

Devi Ahilya Vishwavidyalaya Indore (M.P.)

Department of Higher Education, Govt. of M.P.

Post Graduate Semester wise Syllabus

As recommended and Approved by Board of Studies D.A.V.V.

उच्च शिक्षा विभाग, म.प्र. शासन

स्नातकोत्तर कक्षाओं के लिये सेमेस्टर अनुसार पाठ्यक्रम
अध्ययन मण्डल देवी अहिल्या विश्वविद्यालय द्वारा अनुशंसित तथा अनुमोदित

Session (सत्र) : 2019-20

M. Sc. Botany (Semester System)

Second Semester

Course PG 202: Morphology and Anatomy of Angiosperms 85+15

- UNIT I **Floral morphology:** Types, origin and evolution of Inflorescence, Floral morphology, Flower: a modified shoot; genetics of floral organ (A,B,C models); Morphology of stamen and carpel and its evolution, inferior Ovary; Types and origin of placentation. Fruit types and its evolution.
- UNIT II **Shoot Apical Meristem:** Apical, lateral and intercalary meristems- their ultra structure and histochemistry of Shoot development. Organization of shoot apical meristem (SAM), secretory ducts and laticifers, Nodal Anatomy.
- UNIT III **Root Apical Meristem:** Organization of root apical meristem (RAM), cell fate and lineages, lateral roots, root hairs, secondary growth and root stem transition. Root-microbe interactions.
- UNIT IV **Leaf differentiation and Anatomy:** Leaf histogenesis, leaf meristem, differentiation of epidermis (with special reference to types of stomata and trichomes), mesophylls and vascular system of dicot and monocot leaf.
- UNIT V **Secondary growth and anomalies:** Secondary growth of stem and activity of cambium. Ultra structure and function of primary and secondary xylem (wood anatomy) and phloem. Wood development in relation to environmental factors. Nyctanthes, Boerhaavia, Bougainvillea, Mirabilis, Chenopodium, Bignonia, Leptadenia, Salvadora, Tinospora and Draceana stems.

Suggested Readings :

1. Burgess.J.1985.An introduction to Plant Cell Development. Cambridge University Press, Cambridge.
 2. Fahn, A 1 982.Plant Anatomy. (3rd edition).Pergamon Press, Oxford.
 3. Fosket, D.E.1994. Plant Growth and Development. A Molecular Approach. Academic Press, San Diego.
 4. Lyndon, R.F.1990. Plant Development. The Cellular Basis. Unin Hyman. Lon Chandurkar P.J. Plant Anatomy.
 5. Vashishitha, P.C.,1999. Plant Anatomy.
 6. Pandey, B.P.,2004. Plant Anatomy
- Esau, K., 2006. Plant Anatomy.

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