

SIR C R REDDY COLLEGE FOR WOMEN, ELURU

Annual Curricular Plan for the Academic Year 2022-20 23

Name of the Lecturer:	T.VIJAYA DURGA				
Name of the Department:	BOTANY				
Program	BSC			Group:	IBZBT & CBZ
Title of the Course:	Basics of Vascular plants and Phytogeography			Hrs allotted:	60+30
Year	I YEAR	Semester	II SEMESTER		Course Code: Course:1
Section	ICBZ & BZBT			Hours/Week	5+2

Unit No. & Name	Hour	Day	Date	Topic to be Covered	Methodology Adopted	Remarks
UNIT I: Pteridophytes	1	Thursday	1.6.2023	general instruction About course	P1	
	2	friday	2.6.2023	general insructions to lab	P2	
	3	saturday	3.6.2023	General characteristics of Pteridophyta	P5	
	4	monday	5.6.2023	classification of Smith(1955) upto divisions	P1	
	5	tues day	6.6.2023	Occurrence, morphology, anatomy, reproduction and life history of (a) Lycopodium (Lycopside)	P1	
	6	wednesday	7.6.2023	Marsilea (Filicopsida).	P1	
	7	Thursday	8.6.2023	Stelar evolution in Pteridophytes;	P1	
	8	friday	9.6.2023	observation of slides/specimens- Pteridophyta : Lycopodium and Marselia	P5	
	9	saturday	10.6.2023	Heterospory and seed habit.	P1	
	10	monday	12.6.2023	General characteristics of Gymnosperms	P4	

UNIT II Gymnosperms	11	tuesday	13.6.23023	Sporne classification up to classes	P1	
	12	wednesday	14.6.2023	life history of cycas	P1	
	13	thursday	15.6.2023	life history of Gnetum	P6	
	14	friday	16.6.2023	T.S of gnetum	P1	
	15	saturday	17.6.2023	Outlinesofgeologicaltimescale.	P1	
	16	monday	19.6.2023	A brief account on Cycadeoidea.	P1	
	17	tuesday	20.6.2023	Aim and scope of taxonomy	P1	
	18	wednesday	21.6.2023	Speciesconcept:Taxonomic hierarchy,species,genusandfamily.	P1	
	19	thursday	22.6.2023	Plant nomenclature :Binomialsystem,ICBN-rulesfornomenclature.	P7	
	20	friday	23.6.2023	T.S of cycas	P1	
UNIT III Basic aspects of Taxonomy	21	saturday	24.6.2023	Herbarium and its techniques,	P1	
	22	monday	26.6.2023	BSI herbarium and Kew herbarium;	P1	
	23	tuesday	27.6.2023	concept ofdigital herbaria	P1	
	24	wednesday	28.6.2023	Bentham and Hooker system of classification	P1	
	25	friday	30.6.2023	General introduction to families	P1	
	26	saturday	1.7.2023	(a) Annonaceae	P3	
	27	monday	3.7.2023	cucurbitaceae	P1	

	28	tues day	4.7.2023	cucurbitaceae	P1	
	29	wednesday	5.7.2023	Asteraceae	P1	
	30	thursday	6.7.2023	Asteraceae	P1	
UNIT-IV: Systematic Taxonomy	31	friday	7.7.2023	simple microscopic observations of families	P1	
	32	saturday	8.7.2023	Amaranthaceae	P1	
	33	monday	10.7.2023	Amaranthaceae	P1	
	34	tues day	11.7.2023	Euphorbiaceae	P1	
	35	wednesday	12.7.2023	Euphorbiaceae	P9	
	36	thursday	13.7.2023	Asclepidiaceae	P1	
	37	friday	14.7.2023	simple microscopic observations of families	P1	
	38	saturday	15.7.2023	Asclepidiaceae	P1	
	39	monday	17.7.2023	Poaceae	P1	
	40	tuesday	18.7.2023	Poaceae	P1	
	41	wednesday	19.7.2023	Aracaceae	P1	
	42	Thursday	20.7.2023	Aracaceae	P1	
	43	friday	21.7.2023	simple microscopic observations of families	P1	
	44	saturday	22.7.2023	Introduction APG classification	P5	
	45	monday	24.7.2023	(Outlines of Angiosperm Phylogeny Group APG IV).	P1	

