DEPARTMENT OF ADVANCED ZOOLOGY AND BIOTECHNOLOGY

Dr. Ambedkar Government Arts College, (Autonomous), Vyasarpadi, Chennai – 600 039

M.Sc., Degree Programme in Zoology

Teaching plan (ODD semester – 2021 -22)

Class : M.Sc. **Zoology** - I year Semester: I

Subject Code : 19AAZC1

Name of the Subject: **FUNCTIONAL MORPHOLOGY OF INVERTEBRATES**

Subject In charge : Dr K. MOHAN

Week	Topics to be Covered
Week -1	Principles of Animal Taxonomy, species concept
Week -2	Origin of coelome formation and its types
Week -3	Origin and Evolution of Metazoa
Week -4	Locomotion in Protozoa, pseudopodia, flagella and cilia
Week -5	Hydrostatic movement in Coelenterates and Feeding mechanism,
Week -6	Parasitic adaptation in helminthes and larval forms
Week -7	Theories on origion of metamerism
Week -8	Filter feeding in polycheata, Mollusca and Echinodermata
Week -9	Larval form and its evolutionary significance of Crustacean, Mollusca and Echinodermata
Week -10	Advanced nervous system in Annelids, Arthropods and mollusca
Week -11	Organs of excretion : nephridia, malphigian tubules.
Week -12	Organs of respiration gills, lungs and trachea
Week -13	Respiratory pigments and Mechanism of respiration in invertebrates.
Week -14	Structure and peculiarities of Minor phyla
Week -15	Affinities of Rotifera, Chaetogantha, phoronida, Endoprocta and Ectoprocta

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Teaching plan (ODD semester – 2021 -22)

Class : M.Sc. **Zoology** - I year Semester: I

Subject Code : **19PAAZC2**

Name of the Subject: **Comparative Anatomy of Chordates**

Subject In charge : Dr K SAMYAPPAN

Week	Topics to be Covered
Week -1	Prochordate phylogeny-
Week -2	Evolutionary position of Ostracoderms, Placoderms in the evolution

	of the jawed vertebrates
Week -3	Origin and classification of vertebrates – Origin of mammals
Week -4	Vertebrate integument and its derivatives
Week -5	Evolution of heart in fishes, amphibians, reptiles, birds and mammals.
Week -6	Evolution of aortic arches and portal systems
Week -7	Comparative account of respiratory organs in fishes, amphibians,
Week -8	Evolution of kidney and their ducts in vertebrates
Week -9	Comparative account of jaw suspensorium
Week -10	Comparision of forelimbs, hindlimbs, in amphibians, reptiles, birds and mammals
Week -11	Comparision of pectoral girdle and pelvic girdle in amphibians, reptiles, birds and mammals
Week -12	Types of vertebra and Vertebral column of vertebrates
Week -13	Sense organs – Receptors in vertebrates
Week -14	Comparative anatomy of the brain in vertebrates in relation to its functions
Week -15	Lateral line system and Electroreception in fishes

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Teaching plan (ODD semester – 2021 -22)

Class : M.Sc. **Zoology** - I year Semester: I

Subject Code : **19PAAZC3**

Name of the Subject: **Evolution and Animal Behaviour**

Subject In charge : Dr T KUMARAN AND Dr R SARAVANAN

Week	Topics to be Covered
Week -1	Emergence of Evolutionary theories- Lamarackism and Darwinism – concepts
Week -2	Evolutionary synthesis - Modern Synthetic theory of evolution
Week -3	Molecular Evolution - Role of genes in evolution - Evolution of gene families
Week -4	Modern understanding of Natural selection
Week -5	Polymorphism- Transient and Stable- Maintenance of Polymorphism
Week -6	Patterns and trends in Evolution – Microevolution, Macroevolution and Megaevolution

Week -7	Simpson's adaptive grid. Phylogenetic gradualism and punctuated
Week -8	Population genetics- Metapopulations - Monitoring natural populations
Week -9	Human Evolution- Evolution of Anthropoid primates – The first Hominids - Origin of Modern man
Week -10	Classification of animal behaviour – Inborn animal behaviour- (Taxis, kinesis, Reflex, Instincts) - Acquired animal behavior
Week -11	Chronobiology - Biological clock- Biological rhythms in animals
Week -12	Sociobiology - Territoriality, Aggressive behavior and Sexual and Mating behaviour among animals
Week -13	Communication in animals – Types of communication in animals- Components
Week -14	Visual communication in honey bees and birds, Auditory (Vocal /Sound) communication in birds and mammals.
Week -15	Chemical communication – Pheromones of insects, Pheromones of mammals.

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Teaching plan (ODD semester – 2021 -22)

Class : M.Sc. **Zoology** - I year Semester: I

Subject Code : **19PAAZE1**

Name of the Subject: **MICROBIOLOGY**

Subject In charge : Dr T MATHURAM

Week	Topics to be Covered
Week -1	Contribution of scientists to microbiology - Classification of microbes
Week -2	Ultra structure of bacteria Ultra structure of fungi, Yeast, Viruses - viriods and prions
Week -3	Sterilization techniques
Week -4	Culture media - Types of culture media, Pure culture techniques
Week -5	Staining techniques
Week -6	Microbial growth - Factors influencing microbial growth
Week -7	Microbial ecology
Week -8	Application of soil beneficial microbes in agriculture
Week -9	Biofuels - Biomining
Week -10	Nitrogen fixing bacteria
Week -11	Viral diseases

Week -12	Bacterial diseases
Week -13	Antibiotics and production of antibiotics
Week -14	Microbes in food - Diary and Non Diary products
Week -15	Food Spoilage - Food Preservation

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Teaching plan (ODD semester – 2021 -22)

Class : M.Sc. **Zoology** - II year Semester: III

Subject Code : **19PCAZC1**

Name of the Subject: **BIOCHEMISTRY AND BIOPHYSICS**

Subject In charge : Dr M.Sasikala

Week	Topics to be Covered
Week -1	Electronic configuration of atoms,Bonds,Covalent bonds,
Week -2	Vanderwal's force,hydrophilc and hydrophobic
Week -3	Nature of bonds,structure of biomolecules
Week -4	Structure of proteins, Ramachandran plot
Week -5	Enzymes-classification, kinetics,Inhibitory,Isoenzymes
Week -6	Carbohydrate metabolism, Bioenergitics,
Week -7	Protein metabolism,Lipid metabolism,Fattyacids
Week -8	pH,Acid base balance,Buffer system in blood
Week -9	Diffusion,Fick's&Donnan equlibrium,Osmotic pressure
Week -10	Law of Thermodynamics,entropy, enthalpy,open and closed and
Week -11	Glycogenesis, Glucuneogenesis, Glycogenolysis
Week -12	Oxidation of fatty acids, Biosynthesis of Cholesterol
Week -13	Ionizing radiation,exposure and dose,Autoradiography
Week -14	Biological effects of radiation,cellular effects
Week -15	Application of radiactive traces,radiation protection and therapy

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M.Sc., Degree Programme in Zoology

Teaching plan (ODD semester – 2021 -22)

Class : M.Sc. **Zoology** - II year Semester: III

Subject Code : **19PCAZC2**

Name of the Subject: **ANIMAL PHYSIOLOGY**

Subject In charge : Dr V.MATHIVANNAN

Week	Topics to be Covered
Week -1	Digestion and absorption in the gastrointestinal tract
Week -2	Role of gastrointestinal hormones in digestion
Week -3	Heart - Haemodynamics, origin and conduction of cardiac impulse. Pace maker , ECG, phases of cardiac cycle
Week -4	Respiratory physiology — Respiratory gases – uptake – respiratory pigments – O_2 and CO_2 dissociation curves –
Week -5	Respiratory adjustments - hypoxia and oxygen therapy , dyspnoea . Adaptations at High altitude - mountain sickness and acclimatization
Week -6	Stress Physiology
Week -7	Mechanism of excretion – physiology- counter current mechanism -
Week -8	Physiological adaptation to osmotic and ionic stress; mechanism of cell volume regulation
Week -9	Acclimation and acclimatization - Physiological adaptations of different environments
Week -10	Neurons – action potential – nerve impulse transmission –
Week -11	Synapse structure - synaptic transmission , Neuro-degenerative
Week -12	Muscle contraction – Theories – Contractile proteins - molecular mechanism of muscle contraction. Energetics of muscle contraction
Week -13	Thermoregulation in poikilotherms and homeotherms - Endothermy
Week -14	Physiological response to body exercise - Meditation, Yoga and their effects
Week -15	Bioluminescence: light producing organs in invertebrates and vertebrates

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Teaching plan (ODD semester – 2021 -22)

Class : M.Sc. **Zoology** - II year Semester: III

Subject Code : **19PCAZC3**

Name of the Subject: **IMMUNOLOGY**

Subject In charge : Dr I MALAICHELVI

Week	Topics to be Covered
Week -1	Immunity and Types of Immunity, Lymphoid organs, Lymphocyte
Week -2	Immunogenicity, Antigenicity and Super antigens Immunoglobulins
Week -3	Organizatition and expression of Ig genes,Antibody Interaction
Week -4	Complement system, MHC and HLA antigens
Week -5	Molecular component and structure, differentiation of of T cells
Week -6	Molecular component and structure, differentiation of of B cells
Week -7	Humoral- mediated immune response
Week -8	Cell - mediated immune response, Antigen processing and presentation
Week -9	Cytokines – features, cytokines receptors
Week -10	Cell adhesion molecules, CTL and NK cell – mechanism of action
Week -11	Immunological tolerance- central , peripheral and acquired tolerance
Week -12	Hypersensitivity – types and Immunological reactions
Week -13	Autoimmunity and autoimmune diseases
Week -14	Tumor immunology-types,tumor antigens, Immune response to antigen
Week -15	Transplantation immunology, Immunological technique

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M.Sc., Degree Programme in Zoology

Teaching plan (ODD semester – 2021 -22)

Class : M.Sc. **Zoology** - II year Semester: III

Subject Code : **19PCAZE1**

Name of the Subject: **BIOINSTRUMENTATION**

Subject In charge : Dr N.THIRUNAVUKKARASU

Week	Topics to be Covered
Week -1	Units of measurements
Week -2	Electron microscope (SEM & TEM), flourescent microscope, phase contrast microscope, photomicrography
Week -3	chromosome banding techniques (G,C,Q,R. Banding). Flow cytometry - Flourescence in situ hybridization - (FISH)
Week -4	Centrifugation
Week -5	UV- visible spectrophotometer- Beer Lambert Law. Principle and application of Flame photometer
Week -6	X-ray diffraction

Week -7	Chromatography- Paper, thin layer, column,.
Week -8	Chromatography - Ion exchange , GC and HPLC
Week -9	Electrophoresis: Paper, Agarose gel, and SDS-PAGE
Week -10	Histological techniques- Mechanism of staining and vital stains
Week -11	Histochemical Localization- DNA, RNA, protein, lipid and
Week -12	cryopreservation of cells, tissues, organs and organisms
Week -13	Animal Cell Culture
Week -14	Immunotechniques - Immunodiffusion, Immunoelectrophoresis,
Week -15	ELISA (Direct, Indirect and Competitive), RIA, Immunodetection - Immunoblotting technique

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M.Sc., Degree Programme in Zoology

Teaching plan (ODD semester – 2021 -22)

Class : M.Sc. **Zoology** - II year

Semester: III

Subject Code : **19PCAZD1**

Name of the Subject: **MAMMALIAN ENDOCRINOLOGY**

Subject In charge : Dr R SARAVANAN

Week	Topics to be Covered
Week -1	Classification of hormones based on chemical nature. Hormone
Week -2	Hormone transport. Hormonal feedback in homeostasis- Negative and positive feed back mechanisms through endocrine axis.
Week -3	Mechanism of hormone action- Mechanism of action of peptide hormones
Week -4	Mechanism of action of Steroid hormones
Week -5	Hypothalamo-hypophysial system - localization, chemistry and actions
Week -6	Thyroid gland - Biosynthesis of thyroid hormones, Control of secretion and Biological functions – Disorders- Hypothyroidism, Hyperthyroidism
Week -7	Parathyroid gland- Role of parathormone, calcitonin and vitamin D in calcium homeostasis
Week -8	Endocrine pancreas
Week -9	Adrenal cortex: Structure, Hormone secretion, Biosynthesis and Control of mineralocorticoid and glucocorticoid secretions.
Week -10	Adrenal medulla: Catecholamine biosynthesis, release and its
Week -11	Disorders with reference to Addisons disease and Cushing's syndrome

	Disorders with reference to Gigantism, Acromegaly, Diabetes insipidus
Week -12	Testis: Organization and Hormone secretion – Chemical structure of
Week -13	Ovary: Structure - Hormone secretion- Chemical structure of estrogens
Week -14	Physiological role of estrogen, progesterone and relaxin . Hormones of placenta and their functions
Week -15	Physiological roles of glucocorticoids and mineralocorticoids

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Teaching plan (EVEN semester – 2021 -22)

Class : M.Sc. **Zoology** - I year Semester: II

Subject Code : **19PBAZC1**

Name of the Subject: **CELL AND MOLECULAR BIOLOGY**

Subject In charge : Dr R SARAVANAN

Week	Topics to be Covered
Week -1	Biomembranes - Molecular composition and arrangement
Week -2	Transport across cell membrane- Diffusion, active transport and pumps
Week -3	uniports, symports and antiport - Membrane potential - Co-transport by symports or antiports
Week -4	Microfilaments and microtubules-structure and dynamics – Role of Microtubulins in mitosis
Week -5	Cell movements- intracellular transport, role of kinesin and dynein.
Week -6	Cell-cell signalling - Cell surface receptors - Second messenger system - MAP kinase pathways - Signalling from plasma membrane to nucleus
Week -7	Cell- cell adhesion and Communication
Week -8	Gap junctions and connexions
Week -9	Cell cycle - cyclins and cyclin dependent kinases, Regulation of CDK
Week -10	Genome Organization - Unique, repetitive, Non repetitive DNA, C- value paradox
Week -11	Morphological and Functional elements of Eukaryotic Chromosomes
Week -12	Eukaryotic DNA Replication and Enzymology. DNA repair – Direct, excision, Mismatch repair and recombinational repair
Week -13	Intracellular protein traffic - Protein synthesis on free and bound polysomes Golgi sorting, post-translational modifications - Biogenesis of mitochondria and nuclei - Trafficking mechanisms
Week -14	Biology of cancer - Oncogenes - Retroviral and Proto-oncogene.

	Tumor suppressor genes
Week -15	Apoptosis-definition, mechanism and significance - Genes involved in apoptosis

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Teaching plan (EVEN semester – 2021 -22)

Class : M.Sc. **Zoology** - I year Semester: II

Subject Code : **19PBAZC2**

Name of the Subject: **GENETICS**

Subject In charge : Dr V.MATHIVANAN

Week	Topics to be Covered
Week -1	Concept of gene
Week -2	Codominance, incomplete dominance, gene interactions, pleiotropy, genomic imprinting
Week -3	linkage and crossing over, sex linkage, sex limited and sex influenced characters
Week -4	Gene mapping methods: Linkage maps, tetrad analysis, mapping with molecular markers
Week -5	Gene mapping methods: Linkage maps, tetrad analysis, mapping with molecular markers
Week -6	Extra chromosomal inheritance: Inheritance of Mitochondrial genes
Week -7	Microbial genetics: Methods of genetic transfers
Week -8	Human genetics: Pedigree analysis, lod score for linkage testing, karyotypes, genetic disorders
Week -9	Population Genetics: Genetic equilibrium
Week -10	Mutation: Types, causes and detection, mutant types
Week -11	Structural and numerical alterations of chromosomes
Week -12	Gene Recombination : Homologous and Non-homologous
Week -13	Gene regulation – genome analysis — RNA processing
Week -14	Eukaryotic transcription – Transcription Factors and regulation
Week -15	Eukaryotic translation - Control and regulation. Post translational modifications

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Teaching plan (EVEN semester – 2021 -22)

Class : M.Sc. **Zoology** - I year Semester: II
Subject Code : **19PBAZC3**
Name of the Subject: **Environmental Biology and Biodiversity Conservation**
Subject In charge : Dr K.Mohan

Week	Topics to be Covered
Week -1	Physical environment; biotic environment; biotic and abiotic interactions
Week -2	Habitat and Niche: Concept of habitat and niche; niche width and overlap; fundamental and realized niche
Week -3	Biogeochemical cycles – Gaseous and sedimentary cycle
Week -4	Population Ecology: Characteristics of a population
Week -5	concept of metapopulation
Week -6	Species Interactions: Types of interactions, interspecific competition
Week -7	Community Ecology: Nature of communities; community structure and attributes
Week -8	Ecological Succession
Week -9	Ecosystem structure and function
Week -10	Structure and function of Indian ecosystems
Week -11	Estuaries - Productivity of an estuary. Mangroves
Week -12	Environmental pollution and Bioremediation; global environmental change , e-waste management
Week -13	Biodiversity: status, monitoring and documentation; major drivers of biodiversity change; biodiversity management approaches.
Week -14	Conservation Biology: Principles of conservation, major approaches to management
Week -15	Biogeography: Major terrestrial biomes; theory of island biogeography

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M.Sc., Degree Programme in Zoology
Teaching plan (EVEN semester – 2021 -22)

Class : M.Sc. **Zoology** - I year Semester: II
Subject Code : **19PBAZE1**
Name of the Subject: **APPLIED ENTOMOLOGY**
Subject In charge : Dr T KUMARAN

Week	Topics to be Covered
Week -1	Outline classification- Classification of insects

Week -2	Metamorphosis – ametabolous, holometabolus and hemimetabolous development
Week -3	Insect Organization and structure
Week -4	Types of damage- injuries and loss caused to plants - factors governing the outbreak of pests.
Week -5	Pests affecting agricultural crops
Week -6	Pests affecting agricultural crops
Week -7	Sericulture Grainage Technology-Procedures for seed Selection for rearing
Week -8	Silk worm rearing-Chawaki rearing and Late age rearing techniques. Rearing appliances
Week -9	Mountages- Types and importance . Composition of cocoons –
Week -10	Types of Honey bees for rearing- Bee rearing- Modern bee hive structure
Week -11	Honey extractor and extraction of honey, Chemical composition, nutritional and medicinal value of honey.
Week -12	Lac culture-Host plants for lac insect, Cultivation of lac - Inoculation Swarming and harvesting of lac). Processing of lac.
Week -13	Vector borne diseases
Week -14	Pest management strategies and tools
Week -15	Hormone analogs - Integrated Pest Management (IPM)

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Class : M.Sc. **Zoology** - I year Semester: II

Subject Code : **19PBAZD1**

Name of the Subject: **BIOSTATISTICS AND BIOINFORMATICS**

Subject In charge : Dr K SAMYAPPAN AND Dr R SARAVANAN

Week	Topics to be Covered
Week -1	Collection and representation of data- Graphical and diagrammatic representation of data
Week -2	Measure of central tendency- Arithmetic mean - computation for (ungrouped , discrete and continuous frequency distributions) – median and mode
Week -3	Measures of dispersion- Standard deviation –Computations and Interpretations

Week -4	Hypothesis testing - null hypothesis - level of significance - degrees of freedom
Week -5	Test of significance: Chi-square test for goodness of fit, homogeneity
Week -6	Student's 't' test- Applications- Test of significance T-tests ANOVA-One way - Principle and applications , F test
Week -7	Correlation: Definition and types - simple, multiple, partial, linear, nonlinear, mutual, cause and effect, etc
Week -8	Regression analysis: derivation of regression equations between two variables- regression coefficient - construction of regression lines
Week -9	Computation of Karl Pearson's Co-efficient of correlation - testing its
Week -10	Information networks in bioinformatics- Biological databases – Nucleic acid databases - Protein sequence data bases
Week -11	Protein structural databases - MMDB, FSSP, SCOP and CATH.
Week -12	Sequence alignment - Global and local alignment - pair wise and multiple sequence alignment
Week -13	Bioinformatic tools - Homology and similarity search tools
Week -14	Molecular phylogenetics- Construction of phylogenetic tress
Week -15	Biomolecular structural visualization tools -RASMOL, SWISS PDB viewer - Data Retrieval systems- Locus Link, SRS, PubMed, Entrez

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Teaching plan (EVEN semester – 2021 -22)

Class : M.Sc. **Zoology** - II year Semester: IV

Subject Code : **19PDAZC1**

Name of the Subject: **DEVELOPMENTAL BIOLOGY**

Subject In charge : Dr I MALAICHELVI

Week	Topics to be Covered
Week -1	Mechanism of gametogenesis, hormonal regulation , vitellogenesis
Week -2	Molecular events of fertilizatition, cell surface molecules in sperm egg regconition
Week -3	Factors affecting cleavage – molecular changes during cleavage
Week -4	Blastula formatition , Morphogenitic movements,

Week -5	Embryonic fields- formation of germ layers ' Embroyogenesis and symmetry
Week -6	Cell aggregation and differentiation in Dictylostelium – Axes and pattern formation in Drosophila
Week -7	Amphibia and chick – organogenesis – vulva formation in *Caenorhabditis elegans*
Week -8	Eye lens induction and limb development in frog, Differentiation of neurons- mammals
Week -9	Organizer concept – gradient theory and factors Embryonic induction –
Week -10	Placenta – classificatition and distributition , Implatation in Mammals
Week -11	Stem cells – Embroyonic and adult – Applicatition stemcell and Ethical issues
Week -12	Male and female infertility – Assisted reproductive technology
Week -13	Amminocentesis, contraceptives methods - Immunocontraceptives
Week -14	Metamorphosis in insect and Amphibia - regeneratition
Week -15	Apotosis-scnenscense-and its mechanism

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Class : M.Sc. **Zoology** - II year Semester: IV

Subject Code : **19PDAZC2**

Name of the Subject: **BIOTECHNOLOGY**

Subject In charge : Dr M.SASIKALA

Week	Topics to be Covered
Week -1	recombinant DNA technology and gene cloning - Restriction enzymes and ligases. Genomic libraries - c-DNA libraries - Preparation of
Week -2	Types of vectors- Plasmids, cosmids, lambda phage vectors, shuttle vectors, YACS, BACS, Expression vectors in bacteria and eukaryotes, Cloning vector for mammalian cells - Simian Virus 40
Week -3	Screening for transformants - Characterisation of transformants
Week -4	Isolation and sequencing of DNA- Maxim- Gilbert, Sanger's dideoxy

	methods., PCR
Week -5	Molecular markers - RAPD, RFLP, AFLP
Week -6	Blotting techniques, DNA finger printing- Techniques and applications - Biochips and Biosensors
Week -7	Organ and Whole embryo culture Cell lines
Week -8	Somatic Animal cell fusion – Somatic Embryogenesis
Week -9	Tissue Engineering- Artificial skin and cartilage
Week -10	Human gene therapy- Types and Methods of gene therapy
Week -11	Design of bioreactor – Stages involved in fermentation process
Week -12	Fermentation products- Primary metabolites and Secondary metabolites
Week -13	Production and industrial applications of primary metabolites
Week -14	Immmobilized enzymes and applications Enzymes technology - Industrial applications and uses of microbial enzymes
Week -15	Biotechnology Regulations- Biosafety- Hazards of Genetically modified organisms (GMO's) and GM foods .

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M.Sc., Degree Programme in Zoology

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Class : M.Sc. **Zoology** - II year Semester: IV

Subject Code : **19PDAZE1**

Name of the Subject: **RESEARCH METHODOLOGY**

Subject In charge : Dr N.THIRUNAVUKKARASU

Week	Topics to be Covered
Week -1	Concepts of research
Week -2	Types of research
Week -3	Research formulation
Week -4	Defining and formulating the research problem
Week -5	Sample designs- Characteristics and different types of sample design.
Week -6	Data collection techniques

Week -7	Hypothesis- Null and alternate hypothesis, testing the hypothesis – Theory and principle
Week -8	Literature review
Week -9	Abstracting and indexing sources, reviews, monographs
Week -10	Sources of information - primary and secondary sources
Week -11	Scientific writing- characteristics - Presentation techniques
Week -12	Reference styles- Harvard and Vancouver systems.
Week -13	Project proposal writing
Week -14	Laboratory safety and IPR
Week -15	Bioethics: Working with man and animals - consent - animal ethical committees and constitution.

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Class : M.Sc. **Zoology** - II year Semester: IV

Subject Code : **19PDAZE2**

Name of the Subject: **AQUACULTURE**

Subject In charge : Dr T MATHURAM

Week	Topics to be Covered
Week -1	Importance of Aquaculture - Present status, prospects and scope in India
Week -2	Types of Aquaculture
Week -3	Types of fish culture, Topography, site selection
Week -4	Control of parasites, predators Fish farm implements
Week -5	Fish feed and seed production - Hatchery techniques for freshwater organisms
Week -6	Shrimp Hatchery techniques - Shrimp culture technology
Week -7	Brackish water fish culture - Oyster culture
Week -8	Economic importance of lobster, sea urchin and sea cucumber
Week -9	Types of sea weeds
Week -10	Fish and Shrimp diseases and health management
Week -11	Non-infectious - environmental and nutritional diseases
Week -12	Different types of crafts and gears for fishing
Week -13	By products of fish industry
Week -14	Fisheries economics and marketing

Week -15	Central aquaculture research organization

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B.Sc., Degree Programme in Advanced Zoology and Biotechnology

Teaching plan (ODD semester – 2021 -22)

Class : B.Sc. **Advanced Zoology and Biotechnology** - I year Semester: I

Subject Code : **19UAAZC1** Name of the Subject: **INVERTEBRATA**

Subject In charge : Dr.K.Samyappan, Dr N.Thirunavukkarasu and Dr K.Mohan

Week	Topics to be Covered
Week -1	Classification of Animal kingdom, General characters of Protozoa
Week -2	Type study paramecium
Week -3	Protozoan parasites and Life cycle of Plasmodium
Week -4	General characters of Porifera and Coelenterata
Week -5	Type study Leucosolenia and obelia
Week -6	Canal system of sponges and Types of coral and coral reefs
Week -7	General characters of Platyhelminthus and Aschelminthus
Week -8	Type study Taenia solium and Ascaris
Week -9	Nematode parasites and parasitic adaptation
Week -10	General characters of Arthropoda and Annelida,
Week -11	Type study Neeris and Prawn
Week -12	Metamerism in Annelida, mouth parts of insects and larval forms
Week -13	General characters of Mollusca and Echinodermata
Week -14	Type study Fresh water mussel and star fish
Week -15	Torsion in Gastropods. Economic important of mollusca and Larval form of Echinodermata.

DEPARTMENT OF ADVANCED ZOOLOGY AND BIOTECHNOLOGY

Dr. Ambedkar Government Arts College, (Autonomous), Vyasarpadi, Chennai – 600 039

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Teaching plan (ODD semester – 2021 -22)

Class : B.Sc. **Advanced Zoology and Biotechnology** – II year Semester: III

Subject Code : **19UCAZC1** Name of the Subject: **CELL BIOLOGY AND BIOCHEMISTRY**

Subject In charge : Dr.K.SAMYAPPAN AND Dr R SARAVANAN

Week	Topics to be Covered
Week -1	Cell theory-prokaryotic and eukaryotic cell

Week -2	Classification of carbohydrates- monosaccharides Holi Oligosaccharides,Disaccharides ,Polysaccharides
Week -3	Plasma membrane -Model ,ultrastructure and functions
Week -4	Structure of carbohydrates with reference to glucose, fructose, lactose maltose and sucrose
Week -5	Cell junctions -ultrastructure and function of endoplasmic reticulum , Golgi complex, Lysosomes and centrioles
Week -6	Classification of Amino acids and Proteins (fibrous and globular simple, conjugated)
Week -7	Mitochondria structure and function
Week -8	Structure of protein(primary and secondary and tertiary)
Week -9	Structure and functions of Nucleus and Nucleolus
Week -10	Classification of lipids -simple lipids ,compound lipids and Fatty acids
Week -11	Cell division -Mitosis, Meiosis and Interphase nucleus. Cell cycle.
Week -12	Enzymes- Classification and Mechanism of enzyme action- Factors influencing enzyme actions , Enzyme inhibition
Week -13	Chromosome- Structure, types DNA a structure and functions DNA replication in prokaryotes and Eukaryotes
Week -14	Carbohydrate metabolism- glycolysis and krebs cycle Electron transport chain and formation of ATP Glycogenesis ,Glycogenolysis,Gluconeogenesis Beta -oxidation of fatty acids
Week -15	Ultrastructure ,function and types of ribosomes. Types and structure of RNA.Protein synthesis in prokaryotes.

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B.Sc., Degree Programme in Advanced Zoology and Biotechnology

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Class : B.Sc. **Advanced Zoology and Biotechnology** – III year Semester: V

Subject Code : Name of the Subject: **BASIC BIOTECHNOLOGY**

Subject In charge : Dr. V.Mathivannan

Week	Topics to be Covered
Week -1	Recombinant DNA technology- Tools used in genetic engineering- Restriction enzymes, polymerase and ligases. Cloning Vectors
Week -2	Linkers and adaptors ,Cloning Vectors – Types, plasmids (pBR 322,), Gene cloning in *E.coli*.
Week -3	Isolation of DNA – insertion of DNA - Transformation – uptake of DNA by host cell – selection of clones- identification of recombinants.
Week -4	Polymerase chain reaction technique and its application- Southern,

	Western and Northern Blotting techniques and its application
Week -5	DNA finger printing and its application
Week -6	Animal cell tissue culture
Week -7	Production of single cell protein
Week -8	Biofertilizers, Biopesticides
Week -9	Production of industrial enzymes
Week -10	Production of Insulin, vaccines and antibiotics
Week -11	Production of recombinant proteins having therapeutic and diagnostic applications
Week -12	Genetically modified organism
Week -13	Intellectual property rights and protection
Week -14	Patenting, copyright and trade mark of biological material
Week -15	BioEthics

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Class : B.Sc. **Advanced Zoology and Biotechnology** – III year Semester: V

Subject Code : Name of the Subject: **MICROBIOLOGY AND IMMUNOLOGY**

Subject In charge : Dr.I.Malaichelvi and Dr.T.Mathuram

Week	Topics to be Covered
Week -1	Scope of microbiology - Classification of microorganisms
Week -2	Immunity - Classification
Week -3	Salient features of bacteria, virus, Alage, fungi
Week -4	Structure and function of cells involved in the immune response
Week -5	Ultra structure of bacterial cell
Week -6	Primary and secondary lymphoid organs
Week -7	Bacterial growth - Culture media
Week -8	Antigens - Epitopes, Haptens, Adjuvants, Grossman Antigens
Week -9	Sterilization techniques
Week -10	Immunoglobulins - Types and Structure
Week -11	Staining techniques - bioremediation
Week -12	Mechanism of cells mediated and humoral immunity
Week -13	Microbes in various food products - Milk Product - Preservation of milk
Week -14	Tissue typing and Graft management Vaccines
Week -15	Antigen-antibody reaction, Production and application of monoclonal

	antibodies, immunotechnique

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Class : B.Sc. **Advanced Zoology and Biotechnology** – III year Semester: V

Subject Code : Name of the Subject: **EVOLUTION**

Subject In charge : Dr R Saravanan and Dr K Samyappan

Week	Topics to be Covered
Week -1	Origin of life - modern ideas –
Week -2	Evidences of organic evolution
Week -3	Evidences of organic evolution
Week -4	Geological time scale- Fossils & Fossilization - Living and Extinct Fossils
Week -5	Lamarck theory and its criticism
Week -6	Darwin's theory- Neo-Darwinism
Week -7	Hardy- Weinberg Law
Week -8	Modern concepts of evolutionary forces
Week -9	Adaptive radiation in Darwin's finches
Week -10	Types of speciation
Week -11	Isolation – Geographical and Reproductive isolation
Week -12	Types of isolating mechanism
Week -13	Mimicry
Week -14	Colouration
Week -15	Evolution of horse. Evolution of Man

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Class : B.Sc. **Advanced Zoology and Biotechnology** – III year Semester: V

Subject Code : Name of the Subject: **ECONOMIC ZOOLOGY**

Subject In charge : Dr.T.Kumaran and Dr.N.Thirunavukkarasu

Week	Topics to be Covered
Week -1	Definition of Pest- Causes for insects attaining pest status
Week -2	Brief account on pests of affecting rice and sugarcane
Week -3	Brief account on pests of cotton , vegetables and stored grains

Week -4	Sericulture
Week -5	Apiculture
Week -6	Lac culture
Week -7	Pest control strategies
Week -8	Plant protection appliances
Week -9	Integrated Pest management
Week -10	Poultry management
Week -11	Construction of poultry house and poultry rearing
Week -12	Diseases affecting poultry and their prevention methods
Week -13	Dairy farming
Week -14	Sheep farming
Week -15	Piggery farming

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Class : B.Sc. Advanced Zoology And Biotechnology – III year Semester: V

Subject Code : Name of the Subject: Elective – **Biostatistics and Biological techniques**

Subject In charge : Dr.K.Samyappan and Dr.K Mohan

Week	Topics to be Covered
Week -1	Collection of data,Varibles, presentation of data, Tabulation-Diagrams and graphs, Bar, Pie charts
Week -2	
Week -3	Frequency diagrams, frequency curve, line diagrams
Week -4	
Week -5	Mean, Median, Mode, Weighted Arithimitic mean
Week -6	
Week -7	Measures of Dispersion, Mean deviation, Standard deviation
Week -8	
Week -9	Correlation and Regression, Equation and Lines
Week -10	
Week -11	Samples-Sampling methods, Test of significance
Week -12	
Week -13	Student's t-test,F-test,Chi-square test
Week -14	
Week -15	

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Teaching plan (EVEN semester – 2021 -22)

Class : B.Sc. Advanced Zoology And Biotechnology – I year Semester: II

Subject Code : **19UBAZC1** Name of the Subject: **CHORDATA**

Subject In charge : Dr.K.Samyappan, Dr N.Thirunavukkarasu and Dr K.Mohan

Week	Topics to be Covered
Week -1	General Characters of Prochordates and classification ; Chordates - Classification (upto order) with examples , Agnatha, Salient features Cyclostomes
Week -2	Type study: Amphioxus , Scoliodon
Week -3	Accessory respiratory organs in fishes, Migration in fishes
Week -4	Amphibians-General characters Type study- Frog
Week -5	Type study- Frog
Week -6	Parental care in Amphibians, Metamorphosis in Amphibians
Week -7	Reptilia-General characters Type study- Calotes
Week -8	Skull of Reptiles, Identification of Poisonous and non poisonous
Week -9	Poison Apparatus and Biting mechanism
Week -10	Aves- General characters, Pigeon - Type study
Week -11	Flight adaptations in birds, Migration in birds
Week -12	Salient features of Archaeopteryx, Flightless birds
Week -13	Mammals - General characters, Type study - Rabbit
Week -14	Prototherians (Egg laying) mammals , Diversity of Marsupials (Pouched mammals),
Week -15	Dentition in Mammals

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Class : B.Sc. Advanced Zoology And Biotechnology – II year Semester: IV

Subject Code : **19UDAZC1** Name of the Subject: **GENETICS**

Subject In charge : Dr.K.SAMYAPPAN AND Dr R SARAVANAN

Week	Topics to be Covered
Week -1	Mendelian inheritance law - Law of Mendal - Monohybrid and Dihybrid
Week -2	Gene concept - Cistron, Recon, Muton, Split gene, Promoter, Repetitive DNA, Transposons - Gene regulations - Lac operon model
Week -3	Interaction of genes - Complimentary and supplementary factors, Epistasis and Lethal genes in man
Week -4	Mutation - Types of mutation - Molecular basis of mutation- Single gene

	mutation - Sickle cell anemia - Physical and chemical mutagens
Week -5	Multiple alleles - Blood grouping inheritance in man Polygenic inheritance
Week -6	Chromosomal aberration Inborn errors of metabolism
Week -7	Sex determination, Chromosomal variation, Syndromes, Non Disjunction
Week -8	Microbial genetics - Bacterial genome - Transformation - Conjugation - F factor - Sexduction - Transduction - Generalised and Specialised Plasmids
Week -9	Linkage
Week -10	Crossing over
Week -11	Applied Genetics - Inbreeding - Outbreeding
Week -12	Heterosis - Eugenics - Euphenics and Euthenics
Week -13	Pedigree analysis - Genetic counselling
Week -14	Cytoplasmic inheritance
Week -15	Microbial genetics

