

**DEPARTMENT OF BOTANY**

HONOURS/GENERAL CBCS	COURSES	PAPER/ NUMBER OF LECTURES	JULY-SEPTEMBER		OCTOBER -DECEMBER	JANUARY
<b>SEMESTER-I</b>	<b>CORE-C1</b>	BOTACOR01 T 60 (THEORY)  BOTACOR01 P 30 (PRACTICAL)	UNIT 1:INTRODUCTION TO MICROBIAL WORLD, UNIT 2:VIRUSES, UNIT 3:BACTERIA, UNIT 4: ALGAE: GENERAL ACCOUNT, NO. OF CLASSES= 32  MICROBIOLOGY: 1.VIRUS, 2. BACTERIA. PHYCOLOGY: 1. STUDY OF VEGETATIVE AND REPRODUCTIVE STRUCTURE. NO. OF CLASSES=16	TEST EXAMIATION	UNIT 5: CYANOPHYTA AND XANTHOPHYTA, UNIT 3: CHLOROPHYTA AND CHAROPHYTA, UNIT 7:PHAEOPHYTA AND RHODOPHYTA.  NO OF CLASSES=28  MICROBIOLOGY: 1. MEDIUM PREPARATION, STERILIZATION, 4. GRAM STAINING. PHYCOLOGY: 2.PRISM DRAWING AND MEASUREMENT. NO. OF CLASSES=14	UNIVERSITY FINAL EXAMINATION
	<b>CORE-C2</b>	BOTACOR02 T 60 (THEORY)  BOTACOR02 P 30 (PRACTICAL)	UNIT 1:BIOMOLUCULES: CARBOHYDRATES, LIPIDS, PROTEINS, NUCLIC ACIDS, UNIT 2:BIOENERGETICS, UNIT 4:THE CELL, UNIT 5: CELL WALL AND PLASMA MEMBRANE NO. OF CLASSES= 32  1. QUALITATIVE TESTS 2. STUDY OF PLANT CELLS, 3. MICROMETRY, 4. CELL COUNTING.NO. OF CLASSES= 16		UNIT 3:ENZYMES, UNIT 6:NUCLEUS, CYTOSKELETON, CHLOROPLAST, MITROCHONDRIAAND PEROXISOME. UNIT 7: CELL DIVISION NO. OF CLASSES= 28  5. STUDY OF CELL ORGANELLES, 6. DNA STAINING, 7MEMBRANE PERMEABILITY TEST, STUDY OF DIFFERENT STAGES OG MITOSIS AND MEIOSIS. NO. OF CLASSES= 14	

	<b>GE I/DSC 1A</b>	BOTHGEC01 T / BOTGCOR01T-60 (THEORY)  BOTHGECO1 P / BOTGCORO1P-30 (PRACTICAL)	UNIT 1:MICROBS, UNIT 2:ALGAE, UNIT 3: FUNGI NO. OF CLASSES=34  1. GRAM STAINING, 2.ALGAE, 3-5FUNGI, 6. LICHEN, 7MYCORRHIZA, 8. MARCHANTIA, NO. OF CLASSES=16		UNIT 4:ARCHEGONIATE, UNIT 5:BRYOPHYTES, UNIT 6:PTERIDOPHYTES, UNIT 7:GYMNOSPERMS. NO. OF CLASSES=26  9. FUNARIA. 10. SELAGINELLA, 11.EQUISETUM, 12. PTERIS, 13. CYCAS, 14. PINUS. NO. OF CLASSES=14	
			JANUARY-MARCH		APRIL-JUNE	JULY
<b>SEMESTER-II</b>	<b>CORE-C3</b>	BOTACOR03 T 60 (THEORY)  BOTACOR03 P 30 (PRACTICAL)	UNIT 1:INTRODUCTION FUNGI, UNIT 2:CHITRIDIOMYCOTA AND ZYGOMYCOTA, UNIT 3:ASCOMYCOTA, UNIT 4: BASIDIOMYCOTA NO. OF CLASSES=32  1. STUDY OF FUNGI, 2. MICROMETRY, 3. RHIZOPUS, 4. ASPERGILLUS AND PENICILLIUM, 5. ASCOBOLLUS, 8. AGARICUS 6. ALTERNARIA, NO. OF CLASSES=16	<b>TEST EXAMINATION</b>	UNIT 5: ALLIED FUNGI, UNIT 6: OOMYCOTA, UNIT 7: MYCOLOGY, UNIT 9. PHYTOPATHOLOGY. NO. OF CLASSES= 28  7. PUCCINIA, 9. ALBUGO, 10. LICHENS, 11. PHYTOPATHOLOGY: BACTERIAL DEASES, VIRAL DISEASES, FUNGAL DISEASES. NO. OF CLASSES=14	<b>UNIVERSITY FINAL EXAMINATION</b>
	<b>CORE-C4</b>	BOTACOR04 T 60 (THEORY)  BOTACOR04 P 30 (PRACTICAL)	UNIT 1: INTRODUCTION ARCHAEGONIATES. UNIT 2: BRYOPHYTES, UNIT 3:TYPES STUDIES-BRYOPHYTES NO. OF CLASSES=32  1. RICCIA, 2.		UNIT 4: PTERIDOPHYTES, UNIT 5: TYPE SYUDIES-PTERIDOPHYTES, UNIT 6: GYMNOSPERMS. NO. OF CLASSES=28  8. EQUISETUM, 9. PTERIS, 10. CYCAS, 11. PINUS,	

