

Reg. No

Name

24P2034

M. Sc. DEGREE END SEMESTER EXAMINATION - MARCH 2024

SEMESTER 2 - BOTANY

COURSE : 21P2BOTT07 - PLANT ANATOMY, ANGIOSPERM SYSTEMATICS AND MORPHOLOGY

(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 the floral vasculature of *Aquilegia*. (An)
 2. What are annual rings and how are they formed? What is its significance? (E, CO 5)
 3. Explain the applications of anatomy in systematics. (U, CO 6)
 4. What is CBOL? (U)
 5. What is epiperigynous Flower? (U)
 6. What is a topotype? (U)
 7. What are salt glands? Explain their function. (U, CO 3)
 8. Write a note on colleter and nectaries. (U, CO 1, CO 4)
 9. Write the significance of plant anatomy. (U, CO 1)
 10. What is taxonomic rank? (U)
- (1 x 8 = 8)**

PART B

Answer any 6 questions

Weights: 2

11. Write a note on dehiscence of fruits. (U)
 12. What is the correct name of the plant when treated under the genus *Tinospora*?
Tinospora tomentosa (Coleb.) Hook. f. & Thoms. in Hook. f., Fl. Brit. India 1: 96. 1872. (A)
Tinospora sinensis (Lour.) Merr., Sunyatsenia 1: 193. 1934.
Campylus sinensis Lour., Fl. Cochinch. 113. 1790.
Tinospora malabarica (Lam.) Hook. f. & Thoms., Fl. Ind. 183. 1855.
 13. Differentiate various infraspecific categories with examples. (U)
 14. Explain different types of laticifers. (U)
 15. Comment on Soft wood, Hard wood, Heart wood and Sap wood. (U, CO 5)
 16. What are the different types of flowers based on the position of the ovary and the attachment of perianth, androecium, and hypanthium? (U)
 17. Describe the Type A and Type C root stem transition. (U, CO 4, CO 5)
 18. With the help of diagrams, explain the structure of paracytic and diacytic stomata. (U)
- (2 x 6 = 12)**

PART C
Answer any 2 questions

Weights: 5

19. What is a species? Explain the different types of species concepts? (U)
20. Explain the structure and function of vascular cambium and cork cambium. (A, CO 3, CO 4, CO 5)
21. Explain the morphological and structural adaptations in hydrophytes and xerophytes. (A, CO 3)
22. What is the role of anatomy in solving taxonomic problems? Explain with suitable examples. (U)

(5 x 2 = 10)

OBE: Questions to Course Outcome Mapping

CO	Course Outcome Description	CL	Questions	Total Wt.
CO 1	Understand plant cell structure in a detailed manner	U	8, 9	2
CO 3	Understand morphological features, inflorescence, and fruit types of angiosperms	U	7, 20, 21	11
CO 4	Know and carry out the plant anatomical specimen preparations	U	8, 17, 20	8
CO 5	Understand and compare wood anatomy, wood types, plant fibers, and secretory tissues	U	2, 15, 17, 20	10
CO 6	Analyze floral, nodal, and reproductive anatomy of plants	An	3	1

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