SRI PADMAVATI MAHILA VISVAVIDYALAYAM

(Women's University)

TIRUPATI – 517 502
(A.P)

SYLLABUS
FOR
RESEARCH ENTRANCE TEST
(RESET)

2013

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SCHOOL OF SCIENCES

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DEPARTMENT OF APPLIED MATHEMATICS

UNIT 1: Groups – Examples – Subgroups – Theorems – Normal subgroups – Cauchy Theorem for Abelian groups – Sylow's theorem for Abelian groups.

UNIT 2: Rings – Integral domain – Ideals and quotient rings. Vector spaces – Basis - related Theorems – Orthonormal basis Theorem.

UNIT 3: Metric spaces– Convex sets - Open sets – Compact sets – K-cell – Weierstrass theorem.

UNIT 4: Continuity– Continuous Functions – Continuity and Compactness – Continuity and connectedness – Riemann Stieltjes Integration – Related Theorems.

UNIT 5: Topological spaces – Definition – Examples - Open basis – Open Sub basis - Compactness – Compact Spaces – Tychonoff's Theorem – Locally Compact Spaces – Compactness for Matrices.

UNIT 6: Simplex method – The M-Technique – Two- phase Technique.

UNIT 7: Transportation Problem – North - West Corner Method – Vogel's Approximation method – Optimal Solution of Transportation Problem.

UNIT 8: The Cauchy - Riemann Equations – Problems – Mobius Transformation. The Circle Preserving Property of Mobius Transformation – Fixed points of Mobius Transformation

UNIT 9: Cauchy's Integral Theorem - Cauchy's Integral Theorem for a System of Contours – Cauchy's Residue Theorem – Cauchy's Integral Formula – Morera's Theorem.

UNIT 10: Newton - Raphson Method – Bisection Method – Regula Falsi Method – Euler's Method – Runge-Kutta Methods.

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DEPARTMENT OF APPLIED MICROBIOLOGY

UNIT 1: Classification of carbohydrates and their metabolism Glycolysis, TCA cycle, Glyoxylate cycle, H.M.P. and Phosphoketolase, gluconeogenesis and ED pathway Oxidative phosphorylation and its coupling to electron transport, uncouplers and inhibitors of ETC.

Lipids - classification, structure and functions of saturated and unsaturated fatty acids, fats, phospholipids, glycolipids, cholesterol. Oxidation and biosynthesis of fatty acids. Nucleic acids classification, structure of purines, pyrimidines modified bases, nucleosides and nucleotides. Structure and forms of DNA.

Amino acids and peptides and proteins - classification, structural organization (primary, secondary, tertiary and quaternary level), transamination, oxidative deamination, urea cycle, ammonia transport. enzymes: Nomenclature and classification. General properties of enzymes; factors affecting enzyme activity. Enzyme specificity, Regulation of enzyme activity - allosteric interactions, enzyme inhibitors, Enzyme inhibition - competitive, non-competitive and uncompetitive. Isoenzymes

UNIT 2: Organization and complexity DNA in prokaryotes & eukaryotes, modern concept of gene structure. Mechanism of transcription, translation. regulation of gene expression in prokaryotic operons.

Modes of gene transfer in bacteria: Transformation, Transduction Conjugation. Plasmids transposable elements, mechanism of transposition, importance of transposable elements. Genetic recombination in bacteria - Types of recombination. Mutations and Mutagenesis: Types of mutations, molecular basis of mutations, mutagenic agents and mechanism of mutagenesis.

UNIT 3: Cloning: Core techniques of gene manipulation, screening and detection of recombinant clones, expression of cloned genes in prokaryotic and eukaryotic cell, Problems associated with heterologous gene expression. Cloning in yeast, plant animals. Application of recombinant DNA technology in Biology, Agriculture and Medicine.

Amplification of DNA Nucleic acid probes, PCR and its variants factors influencing PCR, LCR and their applications.

DNA finger printing techniques – PFGE RFLP, Single nucleotide polymorphism, RAPD, AFLP Antisense technology and its applications.

UNIT 4: Microbiological techniques : Methods of sterilization and disinfection, isolation of pure cultures. Cultivation of aerobic and anaerobic microbes, Preservation and maintenance of cultures. Methods of identification of bacteria. Nutritional groups of bacteria (autotrophy and heterotrophy), growth cycle of bacteria, synchronous and continuous culture methods.

Principles of bacterial taxonomy, classification of bacteria and general characteristics of each group including Rickettsiae, PPLO and Chlamydiae. Cell structure of Eubacteria and Archaebacteria. Biosynthesis of bacterial cell wall. Structure of bacterial endospores, physiology and biochemistry of sporulation.

UNIT 5: Nature and general properties of viruses - classification, cultivation of viruses, Ultra structure of bacteriophages (T4,ϕ x 174), Plant viruses (TMV, CMV), Structure and replication of cancer viruses R S V, Adeno-associted and Retro-viruses. and AIDS. Prions, virusoids, viroids, satellite and defective virus particles. Pathogenicity, Clinical condition, Laboratory diagnosis, treatment of Herpes, Pox, Hepatitis, Adeno influenza viruses

UNIT 6: Cells and organs of immune system: Haemopoeisis, lymphoid, mononuclear, granulocytic, mast and dendritic cells. Biological aspects of immunity, types of immunity, elements of innate immunity - non- specific immune factors, phagocytosis, inflammation, extracellular killing, antigen - antibody reactions, Origin, biology and maturation of 'B' and T Lymphocytes (B-dependent and T independent), clonal selection theory. Structure and function of MHC, Cell co-operation model for triggering 'T' and 'B' cells, Activation of T & B lymphocytes, cytokines and their role in immune regulation. Complement system and its significance.

UNIT 7: Centrifugation : Sedimentation analysis, differential, rate zonal and equilibrium density gradient centrifugations applications. Spectroscopy: Working principle and applications of visible, UV, IR, NMR, fluorimetry & flame photometry, turbidometry, Mass Spectroscopy Chromatography Techniques: Paper, thin layer, ion exchange, gel permeation, affinity chromatography, HPLC, GLC.

Electrophoresis: PAGE, isoelectric focusing, blotting techniques Western, Southern Northern, Electro elution of biomolecules from gel/paper.

UNIT 8: Microbial diversity in soil, Rhizosphere, plant growth promoting rhizobacteria (PGPR) spermosphere and phyllosphere, Mycorrhizal associations. Biogeo chemical cycles. Bioremediation: Microorganisms for environmental clean up of contaminated and heavy metal polluted sites.

The symbiotic nitrogen fixer, Legume - *Rhizobium* interaction, structure and factors influencing nodulation, biochemistry and mechanism of nitrogen-fixation, Factors influencing nitrogen fixation.

UNIT 9: Strain improvement of industrially important Microorganisms by conventional and r-DNA methods. Types of Bioreactors, Types of fermentation processes, Scale up of fermentations. Industrial production of Ethanol, Organic acids Amino acids, Enzymes and Antibiotics. Production of single cell protein. Immobilization of enzymes & cells and applications

UNIT 10: Normal flora of the body, Nosocomial, Water borne and air borne infections. Pathogenesis of Bacterial infections, Bacterial virulence factors and their role in virulence and pathogenesis, Diagnostics of bacterial infections. Mode of action of Antimicrobial agents. Mechanism of drug resistance.

Types of vaccines - Conventional, DNA, Glycoconjugate, Deletion, DC based vaccines. Recent developments in vaccine technology, Vaccine delivery system and approaches to enhance immunogenicity. Immunomodulators and immunotherapy.

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DEPARTMENT OF BIOTECHNOLOGY

UNIT 1: Cell theory - Structure of prokaryotic and eukaryotic cell. Plasma membrane, cell wall of animal and plant cells - their composition and structural organization. Structure and functions of cellular organelles - Endoplasmic reticulum, Golgi apparatus, Lysosome intracellular protein trafficking, receptor mediated endocytosis. Golgi sorting. Prokaryotic & Eukaryotic Chromosomal organization, Nucleus, structure of nuclear membrane, structure of nucleosome, chromatin, Mitochondrial and chloroplast DNA.
Cell cycle - General strategy of cell cycle, components in cell cycle control - cyclin, CDK's, regulation and control of cell cycle - Inhibitors. Cell death -apoptosis and necrosis - mechanism of extrinsic and intrinsic apoptotic pathways.

