

D. B. G. GOVT. COLLEGE, PANIPAT

Session 2023-2024 (EVEN SEMESTER)

NAME OF PROFESSOR: Mr. Arvind Kumar

DESIGNATION: Assistant Professor in Botany

SUBJECT/PAPER: (B23- BOT-601) – Plant Anatomy & Embryology

CLASS- B.Sc. 3rd (6th sem)

SR. NO.	MONTH	TOPICS TO BE COVERED	REMARKS IF ANY
1.	1ST jan -15TH jan	Introduction, objective and scope of plant anatomy, meristematic and permanent tissues, Tissue systems (epidermal, ground and vascular).	
	16 jan – 31 Jan	complex tissues, plant secretory tissues, mechanical tissues and their distribution. Tissue systems (epidermal, ground and vascular), cambium, types of vascular bundles.	
2.	1 Feb to 15 Feb	vascular skeleton at nodes and internodes. Introduction, objective and scope of plant anatomy, meristematic and permanent tissues, complex tissues, plant secretory tissues, mechanical tissues and their distribution.	Assignment 1+Test

	16 Feb -29 Feb	cambium, types of vascular bundles, vascular skeleton at nodes and internodes. SAM anatomy, theories of histological organization of shoot apex, anatomy of monocot and dicot stem, secondary growth, anomalous secondary growth (Dracaena, Boerhavia, and Mirabilis).	
3.	1 Mar- 15 Mar	Phyllotaxy, anatomy of dicot and monocot leaf, Kranz anatomy.	Assignment 2+ Test
	16 Mar-31 Mar	RAM anatomy, types of roots in monocots and dicots, quiescent centre, root-stem transition, secondary growth in dicot root, structural modifications in respiratory (Rhizophora) storage (Beta) and epiphytic (Vanda) roots.	
4.	1Apr- 15 Apr	History and scope of plant embryology, flower-a modified shoot, floral organs. Microsporangium, its wall and dehiscence mechanism, microsporogenesis, pollen grains and its structure (pollen wall).	
	16 Apr – 30 Apr	scope of palynology. Pollen-pistil interaction, self-incompatibility. Pollination types and agencies, pollen germination and development.	

	01 May – 15 May	Structure of megasporangium, megasporogenesis and megagametogenesis, types of female gametophyte. Double fertilization, endosperm types, embryogenesis in dicots And monocots; polyembryony, apomixis.	
	16 May – 30 May	Structure of dicot and monocot seed, dispersal mechanisms in fruits and seeds.	

TWO ASSIGNMENTS AND ONE UNIT TEST WILL BE TAKEN AS PER SCHEDULE.

Signature of Assistant Professor