UNIT V:Phytogeography	46	tues day	25.7.2023	introduction to phytogeography	P1	
	47	wednesday	26.7.2023	,Distribution(wides,endemic,discontinuousspecies	P1	
	48	Thursday	27.7.2023	Endemism–types	P1	
	49	friday	28.7.2023	Phytogeographic regions of World -Lab	P2	
	50	monday	31.7.2023	causes to endemisam	P1	
	51	tues day	1.8.2023	Phytogeographic regions of World	P1	
	52	wednesday	2.8.2023	Phytogeographicregionsof India	P1	
	53	Thursday	3.8.2023	VegetationtypesinAndhraPradesh.	P1	
	54	friday	4.8.2023	Phytogeographic regions of India-Lab	P2	
	55	saturday	5.8.2023	brief notes on syllabus	P1	
	56	monday	7.8.2023	show images related to syllabus	P3	
	57	tues day	8.8.2023	show images related to taxonomic familys	P1	
	58	wednesday	9.8.2023	revision	P1	
	59	Thursday	10.8.2023	revision	P1	
	60	friday	11.7.2023	revision	P1	

Signature of the Lecturer

T. Vijayakumar

Signature of the HOD

S. Anuradha

Signature of the Principal

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Annual Curricular Plan for the Academic Year 2022-20 23

Name of the Lecturer :	B.M.SIREESHA				
Name of the Department:	BOTANY				
Program	BSC			Group:	II BZBT & CBZ
Title of the Course:	PLANT PHYSIOLOGY & METABOLISM			Hrs allotted:	60
Year	II YEAR	Semester	IV SEMESTER		Course Code:
Section	II CBZ & BZBT			Hours/Week	4+2

Unit No. & Name	Hour	Day	Date	Topic to be Covered	Methodology Adopted	Remarks
UNIT-I Plant-Water relations	1	Monday	27-03-2023	INTRODUCTION	P1	
	2	Tuesday	28-03-2023	Importance of water to plant life, physical properties of water	P1	
	3	Wednesday	29-03-2023	diffusion, imbibition, osmosis. water potential,	P1	
	4	Friday	31-03-2023	osmotic potential, pressure potential.	P1	
	5	Monday	03-04-2023	Absorption and lateral transport of water	P5	
	6	Tuesday	04-04-2023	Ascent of sap	P1	
	7	Thursday	06-04-2023	Transpiration: stomata structure and mechanism of stomatal movements	P1	
	8	Monday	10-04-2023	Mechanism of phloem transport;	P1	
	9	Tuesday	11-04-2023	source-sink relationships.	P1	
	10	Wednesday	12-04-2023	osmotic potential of plant cell sap by plasmolytic method	P2	

UNIT-II Mineral nutrition, Enzymes and Respiration	11	Thursday	13-4-2023	Essential macro and micro mineral nutrients and their role in plants	P1	
	12	Monday	17-4-2023	Essential macro and micro mineral nutrients and their role in plants	P3	
	13	Tuesday	18-4-2023	symptoms of mineral deficiency	P1	
	14	Wednesday	19-4-2023	Absorption of mineral ions; passive and active processes.	P1	
	15	Thursday	20-4-2023	Characteristics, nomenclature and classification of Enzymes	P5	
	16	Friday	21-4-2023	Mechanism of enzyme action, enzyme kinetics.	P1	
	17	Monday	24-4-2023	Respiration: Aerobic and Anaerobic;	P1	
	18	Tuesday	25-4-2023	Glycolysis, Krebs cycle;	P1	
	19	Wednesday	26-4-2023	electron transport system, mechanism of oxidative phosphorylation	P1	
	20	Thursday	27-4-2023	Pentose Phosphate Pathway (HMP shunt).	P4	
UNIT-III Photosynthesis and Photorespiration	21	Friday	28-4-2023	Photosynthesis: Photosynthetic pigments, absorption and action spectra	P1	
	22	Saturday	29-4-2023	Red drop and Emerson enhancement effect.	P1	
	23	Monday	01-05-2023	Concept of two photo systems; mechanism of photosynthetic electrontransport	P4	
	24	Tuesday	02-05-2023	evolution of oxygen; photophosphorylation	P1	
	25	Wednesday	03-05-2023	Carbon assimilation pathways (C3,C4 ;	P1	
	26	Thursday	04-05-2023	CAM pathway	P5	
	27	Friday	05-05-2023	Photorespiration - C2 pathway	P1	
	28	Thursday	01-06-2023	rate of transpiration using Cobalt chloride method / Ganong's potometer	P2	
	29	Friday	02-06-2023	Calculation of stomatal index and stomatal frequency of a mesophyte .	P2	

