

**Exam. Code : 107405**

**Subject Code : 2289**

**B.Sc. Biotechnology 5<sup>th</sup> 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**

1. (i) Aseptic culture
- (ii) Carbon source in plant tissue culture
- (iii) Role of gibberellins
- (iv) Physiological role of abscisic acid
- (v) Totipotency
- (vi) Callus
- (vii) Gene gun
- (viii) Reporter gene.

**SECTION-B**

2. Role of micronutrients in tissue culture medium.
3. Mention various steps to prepare plant tissue culture medium.
4. Describe the physiological function of cytokinins.
5. Justify the plant growth regulators are important in plant tissue culture medium.
6. What is plant-explant-plant concept ?
7. Discuss various factors that affect cellular totipotency.
8. Mention various extrinsic factors that influence plant tissue culture.
9. Agrobacterium mediated gene transfer.

**SECTION-C**

10. Mention macronutrients and micronutrients and their deficiency symptoms in plants.
11. Write down the physiological functions and biosynthesis of auxin.
12. Discuss various factors that affect plant tissue culture.
13. Describe various methods of gene transfer.