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Class : B.Sc. Advanced Zoology And Biotechnology – III year Semester: VI

Subject Code : Name of the Subject: **ANIMAL PHYSIOLOGY**

Subject In charge : Dr. V.Mathivannan

Week	Topics to be Covered
Week -1	Nutritional physiology- Balanced diet
Week -2	Digestion of carbohydrates, proteins and fats
Week -3	Respiratory physiology
Week -4	Circulatory physiology
Week -5	Mechanism of blood clotting- Disorders of blood clotting
Week -6	Conduction of Heartbeat and pace maker - Pulse and blood pressure Cardiac abnormality
Week -7	Muscle physiology
Week -8	Structure of Neuron - types of neurons - nerve impulse propagation
Week -9	Neuro transmitters - Reflex action - Nerve disorders
Week -10	Renal physiology
Week -11	Urea cycle. Abnormal constituents of urine, renal disorders
Week -12	Osmoregulation -– osmo-ionic regulation in protozoans and fish
Week -13	Sensory physiology - Chemoreceptors
Week -14	Structure of eye- Physiology of vision- Eye defects
Week -15	Structure of ear and mechanism of hearing - Hearing impairments

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Class : B.Sc. Advanced Zoology And Biotechnology – III year Semester: VI

Subject Code : Name of the Subject: **DEVELOPMENTAL BIOLOGY**

Subject In charge : Dr T.KUMARAN AND Dr.R.SARAVANAN

Week	Topics to be Covered
Week -1	Gametogenesis - Process of Spermatogenesis and Oogenesis
Week -2	Classification of eggs based on yolk content distribution
Week -3	Egg membranes
Week -4	Fertilization
Week -5	Parthenogenesis – Natural and Artificial Parthenogenesis
Week -6	Cleavage - Planes of cleavage - Patterns of cleavage - Factors controlling cleavage and types
Week -7	Fate map – Morphogenetic movements
Week -8	Gastrulation in frog , chick and mammal (pig)
Week -9	Development of brain and eye in frog. Development of heart in
Week -10	Extra embryonic membranes in chick, Placentation in mammals
Week -11	Human reproduction, Twins – Monozygotic and Dizygotic twins.
Week -12	Birth Control - Contraception - Contraceptive methods
Week -13	Assisted Reproductive Technology- - Artificial Insemination –
Week -14	IVF – Embryo Transfer and its advantages - Test Tube Baby – Amniocentesis
Week -15	Ethics in Artificial Reproductive Technology and embryo manipulation

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Class : B.Sc. Advanced Zoology And Biotechnology – III year Semester: VI

Subject Code : Name of the Subject: **ENVIRONMENTAL BIOLOGY**

Subject In charge : Dr.T KUMARAN and Dr N.THIRUNAVUKKARASU

Week	Topics to be Covered
Week -1	Components of ecosystem: environmental factors Abiotic factors – Soil, Light and Temperature as ecological factors
Week -2	Biotic factors – Animal relationships

Week -3	Limiting factors- basic concepts - Leibig's law of minimum - Shelford's law of tolerance
Week -4	Biogeochemical cycles – Nitrogen, Carbon and Oxygen
Week -5	Pond ecosystem – Primary and secondary production – Food chain –
Week -6	Food web – Trophic levels – Energy flow – Ecological Pyramids
Week -7	Community Ecology – Types of communities – Characteristics of community
Week -8	Population Ecology - Characteristics affecting population
Week -9	Population density – Density dependant factors – Population fluctuations
Week -10	Terrestrial Ecology
Week -11	Freshwater Ecology - Physico chemical nature of fresh water – Biotic communities
Week -12	Marine Ecology Characteristics - Biotic communities of pelagic, benthic, intertidal and sublittoral zones
Week -13	Wild life conservation and management
Week -14	Red data book- IUCN, WWF, CITES. Protected areas, biosphere reserves, national parks and sanctuaries in India
Week -15	Green Chemistry Basic principles of green chemistry. Organic farming and its merits

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Class : B.Sc. Plant Biology and Plant Biotechnology – III year Semester: VI

Subject Code : Name of the Subject: **MEDICAL LABORATORY TECHNIQUES**

Subject In charge : Dr.M.SASIKALA AND Dr K.MOHAN

Week	Topics to be Covered
Week -1	Introduction and scope, Good laboratory preparation,Record maintance. Cleaning of Glass wares
Week -2	Pathology-caustive agents,symptoms, disorders
Week -3	Sterilization,safety precautions and first aid treatments
Week -4	Bacterial diseases, Tuberculosis tests, Typhoid-widal test
Week -5	Disposal of specimens, Collections of specimens and samples
Week -6	Protozoañ diseases, Amoebic dysentry, Malaria

Week -7	Haemotological tests, RBC, WBC Total count HB, Platelet count
Week -8	Helminthis parasite diseases, Filariasis, Antibody detection
Week -9	Liver function tests, SGPT, SGOT, Bilirubin
Week -10	Cardiac diseases, ECG and Lipid profiles, Diabetes,
Week -11	Urine analysis, Analysis of Stools
Week -12	Auto immune disease,Rheumatoid arthertis
Week -13	Methods and clinical signicance of ESR,PCV, MCH, MCHC
Week -14	Liver cancer, GI tract cancer, Ovarian and Brest cancer
Week -15	Pregency tests, Analysis of Semen, sputum and CSF

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Class : B.Sc. Advanced Zoology And Biotechnology – III year Semester: VI

Subject Code : Name of the Subject: **AQUACULTURE**

Subject In charge : Dr.I.Malaichelvi and Dr.T.Mathuram

Week	Topics to be Covered
Week -1	Introduction to aquaculture - Different culture practices
Week -2	Fish diseases - bacterial
Week -3	Types of culture - monoculture, monosex culture, polyculture
Week -4	Fish diseases - viral and parasitic diseases
Week -5	Selection of site and species for aquaculture practices
Week -6	Organization involved in aquaculture
Week -7	Fish farm design and construction
Week -8	Culture of marine and freshwater prawn - Mariculture - molluscan culture - Oyster - seaweed culture
Week -9	Types of fish pond
Week -10	Problem associated with aquaculture
Week -11	Maintenance and management of different ponds
Week -12	Culture methods - Integrated fish farming - Paddy cum fish culture, pen culture, cage culture, race way culture, sewage fed fish culture
Week -13	Feeds for cultivable species
Week -14	Induced breeding in Indian major craps
Week -15	Live feed culture - Carp culture

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B.Sc., Degree Programme in Plant Biology and Plant Biotechnology

Teaching plan (ODD semester – 2021 -22)

Class : B.Sc. Plant Biology and Plant Biotechnology – I year Semester: I

Subject Code : Name of the Subject: Algology

Subject In charge : Dr.P.Balaji and Dr. R.Kalaikanthan

Week	Topics to be Covered
Week -1	Classification of Algae proposed by Silva PC (1982): General characters of Algae (occurrence and distribution)
Week -2	General account of thallus structure, pigmentation, reserve food materials, reproduction and life cycle - Cyanophyta,
Week -3	Chlorophyta,
Week -4	Phaeophyta
Week -5	Rhodophyta
Week -6	Detailed study of structure, reproduction and life cycles (excluding developmental studies) of Chlamydomonas
Week -7	Diatoms,
Week -8	Colonial -Volvox, Filamentous - Anabaena
Week -9	Oedogonium,
Week -10	Detailed study of structure, reproduction and life cycles (excluding developmental studies) of :
Week -11	Siphonous - Caulerpa,
Week -12	parenchymatous - Sargassum
Week -13	Gracilaria
Week -14	Economic importance of algae: Algae as food and feed;
Week -15	Agar-agar, Alginic acid and Carrageenan; Diatomite

DEPARTMENT OF PLANT BIOLOGY AND PLANT BIOTECHNOLOGY

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Teaching plan (ODD semester – 2021 -22)

Class : B.Sc. Plant Biology and Plant Biotechnology – II year Semester: III

Subject Code : Name of the Subject: BRYOPHYTES AND PTERIDOPHYTES

Subject In charge : Dr.A.Thangaraja and Dr.R.Kalaikanthan

Week	Topics to be Covered
Week -1	Occurrence and distribution; General characters
Week -2	Classification of Bryophytes.- Watson.
Week -3	Study of thallus structure, reproduction and life cycle of the follow genera Hepaticopsida (Marchantia);
Week -4	Anthocerotopsida (Anthoceros)
Week -5	Bryopsida (Funaria).

Week -6	Occurrence & distribution; General characters
Week -7	Classification of Pteridophytes - Reimer
Week -8	Study of structure, reproduction and life cycle of the follow genera (excluding developmental studies) : Pteridophytes: (1) Lycopodium
Week -9	(2) Selaginella
Week -10	(3) Equisetum Vegetative character
Week -11	(3) Equisetum Reproduction
Week -12	(4) Adiantum
Week -13	Ecology and Economic importance of Bryophytes
Week -14	Stelar evolution in Pteridophytes
Week -15	Heterospory and Seed Habits

EPARTMENT OF PLANT BIOLOGY AND PLANT BIOTECHNOLOGY

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Teaching plan (ODD semester – 2021 -22)

Class : B.Sc. Plant Biology and Plant Biotechnology – III year Semester: V

Subject Code : Name of the Subject: ANATOMY AND EMBRYOLOGY

Subject In charge : Dr. R.Kalaikanthan and Dr.A.Thangaraja

Week	Topics to be Covered
Week -1	Tissues – meristematic, simple, complex tissues
Week -2	Theories of Shootand root apex –(apical cell, histogen, tunica corpus)
Week -3	Primary structure of stem of dicotyledons and mono cotyledons.
Week -4	Primary structure of root of dicotyledons and mono cotyledons
Week -5	Dicot and monocot leaf.
Week -6	Secondary structure of stem of dicotyledons
Week -7	Anomalous secondary growth in stem – *Boerhaevia*,
Week -8	Secondary growth in monocot stem-D*racaena*. Nodal anatomy
Week -9	Periderm structure and development; Phellam, phellogen, phelloderm, rytidome and lenticel.
Week -10	Structure of anther. Development of male gametophyte
Week -11	Structure and types of ovule. Structure of female gametophyte.
Week -12	Fertilization – double fertilization syngamy, triple fusion – endosperm – types (nuclear, cellular, helobial)
Week -13	ruminate endosperm, haustoria – function of endosperm
Week -14	structure and development of mature dicot embryo (*Capsella*).
Week -15	Structure and development of monocot embryo (Najas)

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B.Sc., Degree Programme in Plant Biology and Plant Biotechnology

Teaching plan (ODD semester – 2021 -22)

Class : B.Sc. Plant Biology and Plant Biotechnology – III year Semester: V

Subject Code : Name of the Subject: GENETICS, EVOLUTION AND PLANT BREEDING

Subject In charge : Dr.A.Thangaraja and Dr.R.Kalaikanthan

Week	Topics to be Covered
Week -1	Mendelian Genetics- Mendel's Laws
Week -2	monohybrid and Dihybrid Cross
Week -3	Test and Back crosses. Deviation from Mendelian ratio – incomplete dominance, lethal factor, Codominance;
Week -4	multiple alleles; Non allelic interactions – dominant epistasis,
Week -5	Recessive epistasis, Complementary gene, supplementary gene,.
Week -6	Linkage and crossing over
Week -7	Sex determination in plants. Sex linked inheritance – Haemophilia and colour blindness
Week -8	Extra nuclear inheritance in Maize, Bacterial genetics – Transformation,
Week -9	conjugation, transduction.
Week -10	Evolution: Origin of life, chemosynthetic theory
Week -11	Evolutionary theory of Lamarck , Darwin
Week -12	de Vries, Concept of species- Allopatric and Sympatric. Isolating mechanisms.
Week -13	Methods of crop improvement – Introduction, acclimatization
Week -14	selection – mass, pure line and clonal.
Week -15	Hybridization – Hybrid vigour Breeding for crop improvement for Paddy.

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MENT OF PLANT BIOLOGY AND PLANT BIOTECHNOLOGY

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B.Sc., Degree Programme in Plant Biology and Plant Biotechnology

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Class : B.Sc. Plant Biology and Plant Biotechnology – III year Semester: V

Subject Code : Name of the Subject: MORPHOLOGY, TAXONOMY OF ANGIOSPERMS AND ECONOMIC BOTANY

Subject In charge : Dr.G.Sampalathkumar

Week	Topics to be Covered
Week -1	A brief account of Leaf: Phyllotaxy, simple compound and
Week -2	Leaf modifications; inflorescence-types;
Week -3	Flower: description of floral parts;
Week -4	Fruits-types Systems of classification – outline classification of Linnaeus;

Week -5	Bentham & Hooker.
Week -6	Binomial nomenclature- IUCN- citation of authors
Week -7	herbarium technique. Botanical survey of India (BSI)
Week -8	Detailed study of the range of characters and plants of economic importance of the following families Polypetalae - *Annonaceae*, *Caesalpinaceae*
Week -9	*Rutaceae* Gamopetale – *Rubiaceae*,
Week -10	Asteraceae, Asclipiadaceae
Week -11	Solanaceae, Monochlamydae –Euphorbiaceae,
Week -12	Amaranthaceae, Monocotyledons - *Lilliaceae*
Week -13	Poaceae
Week -14	Study of binomial, family and morphology useful parts and uses of the following Cereals – paddy;
Week -15	Pulses – Red gram Oil seeds – Groundnut; Fibers – Cotton; Timbers – Teak.

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B.Sc., Degree Programme in Plant Biology and Plant Biotechnology

Teaching plan (ODD semester – 2021 -22)

Class : B.Sc. Plant Biology and Plant Biotechnology – III year Semester: V

Subject Code : Name of the Subject: CELL AND MOLECULAR BIOLOGY

Subject In charge : Dr.A.Thangaraja and Dr.P.Balaji

Week	Topics to be Covered
Week -1	Introduction – prokaryotic and eukaryotic cell.
Week -2	Occurrence, structure and function of Plasma membrane, endoplasmic reticulum
Week -3	golgi bodies, lysosomes, ribosomes, mitochondria, chloroplast and nucleus.
Week -4	chloroplast and nucleus.
Week -5	Chromosomes – structure, number
Week -6	euchromatin, heterochromatin, giant chromosomes– polytene and lampbrush
Week -7	cell division -mitosis and meiosis – cell cycle.
Week -8	Nucleic acid – DNA - structure and types (A, B, C & Z).
Week -9	Watson and Crick model of DNA. DNA as genetic material,
Week -10	DNA synthesis and replication (prokaryote)
Week -11	RNA - types
Week -12	Transcription in Prokaryotes - Initiation, elongation, termination,
Week -13	Genetic code - Wobble hypothesis, Translation in prokaryotes.
Week -14	General principles of Gene Regulation
Week -15	Gene Regulation in prokaryotes, Operon concept, *lac* Operon

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Class : B.Sc. Plant Biology and Plant Biotechnology – III year Semester: V

Subject Code : Name of the Subject: CELL AND MOLECULAR BIOLOGY

Subject In charge : Dr.A.Thangaraja and Dr.P.Balaji

Week	Topics to be Covered
Week -1	Introduction – prokaryotic and eukaryotic cell.
Week -2	Occurrence, structure and function of Plasma membrane, endoplasmic reticulum
Week -3	golgi bodies, lysosomes, ribosomes, mitochondria, chloroplast and nucleus.
Week -4	chloroplast and nucleus.
Week -5	Chromosomes – structure, number
Week -6	euchromatin, heterochromatin, giant chromosomes– polytene and lampbrush
Week -7	cell division -mitosis and meiosis – cell cycle.
Week -8	Nucleic acid – DNA - structure and types (A, B, C & Z).
Week -9	Watson and Crick model of DNA. DNA as genetic material,
Week -10	DNA synthesis and replication (prokaryote)
Week -11	RNA - types
Week -12	Transcription in Prokaryotes - Initiation, elongation, termination,
Week -13	Genetic code - Wobble hypothesis, Translation in prokaryotes.
Week -14	General principles of Gene Regulation
Week -15	Gene Regulation in prokaryotes, Operon concept, *lac* Operon

DEPARTMENT OF PLANT BIOLOGY AND PLANT BIOTECHNOLOGY

Dr. Ambedkar Government Arts College, (Autonomous), Vyasarpadi, Chennai – 600 039

B.Sc., Degree Programme in Plant Biology and Plant Biotechnology

Teaching plan (EVEN semester – 2021 -22)

Class : B.Sc. Plant Biology and Plant Biotechnology – I year Semester: II

Subject Code : Name of the Subject: MYCOLOGY AND LICHENOLOGY

Subject In charge : Dr.P.Balaji and Dr. R.Kalaikanthan

Week	Topics to be Covered
Week -1	Classification of fungi proposed by Alexopoulos, 1962
Week -2	General Characters, occurrence and mode of nutrition of Fungi
Week -3	Detailed study of structure, reproduction and life cycles of the following Oomycetes - *Albugo*
Week -4	Ascomycetes - *Saccharomyces*
Week -5	Penicillium
Week -6	Basidiomycetes - *Agaricus*

Week -7	Deuteromycetes - *Fusarium*
Week -8	Plant Pathology- Tikka disease and Citrus Canker
Week -9	Study of the General characteristics of Lichens
Week -10	Structure & Reproduction of Crustose, Foliose and Fruticose Lichens
Week -11	Detailed study of *Usnea*.
Week -12	Economic importance of Fungi: Medicine, food,
Week -13	biopesticides, biofertilizers
Week -14	industrial uses such as Production of ethyl alcohol, citric acids
Week -15	lipase enzyme.

DEPARTMENT OF PLANT BIOLOGY AND PLANT BIOTECHNOLOGY

Dr. Ambedkar Government Arts College, (Autonomous), Vyasarpadi, Chennai – 600 039

B.Sc., Degree Programme in Plant Biology and Plant Biotechnology

Teaching plan (EVEN semester – 2021 -22)

Class : B.Sc. Plant Biology and Plant Biotechnology – II year Semester: IV

Subject Code : Name of the Subject: GYMNOSPERMS AND PALEOBOTANY

Subject In charge : Dr.A.Thangaraja and Dr. R.Kalaikanthan

Week	Topics to be Covered
Week -1	Distribution of gymnosperms – General characters
Week -2	Economic importance
Week -3	classification of Gymnosperms- K.R. Sporne 1962.
Week -4	Detailed study of the following types (Excluding developmental stages) – *Cycas,*
Week -5	*Cycas,(Contd)*
Week -6	*Pinus*
Week -7	*Pinus (Contd)*
Week -8	Geological time scale
Week -9	Introduction to fossils;
Week -10	Types of fossils
Week -11	Fossilization processes - compression,
Week -12	casts, mold, petrification,
Week -13	impressions and coal balls radio carbon dating.
Week -14	Brief study of the following fossils *Lepidendron*
Week -15	2 Calamites 3. Williamsonia sewardiana

DEPARTMENT OF PLANT BIOLOGY AND PLANT BIOTECHNOLOGY

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B.Sc., Degree Programme in Plant Biology and Plant Biotechnology

Teaching plan (EVEN semester – 2021 -22)

Class : B.Sc. Plant Biology and Plant Biotechnology – III year Semester: VI

Subject Code : Name of the Subject: **PLANT BIOTECHNOLOGY AND BIOINFORMATICS**

Subject In charge : Dr.A.Thangaraja

Week	Topics to be Covered
Week -1	Introduction to Genetic Engineering; techniques
Week -2	Restriction endonucleases- Ligation, Adapters and Linkers
Week -3	Cloning Vectors-Plasmids; Hybridization- Southern Blotting
Week -4	Genetic Engineering in plants; Gene transfer technique using Agrobacterium
Week -5	physical delivery methods:PEG stimulated, Microinjection Electroporation.
Week -6	Plant tissue culture – totipotency, nutrient medium – MS medium
Week -7	Sterilization, Root and shoot culture
Week -8	Anther culture, Protoplast isolation and fusion – somatic hybrid, Synthetic seeds.
Week -9	Application of Plant Tissue Culture,
Week -10	Transgenic plants – methods- Pest resistant plants – BT cotton;
Week -11	Golden rice; flavr savr tomato
Week -12	Introduction to Bioinformatics – NCBI- EMBL- DDBJ
Week -13	Biological database – Genbank- PDB; literature database (Pubmed);
Week -14	Sequence alignment – global – local ; gap- gap penalty
Week -15	Pair wise and Multiple sequence alignment, Sequence similarity search – BLAST

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ARTMENT OF PLANT BIOLOGY AND PLANT BIOTECHNOLOGY

Dr. Ambedkar Government Arts College, (Autonomous), Vyasarpadi, Chennai – 600 039

B.Sc., Degree Programme in Plant Biology and Plant Biotechnology

Teaching plan (EVEN semester – 2021 -22)

Class : B.Sc. Plant Biology and Plant Biotechnology – III year Semester: VI

Subject Code : Name of the Subject: ECOLOGY, PHYTOGEOGRAPHY&BIOSTATISTICS

Subject In charge : Dr.P.Balaji and Dr.A.Thangaraja

Week	Topics to be Covered
Week -1	Biotic and abiotic factors and their influence on vegetation
Week -2	a brief account of microbes, plants, animals,
Week -3	soil, wind, light, temperature, rainfall and fire
Week -4	Biogeochemical cycles (Nitrogen, Carbon)
Week -5	Ecosystem - concept, processes and components
Week -6	Food chain, food web, energy flow, pyramids.
Week -7	Nutrient cycling. Types of ecosystems - marine and grassland.
Week -8	Autecology and Synecology - Methods of study of vegetation (Quadrat and transect)
Week -9	Plant succession - Hydrosere and Xerosere
Week -10	Ecological classification of plants Morphological and anatomical features of plants and their correlation to the habitat factors

Week -11	Phytogeographical regions of India
Week -12	Endemism – Indian flora – Age and area hypothesis and continental
Week -13	Endangered species; Hot spots. Classification of data,
Week -14	mean, median and mode
Week -15	Standard deviation, standard error, variance, chi square test.

DEPARTMENT OF PLANT BIOLOGY AND PLANT BIOTECHNOLOGY

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B.Sc., Degree Programme in Plant Biology and Plant Biotechnology

Teaching plan (EVEN semester – 2021 -22)

Class : B.Sc. Plant Biology and Plant Biotechnology – III year Semester: VI

Subject Code : Name of the Subject: ECOLOGY, PHYTOGEOGRAPHY&BIOSTATISTICS

Subject In charge : Dr.G.Sampathkumar

Week	Topics to be Covered
Week -1	Structure and classification of carbohydrates, lipids, proteins and nucleic acids
Week -2	Enzymes – Properties, nomenclature and classification as per IUBC (enzyme commission of the International Union of Biochemistry)
Week -3	cofactors, coenzymes and mode of action. Factors affecting enzyme action.
Week -4	Water relations – diffusion, permeability, osmosis, absorption of water – Apoplast and symplast.
Week -5	Mechanism – passive and active. Translocation of water – Ascent of sap
Week -6	Transpiration – types and significance, factors. Stomatal mechanisms.
Week -7	Photosynthesis – Photosystem I and II, cyclic and non cyclic electron transport – C_3
Week -8	C_4 pathways – factors affecting photosynthesis
Week -9	Photo respiration. Respiration – Aerobic – anaerobic
Week -10	glycolysis – Kreb's cycle
Week -11	electron transport system – oxidative phosphorylation – factors affecting respiration.
Week -12	Nitrogen assimilation – biological nitrogen fixation nitrogen fixing organisms, legume – *Rhizobium* symbiosis.
Week -13	Phytohormones - auxins, gibberellins, cytokinins, ethylene and
Week -14	Photomorphogenesis – Photoperiodism - Phytochromes – Florigen concept.
Week -15	Dormancy (Seed and bud), Seed viability and germination.

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B.Sc. VISUAL DEGREE PROGRAMME
TEACHING PLAN
ACADEMIC YEAR 2021-22 (ODD SEMESTER)

Subject Name :**MEDIA CULTURE & SOCIETY**
Subject Code : Semester : **V**
Staff in Charge : Dr. C JEBAKUMAR

Week	Topics to be Covered
Week-1	UNIT-1INTRODUCTION TO MEDIA CULTURE SOCIETY Media saturation – Media influence – Management and manufacture of information- Media education and Democracy - Importance of Visual Communication – Education for the futurePrivatizations of information – Media in Indian Society
Week-2	UNIT-2UNDERSTANDING THE MEDIA How to study media and how not to study media- sociological –cultural – skillspolitical- Media audience analysis(Mass, segmentation, product etc, social uses) –
Week-3	Media education Possesses –Theoretical Frame work – Core concepts-Mode enquiry – Practical workMediaPedag
Week-4	**FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-5	UNIT III MEDIA DETERMINANTS Media Determinants- Ownership and control – Media Institution – The state and the Law – Self regulation by the Media – Economic determinants –Advertisers –Media PersonnelMedia Sources – Audience as textual determinant & audience as readers – audience positioning - establishing critical autonomy
Week-6	Economic determinants –Advertisers –Media PersonnelMedia Sources
Week-7	Audience as textual determinant & audience as readers – audience positioning - establishing critical autonomy
Week-8	**SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-9	UNIT IV MEDIA RHETORIC Media Rhetoric – Selection – Social construction of reality by media -.
Week-10	The Rhetoric of the image –Combining image and linguistic text – Suppressing the existence – Sets- ups –Film and sound Editing – Interpretative Frame works- Visual Coding- Narrative
Week-11	Film and sound Editing – Interpretative Frame works- Visual Coding- Narrative
Week-12	IDEOLOGY & CULTURE Ideology – Defining Ideology –Hegemony –Myth Ideology in the classroom –Denotation – Connotation – Ideological Analysis – Media and Popular culture – culture and sub- culture , popular texts , politics popular culture Vs people's Culture
Week-13	Myth Ideology in the classroom –Denotation – Connotation – Ideological Analysis
Week-14	Media and Popular culture – culture and sub- culture , popular texts , politics popular culture Vs people's Culture
Week-15	Model Examinations.

Subject Name :**WEB DESIGNING PRACTICALS**
Subject Code : Semester : **V**
Staff in Charge : Dr. C JEBAKUMAR

Week	Topics to be Covered
Week-1	INTRODUCTION TO WEB DESIGNING
Week-2	HTML CODING EXERCISES
Week-3	HTML CODING EXERCISES,
Week-4	**FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-5	INTRODUCTION TO DIFFERENT SOFTWARES FOR DESIGNING WEB PAGES FLASH
Week-6	FLASH FOR DESIGNING WEB PAGES, BUTTONS
Week-7	PRACTICING EXERCISES WEB PAGE DESIGN USING FLASH
Week-8	**SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-9	WEB PAGE DESIGN USING HTML CODES,
Week-10	Introduction to dream weaver
Week-11	Tools used in designing a web pages using Dream weaver Software
Week-12	**Practicing exercise in web designing Softwares**
Week-13	Practicing exercise in web designing softwares
Week-14	Preparation for final submission of records
Week-15	Model Examinations.

Subject Name :**ENVRIONMENTAL STUDIES**
Subject Code : Semester : **III**
Staff in Charge : Dr. C JEBAKUMAR

Week	Topics to be Covered
Week-1	Unit-1Scope and importance of Environmental Science : Definition, Multidisciplinary nature of environmental science, scope and importance
Week-2	global environmental problems
Week-3	Ecosystems: Concept of an ecosystem. Structure and function of an ecosystem. Producers, consumers and decomposers.
Week-4	**FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-5	Energy flow in the ecosystem. Food chains, food webs and ecological pyramid
Week-6	Unit 3 : Biodiversity and its conservation : Introduction – Definition :
Week-7	Value of biodiversity: consumptive use, productive use. India as a mega-diversity nation, Hot-spots of biodiversity. Brief account on biodiversity conservation.
Week-8	**SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-9	Unit 4 : Environmental Pollution : Definition – Cause, effects and control measures of :-
Week-10	a) Air pollution, b) Water pollution. Solid waste Management: Causes, effects and control measures of urban and industrial wastes. Role of an individual in prevention of pollution
Week-11	Unit 5 : Social Issus and the Environment :
Week-12	Water conservation, rain water harvesting. n.
Week-13	Climate change, global warning, acid rain, ozone layer depletion
Week-14	Nuclear accidents. Waste land reclamation
Week-15	**MODEL EXAMINATION**

Subject Name :**PERSONALITY ENRICHMENT**
Subject Code : Semester : **III**
Staff in Charge : Dr. C JEBAKUMAR

Week	Topics to be Covered
Week-1	Unit I Introduction Definition of Personality, Determinants of Personality biological, psychological and socio-cultural factors.
Week-2	Misconceptions and Classifications, Need for personality development

Week-3	Unit II Self-awareness and self-motivation Definition of self, self-concept and self-awareness
Week-4	**FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-5	Self-analysis through SWOT and Johari window Definition of Motivation Types of Motivation ,Techniques and strategies for self motivation,
Week-6	Motivation checklist and Goal setting based on the principle of SMART Self-motivation and lifE
Week-7	Unit IIIMemory and Decision making Definition and importance of memory Causes of forgetting, Techniques of improving memory ,The decision making process
Week-8	**SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-9	Unit IV Study skills, Definition of study skills ,Characteristics of study skills, Techniques of passing exam
Week-10	Unit-V ASSERTIVENESS, Definition and characteristics,
Week-11	Assertive-submissive-Aggressive differences,
Week-12	Assertiveness skills
Week-13	GENERAL KNOWLEDGE & CURRENT AFFAIRS DISCUSSION
Week-14	GENERAL KNOWLEDGE & CURRENT AFFAIRS DISCUSSION
Week-15	**MODEL EXAMINATION**

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ACADEMIC YEAR 2021-22 (EVEN SEMESTER)

Subject Name :PUBLICATION DESIGN
Subject Code : Semester : **II**
Staff in Charge : Dr. C JEBAKUMAR

Week	Topics to be Covered
Week-1	UNIT-1 Introduction to Printing Process, ,
Week-2	Different types of Printing Process, Structure of the Printing & Publication Industry
Week-3	UNIT-2 Introduction to Design and Layout, The Elements and principals of Publication
Week-4	**FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**

Week-5	Design(line, Shape ,Texture, Unity etc,Communication and Design Understanding.Layout formats of various Print Publication: Newspaper, Brochure, Pamphlets, Booklet & Leaflet
Week-6	UNIT-3 Typography, Understanding types Parts Measurement and Type Faces,.
Week-7	Type Space and Unity, Application and Importance of Legibility and Readability, Typographic
Week-8	**SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-9	UNIT-4 Typographic Specifications of Different Classes of Work – Bookwork, Magazine work, News Paper work
Week-10	BOOKWORK
Week-11	MAGAZINES
Week-12	**NEWSPAPERS**
Week-13	UNIT-5 Print Publishing, Consideration for Print Production, Budget Deadline & production Reality, Software Used for Designing & Page Layout
Week-14	FIELD VISIT TO PRINTING ESTABLISHMENT
Week-15	**Model Examinations**.

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B.Sc. VISUAL COMMUNICATION DEGREE PROGRAMME
TEACHING PLAN
ACADEMIC YEAR 2021-22 (EVEN SEMESTER)

Subject Name :FILM STUDIES
Subject Code : 19UDVCC1
Semester : **IV**
Staff in Charge : Dr. C JEBAKUMAR

Week	Topics to be Covered
Week-1	Language of cinema – elements of visual composition; visual space; balance; contrast; depth of field;
Week-2	mis–en–scene; shot, scene and sequence; image sizes; camera and subject movements;
Week-3	camera angles; creative use of light and colour; sound effects, ambient sounds, music and dialogue delivery
Week-4	**FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-5	Basics of film editing – the principles of editing and its functions; evolution of montage theory
Week-6	UNIT-3 Major film movements – German expressionism; Italian neo–realism

Week-7	French new wave; the Western and Hollywood cinema; comedy films; cinema verite; and documentary movies
Week-8	**SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-9	UNIT-4 Indian cinema – brief history
Week-10	great masters of Indian cinema – Satyajit Ray, MrinalSen, RitwikGhatak, ShyamBenegal, , Mani Kaul, Balachandar&GirishKasaravally; popular and middle cinema; film society
Week-11	G. Aravindan, AdoorGopalakrishnan
Week-12	**SCREENING & DISCUSSION**
Week-13	Tamil cinema – brief history of Tamil cinema & Their Contribution, Contemporary Trend
Week-14	SCREENING & DISCUSSION
Week-15	**Model Examinations**.

Dr. AMBEDKAR GOVT. ARTS COLLEGE (AUTONOMOUS), CHENNAI-39
B.Sc. VISUAL COMMUNICATION DEGREE PROGRAMME
TEACHING PLAN
ACADEMIC YEAR 2021-22 (EVEN SEMESTER)

Subject Name :PHOTOJOURNALISM
Subject Code :
Semester : **VI**
Staff in Charge : Dr. C JEBAKUMAR

Week	Topics to be Covered
Week-1	Unit – I Introduction to Photojournalism (Timeliness , Objectivity , Narrative) , Responsibilities of Photojournalism,
Week-2	Qualities needed by a Photojournalist ,Ethics of Photo Journalism Photographers Right over their pictures, History of Photojournalism, Role of war in the history of Photojournalism
Week-3	Essential Elements of News (Immediacy , Proximity , Consequence , Conflict , Oddity , Sex , Emotion , Prominence , Suspense , Progress) , Importance of News Photographs , Types of News Photographs(Spot news & Feature news) , Creating a good news Photograph
Week-4	**FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-5	Photo essay DISCUSSION & PRACTICAL EXERCISE
Week-6	News Photo DISCUSSION & PRACTICAL EXERCISE
Week-7	HUMAN RIGHTS ISSUE & PRACTICAL EXERCISE

Week-8	**SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-9	HUMAN INTEREST PHOTOGRAPHS
Week-10	DIFFERENT GENRES OF PHOTOJOURNALISM DISCUSSION
Week-11	DIFFERENT GENRES OF PHOTOJOURNALISM DISCUSSION
Week-12	**PRACTICAL EXERCISE FOR RECORD SUBMISSION**
Week-13	PRACTICAL EXERCISE FOR RECORD SUBMISSION
Week-14	PRACTICAL EXERCISE FOR RECORD SUBMISSION
Week-15	**Model Examinations**.

