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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) Quadriflagellate

(d) Multiflagellate

(Select the correct answer)

(iv) Telome theory was proposed by —

(a) Eames

(b) Zimmerman

(c) Mehra

(d) Sahnii

(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 *Marchantia*.
- (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.

(iii) 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*.