

CSM : 22

BOTANY
PAPER - I

Time Allowed : 3 hours

Full Marks : 100

Marks for each question is indicated against it.
Attempt any 5 (five) questions taking not more than 3 (three) questions from each Part.

PART - A

1. Describe the following:- **(4×5=20)**
 - (a) Describe the mode of nutrition in bacteria
 - (b) Write a note on heterothallism in Fungi
 - (c) Give an account of sexual reproduction and fructification in Lichens
 - (d) Write a brief account of mycorrhizal fungi and their importance in forestry
2. Give an account on Geological Time Scale. Discuss the dominant Jurassic flora. **(20)**
3. Write notes on the following:- **(4×5=20)**
 - (a) Numerical taxonomy
 - (b) Chemotaxonomy
 - (c) Importance features of phylogenetic systems of classification
 - (d) ICBN
4. What do you mean by natural and phylogenetic system of plant classification? Give the outline of Bentham and Hooker's plant classification. Mention its merit and demerits. **(5+10+5=20)**

PART - B

5. Write notes on the following: **(4×5=20)**
 - (a) Polyembryony and its significance
 - (b) Apomixis and its significance
 - (c) Importance of cross-pollination
 - (d) Significance of double fertilization in Angiosperms
6. Define ethnobotany. Elaborate on the importance of ethnobotany in Indian context with suitable examples. **(4+16=20)**

7. Answer *any two* of the following:- **(2×10=20)**
- (a) Describe the various stages of micropropagation of shoot tips with proper illustrations.
 - (b) Somaclonal variation and its applications
 - (c) Cybrids
8. What is anomalous secondary growth? With the help of suitable diagram discuss the anomalous secondary growth in a dicotyledonous plant. **(4+16=20)**

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