

Total No. of Printed Pages—3

**6 SEM TDC BOTH (CBCS) C 14**

**2 0 2 2**

( June/July )

**BOTANY**

( Core )

Paper : C-14

( **Plant Biotechnology** )

Full Marks : 53

Pass Marks : 21

Time : 3 hours

*The figures in the margin indicate full marks  
for the questions*

1. Answer the following questions : 1×5=5

- (a) Define totipotency.
- (b) What is GMO?
- (c) Define embryogenesis.
- (d) What is cryopreservation?
- (e) Who is known as the father of tissue culture?

( 2 )

2. Write notes on/Answer any *five* of the following :  $2 \times 5 = 10$

- (a) Protoplast fusion
- (b) Transgenic crop
- (c) Cloning vectors
- (d) Bt cotton
- (e) Cosmid vector
- (f) Define microinjection.

3. Write short notes on any *four* of the following :  $5 \times 4 = 20$

- (a) Composition of media for tissue culture
- (b) Restriction endonuclease
- (c) PCR-mediated gene cloning
- (d) Role of transgenesis in bioremediation
- (e) Shuttle vector

4. Discuss about the various methods of gene transfer. 8

*Or*

Describe about the recombinant DNA technology.

( 3 )

5. Describe the tissue culture technique. What are applications of plant tissue culture?

$5 + 5 = 10$

*Or*

Discuss about the application of biotechnology with special reference to agriculture, horticulture, bioremediation, enzymology and pharmaceuticals. 10

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