Department of Visual Communication
Dr.Ambedkar Government Arts College (Autonomous), Vysarpadi, Chennai-39
B.Sc., Visual Communication
Teaching Plan

Academic Year: **2021-22**
Semester: **I /III/ V**
Class: **I Year**
Subject Code: **Contemporary Media (Theory)**
Subject: **19UAVCA1**
Teacher: **Dr.M. Devendran**

WEEK	Topics to be Covered
Week- 1	**Unit-1:** Historical development of press in India, current scenario in Tamil Press.
Week- 2	Types of Newspapers and Magazines in India, Growth of e-newspaper
Week- 3	Competition, Content and style of English and Tamil language newspapers and magazines-an overview.
Week- 4	**Unit-2:** Evolution and Growth of Radio broadcasting in India: Public Service Broadcasting, Commercial broadcasting,
Week- 5	Growth of Private FM Radio channels, Community Radio, Internet Radio.
Week- 6	Recent techniques of Audio recording and Editing (Softwares)
Week- 7	**Unit-3:** Origin and development of Television in India, Growth of Communication Satellites- SITE
Week- 8	Growth of Cable TV and Private Channels, DTH, IPTV, TV on mobile,
Week- 9	PrasarBharathi, TRAI, Challenges and current trends in Indian Television
Week- 10	**UNIT-4 :** Evolution of Photography, Digital revolution in Photography, Motion Pictures– Historical background,

Week- 11	Recent developments in Film production, Distribution and Exhibition. Growth of Multiplexes, Present status, problems and prospects of film industry with special reference to Regional cinema
Week- 12	**UNIT-V:** Evolution of Telegraphy and Telephony in India, Emerging of Satellite Telecommunication in India- Emerging of Information and Communication Technology
Week- 13	Television Technology, Mobile technology, WWW, Blogosphere,
Week- 14	Growth of Social media, Application of Web.2.0, Virtual reality.
Week- 15	**Model Exam**

Assignment
Week-2 : Assignment- 1
Week-5 : Assignment-2
Week-7 : Assignment -3
Week-10: Assignment -4
Week-12: Assignment-5

Department of Visual Communication
Dr.Ambedkar Government Arts College (Autonomous), Vysarpadi, Chennai-39
B.Sc., Visual Communication
Teaching Plan

Academic Year: **2021-22**
Semester: **I /III/ V**
Class: **II Year**
Subject Code: **Computer Graphics (Practical)**
Subject: **19UCVCA3**
Teacher: **Dr. M. Devendran**

WEEK	Topics to be Covered
Week- 1	**Introduction- Computer Graphics, 2D Graphics vs 3D Graphics**
Week- 2	**Introduction- Photoshop, Tools, Short Cut Keys (Presentations)**
Week- 3	**Basics introduction- Using softwares (Practical)**
Week- 4	**Logo Design**
Week- 5	**Logo Design**
Week- 6	**Visiting Card, Letter Head**
Week- 7	**Envelope, Identity Card Design**
Week- 8	**Company broucher or Pamphlet**
Week- 9	**Menu Card Design**
Week- 10	**Book Cover / Magazine Cover Design**
Week- 11	**News Letter Design**
Week- 12	**Poster Design (PSA)**
Week- 13	**Practical**
Week- 14	**Submission**
Week- 15	**Submission**

Assignments

Week-2 : Assignment- 1
Week-5 : Assignment-2
Week-7 : Assignment -3
Week-10: Assignment -4
Week-12: Assignment-5

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Dr.Ambedkar Government Arts College (Autonomous), Vysarpadi, Chennai-39
B.Sc., Visual Communication
Teaching Plan

Academic Year: **2021-22**
Semester: **I /III/ V (Odd Semester)**
Class: **III Year**
Subject Code: **Television Production-II (Practical)**
Subject: **19UEVCC2**
Teacher: **Dr. M. Devendran**

WEEK	Topics to be Covered
Week- 1	**Short Story Writing**
Week- 2	**Screen Play Writing (Exercises)**
Week- 3	**Scripting: Documentary (Exercises)**
Week- 4	**Scripting : Commercial (Exercises)**
Week- 5	**Camera Operation –Basics -Practice**
Week- 6	**Framing- Shots, Angles -Practice**
Week- 7	**Camera Movement -Practice**
Week- 8	**Shooting Practices**
Week- 9	**Shooting- Crew**
Week- 10	**Shooting- Crew**
Week- 11	**Audio: Dubbing**
Week- 12	**Editing**
Week- 13	**Editing**
Week- 14	**Submission- Short Film**
Week- 15	**Submission- Short Film**

Assignments

Week-2 : Assignment- 1 Story Writing
Week-5 : Assignment-2
Week-7 : Assignment -3
Week-10: Assignment -4
Week-12: Assignment-5

Department of Visual Communication
Dr.Ambedkar Government Arts College (Autonomous), Vysarpadi, Chennai-39
B.Sc., Visual Communication
Teaching Plan

Academic Year: **2021-22**
Semester: **II /IV/ VI**
Class: **II Year**
Subject Code: **COMPUTER BASICS AND OFFICE AUTOMATION)**
Subject: **19UDSBE4**
Teacher: **Dr.M. Devendran**

WEEK	Topics to be Covered
Week- 1	**Unit-1:**Introductory concepts: History – Generation.
Week- 2	Classification - Block diagram - Memory unit -– CPU.
Week- 3	**Unit-2:**Input Devices: Key board, Mouse and Scanner. Output devices: Monitor, Printer.
Week- 4	Introduction to Operating systems & its features: UNIX – Windows.
Week- 5	Introduction toProgramming Languages: C, C++ and its features.
Week- 6	**Unit -3**Word Processing: Open, Save and close word document; Editing text – tools, formatting,bullets; Spell Checker
Week- 7	Document formatting – Paragraph alignment, indentation, headers and footers, numbering; printing – Preview, options.
Week- 8	**Unit-4** : Spreadsheets: Excel – opening, entering text and data,
Week- 9	Formatting, navigating; Formulas –entering
Week- 10	Handling and copying; Charts – creating, formatting and Printing.
Week- 11	Practical Exercises- Excel
Week- 12	**Unit-V:** Power point: Introduction to Power point - Features – Understanding slides Types
Week- 13	Creating &viewing slides – creating slide shows. Applying special object – including objects and pictures – Slide transition – Animation effects.
Week- 14	**Making Power Point**
Week- 15	**Model Exam**

Assignment
Week-2 : Assignment- 1 –Understanding Computer Generations
Week-5 : Assignment-2 –Computer Parts, OS
Week-7 : Assignment -3 –MS Word
Week-11: Assignment -4 – Excel
Week-13: Assignment-5 –Power Point

Department of Visual Communication
Dr.Ambedkar Government Arts College (Autonomous), Vysarpadi, Chennai-39
B.Sc., Visual Communication
Teaching Plan

Academic Year: **2021-22**
Semester: **II /IV/ VI (Even Semester)**

Class: **III Year**
Subject Code: **MEDIA MANAGEMENT**
Subject: **19UFVCC1**
Teacher: **Dr. M. Devendran**

WEEK	Topics to be Covered
Week- 1	Unit-1 Management in Media organization – Definition, Need and process of Media management, Principle and function of Media management
Week- 2	Media as business and social Institution, Grienier's development Model
Week- 3	Unit-2 Media organizations: Organizational structure of a newspaper- role and functions of each department in Newspaper.
Week- 4	Organizational structure of public broadcasting-AIR and DD, Private satellite channels.
Week- 5	production houses, Ownership patterns: cross media ownership, Media Corporate, Media conglomerate
Week- 6	Mergers and Acquisition, Media Entrepreneurship
Week- 7	Unit-3 Project management in Media; Production Project Cycle; Management Themes
Week- 8	Production management Process - Project planning, Production strategies, Sources of funds, Budgeting, Project responsibility: Case studies,
Week- 9	Unit-4 Economics of media: Circulation , Advertising, Marketing and cost factors, competition, Space and Time selling
Week- 10	Media Revenue models, race for TRP, Audience rating, Audience analysis,
Week- 11	Unit- 5 Media and Globalization: Concept of Globalization and its Impact on Indian Media, Foreign Direct Investment
Week- 12	Global Media Giants, Media Pluralism, Indian Media and entertainment industry- present status, problems and prospects.
Week- 13	**Revision**
Week- 14	**Seminar**
Week- 15	**Model Examination**

Assignments
Week-2 : Assignment- 1
Week-5 : Assignment-2
Week-7 : Assignment -3
Week-10: Assignment -4
Week-12: Assignment-5

Department of Visual Communication
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B.Sc., Visual Communication
Teaching Plan

Academic Year: **2021-22**
Semester: **II /IV/ VI (Even Semester)**
Class: **III Year**
Subject Code: **3D Animation (PRACTICAL)**

Subject: **19UFVCC3**
Teacher: **Dr. M. Devendran**

WEEK	Topics to be Covered
Week- 1	**Intro to 3D Interface and Work flow, View Ports-Layout and Navigation**
Week- 2	**Process of Animation: Story, Scripting and Story Board.**
Week- 3	**3D Modelling: Basic Modelling Techniques - Poly modelling, Spline based modelling**
Week- 4	**Creating object and adjusting the segment, Logo, Architecture and Titling**
Week- 5	**Materials and Surfacing, Texturing, Material editor**
Week- 6	**Fundamental of UV Layout, UV Mapping.**
Week- 7	**Editing and Creating textures in Photoshop.**
Week- 8	**Animation 3d objects: Key frames, Rigging.**
Week- 9	**Lighting and Camera, Camera tracking and Editing**
Week- 10	**VFX and Compositing**
Week- 11	**Special effect, Effects tools,Video Posting,Exporting in 3Ds Max: Rendering and saving the files**
Week- 12	**Practical –Computer Lab**
Week- 13	**Practical –Computer Lab**
Week- 14	**Practical –Computer Lab**
Week- 15	**Submission- Practical Examination**

ASSIGNMENTS
Assignment-1 Understanding Animation-Different Types Of Animation
Assignment -2 Animation Films – Reviews
Assignment -3 Types of Animation Softwares
Assignment- 4 Idea and Concept
Assignment -5 Project

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Subject Name : **VISUAL LITERACY (P)**
Subject Code : **22UAVCC2** Semester : **I**
Staff in Charge : RAJU .M

Week	Topics to be Covered
Week-1	**UNIT-1 Introduction to visual literacy**
Week-2	**UNIT-1** Exercises on **DOT, LINES, SHAPES**
Week-3	**UNIT-1** Exercises on **FORM, TEXTURE, SIZE**
Week-4	**FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**

Week-5	**UNIT-1** Exercises on **SINGLE POINT PERSPECTIVE, TWO POINT PERSPECTIVE & THREE POINT PERSPECTIVE**
Week-6	**UNIT-2** Exercises on **VISUAL READING, COMMON SYMBOLS AND MEANING**
Week-7	**UNIT-2** Exercises on **RELIGIOUS SYMBOLS AND MEANING**
Week-8	**SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-9	**UNIT-3** Exercises on **VISUAL CONSTRUCTION LIGHT & SHADE**
Week-10	**UNIT-3** Exercises on **VISUAL CONSTRUCTION POSITIVE & NEGATIVE SPACE**
Week-11	**UNIT-4** Exercises on **COLOUR PSYCOLOGY, PRIMARY AND SECONDARY COLOURS**
Week-12	**UNIT-4** Exercises on **COLOUR PSYCOLOGY, COLOURS AND IT'S USAGE IN EVERY DAY**
Week-13	**UNIT-5** Exercises on **VISUAL CONSTRUCTION TOOLS, BLACK & WHITE**
Week-14	**UNIT-5** Exercises on **VISUAL CONSTRUCTION TOOLS, COLOURS**
Week-15	**MODEL EXAMINATIONS.**

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Subject Name : **VISUAL DESIGN (P)**
Subject Code : **22UBVCC2** Semester : **II**
Staff in Charge : RAJU .M

Week	Topics to be Covered
Week-1	**UNIT-1 Introduction to visual design**
Week-2	**UNIT-1** Exercises on **lines of different thicknesses**
Week-3	**UNIT-1** Exercises on **curves of different thicknesses**
Week-4	**FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-5	**UNIT-2** Exercises on **patterns**
Week-6	**UNIT-2** Exercises on **distortion**
Week-7	**UNIT-** Exercises on **font styles**

Week-8	**SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-9	**UNIT-3** Exercises on **alphabets & numbers**
Week-10	**UNIT-4** Exercises on **Logo designing**
Week-11	**UNIT-4** Exercises on **stationary package**
Week-12	**UNIT-5** Exercises on **corporate communication**
Week-13	**UNIT-5** Exercises on **brochure designing**
Week-14	**UNIT-5** Exercises on **print advertisements**
Week-15	**MODEL EXAMINATIONS.**

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Subject Name : **DIGITAL PHOTOGRAPHY (P)**
Subject Code : **19UCVCC2** Semester : **III**
Staff in Charge : RAJU .M

Week	Topics to be Covered
Week-1	**UNIT-1 Introduction to DSLR**
Week-2	**UNIT-1** Hands on practices in operating DSLR
Week-3	**UNIT-1** camera menu & options
Week-4	**FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-5	**UNIT-2** Exercises on **exposure combinations**
Week-6	**UNIT-2** Exercises on **different lighting techniques**
Week-7	**UNIT-2** Exercises on **visual composition**
Week-8	**SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-9	**UNIT-3** Exercises on Flowers, Fruits & Vegetables, Portraits, Monuments
Week-10	**UNIT-3** Exercises on Portraits, Monuments

Week-11	**UNIT-4** Exercises on Street Photography, Action Photography
Week-12	**UNIT-4** Exercises on , Animals & Birds, Seascape
Week-13	**UNIT-5** Exercises on Market, Silhouette
Week-14	**UNIT-5** Exercises on Long Exposure, Special Effects
Week-15	**MODEL EXAMINATIONS.**

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Subject Name : **TELEVISION PRODUCTION (THEORY)**
Subject Code : Semester : **IV**
Staff in Charge : RAJU .M

Week	Topics to be Covered
Week-1	**UNIT-1** Different approaches to visualization – TV, Films, and Ad films. Types of telecasting, Production standards NTSC, PAL, Secametc.
Week-2	**UNIT-1** Television Crew, an overview of direction, art direction, floor management, indoor & outdoor, production management, and budget preparation.
Week-3	**UNIT-2** Selection of cast, costumes, locations, set &design, and Research.
Week-4	**FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-5	**UNIT 2-** Locations**:** In-door On-sights sets, -- Outdoor on-sight sets, blue matte.
Week-6	**UNIT-3** Camera techniques & operation, Types of the camera, Video formats (VHS, SVHS, U-MATIC, BETA, DIGITAL),
Week-7	**UNIT-2** framing, shots & movements (wide, medium, close-ups, shadow, zoom, pan, tilt, aerial, etc.), usage of various types of camera lenses (Normal, Tele, Zoom, etc.,), usages of various filters (day, night, colour correcting filter, diffusion filter),
Week-8	**SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-9	**UNIT-3** objectives TV lighting, various types of Lights (baby, Junior, Senior, etc.,) colour temperature, lighting for different situations (interviews, indoor, out-door), types of lighting(Back, Front, full, semi)
Week-10	**UNIT-4** Audio online or offline. Usage of various kinds of mics (Dynamic mic, condenser mic, ribbon mic, Uni-directional, Bi-directional, Omni-directional mics, Hand mic, Headset mic, quadraphonic mic, and wireless mic, lapel, etc.,)
Week-11	**UNIT-4** Knowledge about audio recording (mono, stereo, surround sound, etc.,).
Week-12	**UNIT-5** Editing procedure, assembling shots, symbolic editing, and editing errors. The language of editing and shooting—sound in editing categories of sound, post-synchronization, voice-over or narration, music and dubbing

Week-13	**UNIT-5** Video Editing – linear, non-linear, types of editing modes (assemble mode, insert mode, online mode) computer editing – time code roll editing, etc.,
Week-14	**UNIT-5** Television graphics & titling and specials effects, Audio – Dubbing, Background Music, synchronizing of video and audio, voice-over (narration). Presentation skills, recording live programmes.
Week-15	**MODEL EXAMINATIONS.**

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Subject Name : **ADVERTISING PHOTOGRAPHY (P)**
Subject Code : **19UEVCC4** Semester : **V**
Staff in Charge : RAJU .M

Week	Topics to be Covered
Week-1	**UNIT-1** The role of photography in advertising
Week-2	**UNIT-1** Know the pre-production, production &post-production basics of advertising photography.
Week-3	**UNIT-1** Understand the use of a storyboard and mock-ups for an advertising photo shoot.
Week-4	**FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-5	**UNIT 2-** The use of software in image processing.
Week-6	**UNIT-2** Differentiate the types of photography for advertising.
Week-7	**UNIT-3** Visual of the product alone (photograph against a plain backdrop), Visual of the product in a setting where it is used
Week-8	**SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-9	**UNIT-3** Visual in use. Visual of a benefit from using the product
Week-10	**UNIT-3** Visual showing the loss or disadvantage resulting from not using the advertised product. Dramatization of the headline. Dramatization of the evidence.
Week-11	**UNIT-4** Dramatizing a detail (in the product), Comparison between two brands. The contrast between before and after using the product.

Week-12	**UNIT- 4** Visuals using Trade Characters. Symbolism. Abstract illustration (logo) Continuity strip
Week-13	**UNIT-5** Mood setting visual. Visual of the product in the package. Visual of the product ingredients or raw materials
Week-14	**UNIT-5** Special effects (freezing movements) MontageVisual with models.
Week-15	**MODEL EXAMINATIONS.**

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TEACHING PLAN (ODD SEMESTER)

CLASS: I B.COM (Shift -I/Shift -II) **Semester: I**
Subject Code: 19UACOC1 **Name of the Subject: FINANCIAL ACCOUNTING - I**
Subject Incharge: **DR. N. BHARATHIDASAN & MRS. S.VANAJA**

Dr.AMBEDKAR GOVERNMENT ARTS COLLEGE (AUTONOMOUS),

VYASARPADI, CHENNAI-39

WEEK	TOPICS TO BE COVERED
WEEK 1	Fundamentals of book keeping – Accounting concepts and conventions
WEEK 2	Journal – Ledger – Trial balance
WEEK 3	Final accounts of a sole trader with adjustments – Errors and rectification
WEEK 4	Accounting for depreciation
WEEK 5	Need for and significance of depreciation,
WEEK 6	methods of providing depreciation Reserves and provisions.
WEEK 7	Average due date
WEEK 8	Account current.
WEEK 9	Account current.
WEEK 10	Hire Purchase
WEEK 11	Installment Purchase systems.
WEEK 12	Default and Repossession Installment purchase system.
WEEK 13	Single Entry- Meaning, features, limitations
WEEK 14	Differences between Single Entry and Double Entry System- Statement of Affairs Method
WEEK 15	Conversion Method (Only simple problems)

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TEACHING PLAN (ODD SEMESTER)

CLASS: I B.Com(Shift -I / Shift -II) **Semester: I**

Subject Code: 19UACOC2 **Name of the Subject: PRINCIPLES OF MANAGEMENT**
Subject Incharge: MR. B. ANANDAN / MRS. T. SARATHA

Dr.AMBEDKAR GOVERNMENT ARTS COLLEGE (AUTONOMOUS),

VYASARPADI, CHENNAI-39

WEEK	TOPICS TO BE COVERED
WEEK 1	Management – Meaning and definitions – nature and scope – Levels of Management
WEEK 2	Managerial roles, responsibilities and skills – Evolution of management thoughts and approaches
WEEK 3	Functions of Management - Trends and challenges of Management in Global Scenario – Emerging issues in management.
WEEK 4	Nature, Purpose and functions –Importance and elements of Planning – types of plan.
WEEK 5	Management by Objectives (MBO) – Steps in planning – Planning tools and techniques – Planning premises.
WEEK 6	Strategic Planning – concept and process – Decision Making : Meaning – Steps in Decision Making – Techniques of Decision Making
WEEK 7	Nature and purpose – Formal and Informal Organisation
WEEK 8	Organisation Chart – organization Structure - Types – Line and staff authority – departmentalization.
WEEK 9	delegation of authority – Centralisation and decentralization – span of management
WEEK 10	Staffing: concept of staffing – staffing process Directing: Motivation – Major motivation theories – motivational techniques
WEEK 11	job satisfaction – job enrichment – Leadership –types and theories of leadership
WEEK 12	Communication – process of communication – barrier in communication – effective communication.
WEEK 13	Definition of control, characteristics of control, importance of control – stages in the control process
WEEK 14	– requisites of effective control and controlling techniques - use of computers and IT in Management control – Productivity problems and management – control and performance –
WEEK 15	direct and preventive control – reporting – co-ordination – functions – Advantages and disadvantages.

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TEACHING PLAN (ODD SEMESTER)

CLASS: I B.Com(Shift -I / Shift -II) **Semester: I**
Subject Code: 19UACON1 **Name of the Subject: RETAIL MARKETING**

Subject Incharge : MR. B. ANANDAN & MRS. S. VANAJA
Dr.AMBEDKAR GOVERNMENT ARTS COLLEGE (AUTONOMOUS),

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TEACHING PLAN (EVEN SEMESTER)

WEEK	TOPICS TO BE COVERED
WEEK 1	Meaning of Retail and Retailing – Types of Retailers
WEEK 2	Rural Retailing – Shopping trends in Indian Retail Market
WEEK 3	International Retailing – Consumerism and Ethics in Retailing.
WEEK 4	Meaning of Retail Marketing
WEEK 5	Factors influencing Customer's Buying Decisions
WEEK 6	Store Design and Layout
WEEK 7	Role of Pricing in Retail Market
WEEK 8	Factors Affecting Retail pricing – Pricing strategies and Approaches
WEEK 9	Importance of Promotion in Retailing.
WEEK 10	Types of Customers – Meaning of Customer Loyalty
WEEK 11	Variables influencing store Loyalty
WEEK 12	A Store loyalty Model.
WEEK 13	Meaning of Customer Relationship Management (CRM)
WEEK 14	Importance of CRM Process
WEEK 15	Steps involved in the CRM process.

CLASS: I B.Com (Shift -I / Shift -II) **Semester: II**
Subject Code: 19UBCOC1 **Name of the Subject: FINANCIAL ACCOUNTING - II**
Subject Incharge : DR. N. BHARATHIDASAN & MRS. T. SARATHA

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TEACHING PLAN (EVEN SEMESTER)

CLASS: I B.Com(Shift -I / Shift -II) **Semester: II**
Subject Code: 19UBCOC2 **Name of the Subject: BUSINESS COMMUNICATION**

WEEK	TOPICS TO BE COVERED
WEEK 1	Branch Account
WEEK 2	Business Communication: Meaning – Objectives – Media – Barriers - Importance of Effective Business Communication
WEEK 3	Stock and Debtors system
WEEK 4	Departmental Accounts- Basis for allocation of expenses
WEEK 5	Inter departmental transfer at cost of selling price
WEEK 6	treatment of Expenses which cannot be allocated.
WEEK 7	Fire Insurance Claims
WEEK 8	Average Clause(Loss of Stock only)
WEEK 9	Agency Correspondence.
WEEK 10	Treatment of goodwill – Capital adjustment – Retirement of partner – Calculation of New ratio and gaining ratio – Revaluation of assets and liabilities – Treatment of goodwill – Adjustment of goodwill through capital A/c only - Settlements of accounts.
WEEK 11	Dissolution – Insolvency of partners – Garner Vs Murray
WEEK 12	Insolvency of all partners – Deficiency accounts
WEEK 13	Application for Jobs: Preparation of resume- Interviews- Meaning- types of Interview
WEEK 14	Business Report Presentations. Strategic Importance of E-Communication.
WEEK 15	Internet - Video conferencing - Group Discussion – Social Networking.

WEEK	TOPICS TO BE COVERED
WEEK 1	Business Communication: Meaning – Objectives – Media – Barriers - Importance of Effective Business Communication
WEEK 2	Modern Communication Methods - Business Letters:
WEEK 3	Need - Functions - Kinds - Essentials of Effective Business Letters - Layout.
WEEK 4	Enquiries - Replies - offers and quotations - Orders and their Execution
WEEK 5	Credit and Status Enquiries - Meaning - Trade and bank references -
WEEK 6	Complaints and Adjustments - Collection Letters
WEEK 7	How to write effective Collection letters - Sales Letters - Circular Letters.
WEEK 8	Banking Correspondence - Introduction - correspondence with customer, Head
WEEK 9	drive - Account Correspondence
WEEK 10	Company Secretarial Correspondence - Agenda,
WEEK 11	Minutes and Report Writing- Types
WEEK 12	Characteristics of good Report- Report of individuals.
WEEK 13	Application for Jobs: Preparation of resume- Interviews- Meaning- types of Interview
WEEK 14	Email, Text Messaging, Slide or Visual Presentation.
WEEK 15	Internet - Video conferencing - Group Discussion – Social Networking.

Subject Incharge : Mr. B.ANANDAN & Mr. A.DHANACHEZHIYAN

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TEACHING PLAN (EVEN SEMESTER)

CLASS: I B.Com(Shift -I / Shift -II) Semester: II
Subject Code: 19UBCON2 Name of the Subject: PRINCIPLES OF INSURANCE
Subject Incharge : Mr. B.ANANDAN & Mrs. T. SARATHA

WEEK	TOPICS TO BE COVERED
WEEK 1	Introduction to insurance – Principles of Insurance
WEEK 2	Insurable interest – Indemnity
WEEK 3	Subrogation – Utmost good faith – Functions of Insurance
WEEK 4	Life insurance – Meaning – Advantages of Life
WEEK 5	insurance – Procedure for effecting life insurance
WEEK 6	Life insurance products or policies – Joint life policy
WEEK 7	Fire Insurance – Meaning – Functions of fire insurance
WEEK 8	Kinds of fire policies
WEEK 9	Advantages of fire insurance.
WEEK 10	Marine insurance – Types of marine insurance – Lloyd's policy
WEEK 11	Company policy – Difference between company policy and Lloyd's policy –
WEEK 12	Types of Marine policies.
WEEK 13	Miscellaneous insurance
WEEK 14	Motor insurance – Health insurance
WEEK 15	– Liability insurance - Rural insurance

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TEACHING PLAN (ODD SEMESTER)

CLASS: II B.Com(Shift -I / Shift -II) **Semester: III**
Subject Code: 19UCCOC1 **Name of the Subject: CORPORATE ACCOUNTING -1**

Subject Incharge: MR. B. ANANDAN & MRS. T. SARATHA
Dr.AMBEDKAR GOVERNMENT ARTS COLLEGE (AUTONOMOUS),

WEEK	TOPICS TO BE COVERED
WEEK 1	Redemption of preference shares
WEEK 2	procedures for redemption of preference shares
WEEK 3	Redemption of Debentures
WEEK 4	Profits prior to incorporation
WEEK 5	Underwriting of shares and debentures.
WEEK 6	Underwriting of shares and debentures.
WEEK 7	Final Accounts of Banking Companies
WEEK 8	Final Accounts of Banking Companies
WEEK 9	CRR – SLR – Significance.
WEEK 10	Company final accounts
WEEK 11	Preparation of Profit and loss account
WEEK 12	company Balance sheet.
WEEK 13	Double accounting system – features – advantages and
WEEK 14	Disadvantages - Reserves and tariff – Receipts and capital accounts
WEEK 15	General balance sheet of electricity companies

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TEACHING PLAN (ODD SEMESTER)

CLASS: II B.Com(Shift -I / Shift -II) Semester: III
Subject Code: 19UCCOC2 Name of the Subject: LEGAL ASPECTS OF BUSINESS
Subject Incharge : Dr. V. RAVICHANDRAN & Dr. M.SRINIVASAN

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WEEK	TOPICS TO BE COVERED
WEEK 1	Indian Contract Act-Formation -Forms of contract-Classification of contracts
WEEK 2	Offer and Acceptance
WEEK 3	Considerations.
WEEK 4	Capacity of a person
WEEK 5	Competent parties to a contract-Flaw in consent-
WEEK 6	Void agreements-Illegal agreements.
WEEK 7	Performance of contract
WEEK 8	Quasi contract- Discharge of Contract
WEEK 9	Remedies for breach of contract.
WEEK 10	Contract of Agency-Types,
WEEK 11	creation, duties, rights of principal
WEEK 12	agent-Termination of agency
WEEK 13	Sale of goods Act-Sale and agreement to sell
WEEK 14	Caveat emptor- Implied conditions and warranty
WEEK 15	Rights of unpaid seller.

TEACHING PLAN (ODD SEMESTER)

CLASS: II B.Com(Shift -I / Shift -II) Semester: III
Subject Code: 19UCCOC3 Name of the Subject: BANKING LAW AND PRACTICE
Subject Incharge : Dr. N. BHARATHIDASAN & Mr. A. DHANACHEZHAYAN

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TEACHING PLAN (ODD SEMESTER)

WEEK	TOPICS TO BE COVERED
WEEK 1	Meaning and Definition of banking – functions of Commercial bank
WEEK 2	Reserve Bank of India – Functions of RBI – Credit control
WEEK 3	Types of credit control – Qualitative credit control and Quantitative credit control-Different types of Accounts and Deposits.
WEEK 4	Negotiable Instrument Act, 1881- Meaning and Definition of Cheques – essential characteristics of Cheques
WEEK 5	Drafting of Cheque – crossing – material. alteration
WEEK 6	Endorsement – Differences between a cheque, bill of exchange and promissory note
WEEK 7	Relationship between Banker and Customer – Special types of customers
WEEK 8	Rights, Responsibility and Duties of Paying and collecting banker
WEEK 9	precautions to be taken in Paying and Collecting of cheques – Statutory protection to them
WEEK 10	Loans and Advances – Principles of sound lending
WEEK 11	Forms of Loans and Advances – classifications of loans and advances
WEEK 12	Precautions to be taken by a banker in lending Loans and Advances – Types of securities.
WEEK 13	Recent trend in Banking- e banking-ECS, RTGS, NEFT, DEMAT
WEEK 14	Internet banking- green banking- ATM – ECS - e-banking - credit
WEEK 15	Card – debit card –difference between credit card and debit card-

CLASS: I B.Com(Shift -I / Shift -II) **Semester: III**
Subject Code: 19UCCOC4 **Name of the Subject: CONSUMER BEHAVIOUR**
Subject In charge: Dr. S. SARAVANAN & Mrs. S. VANAJA

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TEACHING PLAN (EVEN SEMESTER)

CLASS: II B.Com(Shift -I / Shift -II) **Semester: IV**
Subject Code: 19UDCOC1 **Name of the Subject: Corporate Accounting II**

WEEK	TOPICS TO BE COVERED
WEEK 1	Concepts And Significance of Consumer Behavior
WEEK 2	Dimensions of Consumer Behavior
WEEK 3	Application of knowledge of Consumer Behaviour in marketing decisions
WEEK 4	Industrial and individual consumer behaviour models
WEEK 5	Howared- Sheth, Engel – Kollat, Webstar and wind Consumer Behaviour Models
WEEK 6	Implications of the models on marketing decisions
WEEK 7	Psychological Influences on consumer behavior – motivation – perception
WEEK 8	personality Learning and Attitude- Self Image and Life styles
WEEK 9	Consumer expectation and satisfaction
WEEK 10	External Influences of Socio-Cultural, Cross Culture
WEEK 11	External Influences of Family group – Reference group – Communication
WEEK 12	Influences on Consumer behaviour
WEEK 13	Purchase Decision Process - High and low involvement
WEEK 14	Pre-purchase and post-purchase behavior – Online purchase decision process
WEEK 15	Diffusion of Innovation – Managing Dissonance - Emerging Issues.

Subject Incharge: **MR. B. ANANDAN & MRS. T. SARATHA**

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TEACHING PLAN (EVEN SEMESTER)

CLASS: I B.Com(Shift -I / Shift -II) Semester: IV
Subject Code: 19UDCOC2 Name of the Subject: COMPANY LAW

Subject Incharge : Dr. V. RAVICHANDRAN / Dr. M. SRINIVASAN

WEEK	TOPICS TO BE COVERED
WEEK 1	Meaning and Definition of Company – Special Features Accounts of Insurance companies – Types of Insurance – Life Insurance
WEEK 2	Kinds of Companies-Differences between Private and Public Company Consideration for annuities granted – Balance sheet – Determination of Profit and Loss accounts of General Insurance
WEEK 3	Lifting of Corporate Veil- The Companies Act, 2013- Objects of the Act. Reserve for unexpired risk – Preparation of final accounts.(Simple problems only)
WEEK 4	Formation of a Company – Role of promoters – Incorporation of the Company Accounts of Holding companies- Minority interest
WEEK 5	Memorandum of Association- contents and alterations- Articles of Association- contents and alteration - Doctrine of Ultra Vires Cost of Control/Capital Reserve – Elimination of common.
WEEK 6	Indoor management – Prospectus – contents – Statement in lieu of prospectus. Preparation of Consolidated Balance sheet- (simple problems only)
WEEK 7	Share capital – Kinds of Share capital – Debentures Valuation of Goodwill
WEEK 8	Borrowing powers- Mortgages and Charges- Fixed and Floating Charges Valuation of shares
WEEK 9	Meetings- kinds of meeting - Agenda. Various methods
WEEK 10	Company Management- Directors Liquidator's Statement of affairs
WEEK 11	Appointment – Removal- Disqualification deficiency accounts
WEEK 12	Rights and Duties of Directors – Directors Remuneration. Liquidator's final statement of account
WEEK 13	Winding up of a Company – Types Accounting standard – Indian and International accounting standards
WEEK 14	Winding up of the Company by the Court – Voluntary Winding up Accounting standards 1,3,6,10,14,20 and 29
WEEK 15	Winding up subject to the Supervision of the Court. Application – Scope – Advantages and Disadvantages – Challenges - Inflation accounting (theory only)

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TEACHING PLAN (EVEN SEMESTER)

CLASS: I B.Com(Shift -I / Shift -II) **Semester: IV**
Subject Code: 19UDCOC3 **Name of the Subject: MARKETING MANAGEMENT**

Subject Incharge : Dr. N. BHARATHIDASAN & Mr. A. DHANACHEZHAYAN

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WEEK	TOPICS TO BE COVERED
WEEK 1	Marketing – Definition – Objectives – Functions of Marketing
WEEK 2	marketing environment- internal (Micro) and external Macro) marketing
WEEK 3	Modern marketing concept – Marketing in economics development.
WEEK 4	Market – Definition and meaning – Classification – factors
WEEK 5	Advantages and disadvantages - Market segmentation – meaning – significance
WEEK 6	scope- factors of segmentation- Market targeting and positioning.
WEEK 7	Marketing Mix –4P's -Product Planning – Development
WEEK 8	Product line – Product Mix strategies – Product life cycle – Diversification
WEEK 9	Pricing methods and Strategies.
WEEK 10	Channels of Distribution – Meaning - Factors influencing Channels of Distribution
WEEK 11	Channel members – Promotion – Objectives of Promotion
WEEK 12	Basics of Advertising – Sales promotion and Personal Selling.
WEEK 13	Recent Trends in Marketing – Green Marketing
WEEK 14	Basic understanding of E-Marketing – Consumerism
WEEK 15	Market Research – elements- MIS and marketing Regulations.

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TEACHING PLAN (EVEN SEMESTER)

CLASS: I B.Com(Shift -I / Shift -II) Semester: IV
Subject Code: 19UDCOC4 Name of the Subject: BUSINESS ENVIRONMENT

Subject Incharge : Dr. S. SARAVANAN / Mrs. S. VANAJA
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PG AND RESEARCH DEPARTMENT OF COMMERCE
TEACHING PLAN (ODD SEMESTER)
CLASS: III B.Com(Shift -I / Shift -II) Semester: V

WEEK	TOPICS TO BE COVERED
WEEK 1	The concept of Business Environment – Its nature and significance
WEEK 2	Brief overview of Political – Cultural – Legal – Economic and Social Environment
WEEK 3	impact on business and strategic decisions; Environment scanning- SWOT-ETOP
WEEK 4	Political Environment
WEEK 5	Government and Business relationship in India
WEEK 6	Provisions of Indian constitutions pertaining to business
WEEK 7	Social environment – Cultural heritage – Social attitudes
WEEK 8	impact of foreign culture – castes and communities – joint family systems – linguistic and religious groups
WEEK 9	types of social organization – social responsibilities of business
WEEK 10	Economic environment – economic systems and theory impact of business –
WEEK 11	Macroeconomic parameters like GDP – Per capita income and their impact on business decisions
WEEK 12	Inflation – characteristics – degree of inflation- causes- effect and control of inflation
WEEK 13	Financial environment- Indian financial system
WEEK 14	financial institutions – role of financial institutions in industrial development-merger and acquisitions
WEEK 15	Business ethics – Ethical issues and values in business

Subject Code: 19UECOC1 Name of the Subject: COST ACCOUNTING
Subject Incharge : Dr. V. RAVICHANDRAN & Mr. A. DHANACHEZHAYAN

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TEACHING PLAN (ODD SEMESTER)

WEEK	TOPICS TO BE COVERED
WEEK 1	Cost accounting – Definition – Meaning and Scope – Concept and Classification – Costing an aid to Management
WEEK 2	Types and Methods of Cost – Elements of Cost Preparation of Cost Sheet and Tenders and Quotations
WEEK 3	Difference between cost accounting and financial accounting.
WEEK 4	Material Control: Levels of material Control – Need for Material Control
WEEK 5	Economic Order Quantity – ABC analysis – Perpetual inventory – Purchase and stores Control: Purchasing of Materials – Requisition for stores
WEEK 6	Stores Control – Methods of valuing material issue – FIFO – LIFO – SAM – WAM.
WEEK 7	Labour: System of wage payment – Time wages – Piece wages
WEEK 8	Incentives plans – Bonus system – Idle time – Control over idle time – Labour turnover
WEEK 9	Overhead – classification of overhead – allocation and absorption of overhead.
WEEK 10	Process costing – Features of process costing
WEEK 11	process losses, wastage, scrap, normal process loss
WEEK 12	Abnormal loss, abnormal gain. (Excluding inter process profits and equivalent production).
WEEK 13	Operating Costing
WEEK 14	Reconciliation of Cost and Financial accounts.
WEEK 15	Reconciliation of Cost and Financial accounts.

