



## M.Sc. IV Semester Degree Examination, Sept./Oct. - 2024

### BOTANY

#### DSC - 11 : Plant Biotechnology

#### (NEP)

Time : 3 Hours

Maximum Marks : 70

- Note :** (i) Answer **any 5** of the following.  
(ii) Question **No.1** is **Compulsory**.

1. Discuss in detail about role of auxins and cytotoxins in plant tissue culture. **14**
2. Explain anther and Pollen culture method and highlight their importance in crop improvement. **14**
3. Interpret the different methods of somatic hybridization and mention the applications and limitations. **14**
4. Explain the plant tissue culture techniques for the production of secondary metabolites. **14**
5. Describe the insitu and exsitu principles and conservation of germplasm. **14**
6. (a) Describe the elicitors induced production of hairy root secondary metabolites. **7**  
(b) Explain the organization of basic plant tissue culture laboratory. **7**
7. (a) Clonal propagation of adventitious shoots. **7**  
(b) Techniques in in-vitro production of biotic stress plants. **7**
8. (a) Explain the importance of different bioreactors and uses in plant cell cultures. **7**  
(b) Root culture techniques and its significance. **7**

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