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3 (Sem-2/CBCS) BOT HC 2

2023

BOTANY

(Honours Core)

Paper : BOT-HC-2026

(Archegoniate)

Full Marks : 60

Time : Three hours

The figures in the margin indicate full marks for the questions.

1. Answer the following question: $1 \times 7 = 7$

(i) What is gemma CUP ?

(ii) Polytrichum is mainly —

(a) Heterothallic

(b) Homothallic

(c) Both (a) and (b)

(Choose the correct answer)

Contd.

- (iii) The antherozoids of *Anthoceros* are
- (a) Monoflagellate
 - (b) Biflagellate
 - (c) Quadriflagellate
 - (d) Multiflagellate
- (Select the correct answer)
- (iv) Mention the name of an aquatic fern.
- (v) What is coralloid root ?
- (vi) Name *one* Gymnosperm where xylem vessels i.e. tracheae is present.
- (vii) Name *one* homosporic pteridophyte that found in India.

2. Write short answer of the following : $2 \times 4 = 8$

- (i) Why sporophyte of *Riccia* is considered simple in structure ?
- (ii) Mention *two* angiospermic characters of the ovule of *Gnetum*.
- (iii) Mention *two* xerophytic characters of *Pinus* leaf.
- (iv) Write notes on synangium of *Psilotum*.

3. Answer the following questions : **(any three)**
5×3=15

- (i) What is transfusion tissue ? Explain briefly its function.
- (ii) Economic importance of Bryophyta.
- (iii) Describe briefly the sporophyte of *Polytrichum* with labelled diagram.
- (iv) Why Gnetum is considered as most advanced of the Gymnosperm ?
- (v) Compare the internal structure of early land plants *Cooksonia* and *Rhynia*.

4. Write descriptive answers of the following questions : **(any three)** 10×3=30

- (i) Describe the life history of *Marsilea* with special reference to its reproductive structure.
- (ii) Give a comparative account of the development of the female gametophyte in *Cycas* and *Pinus*.
- (iii) Why *Ginkgo biloba* is called living fossil ? Describe briefly its male and female cone with labelled diagram. 4+6=10

- (iv) Define Heterospory. Trace its origin in pteridophytes and point out its significance. 3+7=10
- (v) Give a comparative account of gametophytic structures of *Marchantia* and *Anthoceros*.
- (vi) With the help of labelled diagram describe the sporophyte of *Sphagnum*.
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