

BOARD OF INTERMEDIATE EDUCATION, AP, HYDERABAD  
Intermediate I Year Syllabus  
Subject – BOTANY-I w.e.f. 2012-13

UNIT-I: DIVERSITY IN THE LIVING WORLD	PERIODS
<p>Chapter 1 : The living world            What is living? Diversity in the living world; Taxonomic categories and taxonomical aids.</p> <p>Chapter 2 : Biological Classification            Five kingdom classification - Monera, Protista, Fungi, Plantae and Animalia, Three domains of life (six kingdom classification), Viruses, Viroids, Prions &amp; Lichens.</p> <p>Chapter 3 : Science of plants - Botany            Origin, Development, Scope of Botany and Branches of Botany.</p> <p>Chapter 4 : Plant Kingdom            Salient features, classification and alternation of generations of the plants of the following groups – Algae, Bryophytes, Pteridophytes, Gymnosperms and Angiosperms.</p>	30
<p>UNIT - II : STRUCTURAL ORGANISATION IN PLANTS- MORPHOLOGY</p> <p>Chapter 5 : Morphology of flowering Plants</p> <p><i>Vegetative :</i>            Parts of a typical Angiospermic plant; Vegetative morphology and modifications- Root, Stem and Leaf- types; Venation, Phyllotaxy.</p> <p><i>Reproductive:</i>            Inflorescence – Racemose, Cymose and special types ( in brief).            Flower : Parts of a flower and their detailed description;            Aestivation, Placentation.</p> <p>Fruits : Types- True, False and parthenocarpic fruits.</p>	20

UNIT-III: REPRODUCTION IN PLANTS	25
<p>Chapter 6 : Modes of Reproduction</p> <p>Asexual reproduction, binary fission, Sporulation, budding, fragmentation, vegetative propagation in plants, Sexual reproduction in brief, Overview of angiosperm life cycle.</p> <p>Chapter 7 : Sexual Reproduction in Flowering Plants</p> <p>Stamen, microsporangium, pollen grain. Pistil, megasporangium (ovule) and embryo sac; Development of male and female gametophytes.</p> <p>Pollination – Types, agents , Out breeding devices and Pollen – Pistil interaction.</p> <p>Double Fertilization; Post fertilisation events: Development of endosperm and embryo; development of seed, Structure of Dicotyledonous and Monocotyledonous seeds, Significance of fruit and seed.</p> <p>Special modes – Apomixis, parthenocarpy, polyembryony.</p>	
UNIT-IV: PLANT SYSTEMATICS	10
<p>Chapter 8 : Taxonomy of angiosperms</p> <p>Introduction.</p> <p>Types of Systems of classification (In brief).</p> <p>Semi- Technical description of a typical flowering plant</p> <p>Description of Families: Fabaceae, Solanaceae and Liliaceae.</p>	
UNIT-V: CELL STRUCTURE AND FUNCTION	35
<p>Chapter 9 : Cell – The Unit of Life</p> <p>Cell- Cell theory and cell as the basic unit of life- overview of the cell.</p> <p>Prokaryotic cells, Ultra Structure of Plant cell (structure in detail and functions in brief), Cell membrane, Cell wall, Cell organelles:</p>	

<p>Endoplasmic reticulum, Mitochondria, Plastids, Ribosomes, Golgi bodies, Vacuoles, Lysosomes, Microbodies, Centrosome and Centriole, Cilia, Flagella, Cytoskeleton and Nucleus.</p> <p>Chromosomes: Number, structural organization; Nucleosome.</p> <p>Chapter 10 : Biomolecules</p> <p>Structure and function of Proteins, Carbohydrates, Lipids and Nucleic acids.</p> <p>Chapter 11 : Cell cycle and Cell Division</p> <p>Cell cycle, Mitosis, Meiosis - significance.</p>	
<b>UNIT-VI: INTERNAL ORGANISATION OF PLANTS</b>	<b>25</b>
<p>Chapter 12 : Histology and Anatomy of Flowering Plants</p> <p>Tissues - Types, structure and functions: Meristematic; Permanent tissues - Simple and Complex tissues.</p> <p>Tissue systems - Types, structure and function: Epidermal, Ground and Vascular tissue systems.</p> <p>Anatomy of Dicotyledonous and Monocotyledonous plants - Root, Stem and Leaf.</p> <p>Secondary growth in Dicot stem and Dicot root.</p>	
<b>UNIT-VII: PLANT ECOLOGY</b>	<b>12</b>
<p>Chapter 13 : Ecological Adaptations, Succession and Ecological Services</p> <p>Introduction.</p> <p>Plant communities and Ecological adaptations: Hydrophytes, Mesophytes and Xerophytes.</p> <p>Plant succession.</p> <p>Ecological services – Carbon fixation, Oxygen release and pollination (in brief).</p>	
<b>Total</b>	<b>157</b>