

B.Sc. DEGREE EXAMINATION, APRIL 2017  
BRANCH V(A) – PLANT BIOLOGY AND PLANT BIOTECHNOLOGY  
SECOND SEMESTER

COURSE : MAJOR – CORE  
PAPER : BRYOPHYTES, PTERIDOPHYTES AND GYMNOSPERMS  
TIME : 3 HOURS MAX. MARKS: 100

SECTION –A

ANSWER ALL QUESTIONS:

I Choose the correct answer: (5 x 1 = 5)

- Which of the following members are called club mosses?  
a) Psilotopsida      b) Sphenopsida      c) Lycopsida      d) Pteropsida
- Pseudoelaters are found in the sporophyte of  
a) Riccia      b) Funaria      c) Marchantia      d) Anthoceros
- The reproductive structures in Marsilea are generally called  
a) Sorus      b) Gemma cup      c) Sporocarp      d) Protonema
- A blue green algae lives in  
a) *Riccia* thallus      b) *Marchantia* thallus      c) *Cycas* roots      d) *Pinus* roots.
- Paleobotany is a branch of botany which deals with  
a) Living plants      b) Fossil plants      c) Evolution      d) Physiology

II Fill in the blanks: (5 x 1 = 5)

- Pteridophytes differ from Bryophytes in having \_\_\_\_\_
- Mixed protostele is found in \_\_\_\_\_
- Equisetum* is commonly called \_\_\_\_\_
- \_\_\_\_\_ is a living fossil.
- Father of the Paleobotany is \_\_\_\_\_

III State whether the following sentences are True or False (4 x 1 = 4)

- An endophytic alga is present in the thallus of *Anthoceros*.
- Leptoids are not present in *Polytrichum*.
- Amphiphloic siphonostele is found in *Marsilea*.
- Gymnosperm differ from the angiosperm in having naked ovules.

IV Match the following: (4 x 1 = 4)

- |               |                        |
|---------------|------------------------|
| 15. Elaters   | vessel                 |
| 16. Equisetum | sporangium             |
| 17. Gnetum    | xerophytic adaptation. |
| 18. Cycas     | homosporous            |

V. Answer any SIX of the following. (6 x 3 = 18)  
Each answer not to exceed 50 words:

19. Pseudoelaters.
20. Lycopsidea.
21. *Porella* antheridium.
22. *Polytrichum* (foot)
23. Cycas scale leaves.
24. Ligule.
25. Compression
26. *Williamsonia*
27. Coralloid Root

**SECTION – B**

( 4 x 6 = 24 )

**ANSWER ANY FOUR OF THE FOLLOWING IN NOT MORE THAN 200 WORDS.  
DRAW DIAGRAMS WHEREVER NECESSARY.**

28. Explain the characters of Hepatocopsida.
29. Describe the gametophyte of *Porella*.
30. Write short notes on the cone of *Equisetum*.
31. Write a short note on any two fossil types.
32. Draw a neat labeled diagram of the T.S. of Cycas Rachis.
33. Describe the thallus of *Anthoceros*.

**SECTION – C**

( 2 x 20 = 40 )

**ANSWER ANY TWO OF THE FOLLOWING IN NOT MORE THAN 1000 WORDS.  
DRAW DIAGRAMS WHEREVER NECESSARY.**

34. Write short notes on sporophyte of *Anthoceros*.
35. Write a detailed note on *Polytrichum* capsule.
36. Explain the life history of *Gnetum*.
37. Explain in brief the geological time scale.

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