CLASS: III B.Com(Shift -I / Shift -II) Semester: V
Subject Code: 19UECOC2 Name of the Subject: FINANCIAL MANAGEMENT
Subject Incharge: Dr. N. BHARATHIDASAN & Mrs. T. SARATHA

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TEACHING PLAN (ODD SEMESTER)

CLASS: III B.Com(Shift -I / Shift -II) Semester: V
Subject Code: 19UECOC3 Name of the Subject: Human Resource Management

WEEK	TOPICS TO BE COVERED
WEEK 1	Introduction – Meaning – Importance – Functions - Objectives of Financial Management) HRM Concept and Functions, Role, Status
WEEK 2	Factors of financial management – Role of finance Manager – Sources of raising finance competencies of HR Manager –HR Policies
WEEK 3	Emerging Challenges of Human Resource Management - Workforce diversity. Long term and short term sources of funds.(only theory)
WEEK 4	Cost of Capital – Cost of different sources of capital – Weighted Average Cost of Capital Human Resource Planning - Quantitative and Qualitative Dimensions – job analysis – job description and job specification
WEEK 5	Recruitment And Selection – meaning – process of recruitment – sources and techniques of Recruitment – Meaning and Process of Selection Capital structure- net income approach- net operation approach
WEEK 6	traditional approach and MM approach (theories only) (cost of capital theory and problem) Selection Tests And Interviews - placement, induction, socialization and Retention
WEEK 7	Working capital – Concepts – Components Concept and Importance - Training and development methods
WEEK 8	Identifying Training and Development Needs - Designing Training Programmes Importance – types -Determination of working capital
WEEK 9	factors influencing working capital – management of working capital – operating cycle (theory and problem) Evaluating Training Effectiveness - Training Process Outsourcing - Career Development
WEEK 10	Leverage – definition and meaning – types- Financial leverage, Operating leverage and Combined Leverage Nature, objectives and importance – Methods and techniques of performance appraisal
WEEK 11	Dividend policy – definition – meaning – types Employee counselling – job changes – transfers and promotions
WEEK 12	Problems in Performance Appraisal – Essentials of Effective Appraisal System nature and objective – Determination of Dividend (theory and problem)
WEEK 13	Capital Budgeting – Concept and Importance – Factors influencing capital expenditure decisions – Types of Capital expenditure – Methods Compensation – Concept and policies – wage and salary administration – Fringe benefits
WEEK 14	Performance linked compensation - Employee health, welfare and safety social security Pay-back period – Accounting rate of return – Discounted cash flow method
WEEK 15	N.P.V method – Profitability Index Method – Internal rate of return method Employee – Employer relations – grievance handling and redressal.

Subject Incharge : Mr. B. ANANDAN & Mrs. S. VANAJA

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TEACHING PLAN (ODD SEMESTER)

CLASS: III B.Com (Shift -I / Shift -II) Semester: V

Subject Code: 19UECOC4 Name of the Subject: INCOME TAX LAW & PRACTICE-I

Subject Incharge : Dr. J.JAYAKUMAR & Dr. M. SRINIVASAN

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WEEK	TOPICS TO BE COVERED
WEEK 1	History of Income tax in India – objectives of taxation – canons of taxation – characteristics of good tax system
WEEK 2	definition of tax –classification of taxes – distinction between direct and indirect tax - Income Tax Act – Current Finance
WEEK 3	Agricultural income – Assessee – Assessment Year – Income – Person – Previous Year – Exempted incomes.
WEEK 4	Residential Status and Incidence of Tax – Classification of residential status of Taxable entities
WEEK 5	Residential status of an Individual – Resident – Basic conditions - Additional conditions – Non-resident
WEEK 6	Residential status of a firm, AOP – Residential status of companies – incidence of tax and residential status.
WEEK 7	Heads of Income – Income under the head Salaries – Features – Allowances
WEEK 8	Fringe Benefits – Perquisites – Profits in lieu of salary – Provident Fund – Deductions
WEEK 9	Computation of salary income.
WEEK 10	Income from House property
WEEK 11	Annual value – Determination – Deductions
WEEK 12	Computation of Income from House Property
WEEK 13	Profits and Gains of Business or Profession – Definition – Chargeability – Admissible deduction
WEEK 14	Inadmissible expense – Computation of Business Income(excluding firms and companies
WEEK 15	Computation of Professional Income

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TEACHING PLAN (ODD SEMESTER)

CLASS: III B.Com(Shift -I / Shift -II) Semester: V
Subject Code: 19UECOE1 Name of the Subject: FINANCIAL SERVICES
Subject Incharge : DR. S. SARAVANAN & Mrs. T. SARATHA
Dr.AMBEDKAR GOVERNMENT ARTS COLLEGE (AUTONOMOUS),

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TEACHING PLAN (EVEN SEMESTER)

CLASS: III B.Com(Shift -I / Shift -II) Semester: VI

WEEK	TOPICS TO BE COVERED
WEEK 1	Meaning - Importance of financial services – Types of financial services
WEEK 2	Financial services and economic environment
WEEK 3	Players in financial services sector.
WEEK 4	Merchant Banking – Functions
WEEK 5	Issue Management – Underwriting – Capital Market
WEEK 6	Stock Exchange –Functions- Role of SEBI
WEEK 7	Leasing finance
WEEK 8	Hire purchase – Concepts and features
WEEK 9	Types of Lease
WEEK 10	Factoring –advantages
WEEK 11	Functions of factor – types
WEEK 12	Consumer finance
WEEK 13	Venture capital
WEEK 14	Mutual funds – Types- Importance
WEEK 15	Credit Rating Agencies in India.

Subject Code: 19UFCOC1 Name of the Subject: MANAGEMENT ACCOUNTING
Subject In charge: Dr. V. RAVICHANDRAN & Mr. A. DHANACHEZHAYAN

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TEACHING PLAN (EVEN SEMESTER)

CLASS: III B.Com(Shift -I / Shift -II) Semester: VI
Subject Code: 19UFCOC2 Name of the Subject: PRACTICAL AUDITING
Subject Incharge : Mr. B. ANANDAN & Mrs. S. VANAJA

WEEK	TOPICS TO BE COVERED
WEEK 1	Management accounting – Definition – Objectives Auditing- Meaning-Definition- Objects Programme.
WEEK 2	nature – scope – importance and limitations. Types of Audit- Cost, Management, Financial and SocialAudit
WEEK 3 WEEK 3	management accounting Vs. Cost accounting – Management accounting Vs. Financial Accounting. Advantages and Disadvantages- Audit Programme.
WEEK 4 WEEK 4	Internal check-Meaning and Definition - Scope- Objectives - Importance Funds flow statement – Working capital
WEEK 5 WEEK 5	Differences between Internal Check, Internal Control and Internal Preparation of funds flow statement – Cash flow analysis
WEEK 6 WEEK 6	Vouching – Cash Transactions – Credit Sales- Credit Purchases preparation of cash flow statement.
WEEK 7 WEEK 7	Verification and Valuation of Assets (Fixed, Current and Intangible assets) Ratio analysis – Importance – limitations
WEEK 8 WEEK 8	Liabilities (Current and Contingent liabilities) Classification of ratios – Financial ratios
WEEK 9 WEEK 9	Verification of Inventories and Investments. profitability – turnover
WEEK 10 WEEK 10	Appointment of Auditors- First Auditor - Qualification Budgetary control – Meaning – Objectives
WEEK 11 WEEK 11	Remuneration-Powers- Duties and Liabilities- Re-appointment of Auditor Merits and demerits-various kinds of budgets
WEEK 12 WEEK 12	Removal of Auditors under the Companies Act, 1956. Zero Base Budget.
WEEK 13 WEEK 13	Specialized Audit – Audit programme for Educational Institutions(School, Colleges and Universities Marginal costing - Meaning- significance
WEEK 14 WEEK 14	Hotels, Banking, Insurance Companies Absorption costing and marginal costing – CVP analysis.
WEEK 15 WEEK 15	charitable institutions Decision making problems – key factor - Make or buy decision.

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TEACHING PLAN (EVEN SEMESTER)

CLASS: III B.Com(Shift -I / Shift – II) **Semester: VI**
Subject Code: 19UFCOC3 **Name of the Subject: INCOME TAX LAW & PRACTICE-II**
Subject Incharge :DR. J. JAYAKUMAR / DR. M. SRINIVASAN

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TEACHING PLAN (EVEN SEMESTER)

WEEK	TOPICS TO BE COVERED
WEEK 1	Capital Gains – Definition.
WEEK 2	Kind of Capital assets – Exempted Capital
WEEK 3	Computation of Capital Gains.
WEEK 4	Income from Other Sources
WEEK 5	Income chargeable to tax – Deductions – Bond washing transactions
WEEK 6	Computation of income from other sources.
WEEK 7	Set off and Carry forward of Losses
WEEK 8	Deductions from Gross Total Income.
WEEK 9	Deductions from Gross Total Income.
WEEK 10	Assessment of Individuals
WEEK 11	Computation of total income and tax liability
WEEK 12	Assessment of firms.
WEEK 13	Administration of the income tax Act – income tax authorities – CBDT – powers
WEEK 14	Assessing officer - Procedure for assessment – Types of assessment – Advance Payment of Tax
WEEK 15	Deduction of tax at source – Filing of return – Types of filing – PAN.

CLASS: III B.Com(Shift -I / Shift -II) **Semester: VI**
Subject Code: 19UFCOE2 **Name of the Subject: BUSINESS TAXATION**
Subject In charge: Dr. S. SARAVANAN & Mrs. T. SARATHA

WEEK	TOPICS TO BE COVERED
WEEK 1	Indirect taxes – Meaning and Nature - Special features of Indirect Taxes
WEEK 2	Contribution to government revenues - Taxation under the Constitution
WEEK 3	Advantages and Disadvantages of Indirect Taxes.
WEEK 4	Good and Service Tax Introduction – Meaning - Need for GST - Advantages of GST - Structure of GST in India.
WEEK 5	Dual concepts - SGST-CGST-IGST-UTGST- Types of Rates under GST – Taxes subsumed under State Goods and Services Tax Act 2017- Taxes subsumed under Central Goods and Services Tax Act 2017
WEEK 6	Meaning of important terms: Goods, services, supplier, business, manufacture, casual taxable person, aggregate turnover, input tax and output tax.
WEEK 7	Levy and Collection under SGST/CGST Acts - Concept of supply - Composite and Mixed supplies - Composition Levy
WEEK 8	Time of supply of goods and services - Value of Taxable supply. Input Tax credit - Eligibility and conditions for taking input credit- Reverse charge under the GST
WEEK 9	Registration procedure under GST- Concept of e-way Bill - Filing of Returns.
WEEK 10	Levy and Collection under The Integrated Goods and Services Tax Act 2017
WEEK 11	Meaning of important terms: Integrated tax, intermediary, location of the recipient and supplier of services,
WEEK 12	output tax. Levy and Collection of Tax.
WEEK 13	Introduction to Customs Laws in India – The Customs Act 1962 - The Customs Tariff Act 1975
WEEK 14	Levy and Exemption from Custom duty - Taxable event - Charge of Custom duty- Exemptions from duty
WEEK 15	Customs procedures for inport and export - Meaning of Classification of goods.

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TEACHING PLAN (EVEN SEMESTER)

CLASS: III B.Com(Shift -I / Shift -II) **Semester: VI**
Subject Code: 19UFCOE3 **Name of the Subject: ENTREPRENEURIAL DEVELOPMENT**
Subject In charge: Dr. N. BHARATHIDASAN & Mrs. T. SARATHA

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WEEK	TOPICS TO BE COVERED
WEEK 1	Entrepreneur – Concepts – Characteristics – Functions
WEEK 2	Types –Growth of Entrepreneurship in India
WEEK 3	Roles of Entrepreneurship in Economic Development
WEEK 4	Project – Meaning of Project – Project Identification – Project selection –
WEEK 5	Project Report – Significance - Contents
WEEK 6	Formulation – Specimen of a Project report
WEEK 7	Enterprises – Definition – Opportunities for entrepreneurial Career
WEEK 8	Role of Small Enterprises in Economic Development – Problems of Small-Scale Industries
WEEK 9	Government Policy and Support to Small Scale Enterprises.
WEEK 10	Women Entrepreneur – Functions – Problems
WEEK 11	Rural Entrepreneurship – Need- Problems
WEEK 12	Entrepreneurship Development Programmes (EDPs)
WEEK 13	Institutional support to Entrepreneurs
WEEK 14	Commercial Banks – Other Financial Institutions
WEEK 15	IDBI, IFCI, SIDO, SISI, DICs, - Industrial estate

TEACHING PLAN (ODD SEMESTER)

CLASS: I M.Com **Semester: I**
Subject Code: 19PACOC1
Name of the Subject: ADVANCED CORPORATE ACCOUNTING & ACCOUNTING STANDARDS
Subject In charge: Dr. S. SARAVANAN

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TEACHING PLAN (ODD SEMESTER)

CLASS: I M.Com **Semester: I**

WEEK	TOPICS TO BE COVERED
WEEK 1	Accounts of Banking Companies – Legal provisions
WEEK 2	Capital adequacy norms – Rebate on Bills Discounted
WEEK 3	Preparation of Final Accounts.
WEEK 4	Insurance Company accounts – Nature of Insurance business
WEEK 5	Accounts of Life Insurance Business – Accounts of General Insurance Business
WEEK 6	IRDA Regulations Regarding Preparation of Financial Statements.
WEEK 7	Holding company accounts
WEEK 8	Consolidated final statement of Holding companies and subsidiary companies (excluding inter company holdings and Owings
WEEK 9	Treatment of dividends and Bonus Issue
WEEK 10	Double Accounting System: Introduction-Double Entry System and Double Account System
WEEK 11	Double Account System-Features of Double Account System-Advantages and Disadvantages
WEEK 12	Accounts of Electricity Companies and Railways - Replacement and Renewals.
WEEK 13	Accounting Standards: Accounting Standards
WEEK 14	Indian and International Accounting Standards – Accounting Standards 1,3,6,10,14,21 and 29
WEEK 15	Advantages – Disadvantages.

Subject Code: 19PACOC2
Name of the Subject: ADVANCED FINANCIAL MANAGEMENT

Subject In charge: DR. N. BHARATHIDASAN
Dr.AMBEDKAR GOVERNMENT ARTS COLLEGE (AUTONOMOUS),

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TEACHING PLAN (ODD SEMESTER)

CLASS: I M.Com **Semester: I**
Subject Code: 19PACOC3

WEEK	TOPICS TO BE COVERED
WEEK 1	Financial management- Meaning – Nature and Scope of finance
WEEK 2	Financial Goal- Profit vs. Wealth maximization
WEEK 3	Finance Functions – Investment – Financing – Dividend Decisions (Theory only)
WEEK 4	Sources of Finance: short term finance & long term finance - Purpose
WEEK 5	Security Financing, Internal Financing, Loan Financing and other Innovative sources of Financing
WEEK 6	Factors determining the source of finance
WEEK 7	Cost of capital –Meaning – Significance of cost of capital- calculation of cost of debt
WEEK 8	preference capital – equity capital – retained earnings – combined cost of capital (weighted)
WEEK 9	cost of equity – approaches to equity capital-dividend, CAPM. (Theory and Problem)
WEEK 10	Capital structure Theories – Traditional and M.M hypotheses
WEEK 11	Determining Capital structure in practice- Leverages – Operating, Financial and Combined leverages- measurement of leverages
WEEK 12	Effects of operating and financial leverage on profit. .
WEEK 13	Management of working capital – Meaning – Significance – types of working capital – Calculating operating cycle period
WEEK 14	Estimation of working capital requirements – Management of Receivables and Inventory
WEEK 15	Dividend Policies – Issues in dividend decisions – Walter's model – Gordon's model- MM hypothesis. .(Theory and Problem)

Name of the Subject: INSURANCE AND RISK MANAGEMENT
Subject In charge: Mr. B.ANANDAN

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TEACHING PLAN (ODD SEMESTER)

CLASS: I M.Com **Semester: I**
Subject Code: 19PACOE1
Name of the Subject: ORGANISATIONAL BEHAVIOUR

WEEK	TOPICS TO BE COVERED
WEEK 1	Introduction to Insurance – Need for Insurance – Major Types of Insurance and their Features – Importance of Insurance Industry
WEEK 2	Role of Insurance in Economic Development – Insurance and Social Security – Reforms in the Insurance Sector- IRDA- Privatization and Liberalization in India
WEEK 3	Indian Insurance Market- New Entrants to the Indian Insurance Market.
WEEK 4	Life Insurance Nature and Policy types: Nature of Life Insurance-Principles of Insurance-Terms used in Insurance- Life Insurance Product – Various Schemes
WEEK 5	Role of Insurance-Factors influencing Demand for Insurance - First Premium – Renewal – Mode of Premium Payment – Limited Period
WEEK 6	Payment and Single Premium – Lapse & Revival – Paid Up Policy – Deferment Period – Nomination & Assignment of Policy – Bonus – Surrender Value.
WEEK 7	Non-Life Insurance and Policy types: Introduction of General Insurance-Concept and Need .
WEEK 8	Essential Features and Requirements of Fire Policy, Loss of Profits Policy, Marine Cargo Policy,
WEEK 9	Marine Cargo Policy, Marine Hull Policy and Motor Insurance Policy including Vehicle and Third Party Insurance.
WEEK 10	Insurance Market: Life and Non-Life Insurers Firms in India: Public Sector Pioneers in Life and General Insurance Activities
WEEK 11	Role of Insurance Agents and Brokers – Surveyors – Medical Examiners – Third Party Administrators – Regulators:
WEEK 12	Insurance Regulatory and Development Authority (IRDA) of India- Insurance Councils – Ombudsmen.
WEEK 13	Risk and risk management process – Risk identification – Evaluation
WEEK 14	Risk management techniques – Insurance and Risk management techniques
WEEK 15	selecting and implementing risk management techniques.

WEEK	TOPICS TO BE COVERED
WEEK 1	Definition, nature and importance of Organizational behaviour, historical background of organizational behaviour
WEEK 2	Relationship between Organizational behaviour and the individual, theoretical framework (Cognitive, behaviouristic and cognitive)
WEEK 3	limitations of Organizational behaviour
WEEK 4	Perception - importance and factors influencing perception, interpersonal perception - Learning – classical, operant & social cognitive approaches, managerial implications - Emotions – emotional intelligence
WEEK 5	Attitudes – values and attitudes, behaviour relationship – sources, importance, components of attitude
WEEK 6	Relationship between behaviour and attitude, job attitude, barriers to change attitude.
WEEK 7	Personality – types-factors influencing personality theories – trait theories –
WEEK 8	Motivation – definition & concept of motive & motivation, the content theories of motivation (Maslow & Hierarchy and Herzerg's two factor model theory),
WEEK 9	the process theories (Vrooms expectancy and porter and lawler model).
WEEK 10	Organizational structure formation – groups in organizations - influence group
WEEK 11	Organizational change – meaning and definition and nature of organizational change, types of organizational change forces that act as stimulants to change
WEEK 12	how to overcome the resistance to change (Model theories excluded)
WEEK 13	Leadership – concept of leadership, styles and trait approach, contingency approach, contemporary leadership, meaning
WEEK 14	significance of contemporary leadership -Communication – communication, function, process, barriers, forms

WEEK 15	management – stressors in work place, individual differences an experiencing stress – managing workplace stress.

Subject In charge: Dr.J.JAYAKUMAR

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TEACHING PLAN (EVEN SEMESTER)

CLASS: I M.Com **Semester: II**

Subject Code: 19PBCOC1

Name of the Subject: ACCOUNTING FOR MANAGEMENT

WEEK	TOPICS TO BE COVERED
WEEK 1	Introduction to Financial, Cost and Management Accounting
WEEK 2	Management accounting Vs Financial Accounting
WEEK 3	Management Accounting Vs Cost Accounting.
WEEK 4	Analysis of financial statements: Concepts of Financial Statements
WEEK 5	Nature - Analysis & Interpretations of financial statements – Tools
WEEK 6	Comparative Financial statements - Common size statements
WEEK 7	Funds Flow Analysis – Funds from Operation, Sources and Uses of Funds, Preparation of Schedule of Changes in Working Capital
WEEK 8	Construction of Funds Flow Statement –Marginal Uses of fund flow analysis and its Limitations - Cash Flow Analysis – Cash from Operation
WEEK 9	Preparation of Cash Flow Statement – Uses and Limitations – Distinction between Funds Flow and Cash Flow
WEEK 10	Standard Costing – Advantage and Limitations of standard costing – Standard Hour – Standard cost card
WEEK 11	Variance analysis – Relevance of standard cost for variance analysis – Significance of variance analysis
WEEK 12	Computation of Material Variances – Labour Variances
WEEK 13	Budget and budgetary control: Concept of Budget & Budgetary control – Nature and objectives of budgetary control – Establishing a system of Budgetary control - Advantages & limitations
WEEK 14	Types of Budgets - Preparation of sales budget , selling & distribution cost budget, Production budget, purchases budget,

WEEK 15	Fixed and Flexible budgets –Master budget - Zero base budgeting.

Subject In charge; Dr. N. BHARATHIDASAN

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TEACHING PLAN (EVEN SEMESTER)

CLASS: I M.Com **Semester: II**

Subject Code: 19PBCOC2

Name of the Subject: LABOUR LEGISATION

WEEK	TOPICS TO BE COVERED
WEEK 1	Labour legislation –Need- Features – Advantages.
WEEK 2	The Factories Act, 1948 – Objects, amendments, definitions, approval, Licensing and registration of factories, health
WEEK 3	safety and welfare, provisions relating to hazardous processes – employments of women and children.
WEEK 4	The Trade Unions Act, 1926 –objects of the act- registration of Trade unions – cancellation of registration and appeal – rights - duties and liabilities - Dissolution
WEEK 5	The Industrial Disputes Act, 1947 – definitions – Authorities under the Act – disputes – arbitration – award and settlement
WEEK 6	lay-off and retrenchment, strikes and lock outs – closure.
WEEK 7	The Workmen's Compensation Act, 1923 – Objects – Employer's liability for compensation
WEEK 8	calculation of compensation – distribution of compensation
WEEK 9	notice and claim – Disablement-part and full-award of compensation.
WEEK 10	The Employees State Insurance Act, 1948 – Objects
WEEK 11	Definitions – administration of the scheme
WEEK 12	General provisions of the Corporation Committee and Council.
WEEK 13	The Payment of Wages Act, 1936 – definition
WEEK 14	rules for payment of wages – deductions from wages

WEEK 15	The Minimum Wages Act, 1948 – Objects-provisions.

Subject In charge

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TEACHING PLAN (EVEN SEMESTER)

CLASS: I M.Com **Semester: II**

Subject Code: 19PBCOC3

Name of the Subject: SERVICE MARKETING

WEEK	TOPICS TO BE COVERED
WEEK 1	Services marketing – meaning – Nature – Concept – Growth
WEEK 2	Classification of Services – Characteristics of services and their marketing implications
WEEK 3	Essential elements of marketing mix in services marketing.
WEEK 4	Services product strategy – Service product planning and development
WEEK 5	Branding of services – Service pricing strategy – service pricing policy
WEEK 6	psychology of services – pricing customer perception.
WEEK 7	Services promotion strategy – concepts – objectives
WEEK 8	Advertising – Limitations – Public relations – Publicity – Public services
WEEK 9	Strategy of Services communication – Internal and External Communication
WEEK 10	Services distribution strategy – Concepts – Factors governing the choice of Direct Sales
WEEK 11	Delivery of Services through intermediaries – outsources services distribution
WEEK 12	Franchising – Service distribution through agents and brokers.
WEEK 13	Customer relationship management (CRM) – Introduction – concepts .
WEEK 14	Advantages – Components – Advantages of establishing structural relationship strategy

WEEK 15	customized relationship strategy – Developing customer loyalty.

Subject In charge: DR. S. SARAVANAN

Dr.AMBEDKAR GOVERNMENT ARTS COLLEGE (AUTONOMOUS),

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TEACHING PLAN (EVEN SEMESTER)

CLASS: I M.Com **Semester: II**

Subject Code: 19PBCOE1

Name of the Subject: HUMAN RESOURCE DEVELOPMENT

WEEK	TOPICS TO BE COVERED
WEEK 1	Introduction of HRM – Definition, importance, concept, objectives of Human Resource Management
WEEK 2	Strategic Human Resource Management – Human Resource Policies, Need, Type and Scope
WEEK 3	emerging challenges of human resource management – role of HR managers.
WEEK 4	Acquisition of Human Resources: Human Resources Planning – Process, Forecasting, Demand & Supply – qualitative and quantitative dimension
WEEK 5	job analysis and job design – Assessing Human resource requirements – Human resource forecasting – job description & specification
WEEK 6	job characteristics approach to job design – succession planning
WEEK 7	Recruitment, selection, training & Development – factors affecting recruitment – sources of recruitment internal externa
WEEK 8	e-recruitment-selection process-orientation process- training & development objectives and needs – training process
WEEK 9	methods of training – tools and aids – evaluation of the training program.
WEEK 10	Performance appraisal and compensation management: Compensation Management – performance appraisal - job evaluation
WEEK 11	base compensation and supplementary compensations – pay band system – performance appraisal – concept, objectives and methods – traditional and modern methods
WEEK 12	MBO – employee counseling – job changes – transfer and promotion – Human Resource Audit.
WEEK 13	Emerging horizons of HRM: e-HRM-impact of HRM practice an organization performance
WEEK 14	contemporary issues in HRM – quality circle

WEEK 15	labour and international organization

Subject In charge; Mr. B. ANANDAN

Dr. AMBEDKAR GOVERNMENT ARTS COLLEGE (AUTONOMOUS),

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TEACHING PLAN (EVEN SEMESTER)

CLASS: I M.Com **Semester: II**

Subject Code: 19PBCOD1

Name of the Subject: MODERN BANKING

WEEK	TOPICS TO BE COVERED
WEEK 1	Meaning and Definition of banking
WEEK 2	classification of banks
WEEK 3	Modern functions of Commercial bank
WEEK 4	ATM – ECS - e-banking - credit card – debit card
WEEK 5	difference between credit card and debit card – Internet Banking
WEEK 6	Different types of Accounts and Deposits.
WEEK 7	Reserve Bank of India – Functions of RBI
WEEK 8	Credit control – Types of credit control
WEEK 9	Qualitative credit control and Quantitative credit control.
WEEK 10	Negotiable Instruments - Meaning and Definition of Cheques – essential characteristics of Cheques
WEEK 11	Drafting of Cheque – crossing
WEEK 12	material alteration – Endorsement – Closing of Accounts
WEEK 13	Loans and Advances – Principles of sound lending – forms of Loans and Advances
WEEK 14	classifications of loans and advances

WEEK 15	Precautions to be taken by a banker in lending Loans and Advances– Types of securities.

Subject In charge: Dr. J. JAYAKUMAR

Dr.AMBEDKAR GOVERNMENT ARTS COLLEGE (AUTONOMOUS),

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PG AND RESEARCH DEPARTMENT OF COMMERCE

TEACHING PLAN (ODD SEMESTER)

CLASS: II M.Com **Semester: III**

Subject Code: 19PCCOC1

WEEK 1	History of Income tax in India – objectives of taxation – canons of taxation – characteristics of good tax system

Name of the Subject: INCOME TAX LAW AND PRACTICE -I

WEEK 2	definition of tax –classification of taxes – distinction between direct and indirect tax - Income Tax Act – Current Finance Act – Agricultural income
WEEK 3	Assessee – Assessment Year – Income – Person – Previous Year – Exempted incomes.
WEEK 4	Residential Status and Incidence of Tax – Classification of residential status of Taxable entities
WEEK 5	Residential status of an Individual – Resident – Basic conditions - Additional conditions
WEEK 6	Non-resident – Residential status of a firm, AOP – Residential status of companies – incidence of tax and residential status.
WEEK 7	Heads of Income – Income under the head Salaries – Features
WEEK 8	Allowances – Fringe Benefits – Perquisites – Profits in lieu of salary – Provident Fund
WEEK 9	Deductions – Computation of salary income.
WEEK 10	Income from House property – Annual value – Determination – Deductions
WEEK 11	
WEEK 12	Computation of Income from House Property.
WEEK 13	Profits and Gains of Business or Profession – Definition – Chargeability – Admissible deduction
WEEK 14	Inadmissible expense – Computation of Business Income(excluding firms and companies)
WEEK 15	Computation of Professional Income

TOPICS TO BE COVERED

WEEK 1 Costing – Cost Accounting – Meaning and Definition – Financial Accounting Vs Cost Accounting – Relationship of cost accounting with management accounting .

WEEK 2 Nature and significance of Cost Accounting – Essentials of good costing system - Elements of cost – Cost concepts and preparation of cost sheet

WEEK 3 Methods of Costing -job order Costing – Process Costing- Materials – Issue of materials – Pricing of material issued

Subject In charge: DR.S.SARAVANAN

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TEACHING PLAN (ODD SEMESTER)

CLASS: II M.Com **Semester: III**

Subject Code: 19PCCOC2

WEEK 4	Labour – types of labour cost – Methods of time keeping – Idle time - overtime – labour turnover - Preparation of Pay Roll – Wage payment and incentive system
WEEK 5	Overhead – meaning and classification of overheads – Departmentalization of Overheads – Allocation - Apportionment – Re-apportionment- Absorption of Overhead cost
WEEK 6	Difference between cost allocation and apportionment and Reapportionment – treatment of over and under absorbed overheads.
WEEK 7	Process costing – Comparison between joint costing and process costing – costing procedure under process costing- Process Losses
WEEK 8	Inter process profit – Equivalent production – methods of computing equivalent units- Evaluation of equivalent production
WEEK 9	Joint product and by products costing – accounting for joint products & by-products.
WEEK 10	Marginal costing – Salient features - Marginal costing and absorption costing - Break – Even analysis
WEEK 11	Cost – Volume-profit analysis – Application of Marginal costing for Business decision making –--Determination of sales mix- Exploring new markets- Make or buy decisions
WEEK 12	Change versus status quo -expand or contract – shut down or continue - Inflation Accounting – Human Resource Accounting.
WEEK 13	Cost Management
WEEK 14	Reconciliation of cost and financial statement
WEEK 15	Contract Costing – Escalation clause

WEEK **TOPICS TO BE COVERED**

WEEK 1 International business – meaning – features – factors- International Business Environment – Means of engaging in International Business

Name of the Subject: APPLIED COSTING
Subject In charge: DR. V. RAVICHANDRAN

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PG AND RESEARCH DEPARTMENT OF COMMERCE

TEACHING PLAN (ODD SEMESTER)

CLASS: II M.Com **Semester: III**
Subject Code: 19PCCOC3
Name of the Subject: INTERNATIONAL BUSINESS

WEEK 2	External Influences of International Business – The Human and Cultural Environments facing Business
WEEK 3	Political influence on International Business.
WEEK 4	International Trading Environment.
WEEK 5	WTO – TRIM – TRIP – IPR
WEEK 6	Country Evaluation and Selection – International Economic Organizations.
WEEK 7	Multinational enterprises – meaning – features - Impact of the Multinational Enterprise:
WEEK 8	Evaluating the Impact of the MNE – Economic Impact of the MNE – Operational and Political Impact of International Business
WEEK 9	Introduction to Research: Meaning and Definition of Social Research – Objectives of Research –
WEEK 10	Types of Research - Research process
WEEK 11	Foreign Exchange Rates: Basics, Transaction and Economic Exposure – Foreign Direct Investment
WEEK 12	Strategies: Export and Import Strategies, Collaborative Strategies, Sourcing and Production Strategies.
WEEK 13	Recent developments in International Business
WEEK 14	E-business Strategy – International Product Decisions
WEEK 15	Global Supply Chain Management: International Logistics and Distribution.

TOPICS TO BE COVERED

Balance of Payments

International Financial Management – meaning – role - International Monetary System

Subject In chargel Mr. B. ANANDAN

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PG AND RESEARCH DEPARTMENT OF COMMERCE

TEACHING PLAN (ODD SEMESTER)

CLASS: II M.Com **Semester: III**

Subject Code: 19PCCOC4

Name of the Subject: BUSINESS RESEARCH METHODS

WEEK 3	Criteria of Good Research – Maintaining Objectivity in Research – Problems Encountered by Researchers.
WEEK 4	Problem Formulation – Identifying Research Problem – Sources of Research Problem
WEEK 5	Techniques Involved in Defining a Research Problem – Research Design: Meaning and Importance; Types of Research Designs – Exploratory – Descriptive
WEEK 6	Case Study Design.
WEEK 7	Data Collection: Methods of Data Collection –Observation – Questionnaire & Interviewing – Guidelines for Constructing Questionnaire and Interview Schedule
WEEK 8	Sample Design: Defining Universe and Sampling Unit – Determining Sample Frame – Probability and Non-Probability Sampling Methods – Sample Size Determination
WEEK 9	Sampling and Non-sampling Errors – Scaling Methods – Hypothesis; Hypothesis Formulation and Hypothesis Testing.
WEEK 10	Data analysis and Interpretation using SPSS: Descriptive statistics – Factor Analysis
WEEK 11	Reliability test – Parametric Analysis – T-test – ANOVA – Correlation – Regression.
WEEK 12	Non-Parametric Analysis – Chi-square – Sign Test.
WEEK 13	Report Writing – Kinds of Research Reports – Steps in Report Writing – Layout of Research Report
WEEK 14	Mechanics in Writing a Research Report
WEEK 15	Precautions in Writing a Research Report

WEEK	TOPICS TO BE COVERED
WEEK 1	Consumer Movement in India- Definition of Consumer- Types of Consumer –Problems of Consumer

Subject In charge: Dr. N.BHARATHIDASAN

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PG AND RESEARCH DEPARTMENT OF COMMERCE

TEACHING PLAN (ODD SEMESTER)

CLASS: II M.Com **Semester: III**

Subject Code: 19PCCOE1

Name of the Subject: CONSUMER RIGHTS AND EDUCATION

WEEK	TOPICS TO BE COVERED
WEEK 2	Consumerism- Emerging concepts in consumerism:
WEEK 3	Green Consumerism, Cyber Consumerism.
WEEK 4	Right of Consumers- Responsibilities of Consumers
WEEK 5	unfair trade practices-Caveat emptor and Caveat Venditor
WEEK 6	Enforcement of Consumer rights through Public Interest Litigation
WEEK 7	Consumer Protection Act- Main Provisions –Redressal forums
WEEK 8	District Level –State Level and National Level –Powers and Functions
WEEK 9	Filing of Complaints Procedure Regulatory Authorities and OMBUDSMAN
WEEK 10	Consumer related Legislations and Organizations: Prevention of Food Adulteration Act, 1954- Standards of Weights and Measures Act, 1976
WEEK 11	The Drugs and Magic Remedies (Objectionable Advertisement) Act 1954 - Consumer pressure groups-voluntary consumer organizations
WEEK 12	Consumer Protection Councils.
WEEK 13	Consumer awareness and Education in India**:**Lack of awareness
WEEK 14	Lack of access to information-Methods of creating awareness and promotion of Consumer rights and duti
WEEK 15	Role of media in consumer education

Subject In charge: Mr. B. ANANDAN

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TEACHING PLAN (ODD SEMESTER)

CLASS: II M.Com **Semester: III**

Subject Code: 19PCCOD2

Name of the Subject: PRINCIPLES OF INSURANCE

WEEK	TOPICS TO BE COVERED
WEEK 1	Introduction to insurance – Principles of Insurance
WEEK 2	Insurable interest – Indemnity – Subrogation – Utmost good faith

WEEK 3	Functions of Insurance
WEEK 4	Life insurance – Meaning – Advantages of Life insurance
WEEK 5	Procedure for effecting life insurance – Life insurance products or policies
WEEK 6	Joint life policy
WEEK 7	Fire Insurance – Meaning
WEEK 8	Functions of fire insurance – Kinds of fire policies
WEEK 9	Advantages of fire insurance
WEEK 10	Marine insurance – Types of marine insurance – Lloyd's policy – Company policy
WEEK 11	Difference between company policy and Lloyd's policy
WEEK 12	Types of Marine policies.
WEEK 13	Miscellaneous insurance – Motor insurance
WEEK 14	Health insurance – Liability insurance
WEEK 15	Rural insurance

WEEK	TOPICS TO BE COVERED
WEEK 1	Capital Gains – Definition – Kind of Capital assets
WEEK 2	Exempted Capital Gains
WEEK 3	Computation of Capital Gains.
WEEK 4	Income from Other Sources – Income chargeable to tax

Subject In charge: Mr. B.ANANDAN

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TEACHING PLAN (EVEN SEMESTER)

CLASS: II M.Com **Semester: IV**

Subject Code: 19PDCOC1

Name of the Subject: INCOME TAX LAW AND PRACTICE

WEEK 5	Deductions – Bond washing transactions
WEEK 6	Computation of income from other sources
WEEK 7	Set off and Carry forward of Losses
WEEK 8	Deductions from Gross Total Income.
WEEK 9	Deductions from Gross Total Income.
WEEK 10	Assessment of Individuals
WEEK 11	Computation of total income and tax liability
WEEK 12	Assessment of firms.
WEEK 13	Administration of the income tax Act – income tax authorities
WEEK 14	CBDT – powers – Assessing officer - Procedure for assessment – Types of assessment
WEEK 15	Advance Payment of Tax – Deduction of tax at source – Filing of return – Types of filing – PAN.

