Reg. No ..... Name **26P240**

M. Sc. DEGREE END SEMESTER EXAMINATION - APRIL 2026

SEMESTER 2 : BOTANY

COURSE : **24P2BOTT07 : PLANT ANATOMY AND MICROTECHNIQUE**

(For Regular 2025 Admission and Improvement/Supplementary 2024 Admission)

Time : Three Hours Max. Weights: 30

PART A

Answer any 8 questions **Weight: 1**

1.	What is the structure and function of velamen tissue?	(U)
2.	Write a note on colleters and nectaries.	(U)
3.	Define killing and fixing in plant microtechnique.	(U, CO 6, CO 7)
4.	Explain the applications of anatomy in pharmacognosy.	(U)
5.	What are epoxy resins? How are they used?	(R, CO 6)
6.	Write a short note on leaf abscission.	(U)
7.	What are the applications of plant microtechnique?	(R, CO 6)
8.	What is FAA? Write the composition.	(R, CO 6, CO 7)
9.	Explain the scope and significance of plant anatomy.	(U)
10.	Why labeling and storing of microscopic slides are significant?	(U)

(1 x 8 = 8)

PART B

Answer any 6 questions **Weights: 2**

11.	Discuss the role of secretory trichomes in *Drosera* and *Nepenthes*.	(U)
12.	With the help of diagrams, explain the structure of paracytic and diacytic stomata.	(U)
13.	Explain the anomalous secondary growth in the *Mirabilis* stem.	(An)
14.	Classify Hematoxylin stain based on mordant used. Write its uses and protocol for the preparation.	(U, CO 6, CO 7)
15.	List out the advantages and disadvantages of smear and squash preparations.	(U, CO 6, CO 7)
16.	What are acidic and basic dyes? Which components of cells get stained by these? Give examples.	(A, CO 6, CO 7)
17.	Discuss the anatomical factors responsible for seed dormancy.	(U)
18.	Discuss the advantages and limitations of microtomy.	(E, CO 6, CO 7)

(2 x 6 = 12)

PART C

Answer any 2 questions **Weights: 5**

19.	Explain the structure and function of vascular cambium and cork cambium.	(A)
20.	Discuss the stages of preparation of tissues embedded in paraffin. Write the process of microtome sectioning of paraffin blocks.	(E, CO 6, CO 7)

21.	What is staining? Explain its principle and discuss the different techniques of single, double and triple staining.	(E, CO 6, CO 7)
22.	Briefly explain the anatomy of fleshy and dry fruits. Add a note on dehiscence of fruits.	(U)
		(5 x 2 = 10)

OBE: Questions to Course Outcome Mapping

CO	Course Outcome Description	CL	Questions	Total Wt.
CO 6	Apply microtechnique and microscopic examination in histochemical studies	A	3, 5, 7, 8, 14, 15, 16, 18, 20, 21	22
CO 7	Develop skills in techniques of botanical slide preparation.	A	3, 8, 14, 15, 16, 18, 20, 21	20

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