

DEPARTMENT OF BOTANY

BOTANY

ANNUAL CURRICULAR PLAN – 2017-2018

YEAR: 2017-2018

PAPER: I

SEM: I

NAME OF THE LECTURER: T. RAJESH BABU

Bh. RAMA RAJU

Month & Week	Hours available	Syllabus Topic	Additional Inputs / Value Additions	Curricular Activity				Co-Curricular Activity			
				Activity	Hours Allotted	Whether Conducted	If not Alternate Date	Activity	Hours Allotted	Whether Conducted	If not Alternate Date
June	12	Unit I : Microbial world 1. Microorganisms 2. Classification 3. Special microbes	Pictures Diagrams Charts	Teaching	12	Conducted		Assignments		Conducted	
July	12	Unit II : Viruses 1. Viruses 2. Viral diseases – symptoms 3. Viral diseases	Charts Diagrams Pictures	Teaching	12	Conducted		Seminars		Conducted	
August	12	Unit III : Bacteria 1. General characters 2. Reproduction 3. Economic importance	Diagrams Pictures Charts	Teaching	12	Conducted		Quiz		Conducted	

September	12	Unit IV : Algae 1. General characters 2. Classifications 3. Reproduction, life cycle	Diagrams Charts Pictures	Teaching	12	Conducted		Seminars		Conducted	
October	12	Unit V : Fungi 1. General characters & classification 2. Reproduction & life history 3. Lichens	Diagrams Charts Pictures	Teaching	12	Conducted		Seminars		Conducted	

ANNUAL CURRICULAR PLAN

YEAR: 2017-2018

PAPER: III

SEM: III

NAME OF THE LECTURER: T. RAJESH BABU

Bh. RAMA RAJU

Month & Week	Hours available	Syllabus Topic	Additional Inputs / Value Additions	Curricular Activity				Co-Curricular Activity			
				Activity	Hours Allotted	Whether Conducted	If not Alternate Date	Activity	Hours Allotted	Whether Conducted	If not Alternate Date
June	12	Unit I : Plant taxonomy - introduction 1. Taxonomy - classification 2. Taxonomic resources 3. Botanical nomenclature 4. Types of classification 5. Bentham and hookers cls.	Pictures Diagrams Charts	Teaching	12	Conducted		Assignment		Conducted	

July	12	Unit II : Systematic taxonomy - I 1. Engler and prantle cls. 2. Phylogeny 3. Study of families	Pictures Charts Diagrams	Teaching	12	Conducted		Seminars Assignments		Conducted	
August	12	Unit III : Systematic taxonomy - II 1. Systematic study and economic imp. of families	Pictures Diagrams Charts	Teaching	12	Conducted		Quiz		Conducted	
September	12	Unit IV : Embryology – I 1. Anther structure, microsporogenesis, development of male gametophyte 2. Ovule – structure, types	Pictures Diagrams Charts	Teaching	12	Conducted		Quiz		Conducted	
October	12	Unit V : Embryology – II 1. Pollination and fertilization, endosperm – dev., types 2. Development of monocot & dicot embryos, polyembryony	Pictures Diagrams Charts	Teaching	12	Conducted		Quiz		Conducted	

ANNUAL CURRICULAR PLAN

YEAR: 2017-2018

PAPER: V

SEM: V

NAME OF THE LECTURER: T. RAJESH BABU

Bh. RAMA RAJU

Month & Week	Hours available	Syllabus Topic	Additional Inputs / Value	Curricular Activity	Co-Curricular Activity
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		Additions									
				Activity	Hours Allotted	Whether Conducted	If not Alternate Date	Activity	Hours Allotted	Whether Conducted	If not Alternate Date
June	12	Unit I : Cell biology 1. Cell – the unit of life 2. Ultra structure and functions of cell wall & membrane 3. Chromosomes	Pictures Charts	Teaching	12	Conducted		Seminars		Conducted	
July	12	Unit II : Genetic material 1. DNA structure 2. Types of RNA	Diagrams Pictures Charts	Teaching	12	Conducted		Assignments Seminars		Conducted	
August	12	Unit III : Mendelian inheritance 1. Mendel’s law of inheritance 2. Chromosomal mapping 3. Linkage 4. Crossing over	Diagrams Charts Pictures	Teaching	12	Conducted		Quiz		Conducted	
September	12	Unit IV : Plant Breeding 1. Introduction & objectives 2. Methods of crop improvement	Charts Diagrams Pictures	Teaching	12	Conducted		Slip tests		Conducted	
October	12	Unit V : Breeding, crop improvement & Biotechnology 1. Role of mutations 2. Role of somaclonal variations 3. Molecular breeding	Charts Diagrams Pictures	Teaching	12	Conducted		Slip tests		Conducted	

