Board of Intermediate Education, Andhra Pradesh.

Intermediate – I Year Syllabus w.e.f. 2012 – 13

Subject : BOTANY – I

S. No.	Topics	Page No.
UNIT-I	**DIVERSITY IN THE LIVING WORLD**	
	1. The living world What is living? Diversity in the living world; Taxonomic categories and taxonomical aids.	
	2. Biological Classification Five kingdom classification - Monera, Protista, Fungi, Plantae and Animalia, Three domains of life (six kingdom classification), Viruses, Viroids, Prions & Lichens.	
	3. Science of plants - Botany Origin, Development, Scope of Botany and Branches of Botany.	
	4. Plant Kingdom Salient features, classification and alternation of generations of the plants of the following groups – Algae, Bryophytes, Pteridophytes, Gymnosperms and Angiosperms.	
UNIT - II	**STRUCTURAL ORGANISATION IN PLANTS-MORPHOLOGY** **5. Morphology of flowering Plants** **Vegetative :** Parts of a typical Angiospermic plant; Vegetative morphology and modifications- Root, Stem and Leaf- types; Venation, Phyllotaxy. **Reproductive:** Inflorescence – Racemose, Cymose and special types (in brief). **Flower :** Parts of a flower and their detailed description; Aestivation, Placentation. **Fruits :** Types- True, False and parthenocarpic fruits.	
UNIT-III	**REPRODUCTION IN PLANTS**	
	6. Modes of Reproduction Asexual reproduction, binary fission, Sporulation, budding, fragmentation, vegetative propagation in plants, Sexual reproduction in brief, Overview of angiosperm life cycle.	
	7. Sexual Reproduction in Flowering Plants Stamen, microsporangium, pollen grain. Pistil, megasporangium (ovule) and embryo sac; Development of male and female gametophytes. Pollination – Types, agents , Out breeding devices and Pollen – Pistil interaction. Double Fertilization; Post fertilisation events: Development of endosperm and embryo; development of seed, Structure of Dicotyledonous and Monocotyledonous seeds, Significance of fruit and seed. Special modes – Apomixis, parthenocarpy, polyembryony.	

UNIT-IV	**PLANT SYSTEMATICS**	
	8. Taxonomy of angiosperms Introduction. Types of Systems of classification (In brief). Semi- Technical description of a typical flowering plant Description of Families: Fabaceae, Solanaceae and Liliaceae.	
UNIT-V	**CELL STRUCTURE AND FUNCTION**	
	9. Cell – The Unit of Life Cell- Cell theory and cell as the basic unit of life- overview of the cell. Prokaryotic cells, Ultra Structure of Plant cell (structure in detail and functions in brief), Cell membrane, Cell wall, Cell organelles: Endoplasmic reticulum, Mitochondria, Plastids, Ribosomes, Golgi bodies, Vacuoles, Lysosomes, Microbodies, Centrosome and Centriole, Cilia, Flagella, Cytoskeleton and Nucleus. Chromosomes: Number, structural organization; Nucleosome.	
	10. Biomolecules Structure and function of Proteins, Carbohydrates, Lipids and Nucleic acids.	
	11. Cell cycle and Cell Division Cell cycle, Mitosis, Meiosis - significance.	
UNIT-VI	**INTERNAL ORGANISATION OF PLANTS**	
	12. Histology and Anatomy of Flowering Plants Tissues - Types, structure and functions: Meristematic; Permanent tissues - Simple and Complex tissues. Tissue systems - Types, structure and function: Epidermal, Ground and Vascular tissue systems. Anatomy of Dicotyledonous and Monocotyledonous plants - Root, Stem and Leaf. Secondary growth in Dicot stem and Dicot root.	
UNIT-VII	**PLANT ECOLOGY**	
	13. Ecological Adaptations, Succession and Ecological Services Introduction. Plant communities and Ecological adaptations: Hydrophytes, Mesophytes and Xerophytes. Plant succession. Ecological services – Carbon fixation, Oxygen release and pollination (in brief).	

Topics deleted under 30% reduction of Syllabus due to COVID-19		
1	The living world, Taxonomies Systematic 1.4 – Taxonomic aids	1 – 7 9 – 11
4	Plant Kingdom 4.5 : Angiosperm character	 52 – 55
5	Morphology of Flowering plants 5.3: Leaf 5.6: Fruits 5.7: Seed	61 – 88 69 79 82
6	Reproduction in plants – Deleted completely	89 – 136
8	Family - 8.3.1: Fabaccae	142
12	12.1: Tissues 12.2: Tissue System 12.4: Secondary growth	205 209 215