

Course Code	Course Name	Credits
26BY003	ANGIOSPERM MORPHOLOGY AND TAXONOMY	04

Course Objectives

- To understand the basic morphology of angiosperms, including root, stem, leaf, inflorescence, flower, fruit, and seed.
- To introduce the basics of plant taxonomy, including identification, naming, and classification of angiosperms.
- To familiarize students with major classification systems and their importance.
- To train students in using floras, keys, and herbarium techniques for identifying and documenting plants.

Learning Outcomes

Upon successful completion of this course it is intended that a student will be able to:

- Understand the morphology of flowering plants.
- Identify and classify angiosperms using basic taxonomic principles and keys.
- Recognize different classification systems.
- Prepare and use herbarium specimens for plant identification.

Unit 1 – Angiosperm morphology (12 Hrs.)

Plant Habits, Root and its modification, stem and its modification, leaf structure and its modifications, Phyllotaxy. Inflorescence types – Racemose, Cymose and special types.

Unit 2 – Angiosperm morphology (12 Hrs.)

Floral morphology, Types of flowers, Types of aestivation, Types of anthers and arrangement, Gynoecium – types and placentation, floral formulae and floral diagram. Classification of fruits; Description of simple, aggregate and multiple fruits.

Unit 3 - Taxonomy (12 Hrs.)

Importance of Taxonomy; Binomial nomenclature; Bentham and Hooker's classification- merits and demerits; Hutchinson's classification – Merits and demerits; Brief account on APG system of classification; Herbarium Techniques.

Unit 4 – Detailed study of families and economic importance (12 Hrs.)

Magnoliaceae, Brassicaceae, Rutaceae, Fabaceae, Cucurbitaceae, Rubiaceae.

Unit 5 - Detailed study of families and economic importance (12 Hrs.)

Asteraceae, Apocynaceae, Solanaceae, Verbenaceae, Euphorbiaceae, Orchidaceae, Liliaceae and Poaceae.

Reference Books:

1. Judd, W.S., Campbell, C.S., Kellogg, E.A., Stevens, P.F. (2002). Plant Systematics-A Phylogenetic Approach. Sinauer Associates Inc., U.S.A. 2nd edition.
2. Pandey, B.P.(1997). Taxonomy of Angiosperms. S.Chand & Co., (P) Ltd., New Delhi.
3. Sharma, O.P. (2000). Plant Taxonomy. Tata McGraw Hill Publishing Co., New Delhi.
4. Singh, (2012). Plant Systematics: Theory and Practice Oxford & IBH Pvt. Ltd., New Delhi.
5. Vashista, P.C. (1997). Taxonomy of Angiosperms. S.Chand & Co., New Delhi.
6. Narayanaswamy, R.V. & Rao, K.N. (1976). Outlines of Botany. S.Viswanathan Printers & Publishers, Chennai.

