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Exam.Code:0911
Sub. Code: 6723

1108
B.E. (Biotechnology)
Seventh Semester
BIO-703: Plant Tissue Culture

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit.

x-x-x

I. Answer briefly:-

- a) Give function of abscisic acid
- b) Define the term totipotency
- c) What is an endosperm
- d) What are desiccated synthetic seeds
- e) Which disease is caused by agrobacterium rhizogenes in plants
- f) Explain the role of suspensor in zygotic embryogenesis
- g) What is friable callus
- h) What is an elicitor
- i) Name two cryoprotectants
- j) Explain biolistic

(10x1)

UNIT - I

- II. a) Discuss various stages of somatic embryogenesis. Give application of somatic embryos.
b) Explain the regeneration process and formation of callus in plant tissue culture. (2x5)
- III. Write short note:-
 - a) Isolation and culture of single cell
 - b) Haploid production through androgenesis
- IV. Explain in detail function of various organic and inorganic nutrients and their function in plant tissue culture medium.

(2x5)

(10)

P.T.O.

(2)

UNIT – II

- V. Elucidate various strategies for the improvement of secondary metabolite production in plant cell cultures. (10)
- VI. a) Explain production of hybrid embryos using in vitro pollination technique.
b) Describe various steps in plant germplasm cryopreservation. (2x5)
- VII. Explain how genetic engineering is providing new ways to envisage agriculture. (10)

x-x-x