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Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(BT) (2011 Onwards) (Sem.-6)

PLANT BIOTECHNOLOGY

Subject Code : BTBT-602

Paper ID : [A2284]

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students has to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students has to attempt any TWO questions.

SECTION-A**1. Answer briefly :**

- a. What do you mean by 'totipotency' as exhibited by plants?
- b. State the effects of different ratios of auxin to cytokinin on plant tissue culture.
- c. How do you produce haploid plants?
- d. What do you mean by housekeeping and tissue-specific genes in plants?
- e. State the importance of plant protoplast isolation technique.
- f. Write a brief note on crown gall disease.
- g. Name a few commonly used herbicides and their mode of actions.
- h. Give a brief account of biodegradable plastics.
- i. How do you select transgenic plants in the laboratory?
- j. Write briefly on edible vaccines.

SECTION-B

2. In the context of plant culture medium write precisely on the following :
microelements, organic supplements, and gelling agents.
3. Describe precisely the salient aspects of embryo and microspore cultures.
4. With diagram describe the genetic features of a natural Ti plasmid.
5. Write a precise note on the storage proteins in plants.
6. Outline the principle and steps involved in chloroplast genetic engineering.

SECTION-C

7. Describe the structural features and physico-chemical attributes of plant starch. Also outline the strategies for modifications of starch. (10)
8. a. Write precisely on any four molecular markers used in plant biotechnology. (6)
b. What is your current understanding on post transcriptional gene silencing in plants? (4)
9. a. Discuss on the various abiotic stresses that affect plant growth and development. (5)
b. Outline the strategy for developing virus-resistant plants. (5)