

Exam. Code : 107406

Subject Code : 2171

**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 **ALL** the Sections.

**SECTION—A**

**Note :—** Attempt **ALL** the parts. Answer to any part should not exceed  $\frac{1}{3}$  of a page.  $8 \times 1 = 8$

1. Define :

- (a) Regeneration
- (b) Cell line
- (c) Somatic hybrid
- (d) Secondary metabolite
- (e) Meristem culture
- (f) Embryo rescue
- (g) Transgenic
- (h) Totipotency.

**SECTION—B**

**Note :—** Attempt any **FIVE** questions. Answer to any question should not exceed 2 pages.  $5 \times 4 = 20$

2. Write a note on somatic embryogenesis.

3. Describe the factors affecting the micropropagation.
4. Describe the applications of haploid plant production.
5. Write a short note on embryo culture.
6. Describe somatic hybridization.
7. Describe briefly the methods of protoplast culture.
8. What do you mean by immobilized plant cell culture ?
9. What do you mean by cell suspension culture ? What is its technique ?

### SECTION—C

**Note** :— Attempt any **TWO** questions. Answer to any question should not exceed 5 pages.  $2 \times 6 = 12$

10. (a) Describe the axillary bud and shoot-tip culture.  
(b) Write a note on modes of regeneration.
11. Write short notes on :—
  - (a) Ovary and ovule culture
  - (b) Selection of variant cell lines.
12. Describe in detail the applications of somatic cell hybridization.
13. Explain the use of bioreactors in secondary metabolite production.