Subject In charge: DR. S. SARAVANAN

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TEACHING PLAN (EVEN SEMESTER)

CLASS: II M.Com **Semester: IV**
Subject Code: **19PDCOC2**

WEEK	TOPICS TO BE COVERED
WEEK 1	Introduction: Financial markets - meaning - definition - role - functions - constituents - financial instruments
WEEK 2	Money market: meaning - characteristics - importance - general functions - segments - financial institutions - characteristics of developed money market
WEEK 3	Call money market: meaning - features - benefits - Indian call money market
WEEK 4	Commercial paper market: meaning –features - importance - developed bill market - shortcomings of Indian bill market - Bill Market Scheme, 1952 and

	1970 - Bill market Scheme, 1970
WEEK 5	Certificate of Deposit (CD) market: meaning - features - Treasury Bill Market: meaning - Treasury Bills - general features - Indian TBs - Benefits -
WEEK 6	Gilt-edged securities market: meaning - features - importance of gilt-edged market and Govt. bonds.
WEEK 7	Capital Market: Meaning –characteristics – Stock exchange – features and functions – Listing – National Stock Exchange
WEEK 8	New Issues Market (NIM) – meaning – Advantages - NIM and secondary market – methods of marketing securities
WEEK 9	Intermediaries in NIM – Book building – insider trading and investor protection.
WEEK 10	Financial service institutions – Clearing Corporation of India Limited – settlement of risks – risk management system – benefits
WEEK 11	CRISIL – range of services – CIBIL – credit information – credit assessment – mechanism – credit information report
WEEK 12	Investment Objectives – features of an Investment programme
WEEK 13	Financial Institutions–meaning – special characteristics – cooperative banking institutions
WEEK 14	National Housing Bank – functions and working
WEEK 15	EXIM bank of India – functions and working – NABARD – functions and working – RBI – functions and working – NBFCs – FIIs – role and danger – IMF – World Bank – IFC – ADB.

TOPICS TO BE COVERED

Investment-definition, Nature and scope of investment management

Name of the Subject: FINANCIAL MARKET AND INSTITUTION
Subject In charge: DR. J.JAYAKUMAR

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TEACHING PLAN (EVEN SEMESTER)

CLASS: II M.Com **Semester: IV**
Subject Code: 19PDCOE1
Name of the Subject: SECURITY ANALYSIS AND PORTFOLIO MANAGEMENT

WEEK 3	Types of investment alternatives
WEEK 4	Risk and return-Concept of Risk and return – Types of risk
WEEK 5	Systematic, Unsystematic and other risks
WEEK 6	Measurement of risk and return
WEEK 7	Approaches to security analysis – Fundamental analysis
WEEK 8	Economic, Industry and Company analysis
WEEK 9	Technical analysis – Charting methods.
WEEK 10	Efficient market theory – Random Walk Theory
WEEK 11	Options and futures-put, call,
WEEK 12	Valuation, characteristics and difference of
WEEK 13	Portfolio Management – Process
WEEK 14	Principles of portfolio management – Markowitz theory – Sharpe's Optimization
WEEK 15	Dow Theory-CAPM – SML – CML.

TOPICS TO BE COVERED

Understanding customers: Customer information Database – Customer Profile Analysis – Customer perception

Expectations, analysis – Customer Behavior in relationship perspectives; individual and group customers

Customer, life time value – Selection of Profitable customer segments

Subject In charge: MR. B. ANANDAN

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TEACHING PLAN (EVEN SEMESTER)

CLASS: II M.Com **Semester: IV**

Subject Code: 19PDCOE2

Name of the Subject: CUSTOMER RELATIONSHIP MANAGEMENT

WEEK 4	CRM structures**:** Elements of CRM – CRM Process – Strategies for Customer acquisition
WEEK 5	Retention and Prevention of defection – Models of CRM
WEEK 6	CRM road map for business applications.
WEEK 7	CRM Planning and Implementation: Strategic CRM planning process – Implementation issues – CRM Tools- Analytical CRM
WEEK 8	Operational CRM – Call Centre management – Role of CRM Managers – CRM Implementation Road Map
WEEK 9	Developing a Relationship Orientation – Customer-centric Marketing Processes – Customer retention plans
WEEK 10	Service quality: Concept of Quality – Meaning and Definition of Service Quality
WEEK 11	Factors influencing customer expectations and perceptions – Types of Service Quality – Service Quality Dimensions
WEEK 12	Service Quality Gaps – Measuring Service Quality – Service Quality measurement Scales.
WEEK 13	Trends in CRM: CRM Solutions – Data Warehousing – Data mining for CRM
WEEK 14	CRM software packages – The Technological Revolution: Relationship Management
WEEK 15	Changing Corporate Cultures.

Subject In charge: DR. V. RAVICHANDRAN

Dr. AMBEDKAR GOVERNEMENT ARTS COLLEGE(A), VYASARPADI, CHENNAI- 600039
PG & RESEARCH DEPARTMENT OF COMPUTER SCIENCE
LESSON PLAN
ACADEMIC YEAR- 2021-2022 (ODD)

DEGREE: B.Sc., COMPUTER SCIENCE
COURSE CODE: 19UACSC1
COURSE NAME: Core I : Digital Computer Fundamentals
SEMESTER NO: 1
STAFF NAME: Dr. G. Sekar

WEEK	TOPICS TO BE COVERED
Week-1	Number System: Decimal, Hexadecimal, Octal and Binary. Base conversion: i) Decimal to Binary, Hex and Octal ii) Binary to Decimal Hex and Octal iii) Hex to Decimal, Binary and Octal iv) Octal to Decimal, Binary and Hex. Binary Codes: BCD, Excess-3, Gray, ASCII, EBCDIC and Unicode.
Week-2	Code Conversion: Binary to BCD, BCD to Binary, BCD to Excess-3, Excess-3 to BCD, Binary to Gray, Gray to Binary.
Week-3	Logic Gates: NOT, AND, OR, XOR, NAND, NOR AND XNOR gates. Universal Gates: Method of NAND and NOR as universal gates.
Week-4	Boolean Algebra: Laws Rules and Theorems: Associative law, Commutative law, Demorgan's theorems and set of basic and derived rules. Simplification of Boolean Functions using Theorems and K-Map: Simplification of the given boolean expression using the theorems and laws and simplification of boolean expression using K-Maps.
Week-5	Binary arithmetic and representation of binary numbers: Binary addition and subtraction. Sign and Magnitude representation of binary numbers, 1's complement representation and 2's complement representations.
Week-6	Arithmetic Building Blocks: Half-Adder, Full-Adder, Half-Subtractor, Full-Subtractor and Parallel Binary Adder.
Week-7	Combinational Logic: Multiplexers, Demultiplexers, Encoders and Decoders.
Week-8	Code Converters: Binary to BCD, BCD to Binary, BCD to Excess-3, Excess-3 to BCD, Binary to Gray, Gray to Binary.
Week-9	Parity Generators and Checkers: Even parity generator and Even parity checker, Odd parity generator and Odd parity checker.
Week-10	Sequential Logic: Comparison of combinational logic and sequential logic circuits. Basics of Clock. Study about RS, JK, D, and T Flip-Flops.
Week-11	Master-Slave Flip-Flops: Design of Master-Slave flip-flops using J-K flip-flops.
Week-12	Registers: Shift Registers – Types of Shift Registers: Serial-in Serial-out shift right, Serial-in Serial-out shift left. Parallel-in Serial-out register, Serial-in Parallel-out register and bi-directional register.

Week-13	Counters: Comparison of Asynchronous and Synchronous circuits. Asynchronous and Synchronous Counters
Week-14	Counters: Ripple, Mod, Up-Down Counters and Ring Counters
Week-15	Memory: Basic Terms and Ideas of Memory –Types of ROMs – Types of RAMs

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PG & RESEARCH DEPARTMENT OF COMPUTER SCIENCE
LESSON PLAN
ACADEMIC YEAR- 2021-2022 (ODD)

DEGREE: B.Sc., COMPUTER SCIENCE
COURSE CODE: 19UACSC2
COURSE NAME: Practical I : Digital Lab
SEMESTER NO: 1
STAFF NAME: Dr. G. Sekar

WEEK	TOPICS TO BE COVERED
Week-1	Study of Logic Gates: Verification of truth table for AND, OR, NOT, NAND, NOR and XOR gates.
Week-2	NAND as Universal Gate: Design of AND, OR, NOT, NOR and XOR gates using only NAND gates.
Week-3	NOR as Universal Gate: Design of AND, OR, NOT, NAND and XOR gates using only NOR gates.
Week-4	Verification of Associative Law: Verification of associative law for addition and verification of associative law for multiplication.
Week-5	Verification of Demorgan's Laws: Verification of Demorgan's first law and second law using two variables and more than two variables.
Week-6	Simplification of logic circuit using K-Map: Simplification of logic circuit using K-Map and implement the circuit and verification of truth table.
Week-7	Study of Half Adder and Half Subtractor: Design circuit for Half Adder and Half Subtractor and verification of truth tables.
Week-8	Study of Full Adder and Full Subtractor: Design circuit for Full Adder and Full Subtractor and verification of truth tables.
Week-9	Study of 4-Bits Parallel Adder and Subtractor: Design circuit for 4-Bits parallel adder, 1's complement subtraction and 2's complement subtraction and verification of truth tables.
Week-10	Implementation of Multiplexer: Design and verification of truth tables for 4:1 Multiplexer and 8:1 Multiplexer
Week-11	Implementation of DeMultiplexer: Design and verification of 1:4 DeMultiplexer and 1:8 DeMultiplexer
Week-12	Implementation of Decoder: Design and verification of 2 to 4 and 3 to 8 Decoders.
Week-13	Implementation of 4 to 2 Encoder and 8 to 3 Encoder: Implementation of 4 to 2 Encoder and 8 to 3 Encoder.

Week-14	Implementation of R-S Flip-Flop and J-K Flip-Flop: Implementation and verification of truth tables of R-S Flip-Flop and J-K Flip-Flop
Week-15	Implementation of Shift Register-Serial Transfer: Design and verification of truth table of shift the given 4-Bit data using the J-K Flip-Flops.

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PG & RESEARCH DEPARTMENT OF COMPUTER SCIENCE

LESSON PLAN

ACADEMIC YEAR- 2021-2022 (EVEN SEMESTER)

DEGREE : **B.Sc., COMPUTER SCIENCE**
COURSE CODE : **19UBCSC1**
COURSE NAME: **PROGRAMMING IN C AND DATA STRUCTURES**
SEMESTER NO :**II**
STAFF NAME : **Dr.S.BEHIN SAM**

WEEK	**TOPICS TO BE COVERED**
Week-1	C Fundamentals: Character set - Identifier and Keywords - Data Types - Constants - Variables - Declarations – Expressions
Week-2	Arithmetic, Unary, Relational,Logical, Assignment and Conditional Operators - Input/Output Statements
Week-3	Mathematical Library Functions -Simple C programs.
Week-4	Decision-Making and Branching Statements: if, if-else, switch, go to. Decision-Making and Looping Statements: while, do-while, for loop, nested loops.
Week-5	Jumps in Loops: break. Continue.Arrays: Defining and Processing – One-dimensional, Two-dimensional and Multi-dimensional arrays
Week-6	Strings: Declaration, processing and String handling functions.
Week-7	User Defined Functions: Definition, declaration and function call - Passing arguments - Recursion.
Week-8	Structures: Definition, Assigning values and Array of structures.
Week-9	Pointers: Declarations and Initializing pointers – Accessing a variable through its pointer – Pointer expressions.
Week-10	Introduction of Data Structures: Arrays: Representation of Arrays. Stack: Push and Pop operations
Week-11	Application of Stack: Evaluation of Expression - Infix to postfix Conversion.
Week-12	Queue: Insert and Delete operations in Queue. Singly Linked list – Operations.
Week-13	Trees: Basic Terminology - Binary Trees and its representations - Binary trees Traversal: Inorder, Preorder and Postorder.
Week-14	Graphs: Terminology and Graph Representations: Adjacency Matrix and List representation

Week-15	Graph Traversals: Breadth First Traversal and Depth First Traversal.

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PG & RESEARCH DEPARTMENT OF COMPUTER SCIENCE
LESSON PLAN
ACADEMIC YEAR- 2021-2022 (EVEN SEMESTER)

DEGREE : **B.Sc., COMPUTER SCIENCE**
COURSE CODE : **19UBCSC2**
COURSE NAME: **DATA STRUCTURES USING C-LAB**
SEMESTER NO :**II**
STAFF NAME : **Dr.S.BEHIN SAM**

WEEK	**TOPICS TO BE COVERED**
Week-1	Write a C program to demonstrate the functioning of operators. Write a C program for mathematical library functions.
Week-2	Write a C program to find the biggest of three numbers using if. Write a C program to find the root of quadratic equation.
Week-3	Write a C program to find whether a given number is prime or not using loops. Write a C program for Linear Search using one dimensional array.
Week-4	Write a C program for Matrix Addition and Subtraction using two dimensional arrays. Write a C program to demonstrate built-in string handling functions.
Week-5	Write a C program to compute ${}^{n}C_{r}$ using recursion.
Week-6	Write a C program to define and manipulate structure with following fields: studentno, studentname, studenttotal.
Week-7	Write a C program to mergetwo array lists of integers into a single array.
Week-8	Write a C program to illustrate the working of STACK using array.
Week-9	Write a C program to illustrate the working of QUEUE using array.
Week-10	Write a C program to create Singly Linked list and perform creation, insertion, deletion and print operations.
Week-11	Write a C program to construct a Binary tree and to traverse in preorder.
Week-12	Write a C program to construct a Binary tree and to traverse in inorder.
Week-13	Write a C program to construct a Binary tree and to traverse in Postorder.

Week-14	Write a C program to traverse the given graph in BFS fashion.
Week-15	Write a C program to traverse the given graph in DFS fashion.

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PG & RESEARCH DEPARTMENT OF COMPUTER SCIENCE
LESSON PLAN
ACADEMIC YEAR- 2021-2022 (ODD SEMESTER)

DEGREE**:** **B.Sc., COMPUTER SCIENCE**
SUBJECT CODE: 19UCCSC1
SUBJECT NAME: **OBJECT ORIENTED PROGRAMMING USING C++**
SEMESTER NO: III
STAFF NAME: Dr.S.BEHIN SAM

WEEK	**TOPICS TO BE COVERED**
Week-1	C++ Language Fundamentals:- Procedure Oriented Paradigm and Object Oriented Paradigm - Basic concept of Object Oriented Programming (OOP)
Week-2	Introduction to C++; Structure of C++ Program, Tokens, Keywords, Identifiers, Data Types, Variables
Week-3	Operators , Expressions – Branching statements.
Week-4	Looping statements
Week-5	Arrays: One-dimensional, Two-dimensional and Multi-dimensional arrays
Week-6	Functions: Declaration and definition, call-by-value and call-by-reference – Inline functions – Default arguments – Function Overloading.
Week-7	Classes and Objects: Specifying a Class – Defining member functions
Week-8	Arrays with in class – Arrays of Objects – Objects as function arguments – Friend Function
Week-9	Constructors**: -** Constructors – Types of constructors & Destructors – Operator Overloading.
Week-10	Inheritance: Definition- Types of Inheritance –Virtual functions
Week-11	Formatted I/O operations, Manipulators and user-defined manipulators - Command line Arguments.
Week-12	C++ Files: **-** Opening and closing a File, End-of-File detection – File Pointers
Week-13	Error handling during file operations – File manipulation – Class Templates and Function Templates

Week-14	Basics of Exception handling – Introduction to Standard Template
Week-15	Library: Components, Containers, Algorithms and Iterators.

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LESSON PLAN
ACADEMIC YEAR- 2021-2022 (ODD SEMESTER)

DEGREE**:** **B.Sc., COMPUTER SCIENCE**
SUBJECT CODE: 19UCCSC2
SUBJECT NAME: **PROGRAMMING IN C++ - LAB**
SEMESTER NO: III
STAFF NAME: Dr.S.BEHIN SAM

WEEK	**TOPICS TO BE COVERED**
Week-1	Write a C++ program to demonstrate function overloading, Default Arguments and Inline function.
Week-2	Write a C++ program to demonstrate Class and Objects
Week-3	Write a C++ program to demonstrate the concept of Passing Objects to Functions
Week-4	Write a C++ program to demonstrate the Friend Functions.
Week-5	Write a C++ program to demonstrate the concept of Passing Objects to Functions
Week-6	Write a C++ program to demonstrate Constructor and Destructor
Week-7	Unary Operator Overloading
Week-8	Binary Operator Overloading
Week-9	Single Inheritance, Multilevel Inheritance, Multiple Inheritance
Week-10	Hierarchical Inheritance, Hybrid Inheritance
Week-11	Write a C++ program to demonstrate Virtual Functions
Week-12	Write a C++ program to manipulate a Text File.
Week-13	Write a C++ program to perform Sequential I/O Operations on a file.

Week-14	Write a C++ program to find the Biggest Number using Command Line Arguments
Week-15	Write a C++ program to demonstrate Exception Handling

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LESSON PLAN
ACADEMIC YEAR- 2021-2022 (EVEN SEMESTER)

DEGREE**:** **B.Sc., COMPUTER SCIENCE**
SUBJECT CODE: **19UDCSC1**
SUBJECT NAME: **PROGRAMMING IN JAVA**
SEMESTER NO: IV
STAFF NAME:

WEEK	**TOPICS TO BE COVERED**
Week-1	Genesis of Java: Creation of Java – why java is important to internet – The Java Buzz words – An overview of Java Object Oriented Programming.
Week-2	Data types – Variables – Type conversion and casting – Automatic type promotion in Expressions – Strings.
Week-3	Arrays: One Dimensional Array – Multi Dimensional Array – Operators – Control statements.
Week-4	Class Fundamentals – Declaring objects – Assigning object Reference variables – Introducing Methods – Constructors – Garbage collection – Finalize () Method – Stack class.
Week-5	A Closer Look at Methods and classes: Overloading Methods – Argument passing –Nested and Inner classes – String class – Using command line arguments.
Week-6	Inheritance Basics & Types - Method overriding – Dynamic Method Dispatch – Using Abstract class – Using final with inheritance.
Week-7	Packages & Interface - Exception Handling - Creating your own Exception subclasses.
Week-8	Multithreaded Programming: Java Thread Model – Main Thread – Creating a Thread – Creating Multiple Threads–Using is Alive () and join ()
Week-9	Thread priorities – Synchronization – Inter thread Communication.
Week-10	I/O: I/O Basics Reading console Input – writing console output – The Print Writer class – Reading and Writing Files.

Week-11	AWT Classes – Window fundamentals – working with Frame Windows
Week-12	working with Graphic Using AWT controls: Controls fundamentals – Labels – using Buttons – Applying check Boxes –Check Box group – Choice controls
Week-13	Using a Text field – Using a Text Area – Understanding Layout Managers (Flow Layout only) – Menu Bars and Menus.
Week-14	JDBC -Introduction - JDBC Architecture - JDBC Classes and Interfaces – Database Access with Databases
Week-15	Steps in Developing JDBC application – Database manipulation with JDBC.

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PG & RESEARCH DEPARTMENT OF COMPUTER SCIENCE
LESSON PLAN
ACADEMIC YEAR- 2021-2022 (EVEN SEMESTER)

DEGREE**:** **B.Sc., COMPUTER SCIENCE**
SUBJECT CODE: **19UDCSC2**
SUBJECT NAME: **JAVA PROGRAMMING LAB**
SEMESTER NO: IV
STAFF NAME:

WEEK	**TOPICS TO BE COVERED**
Week-1	Sample Programs and Execution method of java
Week-2	Sample Programs and Execution method of java
Week-3	Define a class called Student with the attributes name, reg_number and marks obtained in four subjects(m1,m2,m3,m4).Write a suitable constructor and methods to find the total mark obtained by the student and display the details of the student.
Week-4	Write a Java program to find the area of a square, rectangle and triangle by (i) Overloading Constructor (ii) Overloading Method.
Week-5	Write a java program to add two complex numbers. [Use passing object as argument and return object].
Week-6	Define a class called Student_super with data members name, roll number and age. Write a suitable constructor and a method output () to display the details.
Week-7	Derive another class Student from Student_super with data members height and weight. Write a constructor and a method output () to display the details which overrides the super class method output().[Apply method Overriding concept].
Week-8	Write a java program to create an interface called Demo, which contains a double type constant, and a method called area () with one double type argument. Implement the interface to find the area of a circle.

Week-9	Thread class
Week-10	Write a java program to create a thread using Thread class.
Week-11	Demonstrate Java inheritance using extends keyword
Week-12	Demonstrate Java inheritance using extends keyword
Week-13	Write a Java program to throw the following exception, 1) Negative Array Size 2) Array Index out of Bounds
Week-14	Write a java program to create a file menu with option New, Save and Close, Edit menu with option cut, copy, and paste.
Week-15	Write a java program to create a file menu with option New, Save and Close, Edit menu with option cut, copy, and paste.

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LESSON PLAN
ACADEMIC YEAR- 2021-2022 (EVEN)

DEGREE: B.Sc., COMPUTER SCIENCE
COURSE CODE: 19UDSBE4
COURSE NAME: SBE IV: Android Programming
SEMESTER NO: 4
STAFF NAME: Dr. G. Sekar

WEEK	TOPICS TO BE COVERED
Week-1	Introduction to Android. Features of Android. Architecture of Android
Week-2	Creating First Android Application - Anatomy of Android Application.
Week-3	Components of Android Application and Lifecycle of Activity.
Week-4	Screen Layouts: Linear, Table, Relative, Absolute and Grid. Basic Views: Toast, TextView, EditText, Button
Week-5	AutoCompleteTextView, CheckBox, ToggleButton, ImageButton, RadioButton.
Week-6	SeekBar, ListView, ImageView, DatePicker and TimePicker.
Week-7	Intents: Creating Intents, Explicit and Implicit Intents
Week-8	Calling Built – In Application Using Intents.
Week-9	Menus: OptionsMenu, ContextMenu and PopupMenu.
Week-10	Data Persistence: Saving and Loading using Shared Preferences.

Week-11	Persisting Data to Files - SQLite Database.
Week-12	Create, Insert, Delete, Update and Select queries.
Week-13	Developing Android Services: Lifecycle of Service.
Week-14	Types of service and creating own services. Publishing Android Applications.
Week-15	Preparing for Publishing: Deploying APK Files.

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LESSON PLAN
ACADEMIC YEAR- 2021-2022 (EVEN SEMESTER)

DEGREE**:** **B.Sc., COMPUTER SCIENCE**
SUBJECT CODE: 18USS541
SUBJECT NAME: **VALUE BASED EDUCATION**
SEMESTER NO: IV
STAFF NAME:

WEEK	**TOPICS TO BE COVERED**
Week-1	Values: Definition and Meaning of Values-
Week-2	Human Values
Week-3	Social Values, Cultural and Religious Values
Week-4	Ethical Values
Week-5	Global Values and Spiritual Values.
Week-6	The Power of Positive Thinking: 'Building Self-Confidence'
Week-7	Norman Vincent Peale (From Touchstone: Synergy of Values)
Week-8	Leadership: The Challenge of Excellence
Week-9	Living Excellence –Anthony Robbins
Week-10	The Personal Value of Truth and Its Importance
Week-11	The Story of My Experiments with Truth

Week-12	M.K. Gandhi (Chapter 2)
Week-13	Human Rights: Universal Declaration of Human Rights
Week-14	Human Rights violations
Week-15	(From Touchstone: Synergy of Values)

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LESSON PLAN
ACADEMIC YEAR- 2021-2022 (ODD SEMESTER)

DEGREE: B.Sc COMPUTER SCIENCE
COURSE CODE:18UCS531
COURSE NAME: OPERATING SYSTEMS
SEMESTER NO:V
STAFF NAME : Dr K.SHYAMALA

WEEK	TOPICS TO BE COVERED
Week-1	Introduction: Views- Goals – Types of System – OS Structure – Components – Services
Week-2	Process Management: Process – Process Scheduling – Cooperating process – Threads – Inter Process Communication
Week-3	CPU Scheduling: CPU Schedulers – Scheduling Criteria – Scheduling Algorithms
Week-4	Process Synchronization: Critical-Section Problem – Synchronization Hardware – Semaphores
Week-5	Classical Problems of Synchronization. Deadlocks: Characterization
Week-6	Methods for Handling Deadlocks – Deadlock Prevention - Avoidance – Detection - Recovery
Week-7	Memory Management: Address Binding – Dynamic Loading and Linking – Overlays – Logical and Physical Address Space
Week-8	Contiguous Allocation – Internal and External Fragmentation.
Week-9	Non-Contiguous Allocation: Paging and Segmentation Schemes – Implementation – Fragmentation
Week-10	Virtual Memory: Demand Paging – Page Replacement – Page Replacement Algorithms
Week-11	File System: File Concepts – Access Methods – Directory Structures
Week-12	File System Structures – Allocation Methods – Free Space Management

Week-13	I/O System: Overview – I/O Hardware – Application I/O Interface – Transforming I/O Requests to Hardware Operations
Week-14	Protection – Goals – Domain – Access matrix – The Security Problem – Authentication
Week-15	Unix System: Features of UNIX - Basic commands

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LESSON PLAN
ACADEMIC YEAR- 2021-2022 (ODD SEMESTER)

DEGREE: B.Sc., COMPUTER SCIENCE
COURSE CODE: UCS18532
COURSE NAME:**VISUAL PROGRAMMING**
SEMESTER NO: V
STAFF NAME: Dr A Murugan

WEEK	**TOPICS TO BE COVERED**
Week-1	**The Visual Basic Integrated Development Environment –** Toolbar - Form Properties – Events – Variables – Data types - Constants – Operators
Week-2	- User-Defined Data Types - First VB Project - Toolbox Revisited: Creating controls - Textbox – Label
Week-3	Command Button - Access Keys - Check Box - Radio button - Frame control
Week-4	Programming Constructs: Displaying output on the form - Decision making - Looping construct
Week-5	Arrays - **Dynamic arrays** - Static Arrays - Array Operations
Week-6	Functions and Procedures: Built in Functions - User defined functions - Sub procedures.
Week-7	Advanced Controls: List and combo boxes –Control Arrays - FlexGrid
Week-8	Interfaces: Message Box - Input Box - Common dialog controls –Menu - MDI form
Week-9	Microsoft Common Controls – Handling key board input and Mouse input
Week-10	Database Programming: Database Interface - Open Database Connectivity (ODBC)
Week-11	Create a Data Source. SQL: Features of SQL - SQL Operators - DDL
Week-12	DML – DQL – View

Week-13	Database Programming using ADO: Connection object - Connection string - Record set object
Week-14	Connecting VB with back end RDBMS - Command object - Data View Window - ADO Data Binding
Week-15	Form Designer through DataEnvironment. Reports: Section of a report - Data Environment - Data report – Crystal report

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LESSON PLAN
ACADEMIC YEAR- 2021-2022 (ODD SEMESTER)

DEGREE: B.Sc., COMPUTER SCIENCE
COURSE CODE: 18UCS536
COURSE NAME:**RDBMS WITH VISUAL BASIC**
SEMESTER NO: V
STAFF NAME: Dr A Murugan

WEEK	**TOPICS TO BE COVERED**
Week-1	Visual Basic Environment
Week-2	Demo on various tools of visual basic and form design, illustrate the use of color radio button and color text box
Week-3	Form Creation on simple programs and applications
Week-4	Simple programs in VB such as
Week-5	Demo on connect SQL to VB and explanation of various connection methods.
Week-6	Data Definition of Base Tables
Week-7	Data Manipulation of Base Tables and Views.
Week-8	Data Control of Base Tables.
Week-9	Working with Menus. – simple applications such as mark sheet processing, employee pay roll preparation and library management
Week-10	Mark sheet processing – design and coding
Week-11	Mark sheet processing – report design and execution
Week-12	Student personal information system– design and coding

Week-13	Student personal information system – report design and execution
Week-14	Telephone directory maintenance– design and coding
Week-15	Telephone directory maintenance – report design and execution

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B.Sc.COMPUTER SCIENCE

TEACHING PLAN –ODD SEMESTER (2021-2022)

CLASS B.Sc. COMPUTER SCIENCE –III YEAR-SEMESTER V
SUBJECT CODE:18UCS534 SUBJECT NAME: PROGRAMMING IN PYTHON
SUBJECT IN-CHARGE: B.JAYAPRADHA

WEEK	TOPIC TO BE COVERED
WEEK 1	Introduction to Python and the advantages of Python. Installation procedures and steps in execution of a Python program
WEEK 2	Variables, expressions and statements - Input/ Output statements and Operators.
WEEK3	Conditional statements and functions –arguments and return values
WEEK4	Loops and its types, Strings
WEEK5	Lists, Dictionaries, Tulles, Sequences with example illustrations
WEEK 6	Exception Handling with examples
WEEK 7	File Handling, Modules and Regular Expressions
WEEK 8	Text handling
WEEK 9	Object Oriented Programming - Classes - Objects - Inheritance - Overloading - Polymorphism
WEEK 10	Introduction to MySQL -Advantages and it features' with examples
WEEK 11	Introduction to Graphics programming – PyGTK and Developing GUI applications using pyGTK
WEEK 12	Scientific Programming using NumPy / SciPy - Image Processing - Processing multimedia files -
WEEK 13	Network Programming, Web services using SOAP, Introduction to Graphics programming - PyGame
WEEK 14	Introduction to Version Control Systems - Subversion/Git
WEEK 15	Writing Unit Tests, Creating Documentation, Contributing to Open Source Projects

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B.Sc.COMPUTER SCIENCE

TEACHING PLAN –ODD SEMESTER (2021-2022)

CLASS B.Sc. COMPUTER SCIENCE –III YEAR-
SEMESTER V
SUBJECT CODE:18UCS536
SUBJECT NAME: PYTHON PROGRAMMING
SUBJECT IN-CHARGE: B.JAYAPRADHA

WEEK	TOPIC TO BE COVERED
WEEK 1	Create a simple calculator to do all the arithmetic operations
WEEK 2	Control flow tools
WEEK3	Looping programs
WEEK4	List as stack
WEEK5	List as queue
WEEK 6	Tuples ,Sequence and Dictionaries
WEEK 7	Mathematical operations
WEEK 8	File operations
WEEK 9	Exception handling
WEEK 10	Classes and Objects
WEEK 11	String handling
WEEK 12	Regular Expressions
WEEK 13	Introduction to MySQL
WEEK 14	Apache logfile
WEEK 15	PyGTK

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LESSON PLAN
ACADEMIC YEAR- 2021-2022 (ODD SEMESTER)

DEGREE: M.Sc COMPUTER SCIENCE
COURSE CODE:18UCS631
COURSE NAME:DATA COMMUNICATION AND COMPUTER NETWORKS (UNITS III & V)
SEMESTER NO: VI
STAFF NAME : Dr K.SHYAMALA

WEEK	**TOPICS TO BE COVERED**
Week-1	Multiplexing – Types of Multiplexing
Week-2	Multiplexing Application – Ethernet
Week-3	Token Bus – Token Ring
Week-4	FDDI – Circuit Switching
Week-5	Packet Switching – Message Switching
Week-6	Connection Oriented and Connectionless services – Revision on Unit - 3
Week-7	Networking and internetworking devices - Overview
Week-8	Repeaters – Bridges
Week-9	Routers – Routing concepts – Gateway
Week-10	Routing algorithms: Distance vector
Week-11	Routing algorithms: Link state routing
Week-12	Network Layer-Address Mapping
Week-13	Sub netting-Transport layer-UDP-TCP/IP Protocol suite
Week-14	Overview of TCP/IP-Application layer-Namespace-Domain name space
Week-15	HTTP-Web documents – World Wide Web

ACADEMIC YEAR- 2021-2022 (EVEN SEMESTER)
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LESSON PLAN
ACADEMIC YEAR- 2021-2022 (EVEN SEMESTER)

DEGREE**:** **B.Sc., COMPUTER SCIENCE**
SUBJECT CODE: 18UCS633
SUBJECT NAME: **Software Engineering and Testing**
SEMESTER NO: VI
STAFF NAME:

WEEK	**TOPICS TO BE COVERED**
Week-1	Introduction to Software Engineering: Need and Software problem - Software Crises – A Process framework
Week-2	Process models: The waterfall model – Incremental process models – Prototyping – The Spiral model.
Week-3	System Engineering Hierarchy: System modeling and simulation.
Week-4	Project Management: The Management Spectrum – The People –The Product – The Process – The Project – The W5HH Principle.
Week-5	Metrics in the Process and Project Domains: Metrics in the Process and Project Domains – Process Metrics and Project Metrics
Week-6	Software measurement- Size-oriented metrics – Function-oriented metrics.
Week-7	Project Scheduling: Defining task set and a task network – Scheduling – Timeline charts – Tracking the Schedule.
Week-8	Software Design: Design concepts-Abstraction – Architecture Modularity. Basic Design Principles: Component-level Design Guidelines
Week-9	Cohesion – Coupling- Designing Conventional Components-Graphical design notation
Week-10	Tabular Design Notation – Program Design Language – Comparison.
Week-11	Reactive and Proactive risks – Software risks – Risk identification– Risk projection- Risk Refinement – Risk mitigation, monitoring and management
Week-12	The RMMM plan. Software Quality Assurance: Concepts - SQA activities – Formal technical reviews.
Week-13	Software Testing: Definition- Verification and validation – Test strategies – Unit Testing – Integration Testing
Week-14	Alpha and Beta testing – White Box testing – Basis path testing – Control Structure Testing – Black box testing.
Week-15	Software Configuration Management (SCM) – Elements of SCM – Baselines – The SCM repository.

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LESSON PLAN

ACADEMIC YEAR- 2021-2022 (EVEN SEMESTER)

DEGREE : **B.Sc., COMPUTER SCIENCE**
COURSE CODE : **18UCS634**
COURSE NAME: **CRYPTOGRAPHY AND NETWORK SECURITY**
SEMESTER NO : **VI**
STAFF NAME : **Dr.S.BEHIN SAM**

WEEK	TOPICS TO BE COVERED
Week-1	Computer Security Concepts – OSI security architecture – Security attacks – Security Services – Security Mechanisms.
Week-2	Basic concepts in Number theory and Finite fields: Divisibility and the division algorithm – The Euclidean Algorithm.
Week-3	Groups, Rings and Fields – Finite fields of the form GF(p) and GF(2^n).
Week-4	Classical Encryption Techniques: Symmetric Cipher Model – Substitution Techniques – Transposition Techniques – Rotor Machines – Steganography.
Week-5	Block Ciphers and DES: Block Cipher principles – DES – Example – Strength of DES – Differential and linear Cryptanalysis – Block Cipher Design Principles.
Week-6	Public Key Cryptography and RSA: Principles of Public Key Cryptosystems – The RSA algorithm.
Week-7	Cryptographic Hash Functions: Applications of Cryptographic Hash Functions – Two simple Hash functions – Requirements and Security
Week-8	Hash functions based on Cipher Block Chaining – Secure Hash Algorithm (SHA) - SHA-3.
Week-9	Message Authentication Codes: Message Authentication Requirements – Message Authentication Functions – Requirements for message authentication codes
Week-10	Security of MACs –Pseudorandom number generation using hash functions and MACs.
Week-11	Digital Signatures: Digital Signatures – EIGamal Digital Signature Scheme – Digital Signature Standard.
Week-12	System Security: Intruders – Intrusion Detection – Password Management
Week-13	Malicious Software: Types of Malicious Software – Viruses – Worms.
Week-14	Firewalls: Need for firewalls – Firewall characteristics – Types of firewalls – Firewall basing – Firewall Location and Configurations.
Week-15	Introduction to DOS attacks.

