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,

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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