

B. Sc DEGREE END SEMESTER EXAMINATION - OCT. 2020 : JANUARY 2021
SEMESTER 3 : BOTANY
COURSE : 19U3CRBOT3 : BRYOLOGY, PTERIDOLOGY, GYMNOSEPERMS AND PALEOBOTANY
(For Regular - 2019 Admission)

Time : Three Hours

Max. Marks: 60

PART A
Answer All (1 mark each)

1. Name the smallest bryophyte
2. Where does columella occur in Anthoceros?
3. Why gymnosperms are called as 'Phanerogams without ovary'?
4. What is arm parenchyma?
5. Give an example to petrified fossil.
6. Define mixed Protostele.
7. Define siphonostele.
8. Name a pteridophyte with polystelic condition.

(1 x 8 = 8)

PART B
Answer any 6 (2 marks each)

9. Write a note on sporogonium in Riccia.
10. Mention the evolutionary significance of the genera of Anthoceros.
11. How do bryophytes help in soil conservation?
12. What are branches of unlimited growth?
13. Outline the morpho-anatomical features of *Rhynia* sporangium.
14. Which genus is named as "Club Moss", Why are they called so?
15. Draw and label the cone L. S of Equisetum.
16. Briefly describe the morphological nature of rhizophore of Selaginella.

(2 x 6 = 12)

PART C
Answer any 4 (5 marks each)

17. With the help of suitable sketches, explain the life cycle of Anthoceros.
18. With suitable diagrams, compare the structure of thallus of Riccia and Marchantia. Add a note on the mode of growth?
19. Discuss the male gametophyte development in *Cycas*.
20. Compare the sporophytic morphology of *Psilotum* with *Rhynia*.
21. With the help of suitable schematic diagrams explain the evolution of stele in pteridophytes.
22. Describe the anatomy of Selaginella stem with the help of a labelled diagram.

(5 x 4 = 20)

PART D

Answer any 2 (10 marks each)

23. Explain the reproductive structure of *Riccia* with the help of suitable diagrams.

OR

24. Compare the stem anatomy of *Cycas*, *Pinus* and *Gnetum*. How do they differ from each other?

25. Write an essay on habit and habitat variation among the pteridophytes that you have studied.

OR

26. Compare the anatomy of rhizome, petiole and root of genus *Marsilea* with labelled diagrams.
(10 x 2 = 20)