

Roll No. ....

# DD-775

## M. Sc. (Fourth Semester) EXAMINATION, 2020

BOTANY

Paper Third

(Biotechnology-II)

(Plant Cell, Tissue and Organ Culture)

*Time : Three Hours*

*Maximum Marks : 80*

**Note :** Attempt all the *four* questions. *One* question from each Units is compulsory. All questions carry equal marks.

### Unit—I

1. What is clonal propagation ? Explain meristem and shoot tip culture with suitable diagrams.

*Or*

Write short notes on the following :

- (a) Cellular differentiation
- (b) Auxillary bud proliferation

### Unit—II

2. Describe the methods and applications of protoplast fusion.

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*Or*

Write short notes on the following :

- (a) Androgenesis
- (b) Regeneration of hybrid plants

**Unit—III**

- 3. Give an account on encapsulation, dehydration and slow growth method for Germplasm storage.

*Or*

Write short notes on the following :

- (a) Cryoprotectants
- (b) Ethical concerns of plant tissue culture

**Unit—IV**

- 4. Write an essay on techniques of producing transgenic plants for resistance to biotic and abiotic stress.

*Or*

Write short notes on the following :

- (a) Immobilized cell system
- (b) Artificial seeds