

E.M. GOPALAKRISHNA KONE YADAVA WOMEN'S COLLEGE

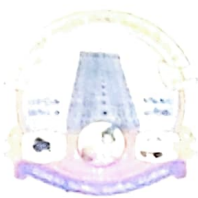
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**LESSON PLAN
2023-2024**

DEPARTMENT OF ZOOLOGY

(UG – Odd & Even Semester)-Allied Botany



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**LESSON PLAN
2023-2024
ODD SEMESTER**

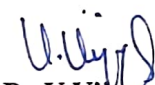
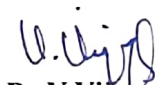
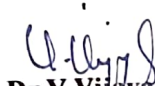
Class : II B.Sc. Zoology

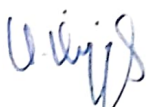

Semester : III

Sub. Code : 22OUZOGEG3

Total Hours : 60


Title of the Paper: Plant Diversity - I

Month	Unit	Description of The Syllabus	Hours Allocated	Teaching Mode & Methods	Course Teacher Signature
June 2023	I	Introduction to Plant Diversity Plant diversity – Concept, Plant Kingdom- Position of plants in five kingdom system (Robert Whittaker) and Classification of plant kingdom Oswald Tippo 1942. Algae: General Characters of Algae, Economic importance, Occurrence, Cell Structure and Life Cycle Pattern of: - a. Cyanophyceae - Anabaena b. Chlorophyceae - <i>Oedogonium</i> c. Phaeophyceae - <i>Sargassum</i> d. Rhodophyceae - <i>Polysiphonia</i>	10	Chalk and Talk, PPT, group discussion, quiz	 Dr. V. Vijaya
July 2023	II	Fungi - General Characters, Economic importance, Occurrence, Cell Structure and Life Cycle Pattern of: - a. Phycomycetes – <i>Mucor</i> b. Ascomycetes – <i>Aspergillus</i> c. Basidiomycetes – <i>Puccinia</i> d. Lichens – <i>Usnea</i>	11	Chalk and Talk, PPT, group discussion, quiz	 Dr. V. Vijaya
August 2023	III	Unit III: Bryophytes - General Character, Economic importance, Structure and Life Cycle Pattern of <i>Marchantia</i> .	11	Chalk and Talk, PPT, group discussion, quiz	 Dr. V. Vijaya

September 2023	IV	Pteridophytes - General Character, Economic importance, Structure and Life Cycle Pattern of <i>Azolla</i> .	14	Chalk and Talk, PPT, group discussion, quiz	 Dr. V. Vijaya
October 2023	V	Gymnosperms - General Character, Economic importance, Structure, Anatomy of leaf and Life Cycle Pattern of <i>Cycas</i> .	14	Chalk and Talk, PPT, group discussion, quiz	 Dr. V. Vijaya



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LESSON PLAN
2023-2024
ODD SEMESTER

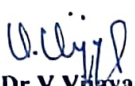


Class : III B.Sc. Zoology

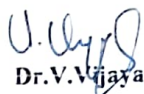
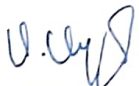
Semester : V