UNIT 2: Microbiological techniques : Methods of sterilization, isolation of pure cultures, cultivation of aerobic and anaerobic organisms, enumeration and measurement of growth, staining techniques, Methods of identification of bacteria, preservation and maintenance of cultures. Microbial growth and mathematical expression and growth curve. Batch and Continuous cultures. Factors influencing growth (Physical and Chemical). Modes of nutrition in microorganism.

UNIT 3: Origin of Biomolecules, Hydrogen bond, Vanderwaal forces, Ionic bond, Covalent bond and coordinate covalent bonds; Principles of thermodynamics. Classification, Structure and biological significance of carbohydrates, Proteins and Lipids. Classification of enzymes, hormones, vitamins and plant regulators. Chemistry of Nucleic acids - Classification & structure.

UNIT 4: Mechanism of enzyme action : Kinetics of enzyme catalyzed reactions (pH, temperature, incubation period, substrate and enzyme concentrations), assay of enzyme activities, activators and inhibitors, zymogen activation, isoenzymes, allosteric enzymes, regulation of enzyme activity, ribozymes and abzymes.
Metabolism of carbohydrates Glycolysis, TCA cycle, glyoxalate cycle, gluconeogenesis, HMP shunt, interconversion of hexoses and pentoss, amylogenesis, glycogenesis, synthesis of cellulose and hemicellulose.
Metabolism of amino acids and proteins - Hydrolysis of proteins, proteases, synthesis of amino acids and their catabolism (deamination, decarboxylation, and transamination) coordinated control of metabolism, formation of ammonia and urea. Nitrogen fixation by bacteria, inborn errors in metabolism.

UNIT 5: Immunity - natural and acquired; specific and non -specific; local and general. Primary and Secondary organ of immune system - thymus, spleen, lymph nodes, bursa fabricus, other types of lymphoid tissue. Cells of the immune system; B and T lymphocytes, eutrophils, macrophages, plasma cells, eosinophils and basophils. Natural body defense.

Antigen - definition, properties, specificity, cross reactivity, immunogenicity, antigenic determinants and haptens. Antibody: nature and formation, classification of immunoglobulings, types, diversity and production of antibody - primary and secondary responses, valency and avidity production of polyclonal antibodies: Monoclonal antibodies - principles, production, advantages and disadvantages over polyclonal antibodies. Mechanism of antigen - antibody interaction. Production of vaccines and sera conventional and biotechnological.

UNIT 6: Identification of genetic material as DNA or RNA. Replication of DNA - models for replication of DNA, molecular mechanism of replication, enzymology of replication, DNA damage and repair mechanisms.

Transcription - types of RNA and their role, mechanisms of transcription in prokaryotes and eukaryotes, RNA polymerases, introns and exons, biosynthesis and processing of different RNAs. Promoters and enhancers and factors affecting transcription.

Translation - Central dogma theory and flow of genetic information,

Genetic code and its elucidation, Wobble hypothesis, Structure and composition of prokaryotic and eukaryotic ribosomes, Structures of mRNA and tRNA, Events of protein synthesis in prokaryotes and eukaryotes, Post-translational modification of proteins, Inhibitors of translation.

UNIT 7: Microscopic techniques for study of cells - Principles and applications of bright field, Phase Contrast, Fluorescence and electron microscopy.

Centrifugation: Simple theories of preparative and analytical centrifuge, sedimentation analysis, differential, rate-zonal and equilibrium density gradient centrifugations. Ultra centrifugation. Filtration techniques.

Spectroscopy: Beers-Lambert law; Working principle and applications of UV - Visible, IR, atomic absorption, flame Photometry and NMR spectrophotometry.

Chromatography: Principles and applications of partition, adsorption chromatography techniques - paper, thin layer, gel permeation, HPLC. Ion -exchange and affinity chromatography.

Electrophoresis: Principles and applications of electrophoresis. Agarose, SDS-PAGE, native, gradient, two dimensional, Pulse-field and Isoelectric focusing. Electro-elution of biomolecules. Blotting techniques - Southern, Western and Northern.

UNIT 8: Molecular vectors, Restriction endonucleases - types, properties and applications; DNA, RNA Polymerases, Nuclease, kinases, Phosphotases, Iigases, Methylases and gyrases. Molecular cloning strategies. Joining of DNA fragments to Vector molecules. Introduction of recombinant molecules into selected host cells. Principles of preparation of DNA and RNA probes and their applications. PCR in rDNA technology, Site-directed mutagenesis; RAPD, RFLP. Sequencing of nucleic acids - Maxam-Gilbert chemical degradation and Sanger's Dideoxy chain termination methods.

UNIT 9: Plant cell culture: Cellular totipotency: Role and molecular action of growth regulators in tissue culture. Callus induction, suspension culture, Organogenesis, Clonal propagation: Micropropagation, Somatic embryogenesis, Germplasm conservation and synthetic seed production. Protoplast culture. Secondary metabolites production (phytopharmaceuticals) by plant cell culture. Transgenic plants: Method of transformation, selection, identification, molecular analysis for confirmation.

Animal Cell Culture: Importance of Serum and Serum Free Media. Culturing and Sub Culturing of Animal Cells. In Vitro Transformation of Animal Cells Primary and secondary established cell lines Cloning of Animal Cells, Cell Line Preservation, Cell Line characterization, Manipulation of cultured cells, Passaging cells Stem cell culture, Hematopoiesis, embryonic stem cell culture Measurement of cell death and cell viability.

UNIT 10: Databases - Nucleic acid sequence databases, protein sequence databases, structure databases, specialized analysis packages, uses of databases.

Sequence alignment: Types of alignment, Sequence alignment methods, algorithms for structural comparison, carrying out a sequence search

Homology, phylogeny and evolutionary trees: Homology and similarity, phylogeny and relationships, approaches used in phylogenetic analysis, phylogenetic trees, tree building methods, molecular approaches to phylogeny, phylogenetic analysis databases.

Predictive methods using DNA and protein sequences: Gene prediction strategies and programmes, protein prediction strategies, secondary structure prediction, Ramachandran plot, comparative modeling.

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DEPARTMENT OF COMPUTER SCIENCE

UNIT 1: Computer Organization **:** Representation of information: Number Systems, Integer and Floating point representation, Character Codes (ABCII, EBCDIC), Error detection & correction codes. Basic building books, CPU and its operations, Instruction formats, Instruction execution, Addressing Modes.

UNIT 2: OOPS (C++) : Object Oriented Concepts, Classes & Objects, Constructors, Inheritance, Polymorphism, Exception handling.

UNIT 3: Operating Systems: Fundamentals Concepts of Operating System, CPU Scheduling, Memory Management, Deadlocks.

UNIT 4: Discrete Mathematical Structures : Definition of sets and subsets**,** Intersection, Union and Complements; Demorgan's law, Cardinality, Relations – Equivalence relations etc., Mapping-one-one etc., Logical operators like AND, OR etc., Truth tables, Theory on inference and deduction, Mathematical Induction, Predicate calculus, Predicates and Quantifiers.

UNIT 5: Data Structures : Fundamental concepts of Data Structures, Trees, Graphs, Sorting and Searching Algorithms, Complexity of the algorithms.

UNIT 6: Database Management systems : Fundamental concept of DBMS, Data Models, Query languages, Normalization.

UNIT 7: Networks : Basic Concepts on OSI model, TCP/IP model, Data link layer, Medium Access Sub layer and Network layer.

UNIT 8: Software Engineering : Software Engineering Paradigms, Software Metrics, Software Requirement Analysis, Software Design Fundamentals, Software Testing Techniques.

