

**BOT-554**  
**PLANT MOLECULAR BIOLOGY AND**  
**BIOTECHNOLOGY**

**M.Sc. BOTANY (MSCBOT-12/13/16/17)**

Second Year, Examination-2020

Time Allowed : 2 Hours

Maximum Marks : 80

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**Note:** This paper is of Eighty (80) marks divided into Two (02) sections A and B. Attempt the question contained in these sections according to the detailed instructions given therein.

**Section-A**

(Long Answer type Questions)

Note: Section-'A' contains Five (05) long answer type questions of Twenty (20) marks each. Learners are required to answer any two (02) questions only. (2×20=40)

1. Give a brief account of different mechanisms proposed for regulation of gene expression through repression of transcription.
2. What are molecular markers? Discuss the techniques involved in their uses in recombinant DNA technology.

3. In the context of Biotechnology. Discuss cryopreservation elaborating the concepts and its applications.
4. What do you understand by Transgenic plants? Give at least two examples to explain the same.
5. What is Proteomics? Write different types of Proteomics studied by you.

### **Section-B**

(Short answer type questions)

Note: Section-B Contains Eight (08) short Answer type questions of Ten (10) marks each. Learners are required to Answer any four (04) questions only. (4×10=40)

1. Heat shock genes.
2. TATA box and CAAT box.
3. pBR 322.
4. Gene cloning.
5. Ovule culture.
6. Polymerase chain reaction.
7. Biosafety.
8. DNA Microarray technology.

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