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			MARCHANTIA, 3. ANTHOCEROS, 4. SPHAGNUM, 5. FUNARIA, 6. PSILOTUM, 7. SELAGINELLA NO. OF CLASSES=14		12. GNETUM, 13. BOTANICAL EXCURSION NO. OF CLASSES=16
	<b>GE 2/DSC1B</b>	BOTHGEC02 T / BOTGCOR02T-60 (THEORY)  BOTHGECO2 P / BOTGCOR02P-30 (PRACTICAL)	UNIT 1: ECOLOGY-INTRODUCTION, UNIT 2: ECOLOGICAL FACTORS, UNIT 6: PLANT TAXONOMY-INTRODUCTION, UNIT 7: IDENTIFICATION, UNIT 8: TAXONOMIC EVIDANCES, UNIT 10: BOTANICAL NOMENCLATURE. NO. OF CLASSES=32  1. GRAM STAINING, 2.ALGAE, 3-5FUNGI, 6. LICHEN, 7MYCORRHIZA, 8. MARCHANTIA, NO. OF CLASSES=16		UNIT 3:PLANT COMMUNITIES, UNIT 4:ECOSYSTEM, UNIT 5:PHYTOGEOGRAPHY, UNIT 9:TAXONOMIC HIERARCHY, UNIT 11: CLASSIFICATIO, UNIT 12: NOMENCLATURE. NO. OF CLASSES=26  9. FUNARIA. 10. SELAGINELLA, 11.EQUISETUM, 12. PTERIS, 13. CYCAS, 14. PINUS. NO. OF CLASSES=14

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SEMESTER-III	CORE-C5	BOTACOR 05 T 60 (THEORY)	UNIT 1:INFLORESCENCE, UNIT 2:FLOWER, UNIT 3:FRUIT AND SEED, UNIT 4: INTRODUCTION TO ANATOMY, UNIT 5:STRUCTURE AND DEVELOPMENT OF PLANT BODY. NO. OF CLASSES= 32	UNIT 6: TISSUE, UNIT 7:APICAL MERISTEMS, UNIT 8: VASCULAR CAMBIUM AND WOOD, UNIT 9:ADAPTIVE AND PROTECTIVE SYSTEMS . NO. OF CLASSES=16 2. Preparation of permanent slides by double staining: a. Root (monocot – Orchid), dicot (Sunflower); b. Stem (monocot- maize), (dicot – Cucurbita).c. Leaf: (Tuberose, Mango), d. Adaptive anatomy: (Nerium leaf, Nymphaea petiole) NO. OF CLASSES= 16
		BOTACOR 05 P 30 (PRACTICAL)	1.(a-g) a. Apical meristem, b. Distribution and types of permanent tissue, c. Xylem d. Wood types, e. Phloem, f. Epidermal system, g. Periderm; lenticels; C4 leaves (Kranz anatomy); Secretory tissues: cavities, lenticels NO. OF CLASSES=16	
	CORE-C6	BOTACOR 06 T 60 (THEORY)	UNIT 1: ORIGIN OF CULTIVATED PLANTS, UNIT 2: CEREALS. UNIT 3: LEGUMES,UNIT 4: SOURCES OF SUGARS AND STARCHES, UNIT 5: SPICES, UNIT 6: DRINKS. NO. OF CLASSES= 32	UNIT 7:SOURCES OF OILS AND FATS, UNIT 8:NATURAL RUBBER, UNIT 9: DRUG YIELDING PLANTS, UNIT: 10 TIMBER PLANTS, UNIT 11: FIBERS NO. OF CLASSES= 28  7. ESSENTIAL OIL-YIELDING PLANTS: 8. RUBBER:9. DRUG-YIELDING PLANTS:10. TOBACCO: 11. WOODS: 12. FIBER-YIELDING PLANTS: NO. OF CLASSES= 14
BOTACOR 06 P 30 (PRACTICAL)		1. CEREALS: 2. LEGUMES: 3. SOURCES OF SUGARS AND STARCHES: 4. SPICES: 5. BEVERAGES:6. SOURCES OF OILS AND FATS: NO. OF CLASSES= 16		
CORE-C7	BOTACOR 07 T 60 (THEORY)	UNIT 1: MENDELIAN GENETICS AND ITS EXTENSION, UNIT 2: EXTRACHROMOSOMAL INHERITANCE UNIT 3: LINKAGE, CROSSING OVER AND CHROMOSOME MAPPING NO. OF CLASSES= 34	UNIT 4: VARIATION IN CHROMOSOME NUMBER AND STRUCTURE, UNIT 5: GENE MUTATIONS,UNIT 6: FINE STRUCTURE OF GENE, UNIT 7. POPULATION AND EVOLUTIONARY GENETICS. NO. OF CLASSES= 26  5. Study of aneuploidy: 6. Photographs and permanent slides showing translocation ring, Laggards and Inversion Bridge, Multipolarity,	
	BOTACOR 07 P 30 (PRACTICAL)	1a. Mitosis ( <i>Allium cepa</i> , <i>Lens esculentus</i> , <i>Aloe vera</i> ). b. Meiosis ( <i>Allium cepa</i> , <i>Rhoeo discolor</i> ). 2. Mendel's laws through seed		

