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(FYUGP)

(6th Semester)

BOTANY

(MAJOR)

Paper : BCC-14(T)

(Plant Biotechnology)

Full Marks : 75

Pass Marks : 40%

Time : 3 hours

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

- 1.** What is a protoplast? Explain the methods of protoplast isolation and fusion. 2+13=15

Or

Write short notes on the following : $7\frac{1}{2} \times 2 = 15$

- (a) Organogenesis
- (b) Totipotency

(2)

2. What is a Ti plasmid? Discuss the structure, types and applications of Ti plasmid. 2+13=15

Or

Write notes on any *two* of the following :

7½×2=15

- (a) Restriction endonuclease
- (b) Lambda phage
- (c) Shuttle vector

3. Describe the steps involved in the construction of genomic and cDNA libraries. 15

Or

Write short notes on the following : 7½×2=15

- (a) Recombinant DNA
- (b) Colony hybridization

4. Explain the process of selection of selectable marker and reporter genes. 15

Or

Write short notes on the following : 7½×2=15

- (a) Microprojectile bombardment
- (b) Pest resistant plants

(3)

5. Write notes on the following : $7\frac{1}{2} \times 2 = 15$

(a) Composition of media

(b) pBR322 vectors

Or

Write notes on the following : $7\frac{1}{2} \times 2 = 15$

(a) Gene construct

(b) Transgenic crops

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