

(041440102)

M.Sc. DEGREE EXAMINATION, APRIL 2018

FOURTH SEMESTER

Branch - Botany

Paper I — PLANT CELL AND TISSUE CULTURE

Time : 3 Hours

Max. Marks : 70

PART - A

Answer any FOUR questions. Each question carries 5 marks.

(Marks : 4 × 5 marks = 20 marks)

1. Laminar air flow.
2. Growth regulators.
3. Synthetic seeds.
4. Clonal purity.
5. Hairy root culture.
6. *in-vitro* Germplasm conservation.
7. Asymmetric hybrids.
8. Haploid protoplast culture.

PART - B

Answer ONE question from each Unit.

(Marks : 4 × 12.5 marks = 50 marks)

UNIT I

9. Explain the types, composition and preservation of tissue culture media.

Or

10. Write an account on cellular totipotency and differentiation of plant cells.

UNIT II

11. Explain the procedure for the production of pathogen free plants and their applications.

Or

12. Define Somatic embryogenesis. Explain the principles and role of chemical factors in initiating Somatic embryos.

[P.T.O]

UNIT III

13. Describe the procedure of cryopreservation of plant cells and tissues.

Or

14. Explain the process of Shikonin production through cell and organ culture.

UNIT IV

15. Discuss the various methods of protoplast isolation.

Or

16. Give an account on Hybrid selection procedures and characterization of Hybrids.
