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Reg. No. : .....

Name : .....

Fourth Semester B.Sc. Degree Examination, August 2022

First Degree Programme under CBCSS

Botany

Core Course

BO 1441 : BRYOLOGY, PTERIDOLOGY, GYMNOSPERMS AND PALEOBOTANY

(2019 Admission Onwards)

Time : 3 Hours Max. Marks : 80

SECTION – A

Answer **all** questions. Each question carries **1** mark.

1. What are Elators?
2. Define protonema.
3. Peat is sourced from what?
4. What is a protostele?
5. What is synangia?
6. What are Rhizophores?
7. Give the name of the negatively geotropic roots in Cycas.
8. Which Gymnosperm has vessels?

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9. Which phenomenon is commonly known as 'Sulphur shower'?

10. What is amber? State any single use of it.

(10 × 1 = 10 Marks)

SECTION – B

Answer **any eight** of the following. Each question carries **2** marks.

11. How does growth in Riccia thallus takes place?

12. What is the peculiarity of the Assimilatory region in Marchantia?

13. How does the sporophyte in Marchantia protected?

14. Explain the symbiosis of Anthoceros.

15. What is the function of annulus in a moss capsule?

16. With suitable illustrations, explain the structure of ligule in Selaginella.

17. Explain heterospory in Selaginella.

18. With suitable examples, explain siphonostele.

19. Briefly explain the classification of pteridophytes by Zimmerman.

20. Explain the foliage dimorphism in Cycas.

21. Why Cycads called as 'Living fossils'?

22. Discuss the xerophytic adaptations of Pinus.

23. Comment on the medicinal uses of Gymnosperms.

24. What is the Cambrian explosion?

25. Explain the application of radiocarbon dating in Paleobotany.

26. Define compaction fossil.

(8 × 2 = 16 Marks)

SECTION – C

Answer **any six** of the following. Each question carries **4** marks.

27. What is the speciality of Anthoceros sporophyte?

28. Why were Bryophytes called the amphibians of the plant kingdom?

29. With suitable illustration, describe the structure of Riccia archegonium.

30. Explain the life cycle of Selaginella.

31. With suitable illustrations, elaborate the structure of Sorus in Pteris.

32. Explain the stelar structure in Marsilea rhizome.

33. Briefly comment on the structure of prothallus in ferns.

34. With suitable illustrations, discuss the structure of Cycas ovule.

35. Briefly explain the structure of the microspores of Pinus.

36. What are the characteristic features of Carboniferous flora? How has it contributed to modern human civilization?

37. Detail the internal structure of Rhynia aerial shoot.

38. What are the salient features of Lyginopteris.

(6 × 4 = 24 Marks)

SECTION – D

Write an essay on **any two** of the following each carries **15** marks.

39. Elaborate the life cycle of Anthoceros commenton its evolutionary significance.

40. Briefly explain the economic importance of Bryophytes.

41. Explain the stelar evolution in Pteridophytes.

42. Elaborate the life cycle of Psilotum.

43. Compare and contrast the characters of Pteridophytes and Gymnosperms. Elaborate the trait that lead to the evolution of angiosperms.

44. Briefly explain various methods of fossilisation and peculiarities of each.

(2 × 15 = 30 Marks)
