

CSM : 16

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. Explain the molecular basis of infection and disease resistance in plants. (20)
2. Write diagnostic characters, floral formulas and economic importance of the following families: (4×5=20)
 - (a) *Ranunculaceae*
 - (b) *Euphorbiaceae*
 - (c) *Poaceae*
 - (d) *Malvaceae*
3. (a) With suitable examples discuss the alternation of generation in algae. (10)
(b) With suitable examples discuss the evolution of *sporophyte* in *Bryophyta*. (10)
4. Write detailed notes on the following: (4×5=20)
 - (a) *Mycotoxins*
 - (b) Plant quarantine
 - (c) Geological time scale
 - (d) Salient features of Cordaitales

PART - B

5. What is protoplast culture? Describe different steps involved in protoplast isolation and culture. Add a short note on application of protoplast culture. **(5+10+5=20)**
6. (a) Describe the various types of endosperm development in Angiosperm. **(10)**
(b) Write botanical names, families and plant-parts used of two each of fiber, spices, drugs, timber and narcotics yielding plants. **(10)**
7. (a) Describe the process of embryo development in dicotyledones. **(10)**
(b) Describe the anatomical adaptations in C4 plants. **(10)**
8. Write notes on the following: **(4×5=20)**
(a) Somatic hybridisation
(b) Anomalous secondary growth
(c) Megasporogenesis
(d) Differentiation of vascular tissues

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