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LESSON PLAN

ACADEMIC YEAR- 2021-2022 (ODD SEMESTER)

DEGREE**: B.Sc., COMPUTER SCIENCE**

SUBJECT CODE:**19UACSC1**

SUBJECT NAME:**DIGITAL COMPUTER FUNDAMENTALS**

SEMESTER NO:**I**

STAFF NAME:**RAJA.K**

WEEK	**TOPICS TO BE COVERED**
Week-1	Prepare Motivate questions related to concepts of Digital Computer, introduction to Number Systems and Codes, Number System, Base Conversion
Week-2	Introduction to binary, Binary Codes Code Conversion (Binary to BCD, BCD to Binary, BCD to Excess-3, Excess-3 to BCD, Binary to Gray, Gray to Binary).
Week-3	Digital Logic: Logic Gates – Truth Tables – Universal Gates.
Week-4	Boolean Algebra: Laws and Theorems –Simplification of Boolean Functions using Theorems, class test-1.
Week-5	SOP, POS Methods –Simplification of Boolean Functions using K-Map Give k-map assignment to students..
Week-6	Binary Arithmetic: Binary Addition – Binary Subtraction – Various Representations of Binary Numbers ,introduction to Arithmetic Building Blocks
Week-7	Half-Adder, Full-Adder,Half-Subtractor, Full-Subtractor, Parallel Binary Adder.Give combinational circuit assignment to students
Week-8	Asks questions related to logic gates.Combinational Logic: Multiplexers , Demultiplexers , Decoders ,Encoders Give combinational circuit assignment to students
Week-9	Code Converters (Binary to BCD, BCD to Binary, BCD to Excess-3, Excess-3 to BCD, Binary to Gray, Gray to Binary) – Parity Generators and Checkers. class test-2
Week-10	Introduction to Sequential Logic and Flip-Flops - RS-JK D,
Week-11	T Flip-Flops-Master-Slave Flip-Flops, Give flip-flops assignment to students, class test-3
Week-12	Registers: Shift Registers-Types of Shift Registers Introduction to Counters.
Week-13	Asynchronous ,Synchronous Counters -Ripple, Mod
Week-14	Up-Down Counters ,Ring Counters, introduction to Memory, class test-4
Week-15	Basic Terms and Ideas of memory Types of ROMs – Types of RAMs

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LESSON PLAN
ACADEMIC YEAR- 2021-2022 (ODD SEMESTER)

DEGREE: **B.Sc., COMPUTER SCIENCE**
SUBJECT CODE:**19UACSC2**
SUBJECT NAME: **DIGITAL LAB**
SEMESTER NO:**I**
STAFF NAME:**RAJA.K**

WEEK	**TOPICS TO BE COVERED**
Week-1	Prepare observation note book for digital lab, introduction to logisim. Demo class for working of logisim. Study of Logic Gates : Verification of truth table for AND, OR, NOT, NAND, NOR and XOR
Week-2	NAND as Universal Gate - NOR as Universal Gate.
Week-3	Implementation of logic circuits : Verification of Associative law for AND, OR gates.
Week-4	Verification of Demorgan's Laws. Karnaugh's Map reduction and logic circuit implementation.
Week-5	Adder and Subtractor : Implementation of Half-Adder and Half-Subtractor. Class Practical test1
Week-6	Implementation of Full-Adder and Full-Subtractor
Week-7	Implementation of Four bit binary Adder/Subtractor
Week-8	Multiplexers and Encoders Implementation of 4:1 Multiplexer. Class practical test-2.
Week-9	Implementation of 1:4 DeMultiplexer
Week-10	Implementation of 2 to 4 Decoder
Week-11	Implementation of 4 to 2 Priority Encoder
Week-12	FLIP-FLOP:Implementation of R-S Flip-Flop and J-K Flip-Flo
Week-13	Implementation of J-K Flip-Flop class practical test-3
Week-14	Implementation of Shift Register-Serial Transfer
Week-15	Implementation of binary Up/Down Counter.

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LESSON PLAN

ACADEMIC YEAR- 2021-2022 (EVEN SEMESTER)

DEGREE : **B.Sc., COMPUTER SCIENCE (SHIFT-II)**
COURSE CODE : **19UBCSC1**
COURSE NAME: **PROGRAMMING IN C AND DATA STRUCTURES**
SEMESTER NO :**II**
STAFF NAME : **Mr. R. DHANANCHEZHIYAN**

WEEK	TOPICS TO BE COVERED
Week-1	C Fundamentals: Character set - Identifier and Keywords - Data Types - Constants - Variables - Declarations – Expressions
Week-2	Arithmetic, Unary, Relational,Logical, Assignment and Conditional Operators - Input/Output Statements
Week-3	Mathematical Library Functions -Simple C programs.
Week-4	Decision-Making and Branching Statements: if, if-else, switch, go to. Decision-Making and Looping Statements: while, do-while, for loop, nested loops.
Week-5	Jumps in Loops: break. Continue.Arrays: Defining and Processing – One-dimensional, Two-dimensional and Multi-dimensional arrays
Week-6	Strings: Declaration, processing and String handling functions.
Week-7	User Defined Functions: Definition, declaration and function call - Passing arguments - Recursion.
Week-8	Structures: Definition, Assigning values and Array of structures.
Week-9	Pointers: Declarations and Initializing pointers – Accessing a variable through its pointer – Pointer expressions.
Week-10	Introduction of Data Structures: Arrays: Representation of Arrays. Stack: Push and Pop operations
Week-11	Application of Stack: Evaluation of Expression - Infix to postfix Conversion.
Week-12	Queue: Insert and Delete operations in Queue. Singly Linked list – Operations.
Week-13	Trees: Basic Terminology - Binary Trees and its representations - Binary trees Traversal: Inorder, Preorder and Postorder.
Week-14	Graphs: Terminology and Graph Representations: Adjacency Matrix and List representation
Week-15	Graph Traversals: Breadth First Traversal and Depth First Traversal.

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LESSON PLAN

ACADEMIC YEAR- 2021-2022 (EVEN SEMESTER)

DEGREE : **B.Sc., COMPUTER SCIENCE (SHIFT-II)**
COURSE CODE : **19UBCSC2**
COURSE NAME: **DATA STRUCTURES USING C-LAB**
SEMESTER NO :**II**
STAFF NAME : **Mr. R. DHANANCHEZHIYAN**

WEEK	TOPICS TO BE COVERED
Week-1	Write a C program to demonstrate the functioning of operators. Write a C program for mathematical library functions.
Week-2	Write a C program to find the biggest of three numbers using if. Write a C program to find the root of quadratic equation.
Week-3	Write a C program to find whether a given number is prime or not using loops. Write a C program for Linear Search using one dimensional array.
Week-4	Write a C program for Matrix Addition and Subtraction using two dimensional arrays. Write a C program to demonstrate built-in string handling functions.
Week-5	Write a C program to compute ${}^{n}C_{r}$ using recursion.
Week-6	Write a C program to define and manipulate structure with following fields: studentno, studentname, studenttotal.
Week-7	Write a C program to mergetwo array lists of integers into a single array.
Week-8	Write a C program to illustrate the working of STACK using array.
Week-9	Write a C program to illustrate the working of QUEUE using array.
Week-10	Write a C program to create Singly Linked list and perform creation, insertion, deletion and print operations.
Week-11	Write a C program to construct a Binary tree and to traverse in preorder.
Week-12	Write a C program to construct a Binary tree and to traverse in inorder.
Week-13	Write a C program to construct a Binary tree and to traverse in Postorder.
Week-14	Write a C program to traverse the given graph in BFS fashion.
Week-15	Write a C program to traverse the given graph in DFS fashion.

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LESSON PLAN
ACADEMIC YEAR- 2021-2022 (ODD SEMESTER)

DEGREE**:** **B.Sc., COMPUTER SCIENCE**
SUBJECT CODE: 19UCCSC1
SUBJECT NAME: **OBJECT ORIENTED PROGRAMMING USING C++**
SEMESTER NO: III
STAFF NAME: V. NAVEENRAJ

WEEK	**TOPICS TO BE COVERED**
Week-1	C++ Language Fundamentals:- Procedure Oriented Paradigm and Object Oriented Paradigm - Basic concept of Object Oriented Programming (OOP)
Week-2	Introduction to C++; Structure of C++ Program, Tokens, Keywords, Identifiers, Data Types, Variables
Week-3	Operators , Expressions – Branching statements.
Week-4	Looping statements
Week-5	Arrays: One-dimensional, Two-dimensional and Multi-dimensional arrays
Week-6	Functions: Declaration and definition, call-by-value and call-by-reference – Inline functions – Default arguments – Function Overloading.
Week-7	Classes and Objects: Specifying a Class – Defining member functions
Week-8	Arrays with in class – Arrays of Objects – Objects as function arguments – Friend Function
Week-9	Constructors**: -** Constructors – Types of constructors & Destructors – Operator Overloading.
Week-10	Inheritance: Definition- Types of Inheritance –Virtual functions
Week-11	Formatted I/O operations, Manipulators and user-defined manipulators - Command line Arguments.
Week-12	C++ Files: - Opening and closing a File, End-of-File detection – File Pointers
Week-13	Error handling during file operations – File manipulation – Class Templates and Function Templates
Week-14	Basics of Exception handling – Introduction to Standard Template
Week-15	Library: Components, Containers, Algorithms and Iterators.

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LESSON PLAN
ACADEMIC YEAR- 2021-2022 (ODD SEMESTER)

DEGREE**:** **B.Sc., COMPUTER SCIENCE**
SUBJECT CODE: 19UCCSC2
SUBJECT NAME: **PROGRAMMING IN C++ - LAB**
SEMESTER NO: III
STAFF NAME: V. NAVEENRAJ

WEEK	**TOPICS TO BE COVERED**
Week-1	Write a C++ program to demonstrate function overloading, Default Arguments and Inline function.
Week-2	Write a C++ program to demonstrate Class and Objects
Week-3	Write a C++ program to demonstrate the concept of Passing Objects to Functions
Week-4	Write a C++ program to demonstrate the Friend Functions.
Week-5	Write a C++ program to demonstrate the concept of Passing Objects to Functions
Week-6	Write a C++ program to demonstrate Constructor and Destructor
Week-7	Unary Operator Overloading
Week-8	Binary Operator Overloading
Week-9	Single Inheritance, Multilevel Inheritance, Multiple Inheritance
Week-10	Hierarchical Inheritance, Hybrid Inheritance
Week-11	Write a C++ program to demonstrate Virtual Functions
Week-12	Write a C++ program to manipulate a Text File.
Week-13	Write a C++ program to perform Sequential I/O Operations on a file.
Week-14	Write a C++ program to find the Biggest Number using Command Line Arguments
Week-15	Write a C++ program to demonstrate Exception Handling

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ACADEMIC YEAR- 2021-2022 (ODD SEMESTER)

DEGREE : **B.Sc., COMPUTER SCIENCE (SHIFT-II)**
COURSE CODE : **19UCSBE3**
COURSE NAME: **PERSONALITY ENRICHMENT**
SEMESTER NO :**III**
STAFF NAME : **Mr. R. DHANANCHEZHIYAN**

WEEK	TOPICS TO BE COVERED
Week-1	Definition of Personality - Components of Personality – structural and functional aspects.
Week-2	Determinants of Personality – biological, psychological and socio-cultural factors.
Week-3	Assessment of Personality – observation, interview and psychological tests.
Week-4	Misconceptions and Classifications -Need for personality development
Week-5	Self analysis through SWOT and Johari window. Elements of motivation - Seven rules of motivation.
Week-6	Techniques and strategies for self motivation. Motivation checklist and Goal setting based on the principle of SMART.
Week-7	Self motivation and life.
Week-8	Regional, National and International events -Geographical, political and historical facts.
Week-9	Information on sports and other recreational activities. Basic knowledge with regard to health and health promotion
Week-10	Definition and importance of memory - Causes of forgetting
Week-11	How to forget (thought stopping), how to remember (techniques for improving memory) The technique of passing exams.
Week-12	The rational decision making process -Improving creativity in decision making and components of creativity.
Week-13	Thinking power- seven steps for dealing with doubt
Week-14	Traits of positive thinkers and high achievers - Goals and techniques for positive thinking
Week-15	Practicing a positive life style.

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LESSON PLAN
ACADEMIC YEAR- 2021-2022 (EVEN SEMESTER)

DEGREE**:** **B.Sc., COMPUTER SCIENCE**
SUBJECT CODE: **19UDCSC1**
SUBJECT NAME: **PROGRAMMING IN JAVA**
SEMESTER NO: IV
STAFF NAME: V. NAVEENRAJ

WEEK	**TOPICS TO BE COVERED**
Week-1	Genesis of Java: Creation of Java – why java is important to internet – The Java Buzz words – An overview of Java Object Oriented Programming.
Week-2	Data types – Variables – Type conversion and casting – Automatic type promotion in Expressions – Strings.
Week-3	Arrays: One Dimensional Array – Multi Dimensional Array – Operators – Control statements.
Week-4	Class Fundamentals – Declaring objects – Assigning object Reference variables – Introducing Methods – Constructors – Garbage collection – Finalize () Method – Stack class.
Week-5	A Closer Look at Methods and classes: Overloading Methods – Argument passing –Nested and Inner classes – String class – Using command line arguments.
Week-6	Inheritance Basics & Types - Method overriding – Dynamic Method Dispatch – Using Abstract class – Using final with inheritance.
Week-7	Packages & Interface - Exception Handling - Creating your own Exception subclasses.
Week-8	Multithreaded Programming: Java Thread Model – Main Thread – Creating a Thread – Creating Multiple Threads–Using is Alive () and join ()
Week-9	Thread priorities – Synchronization – Inter thread Communication.
Week-10	I/O: I/O Basics Reading console Input – writing console output – The Print Writer class – Reading and Writing Files.
Week-11	AWT Classes – Window fundamentals – working with Frame Windows
Week-12	working with Graphic Using AWT controls: Controls fundamentals – Labels – using Buttons – Applying check Boxes –Check Box group – Choice controls
Week-13	Using a Text field – Using a Text Area – Understanding Layout Managers (Flow Layout only) – Menu Bars and Menus.
Week-14	JDBC -Introduction - JDBC Architecture - JDBC Classes and Interfaces – Database Access with Databases
Week-15	Steps in Developing JDBC application – Database manipulation with JDBC.

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ACADEMIC YEAR- 2021-2022 (EVEN SEMESTER)

DEGREE**:** **B.Sc., COMPUTER SCIENCE**
SUBJECT CODE: **19UDCSC2**
SUBJECT NAME: **JAVA PROGRAMMING LAB**
SEMESTER NO: IV
STAFF NAME: V. NAVEENRAJ

WEEK	**TOPICS TO BE COVERED**
Week-1	Sample Programs and Execution method of java
Week-2	Sample Programs and Execution method of java
Week-3	Define a class called Student with the attributes name, reg_number and marks obtained in four subjects(m1,m2,m3,m4).Write a suitable constructor and methods to find the total mark obtained by the student and display the details of the student.
Week-4	Write a Java program to find the area of a square, rectangle and triangle by (i) Overloading Constructor (ii) Overloading Method.
Week-5	Write a java program to add two complex numbers. [Use passing object as argument and return object].
Week-6	Define a class called Student_super with data members name, roll number and age. Write a suitable constructor and a method output () to display the details.
Week-7	Derive another class Student from Student_super with data members height and weight. Write a constructor and a method output () to display the details which overrides the super class method output().[Apply method Overriding concept].
Week-8	Write a java program to create an interface called Demo, which contains a double type constant, and a method called area () with one double type argument. Implement the interface to find the area of a circle.
Week-9	Thread class
Week-10	Write a java program to create a thread using Thread class.
Week-11	Demonstrate Java inheritance using extends keyword
Week-12	Demonstrate Java inheritance using extends keyword
Week-13	Write a Java program to throw the following exception, 1) Negative Array Size 2) Array Index out of Bounds
Week-14	Write a java program to create a file menu with option New, Save and Close, Edit menu with option cut, copy, and paste.

Week-15	Write a java program to create a file menu with option New, Save and Close, Edit menu with option cut, copy, and paste.

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ACADEMIC YEAR- 2021-2022 (EVEN SEMESTER)

DEGREE: B**.Sc., COMPUTER SCIENCE**
SUBJECT CODE:**19UDSBE4**
SUBJECT NAME:**ANDROID PROGRAMMING**
SEMESTER NO:**IV**
STAFF NAME:**RAJA.K**

WEEK	**TOPICS TO BE COVERED**
Week-1	Prepare motivate questions to OS. Introduction to Android ,Features of Android-Architecture of Android-Creating First Android Application. Demo class of Android.
Week-2	Anatomy of Android Application-Components of Android Application-Lifecycle of Activity. class test-1
Week-3	Screen Layouts: Linear, Table, Relative, Absolute and Grid. Basic Views: Toast, TextView,
Week-4	EditText, Button, AutoCompleteTextView, CheckBox,
Week-5	Basic Views:ToggleButton, ImageButton, RadioButton, Class test-2
Week-6	SeekBar, ListView, ImageView, DatePicker and TimePicker.
Week-7	Intents: Creating Intents, Explicit and Implicit Intents
Week-8	Calling Built ,In Application Using Intents Assignment-1
Week-9	Menus: OptionsMenu, ContextMenu and PopupMenu. Class test-3
Week-10	Introduction to Data Persistence: Saving and Loading using Shared Preferences
Week-11	Persisting Data to Files -Create, Insert, Delete. Assigement-2
Week-12	SQLite Database: Update and Select queries.
Week-13	Introduction to Developing Android Services: Lifecycle of Service, Types of service. Class test-4

Week-14	Creating own services,Publishing Android Applications.
Week-15	Preparing for Publishing ,Deploying APK Files.

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LESSON PLAN
ACADEMIC YEAR- 2021-2022 (ODD SEMESTER)

DEGREE: **B.Sc., COMPUTER SCIENCE**
SUBJECT CODE:**18UCS531**
SUBJECT NAME:**OPERATING SYSTEMS**
SEMESTER NO:**V**
STAFF NAME:**RAJA.K**

WEEK	**TOPICS TO BE COVERED**
Week-1	Prepare Motivate questions. Introduction: Views,Goals, Types of System, OS Structure, Components Services
Week-2	Process Management: Process , Process Scheduling, Cooperating process ,Threads ,Inter Process Communication.
Week-3	CPU Scheduling: CPU Schedulers, Scheduling Criteria, Scheduling Algorithms. Class test-1
Week-4	Process Synchronization: Critical-Section Problem, Synchronization Hardware. Assignment-1
Week-5	Semaphores , Classical Problems of Synchronization. Deadlocks: Characterization .
Week-6	Methods for Handling Deadlocks, Deadlock Prevention, Avoidance , Detection, Recovery. Class test-2.
Week-7	Memory Management: Address Binding ,Dynamic Loading and Linking ,Overlays
Week-8	Logical and Physical Address Space , Contiguous Allocation ,Internal and External Fragmentation.Assignment-2.
Week-9	Non-Contiguous Allocation: Paging and Segmentation Schemes, Implementation, Fragmentation
Week-10	Virtual Memory: Demand Paging ,Page Replacement. Class test-3
Week-11	Page Replacement Algorithms. File System: File.
Week-12	Concepts ,Access Methods, Directory Structures, File System Structures, Allocation Methods, Free Space Management.

Week-13	I/O System: Overview, I/O Hardware, Application I/O Interface, Transforming I/O Requests to Hardware Operations.
Week-14	Protection , Goals , Domain, Access matrix , The Security Problem Class test-4
Week-15	Authentication , Unix System: Features of UNIX , Basic commands

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LESSON PLAN
ACADEMIC YEAR- 2021-2022 (ODD SEMESTER)

DEGREE**:** **B.Sc., COMPUTER SCIENCE**
SUBJECT CODE: 18UCS533
SUBJECT NAME: Database Management Systems
SEMESTER NO: V
STAFF NAME: V. NAVEENRAJ

WEEK	**TOPICS TO BE COVERED**
Week-1	INTRODUCTION TO DBMS _ File Systems Organization – Sequential, Pointer, Indexed, Direct – Purpose of Database System
Week-2	Database System Terminologies-Database characteristics- Data models – Types of data models
Week-3	Components of DBMS- Relational Algebra.
Week-4	LOGICAL DATABASE DESIGN: Relational DBMS – Codd's Rule – Entity-Relationship model – Extended ER Normalization – Functional Dependencies, Anomaly
Week-5	1NF to 5NF- Domain Key Normal Form – Denormalization
Week-6	SQL Standards – Data types – Database Objects- DDL
Week-7	Embedded SQL-Static Vs Dynamic SQL – QUERY OPTIMIZATION: Query Processing and Optimization.
Week-8	Introduction-Properties of Transaction- Serializability- Concurrency Control
Week-9	Locking Mechanisms- Two Phase Commit Protocol-Dead lock.
Week-10	Overview of Physical Storage Media – Magnetic Disks – RAID
Week-11	Tertiary storage – File Organization – Organization of Records in Files – Indexing and Hashing –Ordered Indices
Week-12	B+ tree Index Files – B tree Index Files – Static Hashing – Dynamic Hashing.

Week-13	Introduction to Distributed Databases- Client server technology-
Week-14	Multidimensional and Parallel databases- Spatial and Multimedia databases- Mobile and web databases
Week-15	Data Warehouse-Mining- Data marts.

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LESSON PLAN

ACADEMIC YEAR- 2021-2022 (ODD SEMESTER)

DEGREE : **B.Sc., COMPUTER SCIENCE (SHIFT-II)**
COURSE CODE : **18UCS534**
COURSE NAME: **PROGRAMMING IN PYTHON**
SEMESTER NO :**V**
STAFF NAME : **Mr. R. DHANANCHEZHIYAN**

WEEK	**TOPICS TO BE COVERED**
Week-1	Introduction to Python - Why Python - Installing in various Operating Systems - Executing Python Programs
Week-2	Basic Programming concepts - Variables, expressions and statements - Input/Output –Operators.
Week-3	Conditions - Functions - Arguments - Return values - Iteration - Loops – Strings
Week-4	Data Structures - Lists - Dictionaries - Tuples - Sequences - Exception Handling.
Week-5	File Handling - Modules - Regular Expressions - Text handling -
Week-6	**O**bject Oriented Programming - Classes - Objects – Inheritance
Week-7	Overloading - Polymorphism Interacting with Databases - Introduction to MySQL
Week-8	Interacting with MySQL - Building a address book with add/edit/delete/search features.
Week-9	Introduction to Graphics programming - Introduction to GTK
Week-10	PyGTK - Developing GUI applications using pyGTK
Week-11	Scientific Programming using NumPy/SciPy - Image Processing - Processing multimedia files
Week-12	Network Programming, Web services using SOAP, Introduction to Graphics programming - PyGame
Week-13	Introduction to Version Control Systems - Subversion/Git

Week-14	Writing Unit Tests, Creating Documentation,
Week-15	Contributing to Open Source Projects

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LESSON PLAN

ACADEMIC YEAR- 2021-2022 (ODD SEMESTER)

DEGREE : **B.Sc., COMPUTER SCIENCE (SHIFT-II)**
COURSE CODE : **18UCS536**
COURSE NAME: **PYTHON PROGRAMMING LAB**
SEMESTER NO :**V**
STAFF NAME : **Mr. R. DHANANCHEZHIYAN**

WEEK	**TOPICS TO BE COVERED**
Week-1	Simple Python Programs
Week-2	Create a simple calculator to do all the arithmetic operations
Week-3	Write a program to use control flow tools like if.
Week-4	Write a program to use For loop
Week-5	Data structures use list as stack ,use list as queue, tuple, sequence
Week-6	Create new module for mathematical operations and use in your program
Week-7	Write a program to read and write files, create and delete directories
Week-8	Write a program with exception handling
Week-9	Write a program using classes
Week-10	Connect with MySQL and create address book
Week-11	Write a program using string handling and regular expressions
Week-12	Program to parse apache log file
Week-13	Create a gui program using pygtk
Week-14	Model Test-1
Week-15	Model Test-2

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LESSON PLAN
ACADEMIC YEAR- 2021-2022 (EVEN SEMESTER)

DEGREE: **B.Sc., COMPUTER SCIENCE**
SUBJECT CODE:**18UCS631**
SUBJECT NAME:**: DATA COMMUNICATION AND COMPUTER NETWORKS**
SEMESTER NO:**VI**
STAFF NAME:**RAJA.K**

WEEK	**TOPICS TO BE COVERED**
Week-1	Prepare Motivate questions. Introduction to Data Communication, Network, Protocols standards, standard organizations
Week-2	Line Configuration, Topology, Transmission mode, Classification of network .class test-1
Week-3	OSI Model, Layers of OSI Model, TCP/IP Reference Model. Assigement-1
Week-4	Parallel and Serial Transmission , DTE/DCE/interface ,Modems
Week-5	Guided Media, Unguided Media, Transmission of Digital Data, Transmission Impairment, Performance. class test-2
Week-6	Types of Error ,Error Detection , Error Corrections.
Week-7	Multiplexing ,Types of Multiplexing ,Multiplexing Application
Week-8	Ethernet , Token Bus, Token Ring ,FDDI. class test-3
Week-9	Circuit Switching, Packet Switching , Message Switching ,Connection Oriented and Connectionless services. Assigement-2
Week-10	History of Analog and Digital Network ,Access to ISDN
Week-11	ISDN Layers , Broadband ISDN, X.25 Layers, Packet Layer Protocol
Week-12	ATM, ATM Topology, ATM Protocol.
Week-13	Networking and internetworking devices: Repeaters , Bridges , Types, Routers , Routing concepts, Gateway. class test-4
Week-14	Routing algorithms: Distance vector and Link state routing-Network Layer-Address Mapping-Sub netting-Transport layer-UDP,TCP/IP Protocol suite. Assigement-3
Week-15	Overview of TCP/IP-Application layer-Namespace, Domain name space, HTTP-Web documents, World Wide Web.

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ACADEMIC YEAR- 2021-2022 (EVEN SEMESTER)

DEGREE**:** **B.Sc., COMPUTER SCIENCE**
SUBJECT CODE: 18UCS633
SUBJECT NAME: **Software Engineering and Testing**
SEMESTER NO: VI
STAFF NAME: V. NAVEENRAJ

WEEK	**TOPICS TO BE COVERED**
Week-1	Introduction to Software Engineering: Need and Software problem - Software Crises – A Process framework
Week-2	Process models: The waterfall model – Incremental process models – Prototyping – The Spiral model.
Week-3	System Engineering Hierarchy: System modeling and simulation.
Week-4	Project Management: The Management Spectrum – The People –The Product – The Process – The Project – The W5HH Principle.
Week-5	Metrics in the Process and Project Domains: Metrics in the Process and Project Domains – Process Metrics and Project Metrics
Week-6	Software measurement- Size-oriented metrics – Function-oriented metrics.
Week-7	Project Scheduling: Defining task set and a task network – Scheduling – Timeline charts – Tracking the Schedule.
Week-8	Software Design: Design concepts-Abstraction – Architecture Modularity. Basic Design Principles: Component-level Design Guidelines
Week-9	Cohesion – Coupling- Designing Conventional Components-Graphical design notation
Week-10	Tabular Design Notation – Program Design Language – Comparison.
Week-11	Reactive and Proactive risks – Software risks – Risk identification– Risk projection- Risk Refinement – Risk mitigation, monitoring and management
Week-12	The RMMM plan. Software Quality Assurance: Concepts - SQA activities – Formal technical reviews.
Week-13	Software Testing: Definition- Verification and validation – Test strategies – Unit Testing – Integration Testing
Week-14	Alpha and Beta testing – White Box testing – Basis path testing – Control Structure Testing – Black box testing.
Week-15	Software Configuration Management (SCM) – Elements of SCM – Baselines – The SCM repository.

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LESSON PLAN

ACADEMIC YEAR- 2021-2022 (EVEN SEMESTER)

DEGREE : **B.Sc., COMPUTER SCIENCE**
COURSE CODE : **18UCS634**
COURSE NAME: **CRYPTOGRAPHY AND NETWORK SECURITY**
SEMESTER NO : **VITH Semester**
STAFF NAME : **Mr. R. DHANANCHEZHIYAN**

WEEK	TOPICS TO BE COVERED
Week-1	Computer Security Concepts – OSI security architecture – Security attacks – Security Services – Security Mechanisms.
Week-2	Basic concepts in Number theory and Finite fields: Divisibility and the division algorithm – The Euclidean Algorithm.
Week-3	Groups, Rings and Fields – Finite fields of the form GF(p) and GF(2^n).
Week-4	Classical Encryption Techniques: Symmetric Cipher Model – Substitution Techniques – Transposition Techniques – Rotor Machines – Steganography.
Week-5	Block Ciphers and DES: Block Cipher principles – DES – Example – Strength of DES – Differential and linear Cryptanalysis – Block Cipher Design Principles.
Week-6	Public Key Cryptography and RSA: Principles of Public Key Cryptosystems – The RSA algorithm.
Week-7	Cryptographic Hash Functions: Applications of Cryptographic Hash Functions – Two simple Hash functions – Requirements and Security
Week-8	Hash functions based on Cipher Block Chaining – Secure Hash Algorithm (SHA) - SHA-3.
Week-9	Message Authentication Codes: Message Authentication Requirements – Message Authentication Functions – Requirements for message authentication codes
Week-10	Security of MACs –Pseudorandom number generation using hash functions and MACs.
Week-11	Digital Signatures: Digital Signatures – EIGamal Digital Signature Scheme – Digital Signature Standard.
Week-12	System Security: Intruders – Intrusion Detection – Password Management
Week-13	Malicious Software: Types of Malicious Software – Viruses – Worms.
Week-14	Firewalls: Need for firewalls – Firewall characteristics – Types of firewalls – Firewall basing – Firewall Location and Configurations.
Week-15	Introduction to DOS attacks.

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LESSON PLAN
ACADEMIC YEAR- 2021-2022 (EVEN SEMESTER)

DEGREE**:** **B.Sc., COMPUTER SCIENCE**
SUBJECT CODE: 18USS541
SUBJECT NAME: **VALUE BASED EDUCATION**
SEMESTER NO: VI
STAFF NAME: V. NAVEENRAJ

WEEK	**TOPICS TO BE COVERED**
Week-1	Values: Definition and Meaning of Values-
Week-2	Human Values
Week-3	Social Values, Cultural and Religious Values
Week-4	Ethical Values
Week-5	Global Values and Spiritual Values.
Week-6	The Power of Positive Thinking: 'Building Self-Confidence'
Week-7	Norman Vincent Peale (From Touchstone: Synergy of Values)
Week-8	Leadership: The Challenge of Excellence
Week-9	Living Excellence –Anthony Robbins
Week-10	The Personal Value of Truth and Its Importance
Week-11	The Story of My Experiments with Truth
Week-12	M.K. Gandhi (Chapter 2)
Week-13	Human Rights: Universal Declaration of Human Rights
Week-14	Human Rights violations
Week-15	(From Touchstone: Synergy of Values)

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ACADEMIC YEAR- 2021-2022 (EVEN SEMESTER)

DEGREE: **B.Sc., COMPUTER SCIENCE**
SUBJECT CODE:**18UCS636**
SUBJECT NAME:**MINI PROJECT**
SEMESTER NO:**VI**
STAFF NAME: K.**RAJA, S.SARANYA**

WEEK	**TOPICS TO BE COVERED**
Week-1	Introduction to project. Project planning
Week-2	Selection of the project work
Week-3	Selection of team**,** internal guide
Week-4	Conform project title, Selection of Tools
Week-5	Review -1
Week-6	analayis – modules
Week-7	Review-2
Week-8	Design-modules
Week-9	Coding-modules, Report
Week-10	Review-3
Week-11	Testing, Documentation
Week-12	Check Documentation
Week-13	Final Documentation
Week-14	Review-4
Week-15	Submission

DEPARTMENT OF COMPUTER SCIENCE

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M.Sc. COMPUTER SCIENCE

TEACHING PLAN –ODD SEMESTER (2021-2022)

CLASS M.Sc. COMPUTER SCIENCE –I YEAR-
SEMESTER I
SUBJECT CODE:19PACSC1
SUBJECT NAME: DESIGN AND ANALYSIS OF ALGORITHMS (THEORY)
SUBJECT IN-CHARGE: B.JAYAPRADHA

WEEK	TOPIC TO BE COVERED
WEEK 1	Introduction: Algorithm Definition – Algorithm Specification and Performance
WEEK 2	Analysis-Asymptotic Notations. Elementary Data Structures-Introduction
WEEK3	Stacks and Queues – Trees – Graphs and its operations
WEEK4	Divide and Conquer: The General Method – Binary Search – Finding The Maximum And Minimum.
WEEK5	Merge Sort and Quick Sort
WEEK 6	Selection sort - Stassen's Matrix Multiplication
WEEK 7	The Greedy Method: General Method - Knapsack Problem - Tree Vertex Splitting
WEEK 8	Job Sequencing With Deadlines - Minimum Cost Spanning Trees – Prim's method
WEEK 9	Minimum Cost Spanning Trees –Krushakal Algorithms - Single Source Shortest path
WEEK 10	Dynamic Programming: The General Method – Multistage Graphs
WEEK 11	All-Pairs Shortest Paths - String Editing
WEEK 12	0/1 Knapsack - The Travelling Salesperson Problem.
WEEK 13	Backtracking**:** The General Method – The 8-Queens Problem – Sum of Subsets
WEEK 14	Graph Coloring – Hamiltonian Cycles
WEEK 15	Knapsack Problem Branch and Bound: General Method - 0/1 Knapsack Problems.

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ACADEMIC YEAR- 2021-2022 (ODD SEMESTER)

DEGREE: M.Sc., COMPUTER SCIENCE
COURSE CODE:
COURSE NAME: ADVANCED WEB TECHNOLOGY
SEMESTER NO: I
STAFF NAME:Prof.D.KRISHNAKUMAR

WEEK	TOPICS TO BE COVERED
Week-1	.NET Frame work, CLR, .NET Class Library. **C#**: C# Language Basics- Variables and Data types-Variable Operations-Conditional Logic-Loops
Week-2	C#: Methods-Building Basic Class-Value types and Reference types-Understanding Namespaces and Assemblies.
Week-3	The Anatomy of a Web Form, Writing Code, Visual Studio Debugging**,**The Anatomy of an ASP.NET Application
Week-4	**Server controls**: The HTML Control Classes,Page Class,Application Events,
Week-5	Web Control Classes,List Controls,Table Controls,Web Control Events and AutoPostBack.
Week-6	Exception Handling, Page Tracing, **State Management**: View State, Transferring information between Pages, Cookies,Session States,
Week-7	Session States Configuration, Application State. Understanding Validation.
Week-8	**Rich Controls**: Calendar-AdRotator, Pages with multiple Views,User Controls
Week-9	**ADO.NET**: The Data Provider Model, Direct Data Access, Disconnected Data Access.
Week-10	**Data Binding**: Single Value Data Binding, Repeated Value Data Binding.
Week-11	GridViewControl,Formatting the GridView, Selecting a GridViewRow,Editing with the GridView,Sorting and Paging the GridView.
Week-12	Files and Streams: File System Information,Reading and Writing with Streams, Allowing File Uploads.
Week-13	XML**:** The XML Classes, Website Security: Authentication and Authorization, Forms Authentication, Windows Authentication.
Week-14	**Component**: Creating a Component, Properties and State, Data Access Components, Object Data Source.
Week-15	**Caching**: Output Caching,Data Caching-,Caching with Dependencies.

