

**DEPARTMENT OF BOTANY**  
**Teaching Plan (Odd Semester) 2022-23**  
**Dr. Divya Verma**

**B.Sc. (H.) Botany 2<sup>nd</sup> Year, Sem III**  
**Core Course 5: Anatomy of Angiosperms**

Topic	Allocation of Lectures	Month wise schedule	Tutorial/ Assignment/ Presentation
Unit 1: Tissues Unit 2: Stem and leaf	16 lectures	September	Tissues
Unit 3: Root Unit 4: Vascular Cambium	16 lectures	October	Organs
Unit 5: Wood Unit 6: Periderm Unit 7: Adaptive and Protective Systems	16 lectures	November	Secondary Growth
Unit 8: Secretory System Unit 9: Scope of Plant Anatomy	10 lectures	December	Revision

**B.Sc. (H.) Botany 2<sup>nd</sup> Year, Sem III**  
**Core Course 5: Anatomy of Angiosperms (Practical)**  
**Group 1**

Topic	Allocation of Lectures	Month wise schedule
• Introduction	1 Practical	August
• Distribution and types of parenchyma, collenchyma & sclerenchyma • Xylem: Tracheary elements-tracheids, vessel elements; thickenings; perforation plates; xylem fibres. • Phloem: Sieve tubes-sieve plates; companion cells; phloem fibres. • Apical meristem of root, shoot and vascular cambium.	4 Practical	September
• Stem: monocot, dicot - primary and secondary growth; • Phloem wedges in Bignonia, included phloem in Leptadenia/ Salvadoria; periderm; lenticels. • Root: monocot, dicot, secondary growth. • Leaf: isobilateral, dorsiventral, C4 leaves (Kranz anatomy).	4 Practical	October
• Wood: ring porous; diffuse porous; tyloses; heartwood and sapwood. • Epidermal system: cell types, stomata types; trichomes: non-glandular and glandular. • Adaptive Anatomy: xerophytes, hydrophytes. • Secretory tissues: cavities, lithocysts and laticifers.	4 Practical	November
• Revision • Mock Exam	2 Practical	December

1. Mauseth, J.D. (1988). *Plant Anatomy*. San Francisco, California: The Benjamin Cummings Publisher.
2. Raven, F.H., Evert, R. F., Eichhorn, S.E. (1992). *Biology of Plants*. New York, NY: W.H. Freeman and Company.
3. Esau, K. (1977). *Anatomy of Seed Plants*. New Delhi, Delhi: John Wiley & Sons, Inc.
4. Fahn, A. (1974) *Plant Anatomy*. Pergmon Press, USA and UK.