

Total No. of Printed Pages—3

6 SEM TDC BOTH (CBCS) C 14

2025

(May)

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) What is artificial seed?
- (b) What is cloning vector?
- (c) What is restriction site?
- (d) Which unique enzyme is used in PCR?
- (e) Why is Bt cotton insect resistance?

2. Write briefly on any *five* of the following :

2×5=10

- (a) Totipotency
- (b) Palindromic sequence
- (c) Shuttle vector
- (d) Transgene
- (e) Luciferase
- (f) Humulin

3. Write short notes on any *four* of the following :

5×4=20

- (a) Cryopreservation
- (b) M13 phagemid
- (c) c-DNA libraries
- (d) Industrial enzymes
- (e) Golden rice

4. What is direct gene transfer? Discuss the different techniques of direct gene transfer. What are the disadvantages of direct gene transfer?

1+5+2=8

Or

What do you mean by organogenesis? Describe the principle and application of root culture technique.

1+4+3=8

(3)

5. What is recombinant DNA? Give an account of the biological tools involved in recombinant DNA technology. 2+8=10

Or

What is gene cloning? Briefly illustrate the procedure of PCR-mediated gene cloning. 2+8=10

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