



(Following Paper ID and Roll No. to be filled in your Answer Book)

**PAPER ID : 154652**

Roll No.

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## B. Tech.

(SEM. VI) THEORY EXAMINATION, 2014-15

### PLANT BIOTECHNOLOGY

Time : 3 Hours]

[Total Marks : 50

**Note :** Attempt all questions. All questions carry equal marks.

**1** Write short notes on any four of the following. **5x4=20**

- (a) Cybrid
- (b) Artificial Seeds
- (c) Batch culture
- (d) Organogenesis
- (e) Cytodifferentiation
- (f) Sterilization Techniques

**2** Attempt any two parts of the following. **10x2=20**

- (a) What are the various steps involved in micropropagation of a plant species?
- (b) What is somatic embryogenesis? How is it different from zygotic embryogenesis?
- (c) What is the composition of nutrient media for plant tissue culture?

- 3** Attempt any two parts of the following. **10x2=20**
- (a) Write down various chemical methods for gene transformation.
  - (b) Explain briefly the development of Herbicide Resistant, Plants. Mention the theory involved & mechanism followed.
  - (c) What is single cell culture? Explain. Give the different methods of isolation of single cells.
- 4** Attempt any two parts of the following. **10x2=20**
- (a) What are polyploids? Mention the methods used for inducing polyploidy in haploids.
  - (b) Describe physical methods for gene transfer in detail.
  - (c) Explain the methods involved in production of haploids. Describe the suitability of various available explants for this purpose.
- 5** Write short notes on any four parts of the following. **5x4=20**
- (a) Somaclonal variation and its application.
  - (b) Embryo culture and embryo rescue.
  - (c) Protoplast fusion
  - (d) Bt cotton
  - (e) Edible vaccines.