

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 : 2×5=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 : 5×4=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

★ ★ ★