UNIT 9: Computer Graphics : Overview of Graphics system, Polygons, Attributes of output primitives, Two-dimensional Geometric transformations, Two-dimensional viewing.

UNIT 10: Data Warehousing and Data Mining : OLAP Technology, Data Warehouse Architecture, Data Cubes, Data Mining Functionalities, Issues & Techniques.

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DEPARTMENT OF HOME SCIENCE

FOOD AND NUTRITIONAL SCIENCES

UNIT 1: Energy requirements, Macro and Micro nutrient requirements. Functional properties of nutrients. Nutritional needs during various stages of life cycle. Metabolic disorders metabolic changes and Dietary management during disorders in various stages of life cycle and during emergencies / disasters. Water balance, distribution and fluid balance. Drugs and nutrient interaction.

UNIT 2: Food processing, Effect of food processing on various foods, changes and Nutritional implications of processing, Toxicological impacts, Toxic manifestations and food toxicants. Subjective and objective measurement of foods, true solutions, colloidal solutions, suspensions and their properties, chemistry of starch, proteins, lipids, fruits and vegetables. Methods of food analysis of nutrients, principles and application of Colorimetry and Photometry and Spectro photometry in food analysis.

UNIT 3: Need and Importance of functional foods, Nutraceuticals and their role in disease prevention. Development, standardizations and evaluation of functional and nutraceutical food products.

UNIT 4: Therapeutic nutrition, role of dietitian in hospital and community. Dietary management of communicable and non communicable diseases. Nutrition care process and Nutrition counseling for various diseases.

UNIT 5: Metabolism of Nutrients and pathways, interrelationship between meta-bolism of macro nutrients in normal health deficiency and diseased conditions. The role of enzymes and hormones in the metabolism.

UNIT 6: Food preservation, Microbiology of foods, Necessity of food safety, Quality control and assurance, Indian and International Food Standards, Adulteration-Common adulterated foods-Hazards, adulteration and food laws, regulations and labeling regulations, Food safety food safety act-HACCP Food safety- Food security programmes.

UNIT 7: Food preservation, Microbiology of foods, Necessity of food safety, Quality control and assurance, Indian and International Food Standards, Adulteration-Common adulterated foods-Hazards, adulteration and food laws, regulations and labeling regulations, Food safety food safety act-HACCP Food safety- Food security programmes.

UNIT 8: Nutrition Ecology Environment: Meaning of ecology, important ecological principles, concept of ecology system, Energy and Nutrient cycles, Hydrological cycle and carbon cycle. Effect of food hygiene, environmental hygiene and personal hygiene the Health status of the community. Communication technologies.

UNIT 9: Nutrition education, Health education- concepts, programmes. Community participation. Traditional and modern approaches. Audio-visual aids in Nutrition and Health education. Role of Mass Media .in Nutrition and Health Education. Planning, Implementation, monitoring and evaluation of nutrition and health education programmes. Nutrition and health policies.

UNIT 10: Reproductive Health rights and reproductive Problems. HIV/AIDS. In India. Contraception & Family Planning Methods, programmes and agencies involved. Population dynamics.

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DEPARTMENT OF HOME SCIENCE
HUMAN DEVELOPMENT AND FAMILY STUDIES

UNIT 1: Child Study Techniques - Significance, methods, growth chart, anthropom-etric measurements, Theories of Human development- types, Developmental personality, cognitive and learning theories.

UNIT 2: Growth and Development - Birth process prenatal development, period of neonate, period of babyhood, early childhood.

UNIT 3: Early Childhood Education - Scope, objectives; Nursery school - Building, play equipment and material, programme planning, Home school relations.

UNIT 4: Late childhood, Puberty and Adolescence - Physical and psychological changes. Interests, youth welfare programmes; Adulthood, Old age- services for the aged in India and abroad.

UNIT 5: Marriage and Family Relations - Mate selection, types of marriage, marriage laws, marital adjustments, marital dissolutions; Family-types, functions, life cycle, contemporary family issues, family counselling.

UNIT 6: Counselling - types, process, skills, characteristics and roles of counselor; Therapies - psycho therapy, behaviour therapy, family therapy, reality therapy, physio and occupational therapy, play therapy; Child Guidance Centre.

UNIT 7: Parenting - Determinants, parenting styles, needs of children, parent education techniques; Personality development – concept, factors.

UNIT 8: Children with Special Needs - Definition, classification, causes and characteristics; Rehabilitation - Types, role of family, Government and NGO; Rights of Disabled.

UNIT 9: Nutrition - During pregnancy, lactation, infancy, childhood, adolescence, and old age; Health - Holistic approach to health, immunization, nutrition and health services for children, women and families, ICDS, Nutrition programmes.

UNIT 10: Communication - Elements, process, dynamics, approaches, patterns, types of communication - Dyad, Group, Mass (Print, Radio, Television, and Internet), Participatory methodologies for sustainable development.

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INSTITUTE OF PHARMACEUTICAL TECHNOLOGY

UNIT 1: UV – Visible Spectroscopy : Absorption spectra of organic compounds and complexes illustrating the phenomenon and its utilization in quantitative and qualitative studies of drugs. Shifts and their interpretation (including solvent effects).

UNIT 2: High Pressure Liquid Chromatography : Column selection, mobile phase selection, efficiency parameters, detectors, Instrumentation and applications.

UNIT 3: Infra - red Spectroscopy : Qualitative interpretation of IR.Spectra ring size, hydrogen bonding and instrumentation.

UNIT 4: X - Ray Diffraction Methods : Introduction, Bragg's law, X-ray powder diffractometer, interpretation of X-ray powder diffraction data.

UNIT 5 : Differential Scanning Calorimetry And Differential Thermal Analysis : Principles, instrumentation and applications of differential scanning calorimetry (DSC) and differential thermal analysis (DTA).

UNIT 6: Basics in Biostatistics : Coefficient of variation, regression analysis, standard error, 't' and chi-square test, one-way and two-way ANOVA test.

UNIT 7: High Performance Thin Layer Chromatography : Theory, Instrumentation and Pharmaceutical applications of High Performance Thin Layer Chromatography.

UNIT 8: Drug Regulatory Affairs : Regulatory guidelines for new drug approval including IND, NDA and ANDA.

UNIT 9: ICH guidelines for Stability testing.

UNIT 10: Controlled Drug Delivery Systems : Principles involved, rate dose considerations, potential advantages and disadvantages.

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DEPARTMENT OF SERICULTURE

UNIT 1: Mulberry cultivation practices under irrigated and rained conditions; Principles and practices of plant propagation with special reference to mulberry; Planting systems; row system, pit system and paired row system. Spacing systems and their importance in leaf productivity under different field conditions; Package of practices of mulberry cultivation under irrigated and rainfed conditions.

UNIT 2: Different diseases and pests of mulberry and silkworm and their management ; Diseases of Mulberry: Leaf spot, leaf rust, powdery mildew, bacterial blight, stem canker, root rot and root knot diseases-causal organisms, symptoms and their management.; Pests of mulberry: Pink mealy bug, Bihar hairy caterpillar, Leaf roller, white flies – type of damage and management.; Silkworm Diseases and Pests: Pebrine- Grassarie- Flacherie-Muscardine – Causative organisms –Symptoms and Management of Diseases –Uzi fly and its control measurements

UNIT 3: Methods of mulberry breeding, merits and demerits of each method with significance; Plant introduction and acclimatization; Selection: Mass selection, Pure line selection, Clonal selection; Hybridization: History, definition, objectives and application - Hybridization strategies in mulberry breeding; Polyploidy and mutation breeding methods; Tissue culture breeding and its role in improvement of mulberry.

UNIT 4: Silkworm Biology and Biochemistry; External and internal morphology of the silkworm and life cycles and morphology of egg, larva, pupa and adult of mulberry silkworms. Internal Morphology - Structure of silkworm digestive system - Morphology and ultra structure-Excretory System – Malpighian tubules – ultra structure- – Tracheal system – spiracles – Tracheal ventilation Tracheal diffusion – Factors affecting respiration - Reproductive System – Male and Female – Silkworm respiratory system. ; Classification, structure and properties and biological importance of macromolecules- Carbohydrates, proteins and Lipids.

