

Code No. 3216

FACULTY OF SCIENCE

B.Sc. V-Semester (CBCS) Examination, November / December 2018

Subject : Bio-Technology

Paper – VI-A : Plant Biotechnology (DSE E-1)

Time : 3 Hours

Max. Marks: 60

PART – A (5 x 3 = 15 Marks)

(Short Answer Type)

Note : Answer any FIVE of the following questions.

- ✓1 Plant growth regulators.
- ✓2 Macronutrients and micronutrients.
- ✓3 Meristem culture.
- ✓4 Embryo rescue.
- 5 Antibody production in plants.
- ✓6 Herbicide tolerant plants.
- 7 Surface sterilization of explant.
- 8 Vitrification.

PART – B (3 x 15 = 45 Marks)

(Essay Answer Type)

Note: Attempt ALL the questions

- 9 (a) Define plant cell totipotency. Describe the different phenomena involved in the regeneration of a whole new plant from an explant.
OR
(b) What is callus culture? Describe in detail the initiation and maintenance of callus cultures.
- 10 (a) Describe in detail about protoplast isolation, fusion and selection of somatic hybrids.
OR
(b) What is Somaclonal variation? Explain the causes and its applications.
- 11 (a) Discuss in detail the production of virus resistant transgenic plants.
OR
(b) What is drought stress? Discuss about the molecular mechanism involved in development of drought stress tolerant plants.