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Total No. of Pages: 02

Total No. of Questions: 09

**Bachelor of Science (Bio Technology)(Sem. – 4)**

**PLANT TISSUE CULTURE**

**Subject Code: BSBT402-18**

**M Code: 77691**

**Date of Examination : 24-12-2022**

**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. Answer the following:

- a) Who is known as the father of Plant Tissue culture and in which year did it start?
- b) What is an autoclave and its role in PTC?
- c) What is totipotency?
- d) What is the Role of agar in media?
- e) What is surface sterilization?
- f) What is somaclonal variation?
- g) Which growth regulator is required for somatic embryogenesis?
- h) What is somatic hybridization?
- i) Define micro propagation.
- j) Mention the photoperiod maintained in PTC growth chamber.

### **SECTION-B**

2. Discuss the various stages of somatic embryogenesis.
3. What is surface sterilization and the basic procedure for aseptic culture?
4. What is the role of vitamins and activated charcoal in PTC medium?
5. Give the various parameters required for incubation of cultures.
6. Discuss the anther and pollen cultures and their significance.

### **SECTION-C**

7. Discuss in detail the various stages of micropropagation.
8. How is cell suspension cultures established and maintained?
9. Discuss hybrid clone and how is monoclonal antibodies produced?

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