

AQ - 971

Third Semester M. Sc. (Part-II) (CBCS)
Examination

BOTANY

Paper - XI (Elective)
(Plant Tissue Culture - I)

P. Pages : 3

Time : Three Hours]

[Max. Marks : 80

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- Note :** (1) All questions are compulsory and carry equal marks.
(2) Draw neat and well labelled diagrams wherever necessary.

1. Discuss in brief :—

- (a) Recent Development in PTC. 5
- (b) Differentiation and Redifferentiation. 5
- (c) Role of Humidity and Temperature in in-vitro culture. 6

OR

- (d) Essential instruments in PTC lab. 5
- (e) Role of Cytokinins in in-vitro culture. 5
- (f) Importance of Hardening. 6

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P.T.O.

2. What are the methods of sterilization of explants ?

OR

Discuss in detail the importance of inorganic and organic components in media preparation. Illustrate with composition of any media. Add a note on growth hormones. 16

3. Discuss in brief :—

- (g) Induction of callus. 5
- (h) Maintenance of Batch culture. 5
- (i) Factors affecting single cell culture. 6

OR

- (j) Technique of Suspension Culture. 5
- (k) Isolation of Single cell. 5
- (l) Continuous culture. 6

4. What are the stages of Micropropagation technique. Add a note on problems during the process.

OR

What do you mean by gametoclonal and somaclonal variation ? How does it play a role in improvement of plants ? 16

5. Write on :—

- (m) Micropropagation technique in Horticulture. 5
- (n) Single cell proteins. 5
- (o) Selection for abiotic stress. 6

OR

- (p) Agronomic importance of micropropagation. 5
- (q) In-Vitro selection for biotic stresses. 5
- (r) Isolation of useful nutrients. 6

