

M. Sc DEGREE END SEMESTER EXAMINATION - MARCH 2024**SEMESTER 2 - BOTANY****COURSE : 21P2BOTT05 - BRYOLOGY AND PTERIDOLOGY***(For Regular 2023 Admission and Improvement/Supplementary 2022/2021 Admissions)*

Duration : Three Hours

Max. Weights: 30

PART A**Answer any 8 questions****Weight: 1**

1. Explain trabecula in *Isoetes* and its significance. (U, CO 2, CO 4)
 2. Explain the types based on their origin? Provide suitable examples for each. (U, CO 3, CO 4, CO 5)
 3. What is the difference in the rhizoids of liverworts and mosses? (U, CO 3, CO 5)
 4. Describe *Ophioglossum* rhizome anatomy and give the phylogenetic affinity. (U, CO 2, CO 3, CO 4)
 5. Compare rhizoids of *Lunularia* and *Pogonatum*. (R, CO 3, CO 4)
 6. Write down four important features of Bryopsida. ()
 7. What is glochidion. Explain its function with an example? (U, CO 2)
 8. Discuss about the major features observed in Coenopteridales (U, CO 1, CO 2, CO 3)
 9. What does the theory of "evolution of sporophyte in bryophytes by progressive reduction" uphold? (E, CO 2)
 10. Why bryophytes are called as amphibians of plant kingdom? (R)
- (1 x 8 = 8)**

PART B**Answer any 6 questions****Weights: 2**

11. Give a brief account on Smith's 2016 classification of pteridophytes. (A, CO 2, CO 3)
 12. What do you mean by exohydric, endohydric and myxohydric bryophytes? Give examples each. (U, CO 2, CO 4)
 13. Describe the salient features of Calobryales and its affinities with Jungermaniales. (A, CO 2, CO 4, CO 5)
 14. Explain how the Sporangial dehiscence mechanism evolved in fern. (An, CO 2, CO 3, CO 4, CO 5)
 15. Explain the anatomical features in Sphenosida members? (An, CO 1, CO 2, CO 3)
 16. How will you differentiate the antheridiophore and archegoniophore of *Marchantia*. (An, CO 2, CO 3, CO 5)
 17. Describe the gametophytes of leafy liverworts. (R, CO 3)
 18. Give an account on pteridophytes used as food source. (U, CO 2)
- (2 x 6 = 12)**

PART C
Answer any 2 questions

Weights: 5

19. Explain the variation and advancement exhibited in sporophytic generation of pteridophytes. (An, CO 3, CO 4, CO 5)
20. Illustrate and compare the internal structure of sporophytes of Riccia, Marchantia and Anthoceros. (A)
21. Describe the range of thallus structure in bryophytes. (An, CO 2, CO 3, CO 4)
22. Describe the female gametophyte development in heterosporous Pteridophytes you have studied. (U, CO 3, CO 5)
- (5 x 2 = 10)**

OBE: Questions to Course Outcome Mapping

CO	Course Outcome Description	CL	Questions	Total Wt.
CO 1	Understand the diversity of primitive land plants.	U	8, 15	3
CO 2	Classify Bryophytes and Pteridophytes based on their morphological and anatomical features.	E	1, 4, 7, 8, 9, 11, 12, 13, 14, 15, 16, 18, 21	24
CO 3	Compare the main characteristics of Bryophytes and Pteridophytes.	E	2, 3, 4, 5, 8, 11, 14, 15, 16, 17, 19, 21, 22	30
CO 4	Discuss the development of land adaptations in the Bryophytes and Pteridophytes.	An	1, 2, 4, 5, 12, 13, 14, 19, 21	20
CO 5	Compare various lifecycle events in the Bryophyte and Pteridophytes.	R	2, 3, 13, 14, 16, 19, 22	18

Cognitive Level (CL): Cr - CREATE; E - EVALUATE; An - ANALYZE; A - APPLY; U - UNDERSTAND; R - REMEMBER;