

- (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*.
- 

Total number of printed pages-4

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: 1×7=7
- (i) What is gemma CUP ?
- (ii) Polytrichum is mainly —
- (a) Heterothallic
- (b) Homothallic
- (c) Both (a) and (b)
- (Choose the correct answer)

- (iii) The antherozoids of *Anthoceros* are
- (a) Monoflagellate
  - (b) Biflagellate
  - (c) Quadri-flagellate
  - (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**)  
 $5 \times 3 = 15$

- (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**)  
 $10 \times 3 = 30$

- (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.  $4 + 6 = 10$