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			ratios(3:1, 1:1, 9:3:3:1, 1:1:1:1). 3. Chromosome mapping using point test cross data. 4. Incomplete dominance and gene interaction(ratio-9:7, 9:6:1, 13:3, 15:1, 12:3:1, 9:3:4).NO. OF CLASSES= 18		Sticky Bridge, Fragmentation and Pollen mitosis. 7. Study of human genetic traits: Sickle cell anemia, xerodermapigmentosum, albinism, red-green colour blindness, widow's peak, rolling of tongue, Hitchhiker's thumb and attached ear lobe. NO. OF CLASSES= 12	
	<b>GE 3/DSC3</b>	BOTHGEC 03 T / BOTGCOR 03T-60 (THEORY)  BOTHGEC 03 P / BOTGCOR 03P -30 (PRACTICAL)	UNIT 1:MERISTEMIC AND PERMANENT TISSURE, UNIT 2:ORGANS, UNIT 3: SECONDARY GROWTH, UNIT 4: ADAPTIVE AND PROTECTIVE SYSTEM NO. OF CLASSES=34  1. STUDY OF MERISTEMS, 2 STUDY OF PERMANENT TISSUES., 3-5 ANATOMY OF STEM, ROOT, LEAF, 6. ADAPTIVE ANATOMY. NO. OF CLASSES=16		UNIT 5: STRUCTURAL ORGANIZATION OF FLOWER, UNIT 6: POLLINATION AND FERTILIZATION, UNIT 7:EMBRYO AND ENDOSPERM, UNIT: 8 APOMYXIS. NO. OF CLASSES=26  8. STUDY OF OVULES, 9. EGG APPARATUS. 10. PALYNOLOGY, 11.EMBRYOLOGY, 12. STUDY OF POLLEN GERMINATION. NO. OF CLASSES=14	
	<b>SEC1</b>	BOTSSEC0 1M/ BOTSSEC0 1	UNIT 1: PLANT DIVERSITY AND ITS SCOPE,UNIT 2:LOSS OF BIODIVERSITY. NO. OF CLASSES=16		UNIT 3:CONSERVATION OF BIODIVERSITY,UNIT 4: ROLE OF PLANTS IN RELATION TO HUMAN WELFARE. NO. OF CLASSES=14	
			JANUARY-MARCH		APRIL-JUNE	JULY
<b>SEMESTER-IV</b>	<b>CORE-C8</b>	BOTACOR 08 T 60 (THEORY)  BOTACOR 08 P 30 (PRACTICAL)	UNIT 1: NUCLEIC ACIDS: CARRIERS OF GENETIC INFORMATION, UNIT 2. THE STRUCTURES OF DNA AND RNA / GENETIC MATERIAL,UNIT 3: THE REPLICATION OF DNA UNIT 4: CENTRAL DOGMA AND GENETIC CODE.  NO. OF CLASSES=26 1. Preparation of LB medium, 2. DNA isolation from cauliflower head. 3. DNA estimation by diphenylamine reagent/UV Spectrophotometry. 4. Study of DNA		UNIT 5: TRANSCRIPTION, UNIT 6: PROCESSING AND MODIFICATION OF RNA, UNIT 7: TRANSLATION. NO. OF CLASSES= 34  5. Study of structures of prokaryotic RNA polymerase. 6. Photographs establishing nucleic acid as genetic material, 7. Study of assembly of Spliceosome machinery; splicing mechanism in group I & group II introns; ribozyme and alternative splicing. NO. OF CLASSES=14	UNIVERSITY FINAL EXAMINATION