**UNIT-IV
Nitrogen and lipid
metabolism**

30	Monday	05-06-2023	Nitrogen metabolism-introduction	P1	
31	Tuesday	06-06-2023	Calculation of stomatal index and stomatal frequency of a xerophyte.	P1	
32	Wednesday	07-06-2023	Nitrogen metabolism: Biological nitrogen fixation –	P1	
33	Thursday	08-06-2023	asymbiotic and symbiotic nitrogen fixing organisms	P1	
34	Friday	09-06-2023	Nitrogenase enzyme system	P6	
35	Monday	12-06-2023	Lipid metabolism :Classification of Plant lipids,	P5	
36	Tuesday	13-6-2023	saturated and unsaturated fatty acids.	P1	
37	Wednesday	14-6-2023	Anabolism of triglycerides,	P1	
38	Thursday	15-6-2023	β -oxidation of fatty acids,	P5	
39	Friday	16-6-2023	Glyoxylate cycle.-introduction	P1	
40	Monday	19-6-2023	Glyoxylate cycle	P5	
41	Tuesday	20-6-2023	Effect of Temperature on membrane permeability by colorimetric method.	P2	
42	Wednesday	21-6-2023	electron transport system,	P1	
43	Thursday	22-6-2023	Separation of chloroplast pigments using paper chromatography technique	P2	
44	Friday	23-6-2023	mechanism of oxidative phosphorylation	P1	

UNIT-V Plant growth - development and stress physiology	45	Monday	26-6-2023	Study of mineral deficiency symptoms using plant material	P3	
	46	Tuesday	27-6-2023	Growth and Development:	P1	
	47	Wednesday	28-6-2023	kinetics of growth.	P1	
	48	Friday	30-6-2023	Physiological effects of Plant Growth Regulators (PGRs) - introduction	P1	
	49	Monday	03-07-2023	auxins, gibberellins	P7	
	50	Tuesday	04-07-2023	cytokinins,	P1	
	51	Wednesday	05-07-2023	ABA,	P10	
	52	Thursday	06-07-2023	ethylene and brassinosteroids	P1	
	53	Friday	07-07-2023	Physiology of flowering :Photoperiodism,	P1	
	54	Monday	10-07-2023	Demonstration of Polyphenol oxidase enzyme activity	P5	
	55	Tuesday	11-07-2023	role of phytochrome in flowering.	P4	
	56	Wednesday	12-07-2023	Seed germination	P1	
	57	Thursday	13-07-2023	senescence	P3	
	58	Friday	14-07-2023	Anatomy of C3, C4 and CAM leave	P2	
	59	Saturday	15-07-2023	Physiological changes during water stress.	P1	
	60	Monday	17-07-2023	Estimation of protein by biuret method/Lowry method	P2	

Signature of the Lecturer

B. M. Sirest

Signature of the HOD

S. Muneer

Signature of the Principal

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Annual Curricular Plan for the Academic Year 2022-20 23

Name of the Lecturer:	J.BHARATHI				
Name of the Department:	BOTANY				
Program	BSC			Group:	II BZBT & CBZ
Title of the Course:	CELL BIOLOGY ,GENETICS & PLANT BREEDING			Hrs allotted:	60
Year	II YEAR	Semester	IV SEMESTER		Course Code: Course:1
Section	II CBZ & BZBT			Hours/Week	4+2

Unit No. & Name	Hour	Day	Date	Topic to be Covered	Methodology adopted	Remarks
UNIT-I The Cell	1	Monday	27-03-2023	INTRODUCTION	P1	
	2	Tuesday	28-03-2023	Cell theory; prokaryotic vs eukaryotic cell; animal vs plant cell	P3	
	3	Wednesday	29-03-2023	ultra structure of a plant cell	P1	
	4	Friday	31-03-2023	Ultra-structure of cell wall	P1	
	5	Monday	03-04-2023	Ultra-structure of cell wall,functions	P5	
	6	Tuesday	04-04-2023	Ultra-structure of plasma membrane	P1	
	7	Thursday	06-04-2023	various theories on its organization-plasma membrane	P1	
	8	Monday	10-04-2023	Polymorphic cell organelles (Plastids)	P1	
	9	Tuesday	11-04-2023	ultrastructure of chloroplast	P6	
	10	Wednesday	12-04-2023	Plastid DNA	P1	

