

**LESSON PLAN**  
**(Even Semester 2023-24)**  
**Department of Botany**  
**Minor II**

**Teachers: Dr. Priyanka Khanduri (PK)**  
**Mrs. Mahasweta Das Banerjee (MD)**

<b>Semester- VI</b> <b>PLANT SYSTEMATICS (THEORY)</b> <b>BOT-MD-CC2-2-Th</b> <b>Credits 3, Class 45 hours</b>  <b><i>Semester end Theory exam: 75 marks</i></b> <b><i>Semester end Practical exam: 25 marks</i></b>			
Unit	Topic	Teacher	Number of lectures & Time
1	<p><b>Introduction:</b></p> <p>1.1 Components of Systematics: Nomenclature, Identification, Classification;</p> <p>1.2. Taxonomy and its phases Pioneer, Consolidation, Biosystematic and Encyclopaedic; alpha- and omega-taxonomy</p> <p>1.3 Nomenclature: Type method, Publication, Rank of taxa, Rules of priority, Retention and rejection of names, Author Citation, Effective and valid publication, Elementary knowledge of ICN- Principles.</p>	MD	<p>10</p> <p>(From 2<sup>nd</sup> week of June till 1<sup>st</sup> week of July)</p> <p><i>Class Test on completion of unit</i></p>
2	<p><b>Systems of classification:</b></p> <p>2.1 Broad outline of Bentham &amp; Hooker (1862-1883) and Takhtajan (1997)-systems of classification with merits and demerits. Brief idea of angiosperm phylogeny group (APG IV classification),</p> <p>2.2 Systematics in Practice: Herbaria and Botanic Gardens – their role in teaching and research;</p> <p>2.3. Dichotomous keys – indented and bracketed.</p>	PK	<p>20</p> <p>(From 2<sup>nd</sup> week of June till 2<sup>nd</sup> week of July)</p> <p><i>Class Test on completion of unit</i></p>

	<p>2.4 Brief idea on Phenetics and cladistics: Monophyletic, polyphyletic and paraphyletic groups; Plesiomorphy and apomorphy;</p> <p>2.5 Numerical taxonomy methods and significance;</p> <p>2.6 Data sources in Taxonomy: Supportive evidences from Phytochemistry, Cytology, Palynology and Molecular biology data (Protein and Nucleic acid homology).</p>		
3	<p><b>Systematic study of angiosperm taxa: Diagnostic features, systematic position (Bentham &amp; Hooker) and economically important plants (parts used and uses) of the following families:</b></p> <p>3.1. Monocotyledons: Alismataceae, Gramineae (Poaceae), Cyperaceae, Palmae (Arecaceae), Liliaceae, Musaceae, Zingiberaceae, Cannaceae, Orchidaceae.</p> <p>3.2. Dicotyledons: Nymphaeaceae, Magnoliaceae, Ranunculaceae, Leguminosae (subfamilies), Euphorbiaceae, Malvaceae, Umbelliferae (Apiaceae), Labiatae (Lamiaceae), Cruciferae (Brassicaceae), Solanaceae, Scrophulariaceae, Acanthaceae, Rubiaceae, Cucurbitaceae, Compositae (Asteraceae).</p>	<p>MD</p> <p>PK</p>	<p>15 (2<sup>nd</sup> &amp; 3<sup>rd</sup> week of July)</p> <p>(3<sup>rd</sup> &amp; 4<sup>th</sup> week of July)</p> <p><i>Class Test on completion of unit</i></p>