ANNUAL CURRICULAR PLAN

YEAR: 2017-2018

PAPER: VI SEM: V

NAME OF THE LECTURER: T. RAJESH BABU

Bh. RAMA RAJU

Month & Week	Hours available	Syllabus Topic	Additional Inputs / Value Additions	Curricular Activity				Co-Curricular Activity			
				Activity	Hours Allotted	Whether Conducted	If not Alternate Date	Activity	Hours Allotted	Whether Conducted	If not Alternate Date
June	12	Unit I : Elements of Ecology 1. Ecology – def., branches, significance 2. Climate factors 3. Edaphic factors 4. Biotic factors	Pictures Charts	Teaching	12	Conducted		Seminars		Conducted	
July	12	Unit II : Ecosystem ecology 1. Ecosystem 2. Productivity of ecosystem 3. Biogeochemical cycles	Diagrams Pictures Charts	Teaching	12	Conducted		Assignments Seminars		Conducted	
August	12	Unit III : Population & community ecology 1. Population 2. Plant communities 3. Interaction between plant growing in a community	Diagrams Charts Pictures	Teaching	12	Conducted		Quiz		Conducted	

September	12	Unit IV : Phytogeography 1. Principles of phytogeography distribution 2. Phytogeographic regions – India 3. Phytogeographic regions – world 4. Endemism	Charts Diagrams Pictures	Teaching	12	Conducted		Slip tests		Conducted	
October	12	Unit V : Plant biodiversity & its importance 1. Biodiversity - Def., levels 2. Biodiversity hotspots 3. Loss of biodiversity 4. Seed banks	Charts Diagrams Pictures	Teaching	12	Conducted		Slip tests		Conducted	

ANNUAL CURRICULAR PLAN

YEAR: 2017-2018

PAPER: II

SEM: II

NAME OF THE LECTURER: T. RAJESH BABU

Bh. RAMA RAJU

Month & Week	Hours available	Syllabus Topic	Additional Inputs / Value Additions	Curricular Activity				Co-Curricular Activity			
				Activity	Hours Allotted	Whether Conducted	If not Alternate Date	Activity	Hours Allotted	Whether Conducted	If not Alternate Date
November	12	Unit I : Bryophytes 1. General characters, classification 2. Reproduction ,life history 3. Stellar evolution	Pictures Charts	Teaching	12	Conducted		Seminars		Conducted	

December	12	Unit II : Pteridophytes 1. General characters, classification 2. Reproduction , lfe history 3. Heterospory, seed habit	Diagrams Pictures	Teaching	12	Conducted		Assignments		Conducted	
January	12	Unit III : Gymnosperms 1. General characters, classification 2. Reproduction, life history 3. Economic importance	Diagrams Charts Pictures	Teaching	12	Conducted		Quiz		Conducted	
February	12	Unit IV : Tissues & Tissue systems 1. Meristems 2. Tissues 3. Tissue systems	Diagrams Pictures Charts	Teaching	12	Conducted		Slip tests		Conducted	
March	12	Unit V : Secondary growth 1. Anomalous secondary growth 2. Timbers – economic importance	Diagrams Pictures Charts	Teaching	12	Conducted		Slip tests		Conducted	

