[This question paper contains 4 printed pages.]

Your Roll No.....

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Sr. No. of Question Paper : 1131

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 **four** questions in all, including Question no. **1** which is compulsory.
3. **All** questions carry equal marks.
4. Draw diagrams and write botanical names wherever necessary.
5. All parts of a question must be answered together.

P.T.O.

1. (a) Match the following (**Attempt any five**) : (5×1=5)

(i) Horsetail	*Cycas*
(ii) Pseudoelaters	*Pteris*
(iii) Winged pollen grains	*Equisetum*
(iv) Coenosorus	*Marchantia*
(v) Gemma cup	*Anthoceros*
(vi) Sago Palm	*Pinus*

(b) Give botanical name of the plants showing the following structural features (**Attempt any five**) : (5×1=5)

(i) Archegoniophore

(ii) Vallecular canals

(iii) Ovuliferous scale

(iv) Trabeculae

(v) Coralloid roots

(vi) Peristome teeth

(c) Define the following citing examples (**Attempt any five**) : (5×1=5)

(i) Appendiculate scale

(ii) Perigynium

(iii) Spur

(iv) Bulbil

(v) Rhizophore

(vi) Stomium

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

(a) Ovule of *Cycas* and *Gnetum*

(b) Liverwort and mosses

(c) Apogamy and Apospory

(d) Strobilus of *Selaginella* and *Equisetum*

(e) Sporophyte of *Funaria* and *Marchantia*

3. Draw well labeled diagram of the following **(Attempt any three)** : (3×5=15)

(a) V.S. antheridiophore of *Marchantia*

(b) T.S. needle of *Pinus*

(c) T.S. stem of *Selaginella*

(d) T. S. Coralloid root

(e) V.S. sporophyll of *Pteris*

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

(a) Heterospory and seed habit

(b) Progressive sterilization of sporogenous tissue in bryophytes

(c) Economic importance of gymnosperms

(d) Ecological importance of bryophytes with reference to *Sphagnum*

(e) Significance of *Ceratopteris* or *Ephedra* as a model system

5. (a) Discuss the hydrophytic and xerophytic characters of *Equisetum* with the help of suitable diagrams. (8)

(b) Give an account of adaptation of land habit in bryophytes. (7)

6. (a) Discuss in detail the stelar evolution in pteridophytes with the help of suitable diagrams. (8)

(b) Discuss the evolutionary significance of the sporophyte of *Anthoceros*. (7)