

Roll No.

Total Pages : 3

MDE/M-20

6954

PLANT CELL AND TISSUE CULTURE

Paper–BT-109B

Time : Three Hours]

[Maximum Marks : 40

Note : Attempt Question No. 1 (Compulsory) and *four* others, selecting *one* question from each unit. All questions carry equal marks.

Compulsory Question

1. (a) Who report the somatic embryo formation 1st time?
1
- (b) Describe the micro-granules structure used as artificial endosperm in synthetic seeds. 1
- (c) Explain the role of cryoprotectants with suitable examples. 2
- (d) Describe in brief the limitations/disadvantages of micropropagation. 2
- (e) Describe in brief the diploidization in plants and its significance. 2

UNIT-I

2. (a) Write an account on aseptic manipulations in plant tissue culture. 6
- (b) Define the continuous cultures. 2
3. (a) Differentiate between the zygotic embryo and somatic embryo. 4
- (b) Write an account on initiation and maintenance of suspension cultures. 4

UNIT-II

4. Describe in detail the production of virus free plants. 8
5. (a) Define micro-propagation. 2
- (b) Discuss the molecular basis of somaclonal variations. 6

UNIT-III

6. (a) Give the reasons of hybrid embryo abortion. 2
- (b) Describe the significance and uses of haploids in agriculture. 6
7. (a) Write the embryo implantation method of embryo culture. 4
- (b) Discuss the ontogeny of androgenesis. 4

UNIT-IV

- 8.** Write a note on the following :
- (a) Fusion of protoplasts. 4
 - (b) Techniques of protoplasts culture. 4
- 9.** What are cybrids? Describe their production and importance in agriculture. 8
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