

B. Sc. DEGREE END SEMESTER EXAMINATION - OCTOBER 2024**SEMESTER 3 : BOTANY****COURSE : 19U3CRBOT3 : BRYOLOGY, PTERIDOLOGY, GYMNOSPERMS AND PALEOBOTANY***(For Regular 2023 Admission and Improvement/Supplementary 2022/2021/2020/2019 Admissions)*

Time : Three Hours

Max. Marks: 60

PART A**Answer All (1 mark each)**

1. What is geological time scale?
2. Why gymnosperms are called as 'Phanerogams without ovary'?
3. Name the genus popularly called as "Scouring rush".
4. Outline the structure of microspore in *Pinus*.
5. The most advanced sporophyte in bryophyte belongs to which genus.
6. Are stomata present in the sporocarp wall of Marsilea?
7. What is meant by Carinal canal?
8. How is the sporophyte of *Funaria* nourished?

(1 x 8 = 8)**PART B****Answer any 6 (2 marks each)**

9. Write a note on sporogonium in *Riccia*.
10. Explain the foliage leaf in *Cycas*.
11. How do bryophytes prevent soil erosion?
12. Differentiate between Homoeophyllum and Heterophyllum.
13. Why the pteridophyte are known as vascular cryptogams?
14. Give any four differences of Pteridophyte from Bryophytes.
15. What is the anatomy of *Pinus* root?
16. Mention the functions of foot of *Anthoceros*.

(2 x 6 = 12)**PART C****Answer any 4 (5 marks each)**

17. Give an account of antheridiophore of *Marchantia*?
18. Illustrate and explain the megasporophyll of *Cycas*.
19. Draw a diagrammatic labelled sketch of T.S. of young rachis of *Pteris*.
20. Describe the mechanism of spore dispersal in *Funaria*?
21. Illustrate and explain the structure of microsporophyll in *Pinus*.
22. Give the classes in the division Psilophyta and explain its characteristic features.

(5 x 4 = 20)

PART D

Answer any 2 (10 marks each)

23. With the help of suitable diagram give a comparative account of antheridia and archegonia in *Riccia*, *Marchantia*, and *Funaria*?
24. Construct a possible stelar evolution in the following classes Psilotopsida, Ligulopsida, Eligulopsida and in Calamopsida? Discuss with illustrations and make a flowchart for the evolutionary pathway.
25. Compare the structure of male cone in *Cycas* and *Pinus*. Also discuss the similarities and differences noticed in male gametophyte development.
26. Describe the life cycle of a heterosporous pteridophyte of your syllabus.

(10 x 2 = 20)