

AU-397

M.Sc. (Part-II) Semester-III (CBCS) Examination
BOTANY
(Molecular Biology, Biotechnology and Plant Breeding-I)
Paper-XI (Elective)

Time : Three Hours]

[Maximum Marks : 80

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

1. Write on :
 - (a) Non-covalent bonds in plants. 5
 - (b) Tertiary structure of proteins 5
 - (c) SDS - PAGE 6

OR

 - (d) Buffers 5
 - (e) Molecular chaperons 5
 - (f) Isoelectric focussing. 6
 2. Write on :
 - (g) C-value paradox 5
 - (h) Bacterial DNA polymerase 5
 - (i) RNA splicing. 6

OR

 - (j) Repetitive DNA sequences. 5
 - (k) Transcription factors. 5
 - (l) RNA editing. 6
 3. Explain in detail the process of anther culture. Add a note on its application. 16
- OR**
- Give a detailed account of somatic hybridization. Add a note on its application. 16

4. Explain in detail Agrobacterium mediated gene transfer in plants. 16

OR

(a) C-DNA Library. 8

(b) Synthetic linkers and adapters. 8

5. Write on :

(m) Concept of parallel variations. 5

(n) Utilization of wild species of tomato in crop improvement. 5

(o) Cytoplasmic Male sterility. 6

OR

(p) Centres of origin of food plants. 5

(q) Application of male sterility in hybrid seed production. 5

(r) Barriers to interspecific hybridization. 6