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) 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 : 2×4=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*.