DEPARTMENT OF COMPUTER SCIENCE
Dr.Ambedkar Government Arts College (Autonomous), Vyasarpadi, Chennai-600039
M.Sc.,Degree Programme in Computer Science
Teaching Plan (ODD- Semester (2020-21))

Class : IM.Sc Computer ScienceSemester:I
Subject Code:19PACSC3 Subject Name:Advanced Database Management System
Subject In Charge:Mrs.N.Vanitha

Week	Topics to be Covered
Week-1	Relational and parallel Database Design: Basics, Entity Types
Week-2	Relationship Types, ER Model, ER-to-Relational Mapping algorithm.
Week-3	Normalization: Functional Dependency, 1NF, 2NF, 3NF, BCNF and 4NF.
Week-4	ParellelDatabases : I/O Parallelism, Interquery Parallelism, Intraquery Parallelism
Week-5	Intraoperation Parallelism, Interoperation Parallelism, Query Optimization.
Week-6	Distributed and Object based Databases: Architecture, Distributed data storage, Distributed transactions
Week-7	Commit protocols, Concurrency control, Distributed Query Processing.
Week-8	Spatial Database: Spatial Database Characteristics, Spatial Data Model, Spatial Database Queries, Techniques of Spatial Database Query.
Week-9	Logic based databases: Complex Data Types, Structured Types and Inheritance, Table Inheritance, array and Multiset
Week-10	Object Identity and Reference Types, Object Oriented versus Object Relational.
Week-11	XML Databases: XML Hierarchical data model, XML Documents, DTD, XML Schema, XML Querying
Week-12	XHTML, Illustrative Experiments. Temporal Databases: Introduction, Intervals,
Week-13	Packing and Unpacking Relations, Generalizing the relational Operators
Week-14	Database Design, Integrity Constraints, Multimedia Databases: Multimedia Sources,
Week-15	Multimedia Database Queries, Multimedia Database Applications.

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LESSON PLAN
ACADEMIC YEAR- 2021-2022 (ODD SEMESTER)

DEGREE: M.Sc COMPUTER SCIENCE
COURSE CODE:19PACSE1B
COURSE NAME:DATA MINING
SEMESTER NO: I
STAFF NAME : Dr K.SHYAMALA

WEEK	TOPICS TO BE COVERED
Week-1	Introduction: Data mining – Kind of Data – Kinds of Patterns – Major issues in Data mining
Week-2	Data Warehouse - Introduction of Functionalities – Classification
Week-3	Introduction to Data Warehousing – Modeling: Data cube and OLAP
Week-4	Data Preprocessing: Preprocessing the Data – Data cleaning
Week-5	Data Integration, Data reduction
Week-6	Data Transformation and Data discretization
Week-7	Mining Association Rules: Basic Concepts - Frequent item set mining
Week-8	Mining Multilevel associations – Mining Multi dimensional associations
Week-9	Mining Quantitative associative rules – mining rare patterns and negative patterns
Week-10	Classification and Prediction: Introduction – Decision Tree Induction
Week-11	Bayesian Classification – Rule based Classification
Week-12	Classification of Back Propagation. Prediction – Classifier Accuracy.
Week-13	Cluster Analysis: Introduction – Types of Data in Cluster Analysis – Requirements of Cluster analysis
Week-14	Partitioning Methods – Hierarchical Methods
Week-15	Density Based Methods – Data mining applications

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LESSON PLAN
ACADEMIC YEAR- 2021-2022 (ODD SEMESTER)

DEGREE: M.Sc., COMPUTER SCIENCE
COURSE CODE:
COURSE NAME: DIGITAL IMAGE PROCESSING
SEMESTER NO: III
STAFF NAME:Prof.D.KRISHNAKUMAR

WEEK	TOPICS TO BE COVERED
Week-1	**Fundamentals**: Image Sensing and Acquisition, Image Sampling and Quantization, relationship between Pixels, **Random noise**: Gaussian Markov Random Field, σ-field,
Week-2	Linear and Non-linear Operations, **Image processing models**: Causal, Semi-causal, Non-causal models. **Colour Models**: colour Fundamentals.
Week-3	**Colour Models**: colour Models, Pseudo-colour Image Processing, Full colour Image Processing, colour Transformation, Noise in colour Images.
Week-4	**Spatial Domain**: Enhancement in spatial domain: Point processing; Mask processing.
Week-5	Smoothing Spatial Filters, Sharpening Spatial Filters. **Frequency Domain**: Image transforms, FFT, DCT.
Week-6	Karhunen-Loeve transform, Hotlling's T^2 transform, Wavelet transforms and their properties. Image filtering in frequency domain.
Week-7	**Edge Detection:** Types of edges, threshold, zero-crossing..
Week-8	**Gradient operators**: Roberts, Prewitt, and Sobel operators; residual analysis based technique.
Week-9	Canny edge detection , Edge features and their applications
Week-10	**Image Compression:**Fundamentals, Image Compression Models, Elements of Information Theory.
Week-11	**Error Free Compression**: Huff-man coding; Arithmetic coding; Wavelet transform based coding;
Week-12	**Lossy Compression**: FFT, DPCM, MRFM based compression, Wavelet transform based, Image Compression standards.
Week-13	**Image Segmentation:** Detection and Discontinuities, Edge Linking and Boundary Deduction.
Week-14	Threshold, Region-Based Segmentation, Segmentation by Morphological watersheds.
Week-15	The use of motion in segmentation, Image Segmentation based on colour.

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LESSON PLAN
ACADEMIC YEAR- 2021-2022 (ODD)

DEGREE: M.Sc., COMPUTER SCIENCE
COURSE CODE: 19PCCSC2
COURSE NAME: Internet of Things
SEMESTER NO: 3
STAFF NAME: Dr. G. Sekar

WEEK	TOPICS TO BE COVERED
Week-1	Introduction: Physical Design of IoT and Logical Design of IoT. IoT Enabling Technologies.
Week-2	IoT Levels & Deployment Templates. IoT Architecture: M2M (Machine to Machine) high-level architecture.
Week-3	IETF architecture for IoT and Open Geospatial Consortium (OGC) Architecture.
Week-4	IoT and M2M: Introduction to M2M, Differences between IoT and M2M. SDN and NFV for IoT.
Week-5	Need for IoT System Management: SNMP and Network operator requirements. NETCONF-YANG.
Week-6	Basic IoT Protocols: M2M, WSN, SCADA, RFID, IEEE 802.15.4 and Security.
Week-7	IoT Platforms Design Methodology IoT: Ten steps in IoT design methodology. IoT Physical Devices & Endpoints.
Week-8	RASPERRY PI - Raspberry Pi Interfaces.
Week-9	Programming Raspberry Pi with Python.
Week-10	Data Analytics for IoT. Basics of Hadoop ecosystem. Software & Management Tools.
Week-11	Cloud Storage Models & Communication APIs.
Week-12	Cloud for IoT. Amazon Web Services for IoT.
Week-13	Case Studies and Real-World Applications: Real world design constraints
Week-14	IoT applications: Asset management, Industrial automation and smart grid.
Week-15	IoT applications: Commercial building automation and Smart cities.

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Teaching Plan (ODD- Semester (2020-21))

Class : II M.Sc Computer ScienceSemester:III
Subject Code: 19PCCSC3 Subject Name:Machine Learning
Subject In Charge:Mrs.N.Vanitha

Week	Topics to be Covered
Week-1	Learning Problems – Perspectives and Issues – Concept Learning
Week-2	Version Spaces and Candidate Eliminations – Inductive bias
Week-3	Decision Tree learning – Representation – Algorithm – Heuristic Space Search.
Week-4	**Neural networks and genetic algorithms :**neural network representation – problems
Week-5	Perceptrons – Multilayer Networks and Back Propagation Algorithms –
Week-6	Advanced Topics – Genetic Algorithms – Hypothesis Space Search – Genetic Programming – Models of Evaluation and Learning.
Week-7	**Bayesian and computational learning :** bayes theorem – concept learning – maximum likelihood – minimum description length principle – bayes optimal classifier
Week-8	Gibbs algorithm – naïve bayes classifier – bayesian belief network – em algorithm
Week-9	Probability Learning – Sample Complexity – Finite and Infinite Hypothesis Spaces – Mistake Bound Model
Week-10	**Instant Based Learning :** K- Nearest Neighbour Learning – Locally weighted Regression
Week-11	Radial basis functions – case based learning.
Week-12	Learning Sets of Rules – Sequential Covering Algorithm – Learning Rule Set – First Order Rules – Sets of First Order Rules
Week-13	Induction on Inverted Deduction – Inverting Resolution – Analytical Learning
Week-14	Perfect domain theories – explanation base learning – focl algorithm
Week-15	Reinforcement learning – task – Q-learning – temporal difference learning

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Teaching Plan (ODD- Semester (2020-21))

Class : II M.Sc Computer ScienceSemester:III
Subject Code:19PCCSC4 Subject Name:Machine Learning using Python- Lab
Subject In Charge:Mrs.N.Vanitha

Week	Topics to be Covered
Week-1	Intoduction about Basic Input / Output in python,Comments,Variables,Datatype
Week-2	Simple Programs in python
Week-3	Introduction of all libraries in python
Week-4	Demonstrate Scipy library
Week-5	Implement and demonstrate the FIND-S algorithm for finding the most specific hypothesis based on a given set of training data samples. Read the training data from a .CSV file
Week-6	For a given set of training data examples stored in a .CSV file, implement and demonstrate the Candidate-Elimination algorithm to output a description of the set of all hypotheses consistent with the training examples
Week-7	Write a program to demonstrate the working of the decision tree based ID3 algorithm. Use an appropriate data set for building the decision tree and apply this knowledge to classify a new sample.
Week-8	Bayesian Theorem
Week-9	Naive Bayesian
Week-10	Write a program to construct a Bayesian network considering medical data. Use this model to demonstrate the diagnosis of heart patients using standard Heart Disease Data Set.
Week-11	Build an Artificial Neural Network by implementing the Backpropagation algorithm and test the same using appropriate data sets.
Week-12	Write a program to implement k-Nearest Neighbour algorithm to classify the iris data set. Print both correct and wrong predictions.
Week-13	Locally weighted Regression Algorithm.

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Teaching Plan (ODD- Semester (2020-21))

Class : II M.Sc Computer ScienceSemester:III
Subject Code:19PCSBE3 Subject Name:Managerial Skills
Subject In Charge:Mrs.N.Vanitha

Week	Topics to be Covered
Week-1	Intoduction about Time Management ,Advantage and Disadvantages
Week-2	Organisational Awareness and it importance
Week-3	Problem Solving, Leadership Qualities,Merits and demerits
Week-4	Team work and office functional rule,Advantage and disadvantages
Week-5	Being knowledgeable of Hierarchy in Office
Week-6	Conducting Interviews and its importance
Week-7	Conducting Meetings and its benefits
Week-8	Writing Circulars and its importance
Week-9	Agendas, Minutes of meetings and Passing resolutions
Week-10	Business Communication and about its importance Email
Week-11	Project Proposals Contracts and its importance
Week-12	Job Application and Curriculum vitae
Week-13	Office Etiquette Dress Code
Week-14	Communication Maintaining healthy work relationship
Week-15	Effective use of technology at workplace

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PG & RESEARCH DEPARTMENT OF COMPUTER SCIENCE
LESSON PLAN
ACADEMIC YEAR- 2021-2022 (EVEN)

DEGREE: M.Sc., COMPUTER SCIENCE
COURSE CODE: 19PBCSC1
COURSE NAME: Distributed Operating System
SEMESTER NO: 2
STAFF NAME: Dr. G. Sekar

WEEK	TOPICS TO BE COVERED
Week-1	Introduction to Distributed Systems: Advantages of Distributed Systems over centralized Systems. Advantages of Distributed Systems over Independent Systems.
Week-2	Hardware Concepts. Software Concepts. Design Issues: Transparency, Flexibility, Reliability, Performance and Scalability
Week-3	Communication in Distributed Systems: Layered Protocols.
Week-4	Communication Models: The Client-Server Model. Remote Procedure Call. Group Communication.
Week-5	Synchronization in Distributed Systems: Clock Synchronization and Mutual Exclusion. Election Algorithms.
Week-6	Deadlocks in Distributed Systems: Distributed Deadlock Detection and distributed Deadlock Prevention.
Week-7	Processes and Processors in Distributed Systems: Threads. System Models. Processor Allocation.
Week-8	Design issues and Implementation issues. Processor allocation algorithms. Distributed File Systems: Distributed File System Design.
Week-9	Distributed File System Implementation. Trends in Distributed File Systems.
Week-10	Distributed Shared Memory: Introduction, Consistency Models: Strict, Sequential, Causal and Weak Consistencies.
Week-11	Page Based Distributed Shared Memory: Replication, Granularity, achieving sequential consistency.
Week-12	Finding the owner and copies. Object-Based Distributed Shared Memory.
Week-13	Multiprocessor Systems: Bus based Multiprocessor, Ring based Multiprocessor and NUMA Multiprocessor.
Week-14	Basic Model of Real Time Distributed Systems: Characteristics, Applications of Real Time Systems. Fault Tolerance in Distributed Systems.
Week-15	Features of Android Operating System and Linux Operating Systems.

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M.Sc.,Degree Programme in Computer Science
Teaching Plan (EVEN- Semester (2020-21))

Class : IM.Sc Computer ScienceSemester:II
Subject Code:19PBCSC2 Subject Name:Advanced Java Programming
Subject In Charge:Mrs.N.Vanitha

Week	Topics to be Covered
Week-1	Introduction – Servlet Architecture - Servlet Life Cycle-Generic Servlet
Week-2	Http Servlet-Performing URL redirection-Session Tracking-
Week-3	Using JDBC in Servlets. Introduction – JDBC Architecture
Week-4	Types of Drivers-Statement- Resultset - Prepared Statement
Week-5	Batch Update - Callable Statement-Creating a New Database and Table with JDBC.
Week-6	Java Beans :The Component Model-JavaBeans Architecture-Writing simple beans
Week-7	EJB : EJB Component Model-Enterprise JavaBeans-Entity Beans
Week-8	Session Bean-Message driven beans and its examples
Week-9	Overview – Developing Applications with RMI: Declaring & Implementing Remote Interfaces
Week-10	Stubs & Skeletons, Registering Remote Objects, Writing RMI Clients
Week-11	Pushing Data from RMI Servlet and its examples
Week-12	Introduction JSP - Examining MVC and - Working with Variables
Week-13	JSP - JSP Scripting Elements & Directives
Week-14	Scopes - Error Pages and Example of JSP programs
Week-15	Using Java Beans in JSP and its Example.

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Teaching Plan (EVEN- Semester (2020-21))

Class : IM.Sc Computer ScienceSemester:II
Subject Code:19PBCSC4 Subject Name:Advanced Java Programming lab
Subject In Charge:Mrs.N.Vanitha

Week	Topics to be Covered
Week-1	Intoduction of NetbeansIntregrated development environment
Week-2	Simple programs in netbeans
Week-3	Servlet program
Week-4	HTML to Servlet Communication
Week-5	Designing Online Applications with JSP
Week-6	Creating JSP program using JavaBeans
Week-7	Working with Enterprise JavaBeans
Week-8	Performing Java Database Connectivity
Week-9	Implement a Client/Server application using RMI
Week-10	Update a given Table using Batch Update.
Week-11	Designing Employee Details Applications with JSP
Week-12	Program for Payroll using JDBC
Week-13	Creating Mark Sheet using Tables with JSP.

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LESSON PLAN
ACADEMIC YEAR- 2021-2022 (EVEN SEMESTER)

DEGREE: M.Sc COMPUTER SCIENCE
COURSE CODE:19PBCSE1B
COURSE NAME: SCIENTIFIC COMPUTING
SEMESTER NO: II
STAFF NAME : Dr K.SHYAMALA

WEEK	TOPICS TO BE COVERED
Week-1	Introduction to Scientific Computing – Applications - Bisection methods
Week-2	Fixed point Iteration method – Newton Raphson method
Week-3	Graffe's squaring method – Secant method
Week-4	Solution of Simultaneous linear equations – Matrix Inversion method
Week-5	Gauss Elimination – Gauss Jordan methods
Week-6	Gauss Seidel method – Gauss Jacobi iterative methods
Week-7	Newton's divided difference interpolating polynomials – Lagreange's and Hermite's polynomials
Week-8	Newton forward and backward difference formula – String's and Bessel's Central difference formula
Week-9	Numerical differentiation using Newton's forward and backward interpolation formula
Week-10	Numerical integration – Introduction - Trapezoidal rule
Week-11	Simpon's 1/3 and 3/8 rules
Week-12	Double integral using Trapezoidal and Simpson's rules
Week-13	Taylor series method for simultaneous first order and second order differential equations
Week-14	Modified Euler's method – Runge Kutta method for simultaneous differential equations
Week-15	RK second order and fourth order methods

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Department of Defence and Strategic Studies
Lesson Plan (ODD Semester – 2021 – 2022)

Class: B.A Defence and Strategic Studies
Semester: I Semester
Name of the Subject: Strategic Study of India
Staff In-charge: Dr. S. Uma

Week	Topics to be covered	Method
Week 1	Introduction / Explanation of basic terms India, Bharat, Hindustan	Lecture
Week 2	India's Freedom struggle	Lecture
Week 3	Geo-Strategic location of India – Size, Borders.	Lecture
Week 4	**Internal Exam - I**	Assignment / Student Seminar
Week 5	India's Physiographic Features – Himalayas, Indo-Gangetic plain and Deccan Plateau	Lecture
Week 6	India's Ethnic and Linguistic Composition	Lecture
Week 7	System of Governance, Salient features of Indian Constitution	Lecture
Week 8	**Internal Exam - II**	Assignment / Student Seminar
Week 9	National Flag, National Anthem.	Lecture
Week 10	National Institutions	Lecture
Week 11	Power Resources	Lecture
Week 12	Agricultural, Industrial, Natural.	Lecture
Week 13	Military Potential, Defence Industries	Lecture
Week 14	Institutions of DRDO	Lecture
Week 15	**Model Exam**	

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Lesson Plan (ODD Semester – 2020 – 2021)

Class: B.A Defence and Strategic Studies
Semester: I Semester
Name of the Subject: Fundamentals of War and Peace
Staff In-charge: Mr. N. Aravindhan

Week	Topics to be covered	Method
Week 1	Introduction - Nomenclature and understanding of the terms Military Science, Military Studies, War Studies, Peace Studies, Conflict Studies	Lecture
Week 2	Defence Studies and Defence and Strategic Studies Relevance and significance	Lecture
Week 3	Basic Concepts: War, Strategy, Grand Strategy, Tactics, Campaign, Battle, Operations, Defence and Security	Lecture
Week 4	**Internal Exam - I**	Assignment / Student Seminar
Week 5	Categorization of War: Civil war, Limited war, Chemical and Biological war, nuclear war,	Lecture
Week 6	Guerrilla war, Insurgency and Low Intensity Conflicts	Lecture
Week 7	Causes of War, Principles of War	Lecture
Week 8	**Internal Exam - II**	Assignment / Student Seminar
Week 9	Understanding of Peace - Meaning, Definition and Forms of Peace	Lecture
Week 10	Role of Peace Education and Peace Movements	Lecture
Week 11	Concepts of Peaceful Co-existence & Zone of Peace	Lecture
Week 12	Mechanics of War and Peace - Amicable Settlement of International Disputes	Lecture
Week 13	International Law and Peace, Peace Treaties, International Court of Justice	Lecture
Week 14	Concepts of Peace Making, Peacekeeping & Peace Building	Lecture
Week 15	**Model Exam**	

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Lesson Plan (ODD Semester – 2020 – 2021)

Class: B.A Defence and Strategic Studies
Semester: I Semester
Name of the Subject: Political Science - An Introduction – I
Staff In-charge: Dr. S. Uma

Week	Topics to be covered	Method
Week 1	Political Science as a discipline-Meaning and Definition-Nature and Scope	Lecture
Week 2	Is Politics a Science or Art, Methods of Political Science	Lecture
Week 3	State Definition, Element and Functions of State, Distinction between State and Government	Lecture
Week	**Internal Exam - I**	Assignment / Student

4		Seminar
Week 5	Distinction between State and Society and Association	Lecture
Week 6	Divine Origin Theory-force Theory	Lecture
Week 7	Social Contact Theory: Hobbes, Locke and Rousseau	Lecture
Week 8	**Internal Exam - II**	Assignment / Student Seminar
Week 9	Patriarchal and Matriarchal theory, Historical or Evolutionary Theory	Lecture
Week 10	Sovereignty-Definition and Kinds of Sovereignty	Lecture
Week 11	Austin's Theory of Sovereignty-The concept of Pluralism	Lecture
Week 12	Law: Meaning and Features	Lecture
Week 13	Rights: Kinds and Fundamental Rights	Lecture
Week 14	Its kinds and safeguards-Equality: Relation with Liberty and Rights	Lecture
Week 15	**Model Exam**	

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Lesson Plan (Even Semester – 2020 – 2021)

Class: B.A Defence and Strategic Studies
Semester: II Semester
Name of the Subject: History of Freedom Movement in India (1857 – 1947)
Staff In-charge: Ms. P Madhumitha (Research Scholar)

Week	Topics to be covered	Method
Week 1	Sepoy Mutiny 1857	Lecture
Week 2	Factors leading to the rise of Nationalism, Formation of the Indian National Congress, Partition of Bengal	Lecture
Week 3	Birth of Muslim League, Causes for the rise of Extremism	Lecture
Week 4	**Internal Exam - I**	Assignment / Student Seminar
Week 5	Swadeshi Movement, Terrorist Movement, Home Rule Movement, Anne Besant	Lecture
Week 6	Rowlett Bill, Jallian Wala bagh Massacre, Khilafat Movement	Lecture
Week 7	Gandhian Era- Non-Cooperation Movement, Swaraj Party, Simon Commission,	Lecture
Week 8	**Internal Exam - II**	Assignment / Student Seminar

Week 9	Nehru. Report- Lucknow Pact, Round Table Conference- Gandhi Irwin Pact	Lecture
Week 10	Salt Satyagraha, Cripps Mission, INA and Subash Chandra Bose,	Lecture
Week 11	Quit India Movement, Demand for Pakistan	Lecture
Week 12	Wavell Plan, The Cabinet Mission	Lecture
Week 13	Rajaji Plan, Mount Batten Plan,	Lecture
Week 14	Partition of India- Indian Independence	Lecture
Week 15	**Model Exam**	

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Lesson Plan (Even Semester – 2020 – 2021)

Class: B.A Defence and Strategic Studies
Semester: II Semester
Name of the Subject: World Military History
Staff In-charge: Mr. M. S. A. Akshay Kumar (Research Scholar)

Week	Topics to be covered	Method
Week 1	Military system in Ancient Greece - Greek Military Organization	Lecture
Week 2	Greeco-Persian War (Battle of Marathon, Thermopylae and Salamis)	Lecture
Week 3	Rise of Alexander's Empire (Battle of Isus, Arbela)	Lecture
Week 4	**Internal Exam - I**	Assignment / Student Seminar
Week 5	Military System in Ancient Rome - Roman Military organization, Rome- Carthage Conflict (Battle of Cannae, Zama)	Lecture
Week 6	Julius Caesar's Military Campaigns	Lecture
Week 7	Military System in Medieval Empire, Military Reforms of Gustavus Adolphus, French Revolution – Causes and Consequences	Lecture
Week 8	**Internal Exam - II**	Assignment / Student Seminar
Week 9	Napoleon's art of war (Battle of Trafalgar and Waterloo)	Lecture
Week 10	World War I – Causes, Trench and Static Warfare, Use of Gas.	Lecture
Week 11	Role of Naval and Air Power	Lecture
Week	Military lessons	Lecture

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Week 13	World War II – Causes, Blitzkrieg Tactics	Lecture
Week 14	Role of Air Power and Naval Power, Military Lessons	Lecture
Week 15	**Model Exam**	

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Lesson Plan (ODD Semester – 2020 – 2021)

Class: B.A Defence and Strategic Studies
Semester: III Semester
Name of the Subject: International Relations
Staff In-charge: Mr. N. Aravindhan

Week	Topics to be covered	Method
Week 1	Introduction to International Relations	Lecture
Week 2	Components of State, Evolution of State system	Lecture
Week 3	State System and its corollaries	Lecture
Week 4	**Internal Exam - I**	Assignment / Student Seminar
Week 5	Elements of National Power, National Interest, Foreign Policy	Lecture
Week 6	Theories of International Relations - Idealist	Lecture
Week 7	Theories of International Relations – Realist, Integration and Behavioralist	Lecture
Week 8	**Internal Exam - II**	Assignment / Student Seminar
Week 9	Diplomacy - Concept of Diplomacy	Lecture
Week 10	Kinds of Diplomacy	Lecture
Week 11	Functions of Diplomacy	Lecture
Week 12	Control of International Relations - Collective Security	Lecture
Week 13	Balance of Power	Lecture
Week 14	International Law	Lecture
Week 15	**Model Exam**	

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Lesson Plan (ODD Semester – 2020 – 2021)

Class: B.A Defence and Strategic Studies
Semester: III Semester
Name of the Subject: Specialized Warfare
Staff In-charge: Mr. R. M. Arivazhagan

Week	Topics to be covered	Method
Week 1	Psychological Warfare - Definition and nature of Psychological Warfare	Lecture
Week 2	Types of Propaganda, Brain washing and its effect	Lecture
Week 3	Rumour: Nature and techniques	Lecture
Week 4	**Internal Exam - I**	Assignment / Student Seminar
Week 5	Nuclear, Biological and Chemical Welfare - Concept and objectives	Lecture
Week 6	Characteristics	Lecture
Week 7	Types of agents and Methods of Use, Recent Trends	Lecture
Week 8	**Internal Exam - II**	Assignment / Student Seminar
Week 9	Guerilla Warfare (a) Concept and objectives Characteristics Guerilla Warfare	Lecture
Week 10	Elementary knowledge of Insurgency and Counter Insurgency	Lecture
Week 11	Cyber Warfare – Concept and Objective	Lecture
Week 12	Cyber Warfare - Characteristics	Lecture
Week 13	Terrorism – Definition, Causes	Lecture
Week 14	Types of Techniques	Lecture
Week 15	**Model Exam**	

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Lesson Plan (Even Semester – 2020 – 2021)

Class: B.A Defence and Strategic Studies
Semester: IV Semester
Name of the Subject: Geo-Politics and Geo-Strategy
Staff In-charge: Mr. M. Anoop Ajith

Week	Topics to be covered	Method
Week 1	Fundamentals of Geo-Strategy (Accessibility, Visibility, Location, Distance, Climate	Lecture
Week 2	Role and Importance of Geo – politics	Lecture
Week 3	Geographic components of National Power.	Lecture
Week	**Internal Exam - I**	Assignment / Student

4		Seminar
Week 5	Geo – Political Thought, Theories of Mackinder	Lecture
Week 6	Theories of Haushofer, A.T. Mahan.	Lecture
Week 7	Basics of Military Geography, Basics of Global Positioning System (GPS),	Lecture
Week 8	**Internal Exam - II**	Assignment / Student Seminar
Week 9	Global Information System (GIS) and Remote Sensing.	Lecture
Week 10	Geo – Strategic significance of India: Geographical Location	Lecture
Week 11	Natural resources, Land mass, Rivers, Minerals & Oil	Lecture
Week 12	Importance of Andaman, Nicobar & Lakshadweep Islands.	Lecture
Week 13	India's Borders (a) Nature and characteristics of land borders, Maritime boundaries	Lecture
Week 14	Concept of Territorial waters and Exclusive Economic Zone.	Lecture
Week 15	**Model Exam**	

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Class: B.A Defence and Strategic Studies
Semester: IV Semester
Name of the Subject: International Organisation
Staff In-charge: Mr. Koushik Raj (Research Scholar)

Week	Topics to be covered	Method
Week 1	Introduction - Evolution of International Organization	Lecture
Week 2	Overview of related theories.	Lecture
Week 3	League of Nation, UN System: Principles, Powers	Lecture
Week 4	**Internal Exam - I**	Assignment / Student Seminar
Week 5	UN Structures, Objectives, Functioning	Lecture
Week 6	Evaluation of SAARC	Lecture
Week 7	Objectives, Functioning and Evaluation of ASEAN, Asian Regional Forum (ARF)	Lecture
Week 8	**Internal Exam - II**	Assignment / Student Seminar

Week 9	Salient Features of European Union (EU)	Lecture
Week 10	Organization for Security & Cooperation in Europe (OSCE).	Lecture
Week 11	Fundamentals of African Union (AU)	Lecture
Week 12	Commonwealth of Independent States (CIS)	Lecture
Week 13	Organization of Islamic Conference (OIC),	Lecture
Week 14	Organization of American States (OAS).	Lecture
Week 15	**Model Exam**	

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Department of Defence and Strategic Studies
Lesson Plan (ODD Semester – 2020 – 2021)

Class: B.A Defence and Strategic Studies
Semester: V Semester
Name of the Subject: National Security of India
Staff In-charge: Dr. S. Uma

Week	Topics to be covered	Method
Week 1	Introduction: (a) India's national values	Lecture
Week 2	National security objective, India's Foreign policy goals	Lecture
Week 3	Internal Security Threats – Poverty, Communal harmony, Corruption	Lecture
Week 4	**Internal Exam - I**	Assignment / Student Seminar
Week 5	Insurgency in North East.	Lecture
Week 6	Issues with Pakistan: (a) Jammu & Kashmir	Lecture
Week 7	Siachen, Sir Creek Island, Wullar Barrage & Terrorism	Lecture
Week 8	**Internal Exam - II**	Assignment / Student Seminar
Week 9	Issues with China: (a) Boundary dispute	Lecture
Week 10	Misperceptions on Tibet	Lecture
Week 11	Non – recognition of Sikkim.	Lecture
Week 12	Indian Ocean: (a) Strategic significance	Lecture
Week	India's interests	Lecture

13		
Week 14	Power rivalry (militarization).	Lecture
Week 15	**Model Exam**	

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Lesson Plan (ODD Semester – 2020 – 2021)

Class: B.A Defence and Strategic Studies
Semester: V Semester
Name of the Subject: Terrorism
Staff In-charge: Mr. R. M. Arivazhagan

Week	Topics to be covered	Method
Week 1	Definition and meaning of Terrorism. History of Terrorism.	Lecture
Week 2	Nature and Tactics of Terrorism	Lecture
Week 3	Causes of Terrorism, Types of Terrorism, Levels of Terrorism	Lecture
Week 4	**Internal Exam - I**	Assignment / Student Seminar
Week 5	Kashmir- Cross-border terrorism - Lashkar-e-Toiba; Talibans	Lecture
Week 6	Extremism in North-East India.	Lecture
Week 7	Naxalites in India, Parliament & Mumbai Taj hotel attack.	Lecture
Week 8	**Internal Exam - II**	Assignment / Student Seminar
Week 9	Palestinian Issue, Irish Issue	Lecture
Week 10	Sri Lanka- LTTE Issue	Lecture
Week 11	September 11 attack in the USA -Al Qaeda.	Lecture
Week 12	War against Terrorism- responses of Major Powers.	Lecture
Week 13	Terrorism and United Nations Organisation.	Lecture
Week 14	Terrorism and other International Organisations	Lecture
Week 15	**Model Exam**	

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Lesson Plan (ODD Semester – 2020 – 2021)

Class: B.A Defence and Strategic Studies

Semester: V Semester

Name of the Subject: Basics of Defence Economics

Staff In-charge: Mr. N. Aravindhan

Week	Topics to be covered	Method
Week 1	Introduction - Definition of Economics and Defence Economics	Lecture
Week 2	Introduction: (a) Definition of Economics and Defence Economics	Lecture
Week 3	Defence and Development debate, Defence Budget - Concepts of Finance, Revenue, Expenditure, process of Budget	Lecture
Week 4	**Internal Exam - I**	Assignment / Student Seminar
Week 5	National Income and Gross National Product	Lecture
Week 6	Analysis of India's Defence Budget	Lecture
Week 7	Defence Planning - Parameters of Defence Planning, Use of Systems Analysis, Cost – effectiveness in selection of weapon systems	Lecture
Week 8	**Internal Exam - II**	Assignment / Student Seminar
Week 9	Defence Production, Assessment of Defence requirements	Lecture
Week 10	Role of Ordnance Factories and Public and Private sector undertakings	Lecture
Week 11	Contribution of DRDO.	Lecture
Week 12	Effects of War on Economy, Inflation	Lecture
Week 13	Balance of Payments.	Lecture
Week 14	Mobilization of Resources	Lecture
Week 15	**Model Exam**	

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Lesson Plan (ODD Semester – 2020 – 2021)

Class: B.A Defence and Strategic Studies

Semester: V Semester

Name of the Subject: Defence Mechanism of India

Staff In-charge: Mr. R. M. Arivazhagan

Week	Topics to be covered	Method
Week 1	Introduction: (a) Defence as a primary function of a nation-state,	Lecture

Week 2	Higher Defence Organization of India	Lecture
Week 3	Power of President in relation to Armed Forces	Lecture
Week 4	**Internal Exam - I**	Assignment / Student Seminar
Week 5	Composition and Functioning of Defence Committee during war and peace,	Lecture
Week 6	Organization & Function of Ministry of Defence, Chief of Staff and Joint Service Organizations.	Lecture
Week 7	Field & Static organizations of Indian Army, Indian Air Force, Indian Navy	Lecture
Week 8	**Internal Exam - II**	Assignment / Student Seminar
Week 9	Role and Functions of Para Military Forces.	Lecture
Week 10	Organization & Function of various Indian Intelligence Agencies.	Lecture
Week 11	Study of Higher Defence Organizations of USA, Russia,	Lecture
Week 12	Study of Higher Defence Organizations of China and Pakistan.	Lecture
Week 13	Recruitment Organizations: System and methods of recruitment in Army, Navy	Lecture
Week 14	Recruitment Organizations: System and methods of recruitment in Airforce	Lecture
Week 15	**Model Exam**	

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Department of Defence and Strategic Studies
Lesson Plan (ODD Semester – 2020 – 2021)

Class: B.A Defence and Strategic Studies
Semester: V Semester
Name of the Subject: Fundamentals of Defence Journalism
Staff In-charge: Mr. N. Aravindhan

Week	Topics to be covered	Method
Week 1	Introduction to Journalism: Meaning, relevance and scope	Lecture
Week 2	News Organization Structure and functioning	Lecture
Week 3	Media: concept, kind and characteristics.	Lecture
Week 4	**Internal Exam - I**	Assignment / Student Seminar
Week 5	Defence News - Purpose and meaning, Kinds and sources Theories of news selection.	Lecture

Week 6	Reporting Defence Stories - Format, Language and Grammar, Kinds: Eye Witness, Computer assisted Features	Lecture
Week 7	Concepts of Graphics and animation, Interviewing skills.	Lecture
Week 8	**Internal Exam - II**	Assignment / Student Seminar
Week 9	Editing - Abbreviations and definition of military terms	Lecture
Week 10	Proof – reading symbols	Lecture
Week 11	Caption writing and picture editing.	Lecture
Week 12	Hurdles in Defence writing Media Ethics, Media Laws	Lecture
Week 13	Military vs Media debate.	Lecture
Week 14	News Photography	Lecture
Week 15	**Model Exam**	

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Department of Defence and Strategic Studies
Lesson Plan (Even Semester – 2020 – 2021)

Class: B.A Defence and Strategic Studies
Semester: VI Semester
Name of the Subject: Elementary Strategic Thought
Staff In-charge: Dr. S. Uma

Week	Topics to be covered	Method
Week 1	Introduction - Concept and components of strategic thought	Lecture
Week 2	Contributions of Kautilya's (Philosophy of War).	Lecture
Week 3	Gandhi (Non–Violence) and Nehru (Non–Alignment).	Lecture
Week 4	**Internal Exam - I**	Assignment / Student Seminar
Week 5	18th Century thinkers – Introduction, Jomini: Concept of Mass army, Strategy, Tactics and Logistics	Lecture
Week 6	Clausewitz. : War and its relationship with Politics.	Lecture
Week 7	Thinkers up to World War I: Karl Marx, military concept of social revolution	Lecture
Week 8	**Internal Exam - II**	Assignment / Student Seminar
Week 9	Strategic thoughts between two World wars	Lecture
Week 10	Liddell Hart: Total War, Deterrence & British concept of Warfare	Lecture

