

2316

30

Class – M.Sc. II Sem. IV (Botany)

Subject – Bot C623

Paper – Plant Tissue Culture &
Biotechnology

Time Allowed : 3 Hours

Maximum Marks : 50

Section-A

Note :- Attempt all the parts. Each part carries 1 mark.

- Q 1** (a) Transgenosis
(b) Cryobiology
(c) Ti - plasmid
(d) Tissue Culture
(e) Organogenesis
(f) Acclimatization
(g) Embryoid
(h) Gene banks
- (8 × 1 = 8 marks)

Section - B

Note :- Attempt any 7 questions. Each question carries 5 marks.

2. List the causes and consequences of Somaclonal variation in plants.
3. "Virus free plants through tissue culture - a break through". Discuss.
4. Give the Applications of micropropagation in crop improvement.

5. Write note on In-vitro and Ex vitro maintenance of cultures.
6. Describe vitrification and its effects.
7. Discuss Apprehension and challenges of verminator technology.
8. Write short notes on
(i) DNA delivery methods (ii) Embryo rescue
9. Discuss the method of haploid production through pollen Culture.
10. List various biosafety concerns and regulatory measures regarding the transgenic crops.
11. Discuss about the phenomenon of somatic embryogenesis during plant tissue culture.
(7 × 3 = 21 marks)

Section - C

Note :- Attempt any **three** questions. Each question carries 7 marks.

12. What are secondary metabolites? Discuss in detail the production of cinnamic acid and Shikonic using plant tissue culture.
13. Discuss the role of biotechnology in agriculture and human health.
14. Discuss the method of production of synthetic seeds their use & applications.
15. Describe methodology of cryopreservation for elite plant germplasm and its significance.
16. Describe various stages of micropropagation.
(3×7=21 marks)