

Exam. Code : 107405

Subject Code : 1855

B.Sc. Biotechnology 5th Semester

CONCEPTS OF PLANT TISSUE CULTURE

PAPER—BT-2

Time Allowed—3 Hours]

[Maximum Marks—40

Note :— (1) Attempt **All** parts from Section A. Each question carries 1 mark.

(2) Attempt any **five** questions from Section B. Each question carries 4 marks.

(3) Attempt any **two** questions from Section C. Each question carries 6 marks.

SECTION—A

Explain :

- (i) Role of macronutrients in MS media
- (ii) Role of sucrose in MS media
- (iii) Discuss about one heat sensitive plant growth regulator
- (iv) Role of cytokinins in plant tissue culture
- (v) Explant
- (vi) Redifferentiation
- (vii) Opines
- (viii) Ri plasmid.

SECTION—B

1. Mention the deficiency symptoms of different micronutrients in plants.
2. List any four major equipments needed to prepare plant tissue culture medium with their principles.
3. Explain in detail how abscisic acid regulates seed dormancy in plants.
4. Mention different roles of gibberellic acid in plants in detail.
5. Explain the different factors that affect the selection of an explant in plant tissue culture.
6. Discuss different factors effecting cellular totipotency in detail.
7. Discuss about the features and applications of Ti plasmid in detail.
8. Discuss the influence of acetosyringone and opines on agrobacterium mediated genetic transformation of plants.

SECTION—C

9. Discuss various components of plant tissue culture media in detail.
10. Explain the biosynthesis and role of abscisic acid in plants.
11. Discuss about various intrinsic and extrinsic factors that influence plant tissue culture.
12. Discuss Agrobacterium mediated method of genetic transformation in plants.