

Exam. Code : 107406

Subject Code : 1691

B.Sc. (Bio Technology) 6<sup>th</sup> Semester  
APPLICATIONS OF PLANT TISSUE CULTURE  
Paper : BT-2

Time Allowed—3 Hours] [Maximum Marks—40

**Note** :— Attempt *five* questions in all, selecting at least **one** question from each section. The **fifth** question may be attempted from any section. All questions carry equal marks.

**SECTION—A**

1. Explain the technique of somatic embryogenesis. Write its applications. 8
2. Why acclimatization is considered an important stage of micropropagation ? Discuss the various methods of acclimatization of tissue culture raised plantlets. 8

**SECTION—B**

3. What are somaclonal variations ? Discuss methods of selection of somaclonal variants and their applications. 8
4. Write notes on the following :
  - (a) Gynogenesis
  - (b) Triploid plant production. 4,4

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(Contd.)

### SECTION—C

5. Describe the methods of selection of hybrid protoplasts and write the applications of somatic cell hybridization. 8
6. Write notes on the following :
- (a) Protoplast fusion
  - (b) Cybrids. 4,4

### SECTION—D

7. Discuss the strategies used for improving biochemical yield from cultured plant cells. 8
8. Write notes on the following :
- (a) Methods to measure growth and viability of suspension cultures.
  - (b) Transgenic approaches in secondary metabolite production. 4,4