

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

B.Sc. (BT) (Sem.-4)
PLANT TISSUE CULTURE
Subject Code : BSBT-402-18
M.Code : 77691
Date of Examination : 07-07-22

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 briefly :

- a) What is protoplast?
- b) What are cryoprotectants?
- c) What is surface sterilization?
- d) Why is photoperiod required for plant tissue growth?
- e) Why is there browning of the plant tissue during its growth?
- f) What are explants?
- g) What are somadonal variants? Cite an example of it.
- h) What is the difference between macronutrient and micronutrient?
- i) What is hybridization?
- j) Differentiate between artificial and natural mediums.

SECTION-B

2. Explain the laboratory design of the plant tissue culture lab with the help of a diagram.
3. What is cellular totipotency? Give its significance in plant tissue culture.
4. Discuss the selection of hybridoma cells using an HAT medium?
5. Briefly describe the importance of any two plant growth regulators
 - a) Auxins
 - b) Cytokinin
 - c) Gibberellic acids
 - d) Abscisic acid
6. State the process of somatic cell fusion? Discuss its advantage and disadvantage.

SECTION-C

7. What is somatic embryogenesis? Discuss its different stages of development? What are their advantage and disadvantage?
8. Briefly describe the different components of plant tissue culture medium and their significance. Also mention a few media used for growing plant tissue.
9. Briefly describe any two :
 - a) Callus culture
 - b) Organ culture
 - c) Micro culture
 - d) Suspension culture.

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.