

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BSc DEGREE EXAMINATION MAY 2025
(Sixth Semester)

Branch – BOTANY

MAJOR ELECTIVE COURSE- II: PLANT TISSUE CULTURE

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer ALL questions

ALL questions carry EQUAL marks (5 x 1 = 5)

- 1 Formation of the nodule is induced by
(a) IAA (b) NAA (c) IBA (d) Both (a) and (c)
- 2 Under favourable conditions, the protoplasts can grow into a _____.
(a) Shoot culture (b) Organ culture (c) Root culture (d) Callus culture
- 3 Which of the following is not true about synthetic seeds?
(a) Can be stored for a year without the loss of valuables
(b) Easy to handle
(c) Can be directly sown in the soil like natural seeds
(d) Need hardening in the green house
- 4 An excised piece of stem tissue or leaf used in micro propagation is
(a) Scion (b) Explant (c) Medium (d) Micro shoot
- 5 Which of the following matrix is not used while immobilizing the enzyme by covalent binding?
(a) Agarose (b) Cellulose
(c) Calcium alginate (d) Glutaraldehyde

SECTION - B (15 MARKS)

Answer ALL Questions

ALL Questions Carry EQUAL Marks (5 x 3 = 15)

- 6 a Outline about the callus culture.
OR
b Summarize about totipotency.
- 7 a How to construct a isolation of protoplast.
OR
b State about the cryopreservation.
- 8 a State the difference between direct and indirect embryogenesis.
OR
b Outline about synthesis of artificial seeds.
- 9 a Bring out the factors which is affect shoot multiplication.
OR
b Criticize the role organogenesis in tissue culture.
- 10 a State about cell immobilization.
OR
b Show that commercial crops can be produced through plant tissue culture.

Cont...

SECTION -C (30 Marks)
Answer ALL questions
ALL questions carry EQUAL Marks

(5 x 6 = 30)

- 11 a Highlight the types of media preparation.
OR
b Elucidate on the role of growth hormones in tissue culture.
- 12 a Analyze the uses of cybrids.
OR
b Enumerate on cell suspension culture and its types.
- 13 a Summarize on somatic embryogenesis.
OR
b Justify about plantlet development.
- 14 a Discuss in detail about acclimatization of TC plants.
OR
b Examine the steps involved in Micro propagation.
- 15 a Outline about hairy root culture.
OR
b Discuss in detail about secondary metabolites.

Z-Z-Z

END