

DEPARTMENT OF BOTANY

BOTANY

ANNUAL CURRICULAR PLAN – 2020-2021

YEAR: **2021-2022**

PAPER: **I**

SEM: **I**

NAME OF THE LECTURER: **K. SUDHAKAR**

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
December	12	Unit I : Origin of life 1. Origin of life 2. Microbes 3. Viruses 4. Viral plant diseases 5. Vaccination	Pictures Diagrams Charts	Teaching	12	Conducted		Assignments		Conducted	
January	12	Unit II : Bacteria & Eubacteria 1. Special microbes 2. Cell structure 3. Reproduction 4. Economic imp. 5. Plant bacterial disease Unit III : Fungi & Lichens 1. General characters 2. Reproduction	Diagrams Pictures	Teaching	12	Conducted		Seminars		Conducted	

February	12	3. Life history 4. Economic imp. 5. Diseases Unit IV : Algae 1. General characters 2. Thallus organization 3. Reproduction, life cycle	Diagrams Pictures	Teaching	12	Conducted		Quiz		Conducted	
March	12	4. Economic imp. Unit V : Mineral nutrients of plants 1. General characters 2. Reproduction, Life cycle 3. Sporophytic evolution	Diagrams Pictures	Teaching	12	Conducted		Seminars		Conducted	

ANNUAL CURRICULAR PLAN

YEAR: **2021-2022**

PAPER: **III**

SEM: **III**

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
December	12	Unit I : Anatomy of angiosperms 1. Organization of apical meristems 2. Tissue systems 3. Anamolous secondary growth	Pictures Diagrams	Teaching	12	Conducted		Assignment		Conducted	

		4. Study of timbers									
January	12	Unit II : Embryology of angiosperms 1. Anther – microsporogenesis 2. Ovule – megasporogenesis 3. Pollination 4. Endosperm 5. Dicot embryo	Pictures Diagrams	Teaching	12	Conducted		Seminars Assignments		Conducted	
February	12	Unit III : Basics of Ecology 1. Ecology 2. Ecosystem 3. Plants and environment 4. Ecological succession Unit IV : Population community & production ecology 1. Population ecology 2. Secondary production	Pictures Diagrams	Teaching	12	Conducted		Quiz		Conducted	
March	12	3. Community ecology 4. Concepts of productivity Unit V : Basics Of Biodiversity 1. Biodiversity 2. Value of biodiversity 3. Biodiversity hotspots in India 4. Principle of conservation 5. Conservation	Pictures Diagrams	Teaching	12	Conducted		Seminars		Conducted	

ANNUAL CURRICULAR PLAN

YEAR: 2021-2022

PAPER: III (LSC-ENV ED) SEM: III

NAME OF THE LECTURER: E. ASHA SUDHA

A. REKHA SRIVALLI

K. SUDHAKAR

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
December	4	Unit I : Environment & natural resources 1. ENV ED.- scope & Imp. 2. Man – integral product 3. Land, forest, water	Pictures Diagrams	Teaching	4	Conducted		Notes prep.		Conducted	
January	8	4. Biodiversity 5. Levels of biodiversity Unit II : ENV - degradation 1. Population 2. Over-expoitation 3. Deforestation 4. Energy resources 5. Air, water, wind 6. Green house effect	Pictures Diagrams	Teaching	8	Conducted		Seminars Assignments		Conducted	
February	6	7. Biodiversity threats Unit III : Conservation 1. Sustainability 2. Pollution 3. Alternate energy resources 4. In-situ & ex-situ	Pictures Diagrams	Teaching	6	Conducted		Quiz		Conducted	

		5. Protection laws 6. Protocols & movements									
March											

ANNUAL CURRICULAR PLAN

YEAR: **2021-2022**

PAPER: **V** SEM: **V**

NAME OF THE LECTURER: **A. REKHA SRIVALLI
K. SUDHAKAR**

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
September	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	
October	12	Unit II : Genetic material 1. DNA structure 2. Types of RNA Unit III : Mendelian inheritance 1. Mendel’s law of inheritance 2. Chromosomal mapping	Diagrams Pictures Charts	Teaching	10	Conducted		Assignments Seminars		Conducted	
November	12		Diagrams Charts	Teaching	11	Conducted		Quiz		Conducted	

		3. Linkage 4. Crossing over Unit IV : Plant Breeding 1. Introduction & objectives 2. Methods of crop improvement	Pictures								
December	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: **2021-2022**

PAPER: **VI**

SEM: **V**

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
September	12	Unit I : Elements of Ecology 1. Ecology – def., branches, significance 2. Climate factors 3. Edaphic factors 4. Biotic factors	Pictures Charts	Teaching	10	Conducted		Seminars		Conducted	

October	12	Unit II : Ecosystem ecology 1. Ecosystem 2. Productivity of ecosystem 3. Biogeochemical cycles Unit III : Population & community ecology 1. Population	Diagrams Pictures Charts	Teaching	10	Conducted		Assignments Seminars		Conducted	
November	12	2. Plant communities 3. Interaction between plant growing in a community Unit IV : Phytogeography 1. Principles of phytogeography distribution 2. Phytogeographic regions – India 3. Phytogeographic regions – world	Diagrams Charts Pictures	Teaching	11	Conducted		Quiz		Conducted	
December	12	4. Endemism 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: 2021-2022

PAPER: II

SEM: II

NAME OF THE LECTURER: E. ASHA SUDHA

Month & Week	Hours available	Syllabus Topic	Additional Inputs /	Curricular Activity	Co-Curricular Activity
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			Value Additions								
				Activity	Hours Allotted	Whether Conducted	If not Alternate Date	Activity	Hours Allotted	Whether Conducted	If not Alternate Date
September	12	Unit I : Pteridophytes 1. General characters, classification 2. Reproduction ,life history 3. Stellar evolution 4. Heterospory & seed habit	Pictures Charts	Teaching	12	Conducted		Seminars		Conducted	
September		Unit II : Gymnosperms ➤ General characters, classification ➤ Reproduction ,life history ➤ Outlines of geological time scale ➤ Cycadeoidea	Diagrams Pictures	Teaching		Conducted		Assignments		Conducted	
October	12	Unit III : Basic concepts of Taxonomy 1. Aim & scope of Taxonomy 2. Plant nomenclature 3. Herbarium & its techniques 4. Bentham and hookers cls. 5. Systematic decription & economic imp. of families	Diagrams Charts Pictures	Teaching	12	Conducted		Quiz		Conducted	
November	12	Unit IV : Systematic taxonomy 1. Systematic decription & economic imp. of families Unit V : Phytogeography 1. Principles & distribution 2. Endemism	Diagrams Pictures Charts	Teaching	12	Conducted		Slip tests		Conducted	

		3. Phytogeographic regions – world									
		4. Phytogeographic regions – India									
		5. Vegetation types in A.P									

ANNUAL CURRICULAR PLAN

YEAR: 2021-2022

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
May	10	Unit I : Plant – water relations 1. Water – physical properties 2. Transport of water 3. transpiration 4. mechanism of phloem transport	Pictures Charts	Teaching	10	Conducted		Seminars		Conducted	
June	14	Unit II : Mineral nutrition, enzymes & respiration 1. Macro & micro nutrients 2. Absorption of mineral ions 3. Enzymes 4. Respiration Unit III : Photosynthesis & photorespiration	Diagrams Pictures	Teaching	14	Conducted		Assignments		Conducted	

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

