

**PAPER TITLE: SYSTEMATICS OF FLOWERING PLANTS AND PHYLOGENY**

**PAPER CODE: BOT-IV.E-6**

**NAME OF FACULTY: Mrs. Divyarani Revankar Walke**

**MARKS: 75**

**CREDITS: 3**

**Lecture schedule for the Semester IV, SYBSc , 2017-2018**

Lecture number	Syllabus
Lecture 1	<b>UNIT – I: INTRODUCTION to SYSTEMATICS</b> <b>Plant Classification</b>
Lecture 2	Introduction to Plant Nomenclature
Lecture 3	Introduction to Biosystematics and its role
Lecture 4	<b>UNIT – II: HERBARIUM</b> Field inventory, Functions of Herbarium , activity
Lecture 5	Important herbaria and botanical gardens (India & world ), virtual herbarium; e-flora
Lecture 6	Documentation: Flora, Activity
Lecture 7	Documentation : Monographs,
Lecture 8 and 9	Journals; Keys: Single access and Multi-access
CA 1	Assignment +Viva/ Written/ Poster
Lecture 10	<b>UNIT – III: SYSTEMATICS AND TAXONOMIC HIERARCHY</b> Introduction, Principles and rules (ICBN);
Lecture 11	Taxonomic Hierarchy, Ranks and names , author citation, valid publication
Lecture 12	Introduction to Typification, Type method, documentation of campus flora
Lecture 13	Rejection of names
Lecture 14	Principle of priority and its limitations
Lecture 15	Names of hybrids, and cultivars
Lecture 16	Concept of taxa (family, genus, species)
Lecture 17	Categories and taxonomic hierarchy; activity

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CA- 2	Presentation
Lecture 18	Species concept (taxonomic, biological, evolutionary)
Lecture 19	Taxonomic evidence from palynology , activity
Lecture 20 and 21	Taxonomic evidence from cytology, phytochemistry and molecular data.
Lecture 22	<b>Unit IV: SYSTEMS OF CLASSIFICATION; POSITION AND DIAGNOSTIC FEATURES OF FAMILIES</b> Introduction, Concepts of evolution and phylogeny
Lecture 23 and 24	Major contributions of Linnaeus, Bentham and Hooker, Engler and Prantl in Plant Classification
Lecture 25 and 26	Brief reference of Angiosperm Phylogeny group (APG III) classification, Activity
Lecture 27	Description of each family with suitable example based on Bentham and Hooker Classification: Annonaceae, Capparidaceae, Brassicaceae
Lecture 28	Tiliaceae, Rutaceae, Activity
Lecture 29	Myrtaceae, Cucurbitaceae
Lecture 30	Rubiaceae, Apocyanaceae
Lecture 31 and 32	Asclepiadaceae, Solanaceae, Verbenaceae, Lamiaceae,
Lecture 33	Amaranthaceae, Orchidaceae, Araceae
Lecture 34	Asteraceae, Zingiberaceae,
Lecture 35	Commelinaceae, Poaceae. Field visit
Lecture 36 and 37	<b>UNIT VI: PHYLOGENY OF ANGIOSPERMS</b> Origin & evolution of angiosperms
Lecture 38	Co-evolution of angiosperms
Lecture 39	<b>Unit V: Biometrics, numerical taxonomy and cladistics</b> Introduction, Characters; Variations
Lecture 40	OTUs, character weighting and coding
Lecture 41	cluster analysis

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Lecture 42	Written/ MCQ/ Poster/ Report
Lecture 43, 44 and 45	Phenograms, cladograms (definitions and differences)