

Exam. Code: 0911

Sub. Code: 6723

2031

B. Engg. (Biotechnology)

7th Semester

BIO-703/713: Plant Tissue Culture

Time allowed: 3 Hours

Max. Marks: 50

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

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- I. (a) List the various micronutrients required for plant tissue culture medium.
- (b) What is elicitor? Give example.
- (c) Name the cryoprotectants used for preservation of germplasm.
- (d) Growing the plants from a small tissue in culture is known as _____
- (e) How is cell viability determined?
- (f) What is auxin? Write its role in PTC.
- (g) Define cybrid. (2+1+1+1+2+2+1)

UNIT-I

- II. (a) Describe the various plant growth regulators used for plant tissue culture.
- (b) What are gelling agents and what are their functions in plant tissue culture? (5+5)
- III. Describe somatic embryogenesis in detail. What are the applications? (10)
- IV. (a) Discuss the production of haploid plants.
- (b) Explain the term totipotency and mechanism of regeneration. (5+5)

UNIT-II

- V. Discuss in detail, the techniques employed for in vitro pollination and fertilization. (10)

P.T.O.

(2)

- VI. (a) Describe various techniques for the production of secondary metabolites in plant cultures.
- (b) What are the main advantages of these techniques over conventional methods? (7+3)
- VII. (a) Explain how genetic-engineering can be employed for production of disease resistant plants.
- (b) Discuss the plus and minus points of using this technology in plants. (7+3)

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