

M.Sc. Part-I Semester-III (CBCS) Examination
BOTANY (Elective)
(Plant Tissue Culture-II)
Paper-XII

Time : Three Hours]

[Maximum Marks : 80

- N.B. :-** (1) All questions carry equal marks and are compulsory.
 (2) Illustrate your answer with suitable diagrams.

1. Write on :
 - (a) Cryopreservation 5
 - (b) Production of Zygotic embryos 5
 - (c) Maintenance of germplasma 6

OR

 - (d) Somatic embryogenesis 5
 - (e) Synthetic seed production 5
 - (f) Application of somatic embryos. 6
2. Give an elaborate account of production of haploid plants. Add a note on its significance. 16

OR

Discuss in detail on role of polyploids in hybrid plant production. 16
3. Write on :
 - (g) Isolation of protoplast 5
 - (h) Cybrids 5
 - (i) Significance of protoplast culture. 6

OR

 - (j) Somatic hybrids 5
 - (k) Regeneration of plants through cybrids 5
 - (l) Identification of somatic hybrids. 6
4. Elaborate on production of transgenic plants through vector mediated gene transfer techniques. 16

OR

Discuss in detail on direct gene transfer techniques utilized for transgenic plant production. 16
5. Write on :
 - (m) Shoot organ culture 5
 - (n) Significance of cryopreservation 5
 - (o) Food additives. 6

OR

 - (p) Production of anticancerous agents 5
 - (q) Significance of plant banks 5
 - (r) Molecular farming. 6

