

# DEPARTMENT OF BOTANY

## BOTANY

### ANNUAL CURRICULAR PLAN – 2019-2020

YEAR: 2019-2020

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	<b>Unit I : Microbial world</b> 1. Microorganisms 2. Classification 3. Special microbes	Pictures Diagrams Charts	Teaching	12	Conducted		Assignments		Conducted	
July	12	<b>Unit II : Viruses</b> 1. Viruses 2. Viral diseases – symptoms 3. Viral diseases	Charts Diagrams Pictures	Teaching	12	Conducted		Seminars		Conducted	
August	12	<b>Unit III : Bacteria</b> 1. General characters 2. Reproduction 3. Economic importance	Diagrams Pictures Charts	Teaching	12	Conducted		Quiz		Conducted	

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

## ANNUAL CURRICULAR PLAN

YEAR: 2019-2020

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	<b>Unit I : Plant taxonomy - introduction</b> 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	<b>Unit II : Systematic taxonomy - I</b> 1. Engler and prantle cls. 2. Phylogeny 3. Study of families	Pictures Charts Diagrams	Teaching	12	Conducted		Seminars Assignments		Conducted	
August	12	<b>Unit III : Systematic taxonomy - II</b> 1. Systematic study and economic imp. of families	Pictures Diagrams Charts	Teaching	12	Conducted		Quiz		Conducted	
September	12	<b>Unit IV : Embryology – I</b> 1. Anther structure, microsporogenesis, development of male gametophyte 2. Ovule – structure, types	Pictures Diagrams Charts	Teaching	12	Conducted		Quiz		Conducted	
October	12	<b>Unit V : Embryology – II</b> 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: 2019-2020

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	<b>Unit I : Cell biology</b> 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	<b>Unit II : Genetic material</b> 1. DNA structure 2. Types of RNA	Diagrams Pictures Charts	Teaching	12	Conducted		Assignments Seminars		Conducted	
August	12	<b>Unit III : Mendelian inheritance</b> 1. Mendel’s law of inheritance 2. Chromosomal mapping 3. Linkage 4. Crossing over	Diagrams Charts Pictures	Teaching	12	Conducted		Quiz		Conducted	
September	12	<b>Unit IV : Plant Breeding</b> 1. Introduction & objectives 2. Methods of crop improvement	Charts Diagrams Pictures	Teaching	12	Conducted		Slip tests		Conducted	
October	12	<b>Unit V : Breeding, crop improvement &amp; Biotechnology</b> 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: 2019-2020

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	<b>Unit I : Elements of Ecology</b> 1. Ecology – def., branches, significance 2. Climate factors 3. Edaphic factors 4. Biotic factors	Pictures Charts	Teaching	12	Conducted		Seminars		Conducted	
July	12	<b>Unit II : Ecosystem ecology</b> 1. Ecosystem 2. Productivity of ecosystem 3. Biogeochemical cycles	Diagrams Pictures Charts	Teaching	12	Conducted		Assignments Seminars		Conducted	
August	12	<b>Unit III : Population &amp; community ecology</b> 1. Population 2. Plant communities 3. Interaction between plant growing in a community	Diagrams Charts Pictures	Teaching	12	Conducted		Quiz		Conducted	

September	12	<b>Unit IV : Phytogeography</b> 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	<b>Unit V : Plant biodiversity &amp; its importance</b> 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: 2019-2020

PAPER: II

SEM: II

NAME OF THE LECTURER: E. ASHA SUDHA

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	<b>Unit I : Bryophytes</b> 1. General characters, classification 2. Reproduction ,life history 3. Stellar evolution	Pictures Charts	Teaching	12	Conducted		Seminars		Conducted	



					Allotted	Conducted	Alternate Date		Allotted	Conducted	Alternate Date
December	4	<b>Unit I : Health promoters</b> <ul style="list-style-type: none"> <li>➤ Brain tonics</li> <li>➤ Obesity</li> <li>➤ Anti – emetics</li> <li>➤ Galactagogues</li> <li>➤ Bites/ stings <ul style="list-style-type: none"> <li>• Dog bites</li> <li>• Scorpion stings</li> <li>• Snake bites</li> </ul> </li> </ul>	Pictures Charts	Teaching	4	Conducted		Seminars		Conducted	
January	4	<b>Unit II : Skin problems</b> <ul style="list-style-type: none"> <li>➤ Heal cracks</li> <li>➤ Scabies</li> <li>➤ Withlow</li> <li>➤ Ringworm</li> <li>➤ Swellings</li> <li>➤ Pimples</li> <li>➤ Filariasis</li> <li>➤ Herpes</li> </ul>	Diagrams Pictures	Teaching	4	Conducted		Assignments		Conducted	
February	4	<b>Digestive problems and fevers</b> <ul style="list-style-type: none"> <li>➤ Indigestion</li> <li>➤ Helminthiasis</li> <li>➤ Diarrhea</li> <li>➤ Laxatives</li> <li>➤ Fever</li> <li>➤ Typhoid</li> <li>➤ Malaria</li> </ul>	Diagrams Charts Pictures	Teaching	4	Conducted		Quiz		Conducted	
March	4	<b>Unit III : Specific ailments</b> <ul style="list-style-type: none"> <li>➤ Burns</li> <li>➤ Arthritis</li> <li>➤ Cancer</li> </ul>	Diagrams Pictures Charts	Teaching	4	Conducted		Slip tests		Conducted	



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

YEAR: 2019-2020

PAPER: IV

SEM: IV

NAME OF THE LECTURER: E. ASHA SUDHA

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	<b>Unit I : Plant – Water relations</b> <ol style="list-style-type: none"> <li>1. Physical prop., importance</li> <li>2. Diffusion, imbibitions &amp; osmosis , water potential</li> <li>3. Absorption &amp; transport of water &amp; ascent of sap</li> <li>4. Transpiration</li> </ol>	Pictures Charts	Teaching	12	Conducted		Seminars		Conducted	
December	12	<b>Unit II : Mineral nutrition &amp; enzymes</b> <ol style="list-style-type: none"> <li>1. Mineral Nutrition</li> <li>2. Mineral ion uptake</li> <li>3. Nitrogen metabolism</li> <li>4. Enzymes</li> </ol>	Diagrams Pictures Charts	Teaching	10	Conducted		Assignments		Conducted	



					Allotted	Conducted	Alternate Date		Allotted	Conducted	Alternate Date
November	12	<b>Unit I : Plant tissue culture - I</b> 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	<b>Unit II : Plant tissue culture - II</b> 1. Endosperm culture 2. Production of secondary metabolites 3. Cryopreservation, germplasm conservation	Diagrams Pictures Charts	Teaching	12	Conducted		Assignments		Conducted	
January	12	<b>Unit III : Recombinant DNA Technology</b> 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	<b>Unit IV : Methods of gene transfer</b> 1. Methods of gene transfer 2. Selection of transgenics	Diagrams Pictures Charts	Teaching	10	Conducted		Slip tests		Conducted	
March	12	<b>Unit V : Applications of Biotechnology</b> 1. Applications of plant genetic engineering 2. Genetic modification	Diagrams Pictures Charts	Teaching	12	Conducted		Quiz		Conducted	

