

**A-0021**

**Total Pages : 3**

**Roll No. ....**

**MSCBOT-604**

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

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

**3rd Semester Examination, Session December 2024**

**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. With the help of well labelled diagram discuss about Watson and crick model of DNA. How does nucleotides differ from nucleosides ?
2. Describe how proteins are transported to organelles through the process of protein sorting.
3. Provide an overview of gene regulation in eukaryotes ?
4. What do you understand by the term biotechnology ? Mention about different application of biotechnology ?
5. Describe the process of RNA 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. What is genetic code ? Mention different features of genetic code ?
2. Discuss the features and significance of TRIPPS ?
3. Write a self-explanatory note on cryopreservation.
4. How secondary metabolites can be produced through cell culture ?

5. Write short note on copyright. Give examples of intellectual property which can be protected through copyright.
6. Describe about different types of RNA.
7. Write short notes on any *two* of the following :
  - (a) Application of plant tissue culture
  - (b) Types on DNA
  - (c) mitochondrial and chloroplast DNA
8. Briefly discuss about food safety issues associated with GM crops.

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