			replication mechanisms through photograph. NO OF CLASSES=16		
	<b>CORE-C9</b>	BOTACOR 09T 60 (THEORY)  BOTACOR 09 P 30 (PRACTICAL)	UNIT 1: INTRODUCTION -ECOLOGY. UNIT 2: SOIL, UNIT 3: WATER, UNIT 4: LIGHT, TEMPERATURE, WIND AND FIRE,UNIT 5: BIOTIC INTERACTIONS,UNIT 6: POPULATION ECOLOGY.NO. OF CLASSES=28  1. Study of microclimatic variables: 2. Determination of pH of various soil and water samples. 3. Analysis for carbonates, chlorides, nitrates, organic matter and base by rapid field tests. 4. Determination of organic carbon of different soil samples. 5. Determination of dissolved oxygen and carbon dioxide of water. 10. Field visit to familiarize students with ecology of different sites. NO. OF CLASSES=20		UNIT 7: PLANT COMMUNITIES, UNIT 8: ECOSYSTEMS, UNIT 9: FUNCTIONAL ASPECTS OF ECOSYSTEM, UNIT 10: PHYTOGEOGRAPHY,  NO. OF CLASSES=32  6. (a). Study of anatomical adaptations of hydrophytes and xerophytes. (b). Study of biotic interactions: Stem parasite ( <i>Cuscuta</i> ), Epiphytes ( <i>Vanda</i> root), Predation (Insectivorous plants). 7. Determination of minimum size of quadrat. 8. Quantitative analysis with Raunkiaer's frequency distribution law. 9. Quantitative analysis for density and abundance. NO OF CLASSES= 10
	<b>CORE-C10</b>	BOTACOR 10 T 60 (THEORY)  BOTACOR 10 P 30 (PRACTICAL)	UNIT 1: SIGNIFICANCE OF PLANT SYSTEMATICS. UNIT 2: TAXONOMIC HIERARCHY: CONCEPT OF TAXA (FAMILY, GENUS, SPECIES); CATEGORIES AND TAXONOMIC HIERARCHY; SPECIES CONCEPT, UNIT 3: BOTANICAL NOMENCLATURE, UNIT 4: SYSTEMS OF CLASSIFICATION. - NO. OF CLASSES=38 1.Study of Anther: 2. Study of Pollen grains: 3. Study of Ovule:  NO OF CLASSES= 12		UNIT 5: BIOMETRICS, NUMERICAL TAXONOMY AND CLADISTICS: CHARACTERS; VARIATIONS; OTUS, CHARACTER WEIGHTING AND CODING; CLUSTER ANALYSIS; PHENOGRAMS, CLADOGRAMS). UNIT 6: PHYLOGENY OF ANGIOSPERMS. NO.OF CLASSES=22  4. Study of Female gametophyte through permanent slides/ photographs: 5. Endosperm: 6. Embryogenesis. NO OF CLASSES= 18
	<b>GE 4/DSC4</b>	BOTHGEC 04 T / BOTGCOR	UNIT 1: PLANT WATER RELATION, UNIT 2: MINERAL NUTRITION, UNIT 3: PHOTOSYNTHESIS, UNIT 4:		UNIT 7:NITROGEN METABILISM, UNIT 8: PLANT GROWTH REGULATORS, UNIT 9:PLANT RESPONSE TO LIGHT AND

		04T- 60 (THEORY)  BOTHGEC O4 P / BOTGCOR 04P -30 (PRACTIC AL)	RESPIRATION, UNIT 6: ENZYMES.  NO. OF CLASSES=34  1. OSMOTIC POTENTIAL, 2. STUDY OF ENVIRONMENTAL FACTORS ON TRANSPIRATION, 3-STOMATAL INDEX AND STOMATAL FREQUENCY. NO. OF CLASSES=16		TEMPERATURE. NO. OF CLASSES=26  4. STUDY OF CATALASE ACTIVITY. 5. O <sub>2</sub> EVOLUTION IN PHOTOSYNTHESIS, 6.RESPIRATION NO. OF CLASSES=14	
	<b>SEC 2</b>	BOTSSEC0 2M/ BOTSSEC0 2	UNIT 1: ETHNOBOTANY, UNIT 2: METHODOLOGY OF ETHNOBOTANICAL STUDIES. NO. OF CLASSES=12		UNIT 3: ROLE OF ETHNOBOTANY IN MODERN MEDICINE, UNIT 4: ETHNOBOTANY AND LEGAL ASPECTS. NO. OF CLASSES=18	

