Total number of printed pages–4

3 (Sem–2/CBCS) BOT HC 2

2022

BOTANY

(Honours)

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: ***(any seven)*** 1×7=7

   (i) Write the name of Indian bryologist who earned international fame and is regarded as 'Father of Indian Bryology'.

   (ii) Name the tallest living gymnosperm.

   (iii) The antherozoids of Riccia are —

      (a) Monoflagellate

      (b) Biflagellate

Contd.

(c) Quadriflagelate

(d) Multiflagellate

(Select the correct answer)

(iv) Telome theory was proposed by —

(a) Eames

(b) Zimmerman

(c) Mehra

(d) Sahni

(Select the correct answer)

(v) The genus Rhynia was discovered by _____ for the first time.

(Fill in the blank)

(vi) Write the name of spore bearing bean-shaped structure in the genus Marsilea.

(vii) What is protocorm ?

(viii) What do you understand by 'Bars of Sanio' in Ginkgo ?

(ix) The age of the tree or any branch is determined by _____. *(Fill in the blank)*

(x) What is rhizophore ?

2. Write short answer of the following : ***(any four)*** 2×4=8

(i) What are coralloid roots ?

(ii) Name a species where polyembryonic condition is found in Gymnosperms.

(iii) Briefly mention the amphibious nature of bryophytes.

(iv) Write on the structure of leaf in *Sphagnum*.

(v) What are the functions of gemma ?

(vi) Write about the megasporophyll of *Cycas*.

(vii) Write briefly on the fertile leaf of Pteris.

(viii) What do you understand by synangium ?

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

(i) 'Ginkgo is a living fossil.' Justify the statement.

(ii) Write a short note on economic importance of *Pinus*.

(iii) Is the sporophytis of *Riccia* wholly dependent on the gametophyte for nutrition ? Justify your answer.

(iv) Briefly describe the archegoniophore of *Marchentia*.

(v) Describe briefly the range of thallus organisation of Bryophytes.

(vi) Discuss the Angiospermic characters of *Gnetum*.

(vii) Describe briefly the Telome theory regarding the evolution of sporophytes in pteridophytes.

(viii) With diagram describe the organisation and structure of strobilus of *Equisetum*.

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

(i) Give a comparative account of the male gametophytes in *Cycas* and *Pinus* with the help of diagrams.

(ii) With the help of neat labelled diagrams discuss the development of female gametophyte in *Gnetum*.

(iii) With the help of labelled diagrams describe the sporophytes of polytrichum.

(iv) Describe the heterospory and seed habit in Pteridophytes.

(v) Why is *Psilotum* considered to be very primitive among the Pteridophytes ? Explain.

(vi) Give a comparative statement of morphology anatomy and reproduction of early land plants cooksonia and Rhynia.

(vii) Write a comparative account of different types of gametophytes met in *Lycopodium*. Which of them are regarded as primitive and why ?

(viii) With the help of labelled diagrams compare the structures of sporophytes of *Riccia* and *Marchantia*.