UNIT 5: Silkworm Seed and Cocoon Production Technology

A. Silkworm Seed production technology - Seed organization set up in India -– Model Grainage Building and equipments. Disinfection during seed production- Steps involved in silkworm egg production (Disease Free Layings – DFLS) Mother moth examination methods. Egg handling – Multivoltine, Bivoltine and Loose eggs– Preparation and packing. Incubation and black boxing

B. Silkworm Cocoon Technology - Model rearing house – Rearing appliances - Sanitation – Importance and methods of disinfection – disinfectants – Bed disinfectants–Brushing of silkworms– Young age Chawki) and Late age silkworm rearing - Environmental factors for rearing – effect of temperature, humidity, air and light on growth and development of silkworm larvae– Selection of mulberry for different ages of silkworm larvae – Feeding – Preparation of feed – frequency and quantity of mulberry leaf- Bed Cleaning and spacing - Mounting and spinning –harvesting of Cocoons – Cocoon sorting – Assessment – Transportation and Marketing.

UNIT 6: Silkworm Breeding and Genetics - Silkworm Races - Types, Classification, History of Silkworm breeding in India.Germ plasm bank- Establishment and maintenance- Silkworm breeding methods- Inbreeding –Inbreeding depression- Crossbreeding–Heterosis- Commercial exploitation of heterosis in Bombyx mori. Hereditary traits of silkworm- eggs, larva, Pupa, moth- Genetics of voltinism and moultinism- Genetics of Cocoon colors

UNIT 7: Post -Cocoon Technology - Cocoon properties - assessment – cocoon transportation - Cocoon stifling / drying- objectives- Cocoon storage and preservation of cocoon in silk reeling units -Cocoon boiling/cooking-objectives- different methods cooking- Silk Reeling devices country charakha- improved charakha- cottage basin,- multiend reeling machines. Raw silk testing- visual and mechanical tests, winding test, size test, tenacity, elongation test-evenness, cleanness, neatness test, cohesion, testing and grading

UNIT 8: Sericulture, Extension Education and Management - Present status of Sericulture in the world. India's position: Distribution of sericulture in India Extension education-meaning-Classification of various extension teaching methods-scope and limitation of each methods- individual, group, mass contact methods -Concept and functions of communication- definitions- meaning- importance in communication- evaluation. Sericulture farm management-Recycling of various by products available in Sericulture industry

UNIT 9: Microbial Techniques - History, scope and significance of microbiology- Microbiological techniques – Methods of Sterilization- Preparation of media for the growth of micro organisms, maintenance and preservation of cultures - Isolation of pure cultures, cultivation of aerobic and anaerobic organisms.

UNIT 10: Molecular Biology and Genetic engineering - Nucleic Acids- DNA - Watson and Crick model of DNA, types of DNA - RNA- Structure and properties of RNA, different types of RNA- tRNA, mRNA and rRNA DNA replication in prokaryotes and eukaryotes- DNA damage and repair – Transcription – Translation-Gene expression

Introduction to genetic engineering-Tools of genetic engineering- isolation of DNA-restriction endonucleases and their application in genetic engineering - PCR – Types of PCR and their significance. Cloning vectors and Properties.

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DEPARTMENT OF SERICULTURE
ZOOLOGY

UNIT 1: Functional Anatomy of Invertebrates- Origin of metazoan – organization of the coelome- acoelomates, psuedocoelomates and coelomates – protostomia and duterostomia. Locomotion - Flagella and ciliary movement in Protozoa – hydrostatic movement in Coelenterate, Annelida and Echinodermata. Nutrition and Digestion - Pattern of feeding and digestion in lower metazoa (protozoa, porifera, coelenterate) - filter feeding mechanism in polychaeta, mollusca and echinodermata. Respiration - Organs of respiration-gills, lungs and trachea-respiratory pigments-mechanism of respiration. Excretion - Organs of excretion-coelome, coelomoducts, nephridia and malphigian tubules-mechanism of excretion-excretion and osmoregulation. Nervous System - Primitive nervous system-coelenterata and echinodermata-advanced nervous system-annelida, arthropoda (crutacea and insecta) and mollusca (cephalopoda)-trenda in neural evolution.

UNIT2: Molecular Cell Biology - Genome organization: Hierarchy in organization-chromosomal organization of genes and non-coding DNA-mobile DNA-morphological and functional elements of eukaryotic chromosomes.

UNIT3: Biomolecules and Structural Biology – Proteins – Chemical nature – Classification – Structural Organization – Denaturation – Biological functions - Aminoacids-chemistry-classification-essential aminoacids-peptide bond-peptones-peptides-biological functions-oxidative deamination- transamination- decarboxylation - transmethylation- Kreb's urea cycle. Enzymes-nomenclature-classification-mechanism of action-coenzymes-isoenzymes-enzyme specificity-factors influencing enzyme activity-enzyme inhibitors. Carbohydrates and Lipids - Carbohydrates-classification-isomerism-ketosugars-glycosidic bonds-their biological importance-glycolysis-citric acid cycle-glycogenesis-glycogenolysis-glyconeogenesis-HMP shunt. Lipids-chemical nature-classification-their biological functions –free fatty acids-essential fatty acids-prostaglandins-metabolism of neutral fats-β-oxidation-ketogenesis-ketosis & ketolysis.

UNIT4: Functional Anatomy of Chordates - Vertebrate integument and its derivative Respiratory System - Characters of respiratory tissue-internal and external respiration-comparative account of respiratory organs. Skeletal System - comparative account of jaw suspensorium and vertebral column-limbs and girdles. Evolution of urinogenital system in vertebrate groups. Sense Organs - Olfaction and taste-lateral line system. Nervous System - Comparative anatomy of the brain in relation to its functions- Comparative anatomy of the spinal cord -nerves-cranial, peripheral-autonomous nervous system

UNIT5: Genetics **–** Sex Linked Inheritance - XY-linked genes-inheritance of Y-linked genes-inheritance of X-linked genes-sex, limited genes-sex influenced genes in man, cattle and sheep-sex-influenced lethals in man-Lyon's hypothesis. Human

Genetics and Eugenics - Human karyotypes-chromosomal anomaly-autosomal and sex chromosomal disorders-polygenic disorders and multiactorial inheritance – inborn errors of metabolism-pedigree analysis.

UNIT6: Physiology - Osmoregulation in different animal groups. Circulation of body fluids and their regulation. Respiratory organs-mechanism of respiration-respiratory pigments among different phylogenetic groups. Neurophysiology - Structure of the neuron-maintenance of the resting potential-generation of action potential – conduction of nerve impulse-structure of synapse-synaptic transmission.

UNIT7: Endocrinology - Classification and chemical nature of hormones-biosynthesis and secretion of hormones-corticosteroid hormones-peptide hormones-catecholamines.

UNIT8: Applications of Biotechnology – Recombinant DNA Technology - Molecular vectors: Cloning-shuttle and binary vectors-plasmids-viruses-PBR322- SV40-bacteriophages-phasmids-cosmids-artificial chromosomes-retroviral vectors. Enzymes - Restriction enzymes-modified enzymes-DNA and RNA markers-their applications. [DNA and RNA polymerases –reverse transcriptase-polynucleotide kinase-gyrase-terminal deoxynucleotidyl transferase-S1 nuclease-Bal31]. Nucleic Acid Amplification - PCR and its applications-site directed mutagenesis and its methods-restriction enzyme analysis- RFLP and RAPD-DNA finger printing-Gene mapping. Transgenic Technology - Transgenesis and transgenic methods-production of transgenic animals (mice, fish, birds and cattle). Knock outs-Knock out genes and production of knockout mice. Nucleic Acid Amplification - PCR and its applications-site directed mutagenesis and its methods-restriction enzyme analysis- RFLP and RAPD-DNA finger printing-Gene mapping. Transgenesis and transgenic methods-production of transgenic animals (mice, fish, birds and cattle). Knock outs-Knock out genes and production of knockout mice

UNIT 9: Biodiversity Conservation - Threats and conservation methods-in situ and ex situ conservation-action plan. Wildlife conservation; Methods and strategies, Role of NGO's in wildlife conservation, Ex-situ conservation, special conservation projects – Tiger, Lion, Elephant,Musk deer, Thamin deer and crocodile. Wildlife Management; case studies, Gudavi and Mandagadde bird sanctuary, Bhadra wildlife sanctuary. Wildlife conflicts - Conflicts between Elephant and man, wolf and man, tiger and man.

