

Exam. Code : 107406

Subject Code : 2271

## B.Sc. Bio-Technology Semester—VI

## APPLICATIONS OF PLANT TISSUE CULTURE

## Paper—BT-2

Time Allowed—3 Hours]

[Maximum Marks—40

## SECTION—A

**Note :** Attempt ALL parts. Answer to any part should not exceed 1/3 of a page.

1. Define :

- (a) Acclimatization
- (b) Bioreactor
- (c) Cybrid
- (d) Somaclonal variations
- (e) Protoplast isolation
- (f) Embryo culture
- (g) Secondary metabolites
- (h) De-differentiation.

8×1=8

## SECTION—B

**Note :** Attempt any FIVE questions. Answer to any question should not exceed two pages.

2. Explain the process of acclimatization of tissue culture raised plants.

3. Write a short note on applications of somatic embryogenesis.
4. Write a short note on haploid culture.
5. What do you mean by rescuing of hybrid embryos ?
6. How is selection of somatic cybrids done ?
7. Describe the process of protoplast fusion.
8. Describe the use of bioreactors in secondary metabolite production.
9. Explain the cell suspension culture.  $5 \times 4 = 20$

### SECTION—C

**Note :** Attempt any **TWO** the questions. Answer to any question should not exceed **five** pages.

10. Describe in detail the application of somatic embryogenesis.
11. Describe in detail haploid and triploid plant production through tissue culture.
12. Describe :
  - (a) Protoplast isolation
  - (b) Viability of protoplasts.
13. Explain the production of secondary metabolites by plant tissue culture.  $2 \times 6 = 12$