

Code No: F-15508

FACULTY OF SCIENCE
B.Sc. (CBCS) VI - Semester Examination, June/July 2024

Subject : Botany
Paper – VI (B) : Tissue Culture and Biotechnology

Time: 3 Hours

Max. Marks: 80

PART – A

Note : Answer any Eight questions.

(8x4=32 Marks)

1. Somatic Embryogenesis
2. Root culture
3. Protoplast isolation in plants
4. Somaclonal variation in tissue culture
5. Application of hairy root cultures
6. Somatic Hybrids and Cybrids
7. YAC cloning vectors
8. Ligase enzymes
9. Plasmids and Cosmids
10. Colony hybridization technique
11. Blotting
12. Selectable Marker genes

PART – B

Note Answer all the questions.

(4x12=48 Marks)

13. (a) Give a brief account of composition and preparation of tissue culture media
OR
(b) What are the different types of Organ cultures? Give a detailed account of anther culture.
14. (a) Discuss the application of tissue culture in: production of disease resistant and stress resistance plants.
OR
(b) Describe the cryopreservation and its role in germplasm conservation.
15. (a) Give a brief account of application of r DNA technology.
OR
(b) What are the different enzymes used in gene cloning? Explain in detail about restriction enzymes.
16. (a) Explain in brief about the construction of cDNA libraries.
OR
(b) Write a detailed procedure of *Agrobacterium* mediated gene transfer in plants.