Roll No. | | | | | | | | | | | | | Total No. of Pages : 02

Total No. of Questions : 09

B.Sc.(Agriculture) (2014 & Onwards) (Sem.–5)

PLANT TISSUES CULTURE AND GENETIC TRANSFORMATION

Subject Code : BSAG-502

Paper ID : [74166]

Time : 3 Hrs. Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

Q.1 Write short notes on :

a) Cryopreservation

b) Somaclonal variations

c) Stock plant

d) Organogenesis

e) Callus

f) Cybrids

g) Synthetic seeds

h) Transgenics

i) Micropropagation

j) Anther culture

SECTION-B

Q.2 Write a short note on in vitro grafting.

Q.3 What are somatic hybrids? Describe its various types.

Q.4 Discuss production of secondary metabolites through tissue culture.

Q.5 a) Why mesophyll cells of leaves are commonly used during somatic hybridization?

b) Why older stems are not preferred as compared to young stems for taking the explants?

Q.6 Differentiate between ovary, ovule and embryo culture.

SECTION-C

Q.7 Enlist methods used for protoplast isolation. Describe enzymatic method of protoplast isolation in details. Which is the best method for protoplast isolation and why?

Q.8 What are the important aspects for the successful functioning of plant tissue culture technology?

Q.9 Enlist various methods of genetic transformation. Discuss in details Agrobacterium-mediated method of genetic transformation.