UNIT 10: Tools and Techniques – Chromatography - Introduction, paper and thin layer chromatography-gas and column chromatography-HPLC. Electrophoretic Methods - Introduction- gel electrophoresis-SDS-PAGE- Agarose gel electrophoresis-staining techniques and analysis. Spectrophotometry: Basic principles of absorption spectrophotometry-measuring the absorption of UV light. Microbial Techniques - Media preparation and sterilization-inoculation and growth monitoring –use of fermentors-biochemical mutants and their use-microbial assays. Histological techniques: Histology as a diagnostic tool-microtomy and staining procedures-histochemical techniques. Cell Culture Techniques - Design and functioning of tissue culture laboratory –cell proliferation measurements-cell viability testing – culture media preparation and cell harvesting methods.

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RESET SYLLABUS

DEPARTMENT OF SERICULTURE
BOTANY

UNIT 1: Cytology, Cell Biology of Plants - Ultra structure of cell, Structural organization and functions of Plasma membrane, Endoplasmic reticulum, Golgi apparatus, Lysosomes and Peroxisomes, Chloroplast, Mitochondria and Ribosomes; Ultra structure of nucleus in Prokaryotes and Eukaryotes; Structure of chromosome**,** Special types of chromosomes - Polytene, Lampbrush, B- Chromosomes (or) supernumerary chromosomes; Molecular events of cell cycle and its regulation, Mitotic and Meiotic cell cycles, Synaptonemal complex, Molecular basis of Chromosome pairing**.**

UNIT 2: Biology and Diversity of Fungi, Bacteria and Viruses - General characters and classification of fungi , Cell ultra structure, Cell wall composition, nutrition; General account of Mastigomycotina, Zygomycotina, Ascomycotina, Basidiomycotina and Deuteromycotina, Economic importance of Fungi and Lichens; Bacteria general account, classification; General characters and classification of viruses, General account on Viroids, Prions. Structural and chemical composition of TMV, HIV and T_2 phages and their life cycles; General characteristics and role of Phytoplasmas in causing plant diseases; Symptomotology and Epidemiology of plant diseases incited by Fungi, Bacteria, Viruses and Viroids; Physical, Chemical, Integrated and Biological methods of disease management

Unit 3: Biology and Diversity of Algae, Bryophytes, Pteridophytes and Gymnosperms - General characteristics and classification of Algae, salient features of Chlorophyta, Phaeophyceae, Bacillariophyceae, Xanthophyceae and Rhodophyta, Economic importance of Algae; General characteristics, classification and ecology of Bryophytes; salient features of Marchantiales, Jungermanniales, Anthocerotales, Sphagnales and Polytrichales; Diversity and evolution of gametophyte and sporophyte; General characteristics and classification of Pteriodophytes, Diagnostic features of Psilopsida, Psilotopsida, Lycopsida, Sphenopsida and Pteropsida, Origin and Phylogeny, Telome theory, Stelar evolution , Heterospory and seed habit; General characteristics and Classification of Gymnosperms, Structure and Reproduction in Cycadales, Ginkgoales, Coniferales, Ephedrales, Welwitschiales and Gnetales. Economic important of Gymnosperms.

UNIT 4: Taxonomy of Angiosperms - Phenetic and phylogenetic systems of classification. Merits and demerits of Bentham and Hooker, Engler and Prantle, Bessey, Hutchinson, Cronquist, Thorne and Dahlgren systems of classification, Herbarium Methodology. Plant identification and Taxonomic Keys; Taxonomic hierarchy; Origin and Evolution of Angiosperms; Salient features of Binomial Nomenclature; Taxonomic Evidences: Morphology, Anatomy, Palynology, Embryology, Cytology, Phytochemistry, Biochemical, Molecular techniques and Numerical; Medicinal importance of the Families: Ranunculaceae, Papavaraceae, Leguminosae, Rutaceae, Apiaceae, Apocynaceae, Asclepiadaceae, Solanaceae, Liliaceae and Zingiberaceae.

UNIT 5: Plant Biochemistry - Biochemical Techniques: Light and Electron Microscopy - Principles and Applications, Chromatography**,** Electrophoresis: Principles, Types and Applications; Spectroscopy: Beer's Law, Absorbance and Transmittance, Extinction Co-efficient, Centrifugation: Principles, Types and Applications. Carbohydrates: Classification, Amino acids: Structure, Properties and Biosynthesis. Proteins: Structure, composition and functional diversity, Enzyme kinetics: Nomenclature and classification, Structure, Mode of action, Regulation of enzyme activity, Enzyme Kinetics. Laws of thermodynamics; Lipid: Classification, composition; α-Oxidation and β-Oxidation of fatty acids, Glyoxylate cycle and Gluconeogenesis. Genetics - Laws of Mendel; Interaction of genes, Cytoplasmic gene interaction, Multiple alleles, Linkage and Linkage groups, Genetic markers, Construction of molecular maps, Mechanism of crossing over and recombination, Spontaneous and induced mutations, Physical and Chemical mutagens, Molecular basis of gene mutations, Transposable elements in prokaryotes and eukaryotes, Mechanism of Transposition; Structural and numerical alterations in chromosomes; Autopolyploids, and Allopolyploids. Evolution of major crop plants, Production, Meiosis and significance of Trisomics and Monosomics.

UNIT 6: Plant Physiology - Photosynthesis: **S**tructure and function of Chloroplast, Photosynthetic carbon assimilation in C_3, C_4 and CAM Plants; Photorespiration-Mechanism and regulation. Respiration: Ultra structure of mitochondria; Glycolysis, TCA cycle; Electron transport; Mechanism of ATP synthesis; Pentose phosphate pathway- Mechanism and Significance; Pasteur effect; Stomatal physiology-Structure of Guard cells and role in stomatal movements; Structure and mechanism of stomatal movements, Evapo-transpiration; Significance, factors effecting transpiration - Anti- transpirants. Inorganic nutrition: Criteria of essentialities of mineral nutrients, Functions of essential elements; Growth regulators: Natural and Synthetic growth regulators- Auxins, Gibberelins, Cytokinins, Abscisic acid and Ethylene; Photoperiodism: Vernalization, Biochemistry and physiology of seed germination; Phytochrome- Structure, Properties and role.

UNIT 7: Molecular Biology of Plants - Chloroplast and Mitochondrial genome organization and Gene expression; Structure and Properties of DNA, Types of DNA - A, B & Z forms, C-value paradox, cot curve and its significance; *In situ*-hybridization-concept and technique. DNA replication in Prokaryotes and Eukaryotes, DNA Damage and repair-Types, Restriction mapping- Concept, Techniques and Applications. Gene – Structure, types and expression: Transcription: Enzymes and molecular mechanisms involved; Protein synthesis: Genetic code, Mechanism of translation, Polypeptide chain initiation, elongation and termination in Prokaryotes and Eukaryotes, Gene expression and regulation in prokaryotes and eukaryotes, Operon concept, Lac and Ara operon, Role of rRNA and tRNA; initiation, elongation and termination. Structure and role of t RNA and inhibitors of translation. Plant Development and Evolution - Growth, differentiation and morphogenesis; Tissues and Tissue systems (Dermal, Ground, Vascular and Secretary) in plants. Root Apical Meristems; Structure and theories of Root Apical Meristem formation. Vascular tissue differentiation, Organization of the shoot apex, Leaf differentiation and development; Differentiation of Leaf and Tissues; Initiation

of Leaf Primordia. Evolution: Origin of life; Theories of organic evolution: Darwinism, Neo-Darwinism, Lamarckism; Mechanisms of speciation; Genetic polymorphism and Selection; Molecular evolution.

