

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

B.Sc.(Agriculture) (Sem.-5)

**PLANT TISSUE CULTURE AND GENETIC TRANSFORMATION**

Subject Code : BSAG-502

M.Code : 74166

Date of Examination : 05-07-22

Time : 3 Hrs.

Max. Marks : 60

**INSTRUCTIONS TO CANDIDATES :**

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

**SECTION-A**

**1. Write short notes on :**

- a) Bt Brinjal
- b) Synthetic Seeds
- c) Cryo-protectants
- d) Selectable markers
- e) PEG and its functions
- f) Shoot bud differentiation
- g) Cybrid
- h) Somaclone
- i) Somaclonal variation
- j) Pollen culture.

## SECTION-B

2. What do you understand from embryogenesis? Differentiate between Somatic embryogenesis and zygotic embryogenesis.
3. Differentiate between following :
  - a) Anther culture and Pollen culture
  - b) Androgenesis vs Gynogenesis.
4. What are transgenic plants? What is the role of transgenic plants in developing high yielding and better-quality varieties?
5. What is somatic embryogenesis? Briefly explain the role of various parameters in somatic embryogenesis?
6. What are secondary metabolites? List various steps involved in production of secondary metabolites using tissue culture methods.

## SECTION-C

7. What is meristem tip culture? What are the various factors affecting virus eradication by meristem tip culture?
8. What is protoplast culture? Elaborate the factors affecting yield said variability of protoplasts in culture. Cite some successful examples of protoplast culture.
9. What is genetic engineering? List various methods of gene transfer in plants. Explain Agrobacterium mediated transformation method in detail.

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**