HONOURS	COURSE/NUMBER OF LECTURES	JULY-SEPTEMBER	OCTOBER -DECEMBER	JANUARY-MARCH	T	E	U
<b>PART -III Paper VII(THEO=100)</b>	<b>THEORY=80</b>	PLANT PHYSIOLOGY: PLANT WATER RELATION, TRANSPIRATION MEMBRANE TRANSPORT, PHLOEM TRANSPORT PHOTOSYNTHESIS NO. OF CLASSES=25	PLANT PHYSIOLOGY: RESPIRATION , N <sub>2</sub> METABOLISM GROWTH REGULATORS NO. OF CLASSES=16	PLANT PHYSIOLOGY: PHOTO MORPHOGENESIS 02PHOTOPERIODISM,DORMANCY NO. OF CLASSES=9	TEST EXAMINATION		UNIVERSITY FINAL EXAMINATION
<b>Paper VII</b>		PLANT BIOTECHNOLOGY: PLANT TISSUE CULTURE CULTURE TECHNIQUE MICROPROPAGATION NO. OF CLASSES=10	PHARMACOGNOSY: GENERAL ACCOUNT, SECONDARY METABOLITES IN PLANTS ACTIVE CONSTITUENTS NO. OF CLASSES=15	PLANT BIOTECHNOLOGY: RECOMBINANT DNA TECHNOLOGY GENETIC ENGINEERING NO. OF CLASSES=5			
<b>PART-III Paper VIII(THEO=100)</b>	THEORY=80	MICROSCOPY ,ORIGIN & EVOLUTION OF CELLS, CELL MEMBRANE	GENETICS &MOL. BIOLOGY: PLOIDY, CHROMOSOMAL	GENETICS &MOL. BIOLOGY: GENE REGULATION ,GENETIC CODE BIOINFORMATICS			

		NUCLEUS & CHROMOSOME CELL CYCLE & ITS REGULATIONS NO. OF CLASSES=20	ABERRATION MUTATION ,DNA REPLICATION & PROTEIN, SYN- THESIS, STRUCTURAL ORGANIZATION OF GENE NO. OF CLASSES=21	NO. OF CLASSES=11		
<b>Paper VIII</b>		GENETICS &MOL. BIOLOGY: INHERITANCE ,LINKAGE, CROSSING OVER &GENE MAPPING NO. OF CLASSES=13		PLANT BREEDING & BIOMETRY: INTRODUCTION , METHODS OF PLANT BREEDING BIOMETRY NO. OF CLASSES=15		
<b>Paper-IX (PRAC=100)</b>	<b>PRACTICAL= 25</b>	PLANT PHYSIOLOGY(MAJOR NO. OF CLASSES=6	PLANT PHYSIOLOGY(MJNOR) NO. OF CLASSES=4	PHARMACOGNOSY NO. OF CLASSES=5		
<b>Paper-IX</b>		BIOCHEMISTRY NO. OF CLASSES=4	BIOCHEMISTRY NO. OF CLASSES=4	BIOCHEMISTRY NO. OF CLASSES=2		
<b>Paper-X (PRAC=100)</b>	<b>PRACTICAL= 25</b>	Study of mitotic chromosome Study of Mitotic , Index NO. OF CLASSES=10	Study of Meiotic Chromosome Study from, Permanent slides NO. OF CLASSES=8	Biometry Revision NO. OF CLASSES=7		

GENERAL	NUMBER OF LECTURES	JULY-SEPTEMBER	OCTOBER -DECEMBER	JANUARY-MARCH	TEST EXAMINATION	APRIL- JUNE	UNIVERSITY FINAL EXAMINATION
<b>PART-III Paper -IV (THEO=70)</b>	<i>THEORY=32</i>	BIOFERTILIZER MUSHROOM PLANT BREEDING <i>NO. OF CLASSES=15</i>	BIOMETRY PLANT TISSUE, CULTURE PHARMACOGNOSY <i>NO. OF CLASSES=15</i>	RECOMBINANT DNA TECHNOLOGY 8. BIOINFORMATICS <i>NO. OF CLASSES=7</i>			
<b>Paper -V (PRAC=30)</b>	<b>PRACTICAL= 10</b>	CLASS ASSESSMENT	CLASS ASSESSMENT	CLASS ASSESSMENT			