UNIT 8: Plant Reproduction - Structure of anther; Microsporogenesis, Role of Tapetum; Pollen development, Pollen Germination, Female gametophyte**:** Ovule - Structure and development; Megasporogenesis; Development and Organization of the mature Embryo Sac; Pollination, Pollen- Pistil interaction and fertilization; Seed and Fruit Development; Types of Endosperms (Ruminate & Composite); Embryogenesis – Dicot types; Monocot embryo; Polyembryony; Apomixis; Parthenocarpy. Embryology in relation to taxonomy. *Podostomacea*e, *Onagraceae, Cyperaceae, Loranthaceae, Basellaceae,Gentianaceae, Paeonia and Trapa*. Plant Breeding - Plant exploration, collection and establishment of germplasm banks. Plant introduction acclimatization and plant quarantine, Applications and significance of Mass, Pure line and clonal selection. Hybridization objectives and applications- Advantages and constraints of Bulk and pedigree methods. Heterosis and crop improvement; Polyploidy: Definition, Types, Induction and significance. mechanism of drought escape, tolerance, endurance and resistance,

UNIT 9: Plant Tissue Culture and Genetic Engineering - Fundamental aspects of Morphogenesis, Somatic embryogenesis and Androgenesis; Mechanisms and Techniques. Somatic hybridization**:** Protoplast isolation, fusion and culture; Methods of Hybrid Selection and Regeneration; Clonal Propagation, Soma clonal variations, Artificial seeds, Production of Hybrids and Somaclones, Applications of Transgenic Plants; Genetic Engineering in Medicine, Agriculture, Gene therapy.

UNIT 10: Plant Ecology - Soil profile, Types, Texture, Physical and Chemical properties, Concepts of community, Community-coefficient. Interactions: Plant – plant interaction (Competition, Allelopathy), Plant - animal interactions (herbivory, pollination, Abiotic and biotic components, biogeochemical cycles of C, N, P, S and H_2O; Pollution ecology- Air, water and soil pollution; Greenhouse gases (CO2, CH4, N2O, CFCs sources, trends and role) ozone layer and ozone hole; consequences of climate change (CO2 fertilization, global warming, sea level rise, UV radiation Characteristics of plant populations: Density, Dispersion, Mortality, Natality and Growth curves.

SCHOOL OF SOCIAL SCIENCES, HUMANITIES & MANAGEMENT

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RESET SYLLABUS

DEPARTMENT OF COMMUNICATION & JOURNALISM

UNIT 1 : Kinds of Communication- Basic Communication Models- Functions of Mass Media - Mass Media & Social Change- Communication Policy & Political Ideology, Press Theories

UNIT 2: Growth & Development of Mass Media - Radio, TV, Print. Writing for Mass Media-Human Resources in Mass Media

UNIT 3: Structure & Functions of a Radio station - Studio acoustics-indoor & outdoor recording devices-Radio programming, programme formats, strategies-Content generation - Scripting for radio formats - Production process,

UNIT 4: Structure & functions of Television station- Studio Layout, acoustics and other indoor & outdoor Production devices- TV Programming -Programme formats Content generation- Scripting for TV-News Production process-Marketing Strategies-TRP ratings

UNIT 5: Patterns of Newspaper ownership Cross media ownership- NP revenues - circulation & sales promotion - Editorial Department - Functions and hierarchy in editorial department.

UNIT 6: Freedom and Ethical Issues in Mass media-Privacy, coverage of Communal writing Sensational & Yellow Journalism - Bias - Media council - Ombudsman, Cyber Journalistic ethics.

UNIT 7: Communication Research - Research process - Elements of Research, Concepts, Variability- Nature and Levels of Measurement - Approaches to communication Research- Kinds of Research.

UNIT 8: Introduction to New media Technology – Information Society- Digital Culture - New Media Characteristics, Convergence, The nature and power of technology and impact on social life – Online Journalism – Citizen Journalism – News blogs.

UNIT 9: Gender, Media and society – Portrayal of women in Mass Media – Representation of Women in Media- Contribution of Women Journalists in India – Networking of women journalists.

UNIT 10: Advertising & Public Relations – Nature and role of PR as an effective means of Social Communication – Tools of PR – Role of Advertising & Marketing in Economic, Social Cultural Psychological & ethical aspects – Kinds of Advertising – Campaign planning – Media planning

SRI PADMAVATHI MAHILA VISVAVIDYALAYAM::TIRUPATI
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RESET SYLLABUS

DEPARTMENT OF EDUCATION

UNIT 1: Philosophical Foundations of Education - Philosophy - Education - Meaning and Scope - The relationship between Philosophy and Education - Aims, Curriculum, Teaching Methods, Discipline, Role of the teacher and role of the student.; Schools of philosophical thought - Idealism, Naturalism, Realism and Pragmatism - Their Implications on Education.; Philosophy of Educational thinkers - Vivekananda, Rabindranath Tagore, Mahatma Gandhi, John Dewey, Rousseau & Plato.

UNIT 2: Sociological Foundations of Education - Sociological Foundations of Education - Sociology - Education Meaning and Scope - The relationship between sociology and education - The need for the knowledge of sociology of education for the teacher and Researcher.; Agencies of Education - Family, School, Society, peer group Mass Media and other agencies.

UNIT 3: Psychological Foundations of Education - Intelligence - definition, meaning and Measurement, Aptitude - definition, meaning and measurement Teaching aptitude and interest definition, meaning and measurement. ; Personality - definition, meaning, Theories - Jung, Adler, Otto Rank, Pollard and Miller, Bandura and Walter, Rotter and Sigmund Freud - Measurement.

UNIT 4: Educational Objectives: Benjamin.S.Bloom's Taxonomy Cognitive, Affective and Psychomotor domains - criticism.

UNIT 5: Teaching Methods: Lecture, Lecture cum Demonstrations, Montessori, Kinder-garten, Heuristic, Project, Programmed Instruction, Laboratory, Assignment and Computer Aided Instruction.

UNIT 6: Educational Research - definition, need, types – qualitative and quantitative, Research problem, Hypotheses, Variables and Research proposal - Sampling Techniques - types: random stratified random and multistage random, cluster and purposive.

UNIT 7: Research Methods: Historical, Survey and Experimental.

UNIT 8: Tools and Techniques of Data Collection - Questionnaire, Check List, Rating scale, Attitude Scale, Achievement Test and Diagnostic test, Interview, Observation - Preparation and Standardization of Tools - Qualities of good data gathering device.

UNIT 9: Research Report writing - Figurative Representation - Pie Diagram, Bar and Polygon.

UNIT10: Computers in Educational Research - Need - Need for data analysis and tabulation - use of computers in Education Teaching and Research. - Ms Excel, Ms DOS - packages - SPSS - Power point.

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RESET SYLLABUS

DEPARTMENT OF ENGLISH LANGUAGE & LITERATURE

UNIT 1: Elizabeathen Age- Renaissance, Origin and Development of British Drama- Shakespeare , Christopher Marlowe, Ben Jonson , John Webster, Francis Bacon.

UNIT 2: 17th and 18th Century Literature-Metaphysical Poetry, Puritanism, Poets of Transition, Comedy of Manners, Rise of the Novel- Donne, John Milton, Daniel Defoe, Jonathan Swift, William Congreve, Joseph Addision, Alexander Pope, Henry Fielding, Dr.Johnson, Oliver Goldsmith, Sheridan, William Blake.

UNIT 3: Romantic and Victorian Age – Romanticism, Victorianism, French Revolution - William Wordsworth , Walter Scott , S.T. Coleridge, Charles Lamb, Jane Austen, John Keats, P.B.Shelley, Alfred Lord Tennyson, Robert Browning, Charles Dickens, Matthew Arnold , Thomas Hardy.

