

**2024/TDC (CBCS)/EVEN/SEM/
BOTHCC-602T/036**

TDC (CBCS) Even Semester Exam., 2024

BOTANY

(6th Semester)

Course No. : BOTHCC-602T

(Plant Biotechnology)

Full Marks : 50

Pass Marks : 20

Time : 3 hours

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

UNIT—I

1. Answer any two of the following questions :

2×2=4

- (a) Write a note on production of triploids through micropropagation.
- (b) Write about cryopreservation.
- (c) Give a short account of germplasm conservation.

(2)

2. Answer any one of the following questions : 6

- (a) Give an account of totipotency. Add a note on organogenesis. 3+3=6
- (b) Write a note on protoplast isolation. Give a detailed account of protoplast fusion. 2+4=6

UNIT—II

3. Answer any two of the following questions : 2×2=4

- (a) Write a note on cosmid.
- (b) Give a short account of pBR322.
- (c) Write the features of Ti plasmid.

4. Answer any one of the following questions : 6

- (a) Describe various types of restriction endonucleases. 6
- (b) Write notes on BAC and YAC. 3+3=6

(3)

UNIT—III

5. Answer any two of the following questions : 2×2=4

- (a) Write a note on recombinant DNA.
- (b) Give a short account of selection of recombinant clones.
- (c) Write about colony hybridization.

6. Answer any one of the following questions : 6

- (a) Describe PCR and its applications. 4+2=6
- (b) Describe the construction of cDNA library. Add a note on genomic library. 4+2=6

UNIT—IV

7. Answer any two of the following questions : 2×2=4

- (a) What is direct gene transfer?
- (b) Write the features of microinjection.
- (c) Write a note on *Agrobacterium*-mediated gene transfer.

8. Answer any *one* of the following questions : 6

(a) Describe electroporation and micro-projectile bombardment. 3+3=6

(b) Write notes on selectable marker and reporter genes. 3+3=6

UNIT—V

9. Answer any *two* of the following questions : 2×2=4

(a) Write a brief note on edible vaccines.

(b) Write the features of superbug.

(c) Write a note on roundup ready soybean.

10. Answer any *one* of the following questions : 6

(a) Give an account of 'Humulin'. Add a note on biosafety concerns. 4+2=6

(b) Describe Flavr Savr tomato and Golden rice. 3+3=6

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