic Code
4. Name any *two* methods of gene transfer. Mention about the process involved in gene transfer and advantages of the two methods identified.
5. Discuss about the process of protein synthesis.

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. With the help of self-explanatory diagram explain about double helix structure of DNA.
2. Enlist different applications of plant tissue culture technology.

3. Write a short note on cryopreservation.
4. Briefly describe how secondary metabolites can be produced through in vitro culture technology.
5. Provide a definition with clear meaning for the following :
 - (a) Adventitious embryogenesis
 - (b) Trademark
 - (c) Biotechnology
 - (d) Copyright
6. Describe about characteristic features of genetic material.
7. Briefly mention about post transcriptional modification which occur in RNA.
8. Discuss about what are patents and their utility.