UNIT 4: Modern Age - Modernism, Post - Modernism, Stream of Consciousness, Theater of Absurd, Modern Novel - Bernard Shaw, Joseph Conrad, W.B. Yeats , T.S. Eliot, Samuel Beckett, James Joyce, D.H. Lawrence, Dylan Thomas , Ted Hughes, John Osborne, Graham Greene, William Golding.

UNIT 5: Indian Writing in English/ English Translation- Nationalism, Rise of Indian Writings in English, Indianism in Indian Diaspora- Tagore, Mulkraj Anand, R.K. Narayan , Raja Rao, Nissim Ezekeil, A.K.Ramanujan, Gauri Deshpande, Salman Rushdie ,Anita Desai, Shashi Deshpande, Mahasweta Devi, U.R.Anantha Murthy, Girish Karnard, Tendulkar, Dina Mehta ,Arundati Roy , Jhumpa Lahari .

UNIT 6: American Literature- American Puritanism,Transcendentalism, American Democracy, Civil War- R.W. Emerson, Walt Whitman, Nathaniel Hawthorne, Emily Dickenson, Henry James, Mark Twain, O'Neill, Tennessee Williams, Arthur Miller, Richard Wright, William Faulkner, Saul Bellow, William Carlos Williams, Wallace Stevens, Ralph Ellison.

UNIT 7: Post Colonial Literature- Post colonial Discourse, Sense of Exile, Race and Gender, Aboriginal Writing- Katherine Mansfield, Judith Wright, Gabriel Okara, Dennis Brutus, Derek Walcott, Chinua Achebe, V.S. Naipaul, Wole Soynika , J.P. Clark , Yasmine Goonaratne,Margaret Atwood, Ngugi wa Thiong'o , Ama Ata Aidoo.

UNIT 8: Literary Criticism - Critical Approaches to Literature - Formalist, Psycho - Analytical, Archetypal, Feminist- Aristotle, Samuel Johnson, Matthew Arnold, Sigmund Freud, T.S.Eliot, Elaine Showalter.

UNIT 9: Contemporary Women's Writing - Feminist Theories - Liberal, Marxist, Socialist and Radical- Virginia Woolf, Simone de' Beauvoir , Toni Morrison , Kate Millet,Kamala Das , Shashi Deshpande, Elaine Showalter, Buchi Emecheta, ,Toril Moi.

UNIT 10: Linguistics and English Language Teaching – Branches of Linguistics, Language Varieties, Phonetics, Fundamentals of Language teaching - methods, materials, objectives, evaluation, first language and second language. 2. Grammar Translation Method 3.Bilingual Method 4.Structural Approach 5. Communicative Approach.

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RESET SYLLABUS
DEPARTMENT OF LAW

UNIT 1: Research Methodology: Identification of Research Problem - Different steps in Legal Research - Framing of Objectives and Hypothesis- Methodology (Doctrinaire, Empirical analytical and participatory) - Tools / techniques of research, Analysis and Tabulation of data and Report writing.

UNIT 2: Constitutional Law : Preamble, Fundamental Rights and Directives of Sate Policy Fundamental Duties-Basic Structure theory, Services, provisions relating to Emergency and Emergency- writ jurisdiction.

UNIT 3: Jurisprudence : Conceptual Analysis- Different theories and Schools of jurisprudence - Concepts like Right, Duties, Title, Possession and Ownership.

UNIT 4: Labour Laws: Growth and importance of Labour jurisprudence - Labour Welfare and Social Security legislations - Recognition of Trade Unions-collective Bargaining and Compulsory Adjudication- different Modes and Machinery for settlement of Industrial Disputes- state Intervention- Strikes and Lockouts, Lay-off and Retrenchment- Impact of LPG on Labour Laws.

UNIT 5: Law of Crimes : Meaning, Definition and distinction between a Crime and Tort Essentials of a crime, Actus Reus and Mens Rea, stages of crime-General Exceptions from Criminal Liability-Inchoate Crimes - punishments including Death Penalty Offences against Body, Property, marriage and Reputation - Specific offences against Women

UNIT 6: Intellectual Property Rights - Law relating to Patents, Copy Rights and Trademarks - International Conventions and Recommendations pertaining to Intellectual Property Rights

UNIT 7: Law of Contracts: Essentials of a valid Contract, Offer, Acceptance, Consideration etc., valid, void and voidable Contracts, Legality of Contracts-Frustration and discharge of Contracts, Specific Contracts like- Pledge, Agency, Guarantee- Sale of goods - Specific Performance- partnership and Negotiable Instruments

UNIT 8: Torts : Meaning and Definition of Torts - difference between Torts and Crime, Strict, Absolute and vicarious Liability - Specific Torts.

UNIT 9: Family Law: Marriage and Matrimonial Remedies - Adoption and Guardianship Succession- Inheritance- Maintenance and Property Rights of women in India

UNIT10: Administrative Law: Importance and conceptual Analysis of Admini-strative Law - Sources-Separation of Powers- Rule of Law- Principles of Natural justice- Delegated Legislation and it's Controls - jurisdiction.

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RESET SYLLABUS

DEPARTMENT OF MUSIC AND FINE ARTS

UNIT 1: Research mythology in Music general study particular reference to Music.

UNIT 2: The different periods of musical history and their distinctive features and landmarks with history of Indian Music.

UNIT 3: The outline knowledge of the contents of the following lakshnagrandhas.; Natyasastra (Music chapters), Brihadeshi, Sangeetha ratnakars, Chaturdandi prakasika, Swaramelakalanidhi , Raga Vibodha, Sangeetha Sarambrutha

UNIT 4: Evolution of musical forms prabhandha, Thaya, Suladi and others compositions.

UNIT 5: A study of the life and contribution of musical trinity in detail inclusive of the comparative study of their styles . Music of the post Tyagaraja period.

UNIT 6: The evolution of concept of mela peddati and mela nomenclature systems of meias propounded by various Lakshanakaras.

UNIT 7: Sriti nomenclature, Bharatas experiment relating to Dhruvaveena and Chalaveena significance of the experiment.

UNIT 8: Ragalakshnas : Lainangi, Vachaspati, Pantuvarali, Sankarabharanam, Madhya-mavathi,Arabhi,Mukhari,Bhiravi,Todi,Dharmavathi

UNIT 9: An advance knowledge of musical prosody padya sahitya, gadya sahitya equitable distribution of words and syllables in the sections of Avartha padaceheda, varieties of prasas, musical retorics of Yamakam, yatipattern in sahitya of musical comparisons varieties of swarasharas.

UNIT 10: Folk music and its characteristics varieties of folk concerts, Gevanataka, Nrityanataka, Bhagavatha meia nataka, Burrakatha, Kuravanjinataka, Tolubommalata(Shadow play)

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RESET SYLLABUS

DEPARTMENT OF SOCIAL WORK

UNIT 1: Evolution of Social Work Profession in India and abroad : Indian and Western ideologies. Characteristics of Social work Profession - Social work Philosophy, principles, values, ethics and their application. Social Work profession and Human Rights. Scope for an Integrated Approach to Social Work Practice: Skills and Techniques. Social Work Education and training in India. Emerging fields for social work practice in India. Psycho social foundations for social work practice. Current status and voluntary effort in Social Work.

UNIT 2: Generalist Social Work practice : Working with individuals, groups and communities- history, concept, definitions, principles, processes, assessment, approaches, skills and techniques. Concept of community participation and application of participatory methods. Social action as a method. Process and Models of social action. Social movements and social action. Social legislation: Concept and definition. Legislations pertaining to women and children, health, disability, social security, etc.

UNIT 3: Social policy and social welfare : Concept of social policy and its evolution in India. Models of social policy Social policy formulation and implementation. Review of Major social policies and programmes viz. Education, health shelter, environment, social security, employment, women and children, welfare of the weaker sections, elderly, disabled etc. Social Welfare administration: concept and principles of social welfare. Administrative process. Social welfare administration as a method of social work. Management of Projects - Monitoring, Review and evaluation.