Sub. Code : 21AG5

Total Hours : 60

Title of the Paper: Taxonomy of Angiosperms & Plant Pathology

Month	Unit	Description of The Syllabus	Hours Allocated	Teaching Mode & Methods	Course Teacher Signature
June 2023	I	Morphology of Flowering Plants: Plant and its parts. Structure and function of root and stem. Leaf and its parts. Leaf types- simple and compound. Phyllotaxy and Venation types. Inflorescence – Racemose (Raceme, Panicle, Spike, Corymb and Umbel), Cymose (Solitary, Monochasial, Dichasial and Polychasial) and Special types (Verticillaster and Cyathium).	12	Chalk and Talk, PPT, group discussion, quiz	 Dr.V.Vijaya
July 2023	II	Plant Morphology Terminology with reference to flower description. Flower – Parts of a typical flower, floral whorls a) Calyx – Types of Calyx b) Corolla – Forms – Cruciform, Papilionaceous, Infundibuliform and Bilabiate and aestivation types. c) Sexuality of flower d) Merosity – Trimerous, Tetramerous and Pentamerous of flowers. e) Androecium – Parts of stamen – Monadelphous, Diadelphous and Polyadelphous. d) Gynoecium – Parts of carpel – Apocarpous and Syncarpous, types of placentation in ovules.	12	Chalk and Talk, PPT, group discussion, quiz	 Dr.V.Vijaya
August 2023	III	Taxonomy of Angiosperms Study the characters and plants of economic importance in the following families: Rutaceae, Caesalpiaceae, Aselepiadaceae, Euphorbiaceae and Cannaceae.	12	Chalk and Talk, PPT, group discussion, quiz	 Dr.V.Vijaya

September 2023	IV	Economic Botany Cereals – 1. Paddy (Oryza sativa) Poaceae 2. Millets – Ragi (Eleusine coracana) Poaceae 3. Pulses – Cowpea (Vigna unguiculata) Fabaceae 4. Fruits - Banana- (Musa paradisiaca) Musaceae - Ripe Fruit, Inflorescence, Pseudostem 5. Nuts- Cashew Nut- (Anacardium occidentale) Anacardiaceae.	12	Chalk and Talk, PPT, group discussion, quiz	 Dr. V. Vijaya
October 2023	V	Plant Pathology The general account of Bacterial and Viral diseases – Symptoms, Causative organisms and control measures of the following diseases: Viral disease – Bunchy top of Banana; Bacterial disease –Canker of Citrus; Fungal disease – Tikka disease of groundnut.	12	Chalk and Talk, PPT, group discussion, quiz	 Dr. V. Vijaya


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LESSON PLAN 2023-2024 EVEN SEMESTER

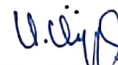



Class : II B.Sc. Zoology


Sub. Code : 22OUZOGEG4


Title of the Paper: Basics of Botany

Semester : IM

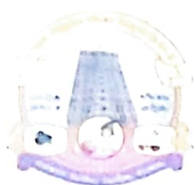
Total Hours :60

Month	Unit	Description of The Syllabus	Hours Allocated	Teaching Mode & Methods	Course Teacher Signature
December 2023	I	Cell Biology Overall structure of a typical plant cell (Organelles & Inclusions), Prokaryotic & Eukaryotic cell difference (table form) – Structural organization and functions of Mitochondria and Chloroplast. Structure of Plasma-membrane (Unit membrane concept – Robertson; Fluid mosaic model – Singer and Nicolson)	12	Chalk and Talk, PPT, group discussion, quiz	 Dr.V.Vijaya
January 2024	II	Plant Anatomy Types of Meristems - Simple permanent tissue – a) Parenchyma b) Collenchyma c) Sclerenchyma, Complex permanent tissue – a) Xylem b) Phloem (Meristematic theories need not be discussed). Differentiate Dicot & Monocot Root, Stem, Leaf (Table form). Secondary thickening in dicot stem.	11	Chalk and Talk, PPT, group discussion, quiz	 Dr.V.Vijaya
February 2024	III	Genetics Mendelian Principles – Explain law of Dominance, Segregation and Independent assortment. Mendel's Experiment on Pea plant – Monohybrid Cross, Dihybrid Cross, Back Cross, Test Cross, and Incomplete Dominance.	11	Chalk and Talk, PPT, group discussion, quiz	 Dr.V.Vijaya
February & March 2024	IV	Plant Physiology Absorption of water -Types, Transpiration – Types, Mechanism of Transpiration. Photosynthesis	13	Chalk and Talk, PPT, group discussion, quiz	 Dr.V.Vijaya

