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(20525) Roll No.

M.Sc. (Biotech.)-II Sem.

# NP-3336

## M.Sc. (Biotech.)

## Examination, May - 2025

### BIOTECHNOLOGY IN CROP IMPROVEMENT

**(H-203)**

**(M.Sc. Biotech.)**

*Time : Three Hours ]* *[Maximum Marks : 50*

**Note :** Attempt questions from **all** sections as per instructions.

### Section-A

### (Very Short Answer Questions)

**Note :** Attempt all the **five** parts of this question. Each part carries **2** marks. Very short answer is required not exceeding **75** words.

**P.T.O.**





1. (a) T-DNA 2
   (b) Callus 2
   (c) Cybrids 2
   (d) Rice genome 2
   (e) Artificial seeds 2

### Section-B

### (Short Answer Questions)

**Note :** Attempt any **two** questions from this section. Each question carries **5** marks. Short answer is required not exceeding **200** words.

2. *Explain the role of seed storage proteins.* 5
3. Discuss the advantages of molecular farming. 5
4. Discuss the uses of micropropagation in horticultural crops. 5

### Section-C

### (Detailed Answer Questions)

**Note :** Attempt any **three** questions. Each question carries **10** marks. Answer is required in detail.

5. What is protoplast culture? Describe in detail about embryo culture and its uses in hybridization programmes. 10

6. Discuss in detail the Agrobacterium mediated gene transfer to a plant cell. How it differs from direct gene transfer? 10

7. Write short notes on the following:

   (a) Biofertilizers 5

   (b) Bioinsecticides 5

8. Discuss in detail the method of somatic hybridization and its uses in crop improvement. 10

9. What are Transgenic plants? Discuss their beneficial and harmful aspects. 10