

**Syllabus Completion Report  
&  
Attendance Report**

**A.Y. 2019-20**

SEM-I

**Dr. S.M. Jagtap,  
Department of Botany**

# Syllabus Completion Report

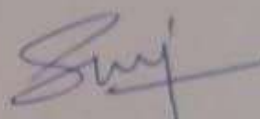
S.Y.B.Sc. Botany: 2019 - 20

## Taxonomy of Angiosperms and Plant Community

(Semester I, Paper I)

Sr. No.	Month	Topic
1	June & July	<p><b>Introduction to Plant Taxonomy</b> Definition, scope, objectives and importance, Identification, classification, nomenclature, Concept of Systematics</p> <p><b>Systems of classification</b> Types of systems with their merits and limitations a) Artificial system- Carl Linnaeus</p> <p><b>Systems of classification</b> b) Natural system -Bentham and Hooker, c) Phylogenetic system- Engler and Prantl</p> <p><b>Taxonomic literature</b> Flora, monograph, revisions, manuals, journals, periodicals and references books</p> <p><b>Botanical Nomenclature</b> History, Binomial nomenclature, ICBN- principles, Rules of nomenclature, Coining of generic names and specific epithets, Ranks and endings of taxa names, Principle of priority, Effective and valid publications, Single and double authority citation, Nomina conservanda.</p> <p><b>Sources of data for Systematic</b> Morphology, Anatomy, Cytology, Embryology, Phytochemistry, Molecular biology</p>
2	August and September	<p><b>Study of Plant Families</b> Study of following families with reference to systematic position, salient features, floral formula, floral diagram and any five examples with their economic importance. Annonaceae, Meliaceae, Myrtaceae, Rubiaceae, Solanaceae, Asclepiadaceae, Euphorbiaceae and Amaryllidaceae</p>

		<p><b>Ecological grouping of the plants</b>          Ecological grouping of the plants with reference to their significance of adaptive external and internal features: Hydrophytes, Mesophytes, Xerophytes, Halophytes with examples.</p>
3	October	<p><b>Introduction to ecology</b>          Definition, Concept, Autecology and synecology, Ecosystem and its components: biotic and abiotic, Food chain, Food web, Ecological pyramids.</p> <p><b>Computer in taxonomy</b>          Concept of herbarium their advantages and limitations, Digital /e-herbarium and their advantages, Data bases: concept and needs, Use of computer in plant classification.</p> <p><b>Revision and Question paper discussion</b></p>



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**Teaching Plan**  
**S. Y. B. Sc. [Botany]: 2019 - 20**  
**Plant Physiology**  
**(Semester I, Paper II)**

Sr. No.	Month	Topic
1	July	<p><b>Introduction to Plant Physiology</b>            Brief history, Scope and applications of plant physiology  <b>Assignment, Revision and Class test</b></p> <p><b>Plant – water relations</b>            Physico-chemical properties of water, Membrane structure, permeability and aquaporin            Diffusion – Definition, factors affecting diffusion, importance of diffusion in plants            Osmosis – Definition, types of solutions – hypotonic, hypertonic and isotonic, endosmosis and exosmosis, concept of osmotic pressure (OP), turgor pressure (TP), wall pressure (WP), Diffusion pressure deficit (DPD), relation between OP, TP and DPD, role of osmosis in plants.</p>
2	August	<p><b>Plant – water relations (cont.)</b>            Plasmolysis – Definition, mechanism, deplasmolysis, significance of plasmolysis            Imbibition – Concept, mechanism and significance  <b>Assignment, Revision and Class test</b></p> <p><b>Absorption of water</b>            Role of water in plants, Concept of water potential and capillary water            Mechanisms of water absorption, Factors affecting rate of water absorption  <b>Assignment, Revision and Class test</b></p>
3	September	<p><b>Ascent of sap</b>            Introduction and definition. Theories of ascent of sap            Vital theories: Jamin – Chame theory and Bose theory            Physical force theories: a) Capillary theory, b) Imbibitional theory, c) Atmospheric pressure theory, Transpiration pull or cohesion-tension theory, evidences and objections            Factors affecting ascent of sap  <b>Assignment, Revision and Class test</b></p> <p><b>Physiology of flowering</b>            Photoperiodism – Concept, definition, short day plants, long day plants and day neutral plants, Photoperiodic induction, phytochrome and flowering, Phytohormones and initiation of flowering, Applications of photoperiodism. Vernalisation – concept and definition, mechanism of vernalisation, applications of vernalisation, devernialization  <b>Assignment, Revision and Class test</b></p>
4	October	<b>Revision and Question paper discussion</b>

*Sangeetha J.S.*  
 Dr. Sangeetha J.S.

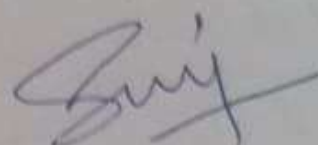
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**Dept. of Botany**  
**Teaching Plan**  
**S.Y.B.Sc. Botany: 2019- 20**  
**Taxonomy of Angiosperms and Plant Community**  
**(Semester I, Paper I)**

Sl. No.	Month	Topic	Teacher
1	June	<b>Introduction to Plant Taxonomy</b> Definition, scope, objectives and importance, Identification, classification, nomenclature, Concept of Systematics	SMJ
2	July & August	<b>Systems of classification</b> Types of systems with their merits and limitations- a)Artificial system- Carl Linnaeus , b)Natural system -Bentham and Hooker, c) Phylogenetic system- Engler and Prantl  <b>Taxonomic literature</b> Flora, monograph, revisions, manuals, journals, periodicals and references books.  <b>Sources of data for Systematics</b> Morphology, Anatomy, Cytology, Embryology, Phytochemistry, Molecular biology	SMJ
3	August	<b>Botanical Nomenclature</b> History, Binomial nomenclature, ICBN- principles, Rules of nomenclature, Coining of generic names and specific epithets, Ranks and endings of taxa names, Principle of priority, Effective and valid publications, Single and double authority citation, Nomina conservanda.  <b>Study of Plant Families</b> Study of following families with reference to systematic position, salient features, floral formula, floral diagram and any five examples with their economic importance. Annonaceae, Meliaceae, Myrtaceae, Rubiaceae, Solanaceae, Asclepiadaceae, Euphorbiaceae and Amaryllidaceae	SMJ

Sr. No.	Month	Topic	Teacher
4	September	<b>Introduction to ecology</b> Definition, Concept, Autecology and synecology, Ecosystem and its components: biotic and abiotic, Food chain, Food web, Ecological pyramids. <b>Ecological grouping of the plants</b> Ecological grouping of the plants with reference to their significance of adaptive external and internal features: Hydrophytes, Mesophytes, Xerophytes, Halophytes with examples.	SMJ
5	October	<b>Computer in taxonomy</b> Concept of herbarium their advantages and limitations, Digital /e-herbarium and their advantages, Data bases: concept and needs, Use of computer in plant classification. <b>Revision and Question paper discussion</b>	SMJ



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