		<p>– Photosynthetic apparatus, Pigments and units, Mechanism of photosynthesis - Light reaction (Cyclic and Non-cyclic photo phosphorylation) and Dark reaction (Kelvin Cycle), Respiration – Types, Mechanism of Respiration - Glycolysis, Kerb's Cycle in Mitochondria. Plant Growth Hormones – Physiological role of Auxins, Cytokinin and Gibberellins (chemical structure need not be discussed).</p>			
March 2024	V	<p>Embryology Structure and development of anther, structure and development of ovule, Types of Ovules, Female gametophyte (<i>Polygonum</i> type), double fertilization and triple fusion.</p>	13	Chalk and Talk, PPT, group discussion, quiz	 Dr.V.Vijaya


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LESSON PLAN
2023-2024
EVEN SEMESTER




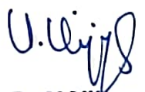
Class : III B.Sc. Zoology


Semester : VI


Sub. Code : 21AG6


Total Hours :

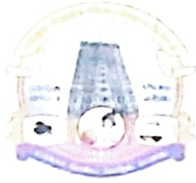
Title of the Paper: Applied Botany

Month	Unit	Description of The Syllabus	Hours Allocated	Teaching Mode & Methods	Course Teacher Signature
December	I	Plant Breeding Objectives of plant breeding, Types, Methods of crop improvement –Mass selection, Hybridization Technique. Mutation and Polyploidy in plant breeding (Achievements only).	10	Chalk and Talk, PPT, group discussion, quiz	 Dr. V. Vijaya
December	II	Horticulture Methods of Propagation Vegetative: – a) Natural – Rhizome, bulb, corm and sucker. b) Artificial – Stem Cutting (Herbaceous, Softwood, Semi – Hardwood and Hardwood cutting), advantages. Layering (Simple, Compound and Air Layering) Advantages. Kitchen Garden – aim, layout, choices of vegetable plants and advantages. Greenhouse Structure – a) Site selection and orientation b) Structure materials c) Covering materials d) Temperature and humidity control. Advantages of greenhouses in growing ornamental, vegetable, fruit, and medicinal plants.	14	Chalk and Talk, PPT, group discussion, quiz	 Dr. V. Vijaya
January	III	Tissue Culture Tissue culture – Laboratory requirements for plant tissue culture – Media: MS medium composition and preparation, Tissue culture techniques (Steps) – Types of culture of plant materials – Shoot, meristem and anther cultures, Applications of tissue culture.	12	Chalk and Talk, PPT, group discussion, quiz	 Dr. V. Vijaya
February	IV	Medicinal Botany Description of the individual plant, Common name, Botanical name, Family, Morphology of the useful part, Chemical constituents and Medicinal uses of the following plants:- • Turmeric (Manjal) – Curcuma longa – Zingiberaceae • Nelavembu – Andrographis paniculata – Acanthaceae • Tulsi – Ocimum sanctum – Lamiaceae • Sotrukatrallai – Aloe vera –	12	Chalk and Talk, PPT, group discussion, quiz	 Dr. V. Vijaya

		Liliaceae • Perumelli – Phyllanthus emblica – Euphorbiaceae Preparation method of powder and oil from medicinal plants.			
March	V	Nanotechnology Introduction to nanotechnology. Types of nanoparticles used in plants, Nanotechnology in Agricultural development – Nano-pesticides, and Nano-fertilizers. Intellectual Property Rights (IPR) – forms of protection and patenting of biological materials.	12	Chalk and Talk, PPT, group discussion, quiz	 Dr.V.Vijaya


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2023-2024
ODD& EVEN SEMESTER

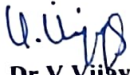
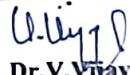
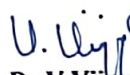
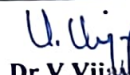

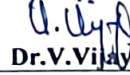
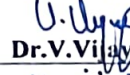
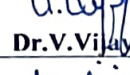
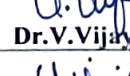
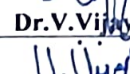
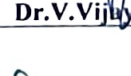
Class : II B.Sc. Zoology

