

2022

**BOTANY — HONOURS**

Paper : CC-4

Full Marks : 50

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words  
as far as practicable.*

1. Answer *any five* questions from the following : **MURALIDHAR GIRLS' COLLEGE LIBRARY** 2×5
- (a) What is elater and pseudoelater?
  - (b) Distinguish between amphithecium and endothecium.
  - (c) What is gemma cup? Mention its function.
  - (d) What is leptosporangiate type of sporangial development? How does the eusporangiate type differ from it?
  - (e) What is glossopodium? Mention its function.
  - (f) Mention two characters of Progymnosperms which are distinct from gymnosperms.
  - (g) How does homospory differ from heterospory?
  - (h) Distinguish between ovuliferous scale and bract scales.
2. Answer *any two* questions from the following :
- (a) Briefly describe the mechanism of spore dispersal in bryophytes. 5
  - (b) Characterise the different 'elementary processes' associated with 'Telome theory'. 5
  - (c) Characterise the male fructification of *Gnetum* with suitable illustrations. 5
3. Give an illustrated account of the morphology of the mature sporophyte in *Funaria*.  
Write a brief note on the economic importance of *Sphagnum*. 6+4
- Or,*
- Write short notes on the following :
- (a) Progressive sterilization of potential sporogenous tissue in bryophytes.
  - (b) Role of bryophytes in monitoring pollution. 5+5
4. Define coenosorus. Describe the structure of mature sporangium of *Pteris* with suitable illustrations.  
Briefly describe the development of antheridium in *Pteris* with illustrations. 1+4+5

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(2)

Or,

Write brief notes on the following :

- (a) Morphological nature of spore bearing structure of *Psilotum*.
- (b) Stem anatomy of *Selaginella*.

5+5

5. Describe the different forms of polyembryony observed in *Pinus*. Add a note on the distribution of *Cycas* and *Pinus* in India.

5+5

Or,

Comment on the following :

- (a) Diagnostic features of Progymnosperms.
- (b) Economic importance of Gymnosperms.

5+5

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