ANNUAL CURRICULAR PLAN

YEAR: **2017-2018**

PAPER: **CERTIFICATE COURSE**

SEM: **II**

NAME OF THE LECTURER: **T. RAJESH BABU**

Bh. RAMA RAJU

Month & Week	Hours available	Syllabus Topic	Additional Inputs / Value Additions	Curricular Activity	Co-Curricular Activity
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				Activity	Hours Allotted	Whether Conducted	If not Alternate Date	Activity	Hours Allotted	Whether Conducted	If not Alternate Date
December	4	Unit I : Health promoters <ul style="list-style-type: none"> ➤ Brain tonics ➤ Obesity ➤ Anti – emetics ➤ Galactagogues ➤ Bites/ stings <ul style="list-style-type: none"> • Dog bites • Scorpion stings • Snake bites 	Pictures Charts	Teaching	4	Conducted		Seminars		Conducted	
January	4	Unit II : Skin problems <ul style="list-style-type: none"> ➤ Heal cracks ➤ Scabies ➤ Withlow ➤ Ringworm ➤ Swellings ➤ Pimples ➤ Filariasis ➤ Herpes 	Diagrams Pictures	Teaching	4	Conducted		Assignments		Conducted	
February	4	Digestive problems and fevers <ul style="list-style-type: none"> ➤ Indigestion ➤ Helminthiasis ➤ Diarrhea ➤ Laxatives ➤ Fever ➤ Typhoid ➤ Malaria 	Diagrams Charts Pictures	Teaching	4	Conducted		Quiz		Conducted	
March	4	Unit III : Specific ailments <ul style="list-style-type: none"> ➤ Burns ➤ Arthritis 	Diagrams Pictures Charts	Teaching	4	Conducted		Slip tests		Conducted	

		<ul style="list-style-type: none"> ➤ Cancer ➤ Mumps ➤ Goiter ➤ Heart ailment ➤ Chicken pox ➤ Dandruff/ lice 									
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ANNUAL CURRICULAR PLAN

YEAR: 2017-2018

PAPER: IV

SEM: IV

NAME OF THE LECTURER: T. RAJESH BABU

Bh. RAMA RAJU

Month & Week	Hours available	Syllabus Topic	Additional Inputs / Value Additions	Curricular Activity				Co-Curricular Activity			
				Activity	Hours Allotted	Whether Conducted	If not Alternate Date	Activity	Hours Allotted	Whether Conducted	If not Alternate Date
November	12	Unit I : Plant – Water relations <ol style="list-style-type: none"> 1. Physical prop., importance 2. Diffusion, imbibitions & osmosis , water potential 3. Absorption & transport of water & ascent of sap 4. Transpiration 	Pictures Charts	Teaching	12	Conducted		Seminars		Conducted	

December	12	Unit II : Mineral nutrition & enzymes 1. Mineral Nutrition 2. Mineral ion uptake 3. Nitrogen metabolism 4. Enzymes	Diagrams Pictures Charts	Teaching	10	Conducted		Assignments		Conducted	
January	12	Unit III : Photosynthesis 1. Photosynthesis 2. Photorespiration & its significance 3. Translocation of organic solutes	Diagrams Pictures Charts	Teaching	11	Conducted		Quiz		Conducted	
February	12	Unit IV : Plant Metabolism 1. Respiration 2. Lipid metabolism	Diagrams Pictures Charts	Teaching	11	Conducted		Quiz		Conducted	
March	12	Unit V : Growth & development 1. Growth & development 2. Physiological effects of phytohormones 3. Physiology of flowering 4. Physiology of senescence & aging	Diagrams Pictures Charts	Teaching	12	Conducted		Slip tests		Conducted	

ANNUAL CURRICULAR PLAN

YEAR: 2017-2018

PAPER: VII

SEM: VI

NAME OF THE LECTURER: T. RAJESH BABU

Bh. RAMA RAJU

Month & Week	Hours available	Syllabus Topic	Additional Inputs / Value Additions	Curricular Activity				Co-Curricular Activity			
				Activity	Hours Allotted	Whether Conducted	If not Alternate Date	Activity	Hours Allotted	Whether Conducted	If not Alternate Date
November	12	Unit I : Plant tissue culture - I 1. History of plant tissue culture research 2. Methodology 3. Callus subculture, maintenance, growth measurements, morphogenesis in callus culture	Pictures Charts	Teaching	12	Conducted		Seminars		Conducted	
December	12	Unit II : Plant tissue culture - II 1. Endosperm culture 2. Production of secondary metabolites 3. Cryopreservation, germplasm conservation	Diagrams Pictures Charts	Teaching	12	Conducted		Assignments		Conducted	
January	12	Unit III : Recombinant DNA Technology 1. Restriction endonucleases 2. Cloning vectors 3. Gene cloning 4. Construction of genomic & cDNA libraries, colony hybridization	Diagrams Pictures Charts	Teaching	12	Conducted		Quiz		Conducted	

February	12	Unit IV : Methods of gene transfer 1. Methods of gene transfer 2. Selection of transgenics	Diagrams Pictures Charts	Teaching	10	Conducted		Slip tests		Conducted	
March	12	Unit V : Applications of Biotechnology 1. Applications of plant genetic engineering 2. Genetic modification	Diagrams Pictures Charts	Teaching	12	Conducted		Quiz		Conducted	