

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2017
(Sixth Semester)

Branch- BOTANY

CORE ELECTIVE - II PLANT TISSUE CULTURE

Time : Three Hours

Maximum : 75 Marks

SECTION-A (20 Marks)

Answer ALL questions

ALL questions carry EQUAL marks (10 x 2 = 20)

- 1 How are thermo labile compounds sterilized before adding to tissue culture medium?
- 2 Distinguish between de-differentiation and re-differentiation.
- 3 What is parthenocarpy?
- 4 Comment on bolting.
- 5 What are cybrids and how are they obtained? .
- 6 Enlist any two applications of haploids obtained through anther culture.
- 7 List any two advantages of micro propagation.
- 8 What is vitrification? Point out the step involved.
- 9 Draw and label the parts of an airlift reactor with an internal loop.
- 10 Mention the matrices used for plant cell entrapment.

SECTION - B (25 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks (5 x 5 = 25) *

- 11 a Describe the procedure for embryo culture.
OR
b -Explain any one technique to grow low density cell cultures.
- 12 a Describe the physiological role of auxins in plant tissue culture.
OR
b Explain the mode of action of cytokinins.
- 13 a How are somatic embryos initiated in culture?
OR
b List any five applications of protoplast culture.
- 14 a Describe the technique of cryopreservation.
OR
b Explain the steps involved in the production of synthetic seeds.
- 15 a Explain the use of elicitors in cell suspension cultures.
OR
b • With suitable examples, highlight the production of pharmaceutically important compounds through cell cultures.

SECTION - C (30 Marks)

Answer any THREE Questions *

ALL Questions Carry EQUAL Marks (3 x 10 = 30)

- 16 Describe the laboratory organization for plant tissue culture work and point out the equipments required.
- 17 Give a concise account of plant growth regulators and their role in tissue culture.
- 18 Explain the methods for callus culture and organogenesis.
- 19 Give an account of the impact of tissue culture in agriculture.
- 20 Discuss the role of plant cell culture in the production of secondary