

B. Sc. DEGREE END SEMESTER EXAMINATION - OCTOBER 2025**SEMESTER 3 : BOTANY****COURSE : 19U3CRBOT3 : BRYOLOGY, PTERIDOLOGY, GYMNOSPERMS AND PALEOBOTANY***(For Improvement / Supplementary 2023/ 2022/2021/2020/2019 Admissions)*

Time : Three Hours

Max. Marks: 60

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

1. What is the common mode of reproduction in bryophytes?
2. Which era in geological time scale is known as age of reptiles?
3. What is siphonogamy?
4. Name a gymnosperm with anomalous secondary growth.
5. Pteris is a eusporangiate fern. Is it true or false?
6. Name a pteridophyte whose spores have attached elaters.
7. Which genus is name as "Club Moss"?
8. What is the common mode of Vegetative reproduction in Riccia?

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

9. What are branches of unlimited growth?
10. Explain vegetative reproduction in *Cycas*.
11. Write a short note on antheridium of *Funaria*
12. Mention the salient anatomical features of *Equisetum* stem.
13. Briefly describe the morphological nature of rhizophore of *Selaginella*.
14. Write notes on the horticultural importance of bryophytes.
15. Comment on the leaves in *Equisetum*.
16. Outline the morpho-anatomical features of *Rhynia* sporangium.

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

17. Describe the structure of archegonium of Riccia.
18. Give the classes in the division Sphenophyta and explain its characteristic features.
19. Compare the female gametophyte development in *Cycas* and *Pinus*.
20. Illustrate and explain the structure of microsporophyll in *Cycas*.
21. Give the structural details of the cone of *Equisetum* with suitable diagrams.
22. With the help of suitable diagram explain the structure of sporophyte of *Anthoceros*.

(5 x 4 = 20)**PART D****Answer any 2 (10 marks each)**

23. With the help of suitable diagrams examine the structure of female cone and ovule of *Gnetum*. Also explain its pollination and fertilization.

24. Write an essay on habit and habitat variation among the pteridophytes that you have studied.
25. Describe the female gametophyte development in heterosporous pteridophytes you have studied.
26. Explain the reproductive structure of Marchantia with the help of suitable diagrams.
(10 x 2 = 20)