UNIT 4: Social Development: Concept, meaning and indictors. Approaches and Strategies: Growth and equity, minimum needs, quality of life. Concept of sustainable development. Challenges for social development in India. Social Work and Social Development. Social Research and Social Development.. Concept of Social Justice. Role of a social worker in promoting social justice. Social Problems in India and scope of social research.

UNIT 5: Community development: Concept, definition and characteristics of a community. Major forms of community: rural, urban and tribal. Concept, goals, philosophy, approaches and models of community development. Community analysis: Issues and needs related poverty, displacement, migration, conflicts, disasters, health, livelihoods etc.. Institutions building: Process and principles. Democratic decentralization & Panchayati Raj Organizations Overview of government programmes for community development. Scope and approaches for social work practice in community development

UNIT 6: Family and marriage system in India : A theoretical and conceptual framework. Families in difficult circumstances. Process of Family centered social work practice - study, assessment, diagnosis and intervention. Concept of child welfare and Child rights Policies, Programmes and services for families, youth, women and children at national and international levels. Social work practice with families, children, women, youth, elderly and persons with special needs. Family life education and enrichment.

UNIT 7: Evolution of social work in the field of health and mental health in India. Current trends and scope for social work in health and mental health care. Policies, programmes for promotion of health. Health care delivery systems in India. Major health concerns of the socially disadvantaged groups - physical, social, and psychological. Major mental disorders. Social work practice in hospitals, specialized medical and mental health institutions, child guidance clinics. stress and crisis intervention centers.

UNIT 8: Definition, Nature, Scope and Purposes of Social Research. Research Designs, Types and Methods. Steps in Social Research - Problem Formulation, Operationalisation of Variables, Sampling, Tools and Techniques of Data Collection, Data Analysis and Report Writing. Role and Responsibilities of the Researcher. Statistics - its use and limitation in Social Research measures of central tendency, chi - square test, t - test, correlation

UNIT 9: Social Work Research : Concept, need and importance. Social Work Research Process: Identification of Problem, need assessment, selection of social work research design, intervention and assessment of intervention effects. Difference between social research and social work research Use of participatory approaches in social work research. Concept and Steps in Formulation of a research project proposal. Qualitative research: concept, meaning and importance.

UNIT 10: Use of computers in Social Research : MS office with special reference to MS Excel. Use of MS Excel for statistical analysis & computation of data. Use of internet sources (data bases) for literature review and other research activities. Data Processing and analysis using SPSS Package: Entering data , Preparation of tables, charts and graphs using SPSS. Statistical computations using SPSS. Ethics in research

SRI PADMAVATHI MAHILA VISVAVIDYALAYAM, TIRUPATI
RESET SYLLABUS - 2012
DEPARTMENT OF TELUGU STUDIES

యూనిట్-1	తెలుగు భాషా సాహిత్యాలు - పరిశోధన పద్ధతులు - ప్రయోజనాలు.
యూనిట్-2	భాష - నిర్వచనం, లక్షణాలు - భాషా విజ్ఞాన విభాగాలు - ధ్వని విజ్ఞానం - వర్ణ విజ్ఞానం - పదాంశ విజ్ఞానం - వాక్య విజ్ఞానం - అర్థ విజ్ఞానం.
యూనిట్-3	కవిత్రయ భారతానువాదం - శివకవియుగ సాహిత్యం - తెలుగులో కావ్య సాహిత్యం - శ్రీనాథ, పోతనల సాహిత్య సృష్టి - ప్రబంధ యుగ సాహిత్యం - దక్షిణాంధ్ర సాహిత్యం - క్షీణయుగ సాహిత్యం.
యూనిట్-4	ఆధునిక సాహిత్య ఆవిర్భావ వికాసాలు - జాతీయోద్యమ సాహిత్యం - భావ కవిత్వ ప్రస్థానం - ఆధునిక సాహిత్య ధోరణులు - ఆధునిక సాహిత్య ఉద్యమాలు .
యూనిట్-5	ఆధునిక సాహిత్య ప్రక్రియలు - కవిత్వం - నవల - కథ - నాటకం - ఖండకావ్యం - స్వీయ చరిత్ర - జీవిత చరిత్ర - వ్యాసం - విమర్శ - పరిశోధన - సమీక్ష.
యూనిట్-6	భారతదేశంలో భాషా కుటుంబాలు - ఇండో ఆర్యన్ - ద్రావిడ - ముండ, సినోటిబెటన్. ద్రావిడ భాషలు - వ్యాప్తి - ద్రావిడ భాషలలో తెలుగు స్థానం - తెనుగు, తెలుగు, ఆంధ్ర పదాల చరిత్ర, తెలుగు - ఆదానప్రదానాలు.
యూనిట్-7	సాహిత్య విమర్శ స్వరూప స్వభావాలు - కావ్య హేతువులు - కావ్యాత్మవాదాలు - దశరూపకాలు - రస నిష్ప - ధ్వని భేదాలు - సాహిత్య వాదాలు - విమర్శనాపద్ధతులు.
యూనిట్-8	గ్రాంథిక వ్యవహారిక భాషోద్యమాలు, తెలుగుఅధికార భాష చట్టం - అమలు - తీరుతెన్నులు.
యూనిట్-9	అనువాద నిర్వచనాలు - అనువాద సిద్ధాంతాలు - అనువాద సమస్యలు - భాషా సాంస్కృతిక సమస్యలు.
యూనిట్-10	జానపద విజ్ఞానం - నిర్వచనం - వర్గీకరణ, జానపద విజ్ఞానంపై జరిగిన కృషి, జానపద గేయ సాహిత్యం - జానపద కళలు - జానపదుల భాష.

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RESET SYLLABUS

DEPARTMENT OF WOMEN'S STUDIES

UNIT 1: Introduction to Women's Studies Genesis and Growth of Women's Studies, Definitions Meaning, Objectives and scope of Women's Studies in India

UNIT 2: Feminism – meaning, definition, Feminism and Women's Studies - An Over View of Feminist Theories – Liberal, Marxist, Radical and Socialist.

UINIT 3: Statues of Women - Status of Women in India - Pre and post independent period - Determinants and Indicators of Women's Status - Issues related to female children and women - Violence against Women.

UNIT 4: Women's Movements in India – Pre Independence period – Social and religious reform movements, Post Independence Movement – Chipko movement, Anti arrack movement. Issue based movements – Rape, Violence, Sati, and Dowry.

UNIT 5: Women and Development – paradigm shift in development Women and Develop-ment, Women in Development, Gender and Development – Women Empowerment. Socio-Economic determinants of Women's Development.

UNIT 6: Policies and programmes for Women's Development: National policy for empowerment of women. - New Economic policy and its impact on Women.
Women development programmes of India and A.P. - Programmes of Central Government – DWCRA,ICDS,SHGS,Swayamsidha, Swadhar, Swa-Shakti, Balika Samridhiyojana. - Programmes of Andhra Pradesh Government, Kishore Balika pathakam (KBP) Girl Child protection scheme.

UNIT 7: Women's Health and Nutrition – Concept and Definitions of Nutrition and Health, Interrelationship between Health and Nutrition, Reproductive Health and Reproductive Rights of women.

UNIT 8: Introduction to Women's Studies Research: Definition, meaning, objectives and uses of Social Sciences Research – and Feminist Research. - Sexism in Research. - Research Design, Type of Research Design, Exploratory, Diagnostic and experimental.

UNIT 9: Sampling – Types of sampling – Probability and non probability – Random, Cluster, Stratified Merits and Demerits of sampling.

UNIT 10: Project proposal – Problem formulation – conceptualization – Hypothesis.
Preparation of a project proposal to study Women's issues / problems.

MODEL QUESTION PAPER

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MODEL QUESTION PAPER FOR RESET

For Computer Science and Business Management:

Question paper contains 100 objective questions with multiple choice

Total Marks	:	100
Time	:	1 ½ Hrs

For all remaining subjects:

Question paper contains 8 questions (descriptive) out of which 5 questions to be answered

Total Marks	:	100
Time	:	3 Hrs