

2021

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: 2×5
- (a) Mention two land adaptive features of bryophytes.
 - (b) What is the morphological nature of trabeculae in *Selaginella*?
 - (c) What are telome and syntelome?
 - (d) What is manoxylic wood? Where is it found?
 - (e) Distinguish between sorus and synangium.
 - (f) Distinguish between apophysis and operculum.
 - (g) What is incipient heterospory?
 - (h) Name one resin yielding and one drug yielding gymnosperm.
2. Answer **any two** questions from the following:
- (a) Write short note on the importance of bryophytes in plant succession. 5
 - (b) Describe the male gametophyte of *Cycas*. Mention the fern characters of the genus. 3+2
 - (c) Distinguish between primary protonema and secondary protonema. Give a brief idea of prothallus of *Pteris* with suitable illustration. 2+3
3. Give an account of the structure of sporophyte of *Anthoceros* with sketches. Mention the advanced features of *Anthoceros* sporophyte. (4+3)+3

Or,

Comment on the following: 5+5

- (a) Antithetic theory of alternation of generations in bryophytes.
 - (b) Photosynthetic tissue of *Marchantia* gametophyte.
4. What is heterospory? What are the advantages of seed habit? Discuss how far *Selaginella* reaches the seed habit. 1+3+6

Or,

Please Turn Over

Comment on the following:

5+5

- (a) Economic importance of pteridophytes.
- (b) Nodal anatomy of *Equisetum*.

5. Give a comparative account of the development of the female gametophytes of *Pinus* and *Gnetum*. Add a note on the organization and types of megasporophyll of *Cycas*. 7+3

Or,

Comment on the following:

5+5

- (a) Evolutionary significance of *Archaeopteris*.
 - (b) Leaf anatomical features of *Cycas* and *Pinus*.
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