Semester : III & IV

Sub. Code : 22OUZOGEG3P

Total Hours : 60

Title of the Paper: Botany Practical- I Plant Diversity – I & Basics of Botany

Month	Description of The Syllabus	Hours Allocated	Teaching Mode & Methods	Course Teacher Signature
June 2023	Instruction Demonstration Micro preparation of Algal species - Spirulina, Oedogonium, Sargassum, Polysiphonia. Spotter Identification of Fungal specimens.	14	Demonstration, Chalk and Talk, Discussion	 Dr. V. Vijaya
July 2023	Sectioning, Mounting, and Identifying internal structure of Bryophytes – Thallus C.S.	4	Demonstration, Chalk and Talk, Discussion	 Dr. V. Vijaya
August 2023	Sectioning, Mounting, and Identifying internal structure of Pteridophyte Azolla– leaf, stem C.S.	4	Demonstration, Chalk and Talk, Discussion	 Dr. V. Vijaya
September 2023	Sectioning, Mounting, and Identifying internal structure of Gymnosperm Cycas – leaf C.S.	4	Demonstration, Chalk and Talk, Discussion	 Dr. V. Vijaya
December 2024	Identification of permanent slides of Cell Biology	4	Demonstration, Chalk and Talk, Discussion	 Dr. V. Vijaya
December 2024	Sectioning, Mounting, and Identifying internal structure of Dicot: Stem, Root, and Leaf.	4	Demonstration, Chalk and Talk, Discussion	 Dr. V. Vijaya
January 2024	Solving genetic problem Monohybrid Cross, Test Cross, and Incomplete Dominance.	6	Demonstration, Chalk and Talk, Discussion	 Dr. V. Vijaya
January 2024	Demonstration of transpiration and photosynthesis with the help of suitable materials.	4	Demonstration, Chalk and Talk, Discussion	 Dr. V. Vijaya
February 2024	Spotter identification of structure of anther and ovule.	4	Demonstration, Chalk and Talk, Discussion	 Dr. V. Vijaya
March 2024	Revision	6	Demonstration, Discussion	 Dr. V. Vijaya
March 2024	Model test (2)	6		 Dr. V. Vijaya


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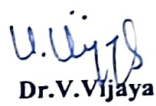
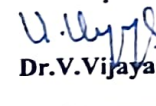
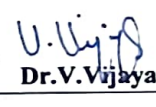
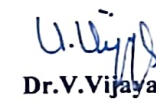

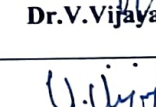
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LESSON PLAN
2023-2024
ODD & EVEN SEMESTER


Class : III B.Sc. Zoology
Sub. Code : 21AG6P

Semester : V & VI
Total Hours : 60

Title of the Paper: Taxonomy of Angiosperms & Plant Pathology and Applied Botany

Month	Description of The Syllabus	Hours Allocated	Teaching Mode & Methods	Course Teacher Signature
June - July	Dissections of the floral parts of the given plants and technically describe its salient features. To identify types of Phyllotaxy and Venation types and Inflorescence (Racemose and Cyme).	10	Dissections and Spotter Identification	 Dr. V. Vijaya
August	Spotter identification of economically important plants (Paddy, Ragi, Cowpea, Banana, and Cashew Nut).	10	Spotter Identification	 Dr. V. Vijaya
September	Spotter identification of plant disease (Bunchy top of banana, Citrus canker and Tikka Disease).	10	Spotter Identification	 Dr. V. Vijaya
December	Study the methods of hybridization technique. Study the different types of Horticulture techniques (Vegetative propagation and Layering).	12	Demonstration	 Dr. V. Vijaya
January February	Demonstration of Plant Tissue Culture technique. Spotter identification of the medicinal plant (Turmeric, Nelavembu, Tulsi, Sotrukatrallai, Perunelli). Demonstration of Nanoparticle synthesis.	12	Demonstration Spotter Identification	 Dr. V. Vijaya
March	Revision & Model Practical	6		 Dr. V. Vijaya


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