

Reg. No

Name

25P2006

M. Sc. DEGREE END SEMESTER EXAMINATION - APRIL 2025

SEMESTER 2 : BOTANY

COURSE : 24P2BOTT05 : BRYOLOGY, PTERIDOLOGY AND GYMNOSPERMS

(For Regular - 2024 Admission)

Duration : Three Hours

Max. Weights: 30

PART A

Answer any 8 questions

Weight: 1

1. What is gelatinous ring and its functions in *Marsilea*? (R, CO 1, CO 2, CO 4, CO 5)
 2. Write down four important features of Bryopsida. (U, CO 2, CO 3)
 3. Compare *Rhynia* and *Protolepidodendron*? (U, CO 3, CO 5)
 4. Give an account on the horticultural importance of peat moss. (R, CO 3, CO 6)
 5. What are the unique characters of fern allies? (R, CO 1, CO 2, CO 4, CO 5)
 6. Give a brief account on PPG 1 classification of pteridophytes. (A, CO 1, CO 3, CO 4)
 7. What are fossil bryophytes? Give an example. (U)
 8. What are the general characters of Lycophytes? (U)
 9. Explain the alternation of generation in gymnosperms. (U, CO 1, CO 3)
 10. What is seed starch? (R, CO 6)
- (1 x 8 = 8)**

PART B

Answer any 6 questions

Weights: 2

11. Comment on the concept of Algal and Pteridophytic origin of Bryophytes. (R)
 12. Write a note on anatomy of Araucarian stem and pitting. (An, CO 3, CO 4, CO 5)
 13. Comment on the medicinal uses of Gymnosperms. (A, CO 6)
 14. Explain the sporophyte structure of *Equisetum*. (U)
 15. Write an essay on economic importance of pteridophytes. (U, CO 6)
 16. Compare the sporophylls of *Acrostichum*, *Adiantum*, *Pteris*, *Angiopteris* and *Dicranopteris*. (U, CO 1, CO 2, CO 4, CO 5)
 17. Explain the paleobotanical significance of *Sphenophyllum*. (U)
 18. Briefly describe the economic importance of Bryophytes. (R, CO 2, CO 3)
- (2 x 6 = 12)**

PART C
Answer any 2 questions

Weights: 5

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| 19. | Describe the female gametophyte development in heterosporous Pteridophytes you have studied. | (U, CO 1, CO 3, CO 4, CO 5) |
| 20. | Illustrate and compare the internal structure of sporophytes of <i>Targionia</i> , <i>Marchantia</i> and <i>Anthoceros</i> . | (A, CO 1) |
| 21. | Explain the vegetative and reproductive structures of <i>Pentoxylon</i> . Discuss the affinities of the same with different plant groups. | (E, CO 3, CO 4, CO 5) |
| 22. | Explain in detail, the stellar evolution of pteridophytes. | (U) |
- (5 x 2 = 10)**

OBE: Questions to Course Outcome Mapping

CO	Course Outcome Description	CL	Questions	Total Wt.
CO 1	Classify Bryophytes, Pteridophytes and Gymnosperms based on their morphological and anatomical features.	An	1, 5, 6, 9, 16, 19, 20	16
CO 2	Identify Bryophytes, Pteridophytes and Gymnosperms in their habitats	A	1, 2, 5, 16, 18	7
CO 3	Explain the evolutionary trends primitive plant groups.	E	2, 3, 4, 6, 9, 12, 18, 19, 21	19
CO 4	Compare various lifecycle events in the Bryophytes, Pteridophytes and Gymnosperms	An	1, 5, 6, 12, 16, 19, 21	17
CO 5	Explain the adaptations in the Bryophytes, Pteridophytes and Gymnosperms	An	1, 3, 5, 12, 16, 19, 21	17
CO 6	Explain the economic and ecological significance of Bryophytes, Pteridophytes and Gymnosperms	E	4, 10, 13, 15	6

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