

**A-043**

Total Pages : 3

Roll No. ....

**MSCBOT-604**

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

**(Molecular Biology and Biotechnology of Plants)**

3rd Semester 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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P.T.O.

1. Describe about different types of RNA.
2. Explain about double helical structure of DNA. Support your answer with well labelled diagram.
3. Explain about GATT and TRIPPS. Also mention their significance.
4. What is genetic engineering ? Describe about different methods of gene transfer ?
5. Illustrate how secondary metabolites are produced using cell culture.

### **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. What is genetic code. Mention different characteristic features of genetic code ?
2. How protein sorting occurs in eukaryotic cells ?
3. Briefly describe about cryopreservation and germplasm conservation ?

4. Define the following terms : artificial seed, totipotency, GATT, TRIPPS
5. With help of diagram outline the process of RNA synthesis ?
6. Explain about somatic hybridization.
7. Describe about copy right and trademark.
8. Define plant tissue culture and also mention its applications.

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