

A-0021

Total Pages : 3

Roll No.

MSCBOT-604

M.Sc. Botany (MSCBOT)

(Molecular Biology and Biotechnology of Plants)

Examination, June 2025

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.

1. What is transcription ? Mention about post transcription modification ?
2. Explain in detail about technique of plant tissue culture. Mention its applications in agriculture and industry ?
3. Define the term genetic engineering. Discuss about direct methods of gene transfer.
4. Write an elaborate explanatory note on patents.
5. Describe the structure of DNA in detail. How does DNA differ from RNA ?

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. Briefly mention key components of prokaryotic gene expression ?
2. Discuss the features and significance of GAATS ?
3. Write a self-explanatory note on Trademark ? Give examples of trademark ?

4. Describe the experimental study through which DNA was established as genetic material.
5. Discuss about the process of somatic hybridization.
6. Mention about different applications of biotechnology.
7. How molecular markers are utilized in plant breeding ?
8. Write short notes on the following :
 - (a) artificial seed
 - (b) cryopreservation
