(c) Male and Female plants of *Cycas*

(d) Apospory and Apogamy

(e) Elaters of *Equisetum* and *Marchantia*

(f) Sporophyte of *Anthoceros* and *Funaria*

4. Write short notes on **(any three)** : (3×5=15)

(a) Hydrophytic and xerophytic characteristics of *Equisetum*

(b) Heterospory and seed habit

(c) Cycas is a living fossil

(d) Affinities of *Gnetum*

(e) Morphological nature of rhizophore

(f) Sporophyte of *Anthoceros*

5. (a) With the help of suitable diagrams, describe the different types of steles in pteridophytes. (8)

(b) Discuss the significance of *Physcomitrella* **or** *Ceratopteris* as a model system. (7)

6. (a) Explain progressive sterilization of sporogenous tissue in the sporophyte of genera studied by you. (8)

(b) Write the economic importance of Pteridophytes. (7)



Morning

DSC-8

[This question paper contains 4 printed pages.]



**Your Roll No.....**

**Sr. No. of Question Paper : 1563** G

29/12/2023

Unique Paper Code : 2162012302

Name of the Paper : Bryophytes, Pteridophytes and Gymnosperms

Name of the Course : **B.Sc. (Hons.) Botany**

Semester : III

Duration : 2 Hours Maximum Marks : 60

**Instructions for Candidates**

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt any **Four** questions in all.
3. **All** questions carry equal marks.
4. Question No. **1** is compulsory.
5. Draw diagrams and write botanical names wherever necessary.
6. All parts of a question must be answered together.

P.T.O.

1. (a) Fill in the blanks **(any five)** : (5×1=5)

(i) The water conducting cells found in bryophytes are called _____ .

(ii) Catapult type of spore dispersal mechanism is seen in _____ .

(iii) Apogeotropic and dichotomously branched roots of *Cycas* are called _____ .

(iv) In Marchantia, the protective covering surrounding a group of archegonia is _____ .

(v) *Gnetum* has _____ type of female gametophyte.

(vi) The fossil of *Rhynia* was discovered by _____ .

(b) Match the following **(any five)** : (5×1=5)

| | |
|---|---|
| (i) Sago palm | (a) *Anthoceros* |
| (ii) Coenosorus | (b) *Pinus* |
| (iii) Pseudoelaters | (c) *Cycas* |
| (iv) Resurrection plant | (d) *Selaginella* |
| (v) Sulphur shower | (e) *Marchantia* |
| (vi) Appendiculate scale | (f) *Pteris* |



(c) Give the botanical name of the following **(any five)** : (5×1=5)

(i) Chilgoza pine

(ii) Incipient heterospory

(iii) Fossil pteridophyte

(iv) A gymnosperm without archegonium

(v) An aquatic bryophyte

(vi) Bryophyte with pyrenoid

2. Draw well labelled diagrams **(any three)** : (3×5=15)

(a) L.S. ovule of *Cycas*

(b) L.S. capsule of *Funaria*

(c) V.S. *Marchantia thallus* passing through gemma cup

(d) T.S. intemode of *Equisetum*

(e) L.S. female cone *Pinus*

(f) L.S. strobilus of *Selaginella*

3. Differentiate between the following **(any three)** : (3×5=15)

(a) Leptosporangiate and Eusporangiate sporangial development

(b) Antheridiophore and Archegoniophore of *Marchantia*