UNIT-II Chromosomes	11	Thursday	13-4-2023	Prokaryotic vs eukaryotic chromosome	P1	
	12	Monday	17-4-2023	Morphology of a eukaryotic chromosome.	P4	
	13	Tuesday	18-4-2023	Euchromatin and Heterochromatin;	P1	
	14	Wednesday	19-4-2023	cell biology lab -introduction	P2	
	15	Thursday	20-4-2023	Karyotype and ideogram	P5	
	16	Friday	21-4-2023	discussed about cell cycle	P1	
	17	Monday	24-4-2023	chromosomal aberrations - introduction,examples	P1	
	18	Tuesday	25-4-2023	chromosomal aberrations - structural changes and examples	P1	
	19	Wednesday	26-4-2023	chromosomal aberrations - numerical changes and examples	P1	
	20	Thursday	27-4-2023	Organization of DNA in a chromosome	P4	
UNIT-III Mendelian and Non- Mendelian genetics	21	Friday	28-4-2023	Mendel's laws of inheritance-introduction	P1	
	22	Saturday	29-4-2023	Incomplete dominance and co-dominance;	P1	
	23	Monday	01-05-2023	Multiple allelism.	P1	
	24	Tuesday	02-05-2023	Complementary, supplementary and duplicate gene interactions	P3	
	25	Wednesday	03-05-2023	A brief account of linkage	P7	
	26	Thursday	04-05-2023	crossing over	P1	
	27	Friday	05-05-2023	Chromosomal mapping - 2 point,3 point test	P1	

	28	Thursday	01-06-2023	explined about mitosis & its phases	P1	
	29	Friday	02-06-2023	Concept of maternal inheritance,Mitochondrial DNA	P1	
	30	Monday	05-06-2023	Mitosis Lab	P2	
UNIT-IV Structure and functions of DNA	31	Tuesday	06-06-2023	Introduction about Genetic Material	P1	
	32	Wednesday	07-06-2023	Watson and Crick model of DNA	P1	
	33	Thursday	08-06-2023	Brief account on DNA Replication Enzymes	P1	
	34	Friday	09-06-2023	Brief account on DNA Replication	P1	
	35	Monday	12-06-2023	types and functions of RNA.	P1	
	36	Tuesday	13-6-2023	Brief account on Transcription	P1	
	37	Wednesday	14-6-2023	Brief account on Transcription	P1	
	38	Thursday	15-6-2023	explined about Meiosis & its phases	P5	
	39	Friday	16-6-2023	Gene concept	P1	
	40	Monday	19-6-2023	Meiosis Lab	P5	
	41	Tuesday	20-6-2023	genetic code	P1	
	42	Wednesday	21-6-2023	Translation.	P1	
	43	Thursday	22-6-2023	Translation.	P5	
	44	Friday	23-6-2023	genetical problems -Lab	P2	
	45	Monday	26-6-2023	Regulation of gene expression in prokaryotes - Lac Operon.	P6	

UNIT-V Plant Breeding	46	Tuesday	27-6-2023	genetical problems -Lab	P2	
	47	Wednesday	28-6-2023	Plant Breeding and its scope	P10	
	48	Friday	30-6-2023	Genetic basis for plant breeding	P1	
	49	Monday	03-07-2023	Plant Introduction and acclimatization	P7	
	50	Tuesday	04-07-2023	Selection -procedure; applications and uses;(a) Mass selection,	P1	
	51	Wednesday	05-07-2023	(b) Pure line selection and (c) Clonal selection.	P1	
	52	Thursday	06-07-2023	RNA&DNA stuctures Lab	P2	
	53	Friday	07-07-2023	Hybridization – schemes, and technique;	P8	
	54	Monday	10-07-2023	introduction about plant breeding techniques -Lab	P2	
	55	Tuesday	11-07-2023	Heterosis(hybrid vigour).	P1	
	56	Wednesday	12-07-2023	microscopic Observations of Mitosis &meiosis- Lab	P2	
	57	Thursday	13-07-2023	brief account on Molecular breeding	P1	
	58	Friday	14-07-2023	DNA markers in plant breeding. RAPD,	P1	
	59	Saturday	15-07-2023	DNA markers in plant breeding., RFLP	P1	
60	Monday	17-07-2023	emasculation,bagging&artificial plant breeding-Lab	P2		

Signature of the Lecturer

T. Bhavani

Signature of the HOD

S. Murali

Signature of the Principal

Salim