

B.Sc. DEGREE EXAMINATION, APRIL 2018  
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)

1. Bierhorst divided gymnosperms into  
a. Three phyla      b. Three divisions      c. Three sub divisions      d. Three classes
2. In *Porella* plant body leaves are arranged rows of  
a. Two      b. Four      c. Three      d. Six .
3. The “four clover plant” is a  
a. semi aquatic fern      b. Terrestrial fern      c. moss      d. hornworts
4. The sago palm is a  
a. bryophyte      b. pteridophyte      c. gymnosperm.      d. fossil
5. *Williamsonia* was abundant during the era  
a. Devonian      b. Silurian      c. Jurassic      d. Cambrian

II Fill in the blanks:

(5 x 1 = 5)

- 6.. Coralloid roots are found in the genus -----.
7. ----- is commonly called as the “Horse tail “
8. An intermediate zone is found in the sporophyte of -----
9. Female flowers are arranged in compound strobili in the genus -----
10. ----- was an example for an arborescent lycopod.

III State whether the following sentences are True or False

(4 x 1 = 4)

11. *Stigmaria* was found in the Carboniferous rocks.
12. Leaf traces are not girdled in *Cycas*
13. The endosperm is triploid in gymnosperms.
14. Air cavities in the cortex of *Equisetum* are called as vallecular canals.

IV Match the following:

(4 x 1 = 4)

- |                          |   |           |
|--------------------------|---|-----------|
| 15. <i>Cycas</i>         | - | Moss      |
| 16. <i>Lepidodendron</i> | - | Sporocarp |
| 17. <i>Marsilea</i>      | - | Circinate |
| 18. <i>Polytrichum</i>   | - | Fossil    |

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

19. Alternation of generations
20. Eusporangiate
21. Pycnoxylic wood
22. Carboniferous period
23. Pseudo Elaters
24. Actinostele
25. Tracheids
26. Capsule
27. *Lepidodendron*

**SECTION – B**

( 4 x 6 = 24 )

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

28. Write the salient features of the class Anthocerotopsida.
29. Draw and describe the capsule structure of *Polytrichum*.
30. Illustrate and explain the anatomical details of sporocarp of *Marsilea*.
31. Describe the male and female cones of *Gnetum*.
32. Write an account on the anatomical details of *Cycas* stem.
33. Write notes on the process of fossilization.

**SECTION – C**

( 2 x 20 = 40 )

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

34. Outline the life cycle of *Lycopodium*.
35. Elaborately discuss the classification of Pteridophytes by Reimer.
36. Explain the structure of the sporophyte and anatomical details of *Equisetum*.
37. Describe the male and female strobili of *Cycas*.

\*\*\*\*\*