Week 11	A.T. Mahan: Theory of Sea Power	Lecture
Week 12	Douhet, Mitchell & Seversky: Theories of Air warfare.	Lecture
Week 13	Thinkers after World War II,	Lecture
Week 14	Mao, Che Guevara - Guerrilla Warfare.	Lecture
Week 15	**Model Exam**	

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Lesson Plan (Even Semester – 2020 – 2021)

Class: B.A Defence and Strategic Studies
Semester: VI Semester
Name of the Subject: Indian Military Operations (Since 1947)
Staff In-charge: Mr. M Anoop Ajith

Week	Topics to be covered	Method
Week 1	Introduction - Partition of British Indian Army	Lecture
Week 2	Early Challenges - Annexation of Junagadh – 1947	Lecture
Week 3	Operations Polo (Integration of Hyderabad 1948), Operation Vijay (Integration of Goa 1961).	Lecture
Week 4	**Internal Exam - I**	Assignment / Student Seminar
Week 5	Operation in Kashmir – 1947 – 48, Events leading to annexation	Lecture
Week 6	Operations of Indian Army, Military lessons	Lecture
Week 7	Chinese invasion of India – 1962 - Causes of War, Important Operations of War, Military Re – organization	Lecture
Week 8	**Internal Exam - II**	Assignment / Student Seminar
Week 9	Indo – Pakistan War of 1965: Outline of the Operations	Lecture
Week 10	Role of Artillery, Operation Cactus- Lily	Lecture
Week 11	Liberation of East Pakistan 1971- Origin	Lecture
Week 12	Liberation of East Pakistan 1971 - Causes of War	Lecture
Week 13	Internal Security Operations - Operation Blue Star – 1984	Lecture
Week 14	Operation Rhino (Northeast Region), Operation Vijay	Lecture

Week 15	**Model Exam**	

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Department of Defence and Strategic Studies
Lesson Plan (Even Semester – 2020 – 2021)

Class: B.A Defence and Strategic Studies
Semester: VI Semester
Name of the Subject: Nuclear Strategy and Arms Control
Staff In-charge: Ms. P Madhumitha (Research Scholar)

Week	Topics to be covered	Method
Week 1	Introduction - The evolution of the nuclear era since 1945	Lecture
Week 2	Basics of Nuclear technology	Lecture
Week 3	Nuclear energy & effects of nuclear explosion.	Lecture
Week 4	**Internal Exam - I**	Assignment / Student Seminar
Week 5	Development of missiles, Classifications and characteristics	Lecture
Week 6	Brief study of theories of nuclear warfare: Preventive war, Pre–emptive Attack,	Lecture
Week 7	Massive Retaliation, Counter force, Flexible Response, MAD & MAS	Lecture
Week 8	**Internal Exam - II**	Assignment / Student Seminar
Week 9	Elementary study of Treaties: (a) Nuclear – weapon Treaties, (PTBT, TBT, PNET & CTBT)	Lecture
Week 10	Nuclear arms Limitation Treaties (ABMT, SALT, INF, START)	Lecture
Week 11	Nuclear – Weapon proliferation Treaties (NTP, MTCR).	Lecture
Week 12	Conventions of Chemical Weapons, Biological Weapons	Lecture
Week 13	Prevention of Accidental Wars.	Lecture
Week 14	India's contribution in the process of arms control.	Lecture
Week 15	**Model Exam**	

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Department of Defence and Strategic Studies
Lesson Plan (Even Semester – 2020 – 2021)

Class: B.A Defence and Strategic Studies

Semester: VI Semester
Name of the Subject: World Conflicts Since World War II
Staff In-charge: Dr. S. Uma

Week	Topics to be covered	Method
Week 1	Europe (a) Czechoslovakian crisis 1968	Lecture
Week 2	East European Revolution 1989.	Lecture
Week 3	West Asia (a) Arab – Israeli Conflict of 1948	Lecture
Week 4	**Internal Exam - I**	Assignment / Student Seminar
Week 5	Arab – Israeli Conflict of 1956	Lecture
Week 6	Arab – Israeli Conflict of 1967	Lecture
Week 7	Arab – Israeli Conflict of 1973	Lecture
Week 8	**Internal Exam - II**	Assignment / Student Seminar
Week 9	Gulf (a) Iraq – Kuwait Crisis 1991	Lecture
Week 10	Afghan War 2001.	Lecture
Week 11	Latin America	Lecture
Week 12	Cuban Missile Crisis 1962	Lecture
Week 13	Grenada Crisis 1983.	Lecture
Week 14	Africa: Nigerian Civil war.	Lecture
Week 15	**Model Exam**	

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Department of Defence and Strategic Studies
Lesson Plan (Even Semester – 2020 – 2021)

Class: B.A Defence and Strategic Studies
Semester: VI Semester
Name of the Subject: Principles of Defence Management
Staff In-charge: Mr. M. S. A. Akshay Kumar (Research Scholar)

Week	Topics to be covered	Method
Week 1	Introduction to Defence Management	Lecture
Week 2	Definition of administration and management	Lecture

Week 3	Principles and process of defence management.	Lecture
Week 4	**Internal Exam - I**	Assignment / Student Seminar
Week 5	Planning - Definition and features, Steps in planning, Management by objectives	Lecture
Week 6	Decision Making process and techniques.	Lecture
Week 7	Organizing – Structure, Function of military organizations	Lecture
Week 8	**Internal Exam - II**	Assignment / Student Seminar
Week 9	Characteristics of Military Organization	Lecture
Week 10	Staffing - Sources of Manpower supply	Lecture
Week 11	Selection process for officers and other ranks in Indian Armed Forces	Lecture
Week 12	Selection process for officers and other ranks Para-Military Forces	Lecture
Week 13	Directing and controlling - Military leadership	Lecture
Week 14	Parameters of morale and motivation. Control techniques	Lecture
Week 15	**Model Exam**	

Dr. AMBEDKAR GOVT. ARTS COLLEGE(AUTONOMOUS), CHENNAI-39
PG & RESEARCH DEPARTMENT OF MATHEMATICS
B.Sc. MATHEMATICS DEGREE PROGRAMME
TEACHING PLAN
ACADEMIC YEAR 2021-22 (ODD SEMESTER)

Subject Name : **Classical Algebra and Number Theory**
Subject Code : 19UAMAC1
Semester : **I**
Staff in Charge :Dr. K.THULUKKANAM & Mr. K. SARAVANAN

Week	Topics to be Covered
Week-1	**Unit-I :**Symmetric, skew symmetric, Hermitian matrices.
Week-2	Skew Hermitian, Orthogonal and Unitary matrices
Week-3	Cayley- Hamilton theorem (Without proof) – Eigen values, Eigen vectors.
Week-4	**Unit II:** Theory of equations: Formation of equations - Polynomial equations imaginary and irrational roots. **FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-5	Relations between roots and coefficients . symmetric functions of roots in terms of coefficients.
Week-6	symmetric functions of roots in terms of coefficients.
Week-7	**Unit III:** Reciprocal equations; Transformation of equations – multiplication of roots, diminishing the roots.
Week-8	Descartes rule of signs - Approximate solution of roots by Horner's method. **SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-9	**Unit IV :** Theory of numbers: Divisibility of integers – Division Algorithm – GCD – Euclidian algorithm .
Week-10	prime numbers – composite numbers – fundamental theorem of arithmetic (without proof) – divisors of a positive integer N
Week-11	Euler's function $\phi(N)$ – formula for $\phi(N)$ (without proof) – highest power of prime *p* contained in n!.
Week-12	**Unit V : C**ongruences.
Week-13	Fermat's and Wilson's theorem (without proof) – simple problems.
Week-14	Revision.
Week-15	Model Examinations.

Subject Name : DIFFERENTIAL CALCULUS
Subject Code : 19UAMAC2
Semester : I
Staff in Charge : Dr. A.R.RAGAVAN, Dr. J. DESDEMONA KIRUBAVATHI & Mrs. D.KALPANA

Week	Topics to be Covered
Week-1	**Unit-1:** Differential Calculus – n^{th} derivatives –simple problems.
Week-2	**Unit-1:** Differential Calculus – Leibnitz theorem(without proof) and applications - simple problems.
Week-3	**Unit-1:** Differential Calculus – Jacobians -simple problems. **Unit-2:** Curvature-Radius of Curvature in Cartesian coordinates - simple problems..
Week-4	**Unit-2:** Curvature-Radius of Curvature in parametric form -simple problems. First Internal Assessment Test.
Week-5	**Unit-2:** Curvature-Radius of Curvature in polar coordinates - simple problems...
Week-6	**Unit-3:** Pedal equations-simple problems.
Week-7	**Unit-3:** Involutes and Evolutes – simple problems.
Week-8	**Unit-3:** Involutes and Evolutes – simple problems. **Second Internal Assessment Test**.
Week-9	**Unit-4:** Envelopes – simple problems.
Week-10	**Unit-4:** Asymptotes– simple problems.
Week-11	**Unit-4:** Asymptotes– simple problems. **Unit-5:** Jacobians– simple problems.

Week-12	**Unit-5:** Maxima and minima of functions of 2 and 3 variables – simple problems.
Week-13	**Unit-5:** Lagrange's method – simple problems.
Week-14	Revision
Week-15	Model Exam

Subject Name : NME-1 - ANALYTICAL SKILLS AND APTITUDE
Subject Code : 19UAMAN1
Semester : I
Staff in Charge : Dr. SHIRLEY GLORIA D.K.

Week	Topics to be Covered
Week-1	UNIT 1 :Arithmetical ability – problems in Numbers.
Week-2	Problems in fractions.
Week-3	Problems in roots.
Week-4	UNIT 2 : Basic formulae on simple interest. **FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-5	Problems on simple interest.
Week-6	Problems on Compound interest.
Week-7	UNIT 3 :Permutations and combinations
Week-8	Probabilities. **SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-9	Simple problems
Week-10	UNIT 4:Odd man out and series
Week-11	UNIT 5:Data interpretation
Week-12	Bar Graphs
Week-13	Pie Charts.
Week-14	Revision
Week-15	Model Examination

Subject Name : ALLIED MATHEMATICS-1
(COMPUTER SCIENCE &CHEMISTRY)
Subject Code : 19UAMAA1
Semester : I
Staff in Charge :Mrs.D.KALPANA & Dr.G.PALANI

Week	Topics to be Covered
Week-1	UNIT-1: Matrices-Characteristic Equation-Eigen values and Eigen vectors.
Week-2	Cayley Hamilton Theorem,Applications of Cayley Hamilton Theorem.
Week-3	UNIT-2: Theory of Equations – Polynomial Equations-Imaginary and irrational roots-simple problems.
Week-4	Transformation of equations. **FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-5	Reciprocal Equations- simple problems
Week-6	UNIT -3:Differential Calculus – nth derivatives- simple problems.
Week-7	Leibnitz theorem(without proof) and applications – simple problems.
Week-8	Jacobians – simple problems. **SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-9	UNIT 4: Radius of Curvature in Cartesian coordinates – simple problems.
Week-10	Radius of curvature in Polar Coordinates – simple problems.
Week-11	Pedal equation of curve – simple problems.
Week-12	UNIT 5:.Integral Calculus – Integration by parts – simple problems. Definite integrals and its properties – simple problems
Week-13	Reduction formula – Simple problems
Week-14	Revision
Week-15	Model Examination

Subject Name : ALLIED MATHEMATICS-1 (PHYSICS)
Subject Code : 19UAMAA1
Semester : I
Staff in Charge : Dr. K. THULUKKANAM & Mr. K. SARAVANAN

Week	Topics to be Covered
Week-1	UNIT-1: Matrices-Characteristic Equation-Eigen values and Eigen vectors.
Week-2	Cayley Hamilton Theorem,Applications of Cayley Hamilton Theorem.
Week-3	UNIT-2: Theory of Equations – Polynomial Equations-Imaginary and irrational roots-simple problems.
Week-4	Transformation of equations. **FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-5	Reciprocal Equations- simple problems
Week-6	UNIT -3:Differential Calculus – nth derivatives- simple problems.
Week-7	Leibnitz theorem(without proof) and applications – simple problems.
Week-8	Jacobians – simple problems. **SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-9	UNIT 4: Radius of Curvature in Cartesian coordinates – simple problems.
Week-10	Radius of curvature in Polar Coordinates – simple problems.
Week-11	Pedal equation of curve – simple problems.
Week-12	UNIT 5:.Integral Calculus – Integration by parts – simple problems. Definite integrals and its properties – simple problems
Week-13	Reduction formula – Simple problems
Week-14	Revision
Week-15	Model Examination

Subject Name : DIFFERENTIAL EQUATIONS & LAPLACE TRANSFORMS
Subject Code : 19UCMAC1
Semester :III
Staff in Charge :Dr.O.S.BABU

Week	Topics to be Covered
Week-1	**Unit I:** First order differential equations but of higher degree; solvable for *p*, solvable for *x*

Week-2	Solvable for y, Clairaut's form.
Week-3	**Unit II :** Second order ordinary differential equations with constant coefficients: RHS of the form $e^{ax}V$ where V is x^m(m is a positive integer), Cosbx, Sinbx
Week-4	Second order ordinary differential equations with variable coefficients **FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-5	Method of variation of parameters – simple problems.
Week-6	**Unit III :** Partial differential equations : Formation by eliminating arbitrary constants and arbitrary functions.
Week-7	complete integral; singular integral; general integral; the standard types f(p,q) = 0, f(x,p,q) = 0, f(y,p,q) = 0, f(z,p,q) = 0, f(x,p) = f(y,p).
Week-8	Clairaut's form, Lagrange's equation Pp+Qq =R **SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-9	**Unit IV :** Laplace Transforms.
Week-10	Inverse Laplace Transforms (usual types) – simple problems.
Week-11	**Unit V :** Applications of Laplace Transforms to solution of first order differential equation
Week-12	Second order linear differential equations(with constant coefficients only) – simple problems.
Week-13	Solving more problems under Unit V.
Week-14	Revision.
Week-15	Model Examination.

Subject Name : MATHEMATICAL STATISTICS
Subject Code :19UCMAC2
Semester :III
Staff in Charge : Mrs. D. KALPANA

Week	Topics to be Covered
Week-1	**UNIT I: Probability:** Definitions of various terms - Axiomatic Probablity - Random Event - Mathematical Probability
Week-2	**UNIT I:**Addition and Multiplication Laws of Probability - Independent events
Week-3	**UNIT I:**Conditional Probability – Baye's theorem - Simple applications **UNIT II: Random Variables:** Distribution functions - Discrete random variable - Continuous random variable
Week-4	**UNIT II:**Joint Probability mass function Joint Probability distribution function - Marginal distribution function **First Internal Assessment Test and Assignment.**

Week-5	**UNIT II:**Joint density function -conditional distribution function.
Week-6	**UNIT III:Mathematical Expectation:** Addition and Multiplication theorem - Covariance Expectation
Week-7	**UNIT III:**variance of linear combination of random variables - Moment generating function
Week-8	**UNIT III:**Characteristic function-Simple problems. **Second Internal Assessment Test and Assignment**.
Week-9	**UNIT IV:Sampling Distributions:** Testing statistical hypothesis: Null and alternate hypothesis – Type I and Type II errors – Powers of a test
Week-10	**UNIT IV:**Critical region – Level of significance – One/two tailed tests critical value. Large sample test: Test of significance for single mean and difference of means
Week-11	**UNIT IV:**Test of significance for single proportion and difference of proportions. **UNIT-V : Small sample test:** Students t-distribution,
Week-12	**UNIT V:**F-distribution - χ^2 - distribution (Definition only). Tests based on t (single mean, difference of means and paired t-test)
Week-13	**UNIT V:**F (difference between two variances) and χ^2 (independence of attributes only) distributions.
Week-14	Revision.
Week-15	Model Examinations.

Subject Name : **Personality Enrichment**
Subject Code : 19UCSBE3
Semester : **III**
Staff in Charge : Mr. K. SARAVANAN

Week	Topics to be Covered
Week-1	**Unit I : Introduction :**Definition of Personality and Determinants of personality.
Week-2	Biological,psychological and socio-cultural factors.
Week-3	Misconceptions and classifications, need for personality development.
Week-4	**Unit II: Self awareness and self motivation:**Definition of self ,self concept and self awareness, self analysis through SWOT and johari window, definition of motivation. **FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-5	Types of motivation, techniques and strategies for self motivation,motivation checklist.
Week-6	setting based on the principle of SMART self motivation and life

Week-7	**Unit III:Memory and desision making:** Definition and importance of memory.
Week-8	Causes of forgetting, techniques of improving memory and the decision making process. **SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-9	**Unit IV: Study skills:**Definition of study skills and characteristics of study skills.
Week-10	Technics of passing examinations.
Week-11	**UnitV : Assertiveness** Definition and characteristics.
Week-12	Assertive,submissive and aggressive differences.
Week-13	Assertiveness skills.
Week-14	Revision.
Week-15	Model Examinations.

Subject Name :ENVIRONMENTAL STUDIES
Subject Code : 19UCEVS1
Semester :III
Staff in Charge :Dr. SHIRLEY GLORIA D.K.

Week	**Topics to be Covered**
Week-1	**UNIT I:**Scope and importance of Environmental science: Definition,Multidisciplinary nature of environmental science.
Week-2	**UNIT I:**Scope and Importance
Week-3	**UNIT I:**Global environmental problems **UNIT II:**Ecosystems: Concept of an ecosystem,Structure and function of an ecosystem.
Week-4	**UNIT II:**Producers ,Consumers and decomposers.Energy flow in the ecosystem. **First Internal Assessment Test and Assignment.**
Week-5	**UNIT II:**Food chains,food webs and ecological pyramids.
Week-6	**UNIT III:**Biodiversity and its conservation: Introduction-Definition: Value of biodiversity
Week-7	**UNIT III:**Consumptive use,Productiveuse.India as a mega-diversity nation.
Week-8	**UNIT III:**Hotspots of biodiversity.Brief account on biodiversity conservation. **Second Internal Assessment Test and Assignment**.

Week-9	**UNIT IV:**Environmental pollution: Definition-Cause,effects and control measures of Air pollution,Water pollution
Week-10	**UNIT IV:**Solid waste management: Causes,effects and control measures of urban and industrial wastes.
Week-11	**UNIT IV:**Role of an individual in prevention of pollution. **UNIT-V :Social Issues and the Environment: Water conservation**,rain water harvesting.
Week-12	**UNIT V:**Global warming,acidrain,ozone layer depletion
Week-13	**UNIT V:**Nuclear accidents,Wasteland reclamation.
Week-14	Revision.
Week-15	Model Examinations.

Subject Name : Abstract Algebra
Subject Code :19UEMAC1
Semester :V
Staff in Charge :Dr. M. K. PURUSHOTHKUMAR

Week	Topics to be Covered
Week-1	Unit I Defn and examples of groups, Preliminary lemmas of groups
Week-2	Subgroups with examples
Week-3	A counting Principle
Week-4	Unit II Normal subgroups and Quotient groups **FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-5	Homomorphisms
Week-6	Unit III Automorphism,Cayleys Theorem
Week-7	Permutation groups
Week-8	Unit IV Rings,Defn and examples Some special cases of rings **SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-9	Homomorphisms
Week-10	Ideals and Quotient rings
Week-11	Unit V More ideals and Quotient rings
Week-12	The field of Quotients of an integral Domain

Week-13	Euclidean rings
Week-14	Revision
Week-15	Model Examination

Subject Name : Real Analysis -I
Subject Code : 19UEMAC2
Semester : V
Staff in Charge : Dr. G. PALANI

Week	Topics to be Covered
Week-1	**UNIT-I :** Functions – Real valued functions – Equivalance
Week-2	Countability – Real numbers – Least upper bounds
Week-3	Sequence of real numbers- Definition of sequence and subsequence – Limit of a sequence Convergent sequences – Divergent Sequences
Week-4	**UNIT-II :** Bounded sequences – monotone sequences **FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-5	Operations on convergent sequences – operations on divergent sequences
Week-6	Limit superior and limit inferior– Cauchy sequences.
Week-7	**UNIT-III :** Series of real numbers – Convergence and divergence - series with nonnegative terms
Week-8	Alternating series– conditional convergence and absolute convergence **SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-9	Test for absolute convergence– Series whose terms form a non increasing sequence.
Week-10	**UNIT-IV:** The class l2 – Schwarz inequality and Minkowski inequality. Limits and Metric spaces.
Week-11	Limit of a function on the real line – metric spaces - limits in metric spaces
Week-12	**UNIT-V** Continuous functions on Metric Spaces – Functions continuous at a point on the real line – reformulation - functions continuous on a Metric Space
Week-13	Open sets– closed sets
Week-14	Revision
Week-15	Model Examination

Subject Name : MECHANICS - II
Subject Code : 19UEMAC3
Semester : V
Staff in Charge :Dr. A.R.RAGAVAN

Week	Topics to be Covered
Week-1	**Unit-1:** Kinematics – velocity, resultant of velocities, relative velocity, acceleration, velocity and acceleration in a rectilinear motion.
Week-2	**Unit-1:** Kinematics – coplanar motion, angular velocity, relative angular velocity.
Week-3	**Unit-1:** Kinematics – rectilinear motion when the acceleration is constant. **Unit-2:** Simple harmonic motion – Geometrical representation – composition of two simple harmonic motions – Particle suspended in a spring
Week-4	**Unit-2:** Simple harmonic motion – Simple pendulum–simple problems. First Internal Assessment Test.
Week-5	**Unit-2:** Projectiles – Equation of path – time of flight – greatest height– horizontal range – Range on an inclined plane – simple problems.
Week-6	**Unit-3:** Impact – direct impacts –simple problems.
Week-7	**Unit-3:** Impact- oblique impacts–simple problems.
Week-8	**Unit-3:** Impact on a smooth fixed plane – simple problems. **Second Internal Assessment Test**.

Week-9	**Unit-4:** Motion under central force – Differential equation of a central orbit in polar coordinates and in p – r coordinates.
Week-10	**Unit-4:** Motion under central force – Given the path to find the law of forces-Inverse square law-simple problems
Week-11	**Unit-4:** Motion under central force –Given the law of forces to find the path-simple problems. **Unit-5:** Moment of Inertia – theorem of perpendicular axes and parallel axes.
Week-12	**Unit-5:** Moment of Inertia – moment of inertia of uniform bodies: thin rod, rectangular lamina, circular ring.
Week-13	**Unit-5:** Moment of Inertia – circular disc, elliptic lamina, solid sphere, hollow sphere, solid cone and hollow cone.
Week-14	Revision
Week-15	Model Exam

Subject Name : OPERATIONS RESEARCH-I
Subject Code : 19UEMAC4
Semester :**V**
Staff in Charge :Dr.S.KARTHIGEYAN

Week	Topics to be Covered
Week-1	**Unit I :** Introduction to operations research-Linear Programming.
Week-2	**Unit I :**Formulation-Graphical solution.
Week-3	**Unit I :**Simplex method. **Unit II :**Big-M-Method
Week-4	**Unit II:** Two phase method-Duality. **FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-5	**Unit II :** Primal and dual problems-Dual simplex method .
Week-6	**Unit III :** Game theory-Two people zero-Sum game with saddle point and without saddle point.
Week-7	**Unit III:**Dominance property-Solving 2xn game by graphical method.
Week-8	**Unit III:**Solving 2xm game by graphical method. **SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-9	**Unit IV:** Transportation problem-Northwest corner rule-Least cost method.

Week-10	**Unit IV:** Vogel's Approximation method-MODI method-Degeneracy-.
Week-11	**Unit IV :** Unbalanced transportation problem **Unit V:**Assignment problem.
Week-12	**Unit :** Hungarian method-Unbalanced assignment problem.
Week-13	**Unit V:**Travelling salesman problem.
Week-14	Revision.
Week-15	Model Examinations.

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ACADEMIC YEAR 2021-22 (ODD SEMESTER)

Subject Name :ABSTRACT ALGEBRA
Subject Code :19PAMAC1
Semester :I
Staff in Charge :Dr.K.THULUKKANAM

Week	Topics to be Covered
Week-1	UNIT I:Another Counting Principle, double coset – the normalizer of a group.
Week-2	UNIT I: 1^{st}, 2^{nd} and 3^{rd} parts of Sylow's Theorems
Week-3	UNIT II: External and Internal direct Products – structure theorem for finite abelian groups
Week-4	UNIT II: non iso-morphic abelian groups. **FIRST INTERNAL ASSESSMENT TEST& ASSIGNMENT**. UNIT III: Splitting Field
Week-5	UNIT III:Polynomial rings – Polynomials over rational fields
Week-6	UNIT III:the Eisenstein criterion - extension fields – roots of polynomials
Week-7	UNIT III:– roots of polynomials
Week-8	UNIT III: splitting fields. **SECOND INTERNAL ASSESSMENT TEST& ASSIGNMENT**.
Week-9	UNIT IV: More about roots – simple extension – separable extension
Week-10	UNIT IV:fixed fields – symmetric rational functions – normal extension

Week-11	UNIT IV:Galois group – fundamental theorem of Galois theory.
Week-12	UNIT V:Solvability by radicals, Solvable group – the commutator subgroup – Solvability by radicals
Week-13	UNIT V:finite fields- Wedderburn Theorem.
Week-14	Revision.
Week-15	Model Examinations.

Subject Name : **Real Analysis-I**
Subject Code : 19PAMAC2
Semester : **I**
Staff in Charge : Mr. K.SARAVANAN

Week	Topics to be Covered
Week-1	**UNIT-I** : Functions of bounded variation an Introduction and Properties of monotonic functions .
Week-2	Functions of bounded variation ,Total variation an introduction and Additive property of total variation ,Total variation on [a, x] as a function of x
Week-3	Functions of bounded variation expressed as the difference of two increasing functions and Continuous functions of bounded variation.
Week-4	**UNIT-II :** The Riemann - Stieltjes Integral an Introduction and Notations. The definition of the Riemann - Stieltjes integral. **FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-5	Linear Properties - Integration by parts- Change of variable in a Riemann - Stieltjes integral and Reduction to a Riemann Integral , Euler's summation formula.
Week-6	**UNIT-III:** Monotonically increasing integrators, Upper and lower integrals .Additive and linearity properties of upper and lower integrals
Week-7	Riemann's condition - Comparison theorems. The Riemann-Stieltjes Integral - Intergrals of bounded variation-Sufficient conditions for the existence of Riemann-Stieltjes integrals
Week-8	--Necessary conditions for the existence of Riemann- Stieltjes integrals and Mean value theorems for Riemann - Stieltjes integrals. **SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-9	**UNIT-IV :** Infinite Series : Absolute and conditional convergence .
Week-10	Dirichlet's test and Abel's test - Rearrangement of series.Riemann's theorem on conditionally convergent series.
Week-11	**UNIT-V:** Sequences of Functions - Pointwise convergence of sequences of functions and Examples of sequences of real - valued functions, Uniform convergence of infinite series and functions.

Week-12	Definition of uniform convergence and Uniform convergence and continuity ,The Cauchy condition for uniform convergence.
Week-13	Uniform convergence and Riemann - Stieltjes integration – Uniform convergence and differentiation.
Week-14	Revision.
Week-15	Model Examinations.

Subject Name :ORDINARY DIFFERENTIAL EQUATIONS
Subject Code :19PAMAC3
Semester :I
Staff in Charge :DR.A.SAROJINI

Week	Topics to be Covered
Week-1	UNIT I:Linear Equations with constant coefficients:Second order homogeneous equations,Initial Value Problem.
Week-2	UNIT I:Linear Dependence and Independence,Wronskian and a Formula for Wronskian.
Week-3	UNIT II: Homogeneous and Non-homogeneous equation of order n,Initial Value Problems.
Week-4	UNIT II:Annihilator Method to solve non-homogeneous equation. **FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**. UNIT III: Linear equation with variable co-efficients: Initial Value Problems.
Week-5	UNIT III:Existence and Uniqueness Theorems,Solutions to solve a non-homogeneous equation,
Week-6	UNIT III:Wronskian and linear dependence
Week-7	UNIT III:Reduction of the order of a homogeneous equation,Homogeneous equation with analytic co-efficients,
Week-8	UNIT III:The Legendre equation. **SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-9	UNIT IV:Linear equation with Regular singular points: Euler eqation.
Week-10	UNIT IV:Second order equations with Regular singular points,Exceptional cases.
Week-11	UNIT IV:Bessel's function.
Week-12	UNIT V:Existence and uniqueness of solutions to First order Equations: Equations with variables separated,Exact equation,Method of successive approximations.

Week-13	UNIT V:The Lipschitz condition,Convergence of the successive approximations and the Existence theorem.
Week-14	Revision.
Week-15	Model Examinations.

Subject Name :Graph Theory
Subject Code :19PAMAC4
Semester :I
Staff in Charge :Dr.J. Desdemona Kirubavathi

Week	Topics to be Covered
Week-1	Unit I Graphs- Defn and examples, Simple graphs, graph isomorphism
Week-2	Incidence and adjacency matrices, Subgraphs,Paths and connections
Week-3	Trees,Cut edges and bonds, Cut vertices
Week-4	Unit II Connectivity,Blocks **FIRST INTERNAL ASSESSMENT TEST& ASSIGNMENT**
Week-5	Euler Tours and Hamilton cycles
Week-6	Unit III Matchings-Defns, examples,Berges Theorem
Week-7	Matchings and Coverings in bipartite graphs
Week-8	Edge Colouring **SECOND INTERNAL ASSESSMENT TEST& ASSIGNMENT**
Week-9	Unit IV Independent sets, Vertex colouring
Week-10	Brooks theorem,Chromatic polynomials
Week-11	Unit V Plane and planar graphs,defn and examples ,Stereographic projection
Week-12	Dual graphs,Eulers formula
Week-13	Five colour theorem
Week-14	Revision
Week-15	Model Examination

Subject Name : Difference Equations
Subject Code :19PAMAE1B

Semester : I
Staff in Charge : Dr.A.R. RAGAVAN

Week	Topics to be Covered
Week-1	**UNIT-I :** Difference Calculus: Difference operator
Week-2	Summation
Week-3	Generating Functionsand approximate summation.
Week-4	**UNIT-II :** Linear Difference Equations: First order equations **FIRST INTERNAL ASSESSMENT TEST& ASSIGNMENT**
Week-5	General Results forLinear Equations
Week-6	Solving Linear equations.
Week-7	**UNIT-III :** Linear Difference Equations(Contd.): Equations with variable coefficients
Week-8	Nonlinear Equations that can be Linearized. **SECOND INTERNAL ASSESSMENT TEST& ASSIGNMENT**
Week-9	**UNIT-IV :** Z transform.
Week-10	Applications of Z transform- solving difference equations
Week-11	Applications of Z transform- solving integral equations
Week-12	**UNIT-V :** Stability Theory:Initial value problems for linear systems
Week-13	Stability of linearsystems
Week-14	Revision
Week-15	Model Examination

Subject Name : EMPLOYABILITY SKILLS
Subject Code :19PASBE1
Semester : I
Staff in Charge : Dr.S.KARTHIGEYAN

Week	Topics to be covered
Week-1	UNIT I: Making Presentations – introducing oneself-introducing a topic-answering questions-individual presentation practice.
Week-2	UNIT I:Creating effective PPT's-presenting the visuals effectively.

Week-3	UNIT II: Using appropriate body language in professional contexts.
Week-4	UNIT II:Gestures, facial expressions,etc. First Internal Assessment Test and Assignment.
Week-5	UNIT II: Preparing job applications – writing covering letter and resume.
Week-6	UNIT III: Applying for jobs online – email – job portals.
Week-7	UNIT III: Participating in group discussions – understanding group dynamics.
Week-8	UNIT III:Brain storming the topic. Second Internal Assessment Test and Assignment.
Week-9	UNIT IV:Training in soft skills – persuasive skills.
Week-10	UNIT IV: People skills – questioning and clarifying skills.
Week-11	UNIT IV: Mock GD.
Week-12	UNIT V: Attending job interviews – answering questions confidently.
Week-13	UNIT V: Interview etiquette – dress code – body language – mock interview.
Week-14	Revision.
Week-15	Model Examinations.

Subject Name :MATHEMATICAL METHODS
Subject Code :19PCMAC1
Semester :III
Staff in Charge :Mr..M.K.PURUSHOTHKUMAR

Week	Topics to be Covered
Week-1	UNIT I: **Method of variations with fixed boundaries:** Variation and its properties-Euler'sEquation-Functional dependence on first and higher order derivative
Week-2	UNIT I: functions ofseveral independent variables - Variational problems in parametric form – Someapplications –Problems.
Week-3	UNIT II: **Variational Problems with moving boundaries:** An Elementary problem with moving boundaries
Week-4	UNIT II: Moving Boundary Problem for a functional of the form $\int_{x_0}^{x_1} F(x,y,z,y',z')dx$ – Extremals with corners, onesided variations – Problems.

	FIRST INTERNAL ASSESSMENT TEST& ASSIGNMENT UNIT III: FOURIER TRANSFORMS: Fourier Transforms
Week-5	UNIT III: Fourier sine and cosine transforms – Fourier transforms of derivatives
Week-6	UNIT III: convolution integral
Week-7	UNIT III:Parseval's Theorem
Week-8	UNIT III: Solution of Laplace Equations by Fourier transform. **SECOND INTERNAL ASSESSMENT TEST& ASSIGNMENT**
Week-9	UNIT IV: Integral Equations: Introduction - Integral Equations with Separable Kernels
Week-10	UNIT IV: Reduction to a system of algebraic equations
Week-11	UNIT IV: Fredholm Alternative- An approximate method.
Week-12	UNIT V:Method of successive approximations: Iterative scheme – Volterra Intergral Equation
Week-13	UNIT V:– Some results about the resolvent kernel.
Week-14	Revision.
Week-15	Model Examinations.

Subject Name :Differential Geometry
Subject Code :19PCMAC2
Semester :III
Staff in Charge : Dr.O S Babu

Week	Topics to be Covered
Week-1	**UNIT-I :** Space curves: Definition of a space curve – Arc length – tangent, normal and binormal
Week-2	curvature and torsion.
Week-3	**UNIT –II:** Space curves: Contact between curves and surfaces- tangent surface- involutes and evolutes
Week-4	Intrinsic equations – Fundamental Existence Theorem for space curves- Helices. **FIRST INTERNAL ASSESSMENT TEST& ASSIGNMENT**
Week-5	**UNIT-III :** Intrinsic properties of a surface: Definition of a surface – curves on a surface – Surface of revolution – Helicoids

Week-6	Metric- Direction coefficients.
Week-7	families of curves- Isometric correspondence- Intrinsic properties.
Week-8	**UNIT-IV :** . Geodesics: Geodesics – Canonical geodesic equations – Normal property of geodesics- Existence Theorems **SECOND INTERNAL ASSESSMENT TEST& ASSIGNMENT**
Week-9	Geodesic parallels – Geodesics curvature- Gauss- Bonnet Theorem
Week-10	Gaussian curvature- surface of constant curvature.
Week-11	**UNIT-V :** Nonintrinsic properties of a surface: The second fundamental form- Principal curvature - Lines of curvature
Week-12	Developables – Developables associated with space curves and with curves on surfaces
Week-13	Minimal surfaces – Ruled surfaces.
Week-14	Revision
Week-15	Model Examination

Subject Name : MATHEMATICAL STATISTICS
Subject Code :19PCMAC3
Semester : III
Staff in Charge :Dr.SHIRLEY GLORIA D K

Week	Topics to be Covered
Week-1	**UNIT-I:** Probability axioms-Combinatorial formulae-Conditional probability-Baye's theorem-independent events-concept of random variables-Distribution function
Week-2	**UNIT-I:**concept of random variables-Distribution function -Random variables of discrete and continuous types-functions of random variables
Week-3	**UNIT-I:**Marginal distribution-Conditional Distribution-independent random variables. **UNIT-II:** Parameters of the distribution of a random variable-Expectation
Week-4	**UNIT-II:** The Chebyshev inequality-absolute moments-Simple problems **FIRST INTERNAL ASSESSMENT TEST& ASSIGNMENT**
Week-5	**UNIT-II:** Order parameters-Moments of random vectors-simple problems
Week-6	**UNIT-III:** Characteristic functions-Properties of characteristic functions—characteristic functions and moments

Week-7	**UNIT-III:** Characteristic function of the sum of the independent random variables-simple problems
Week-8	**UNIT-III:** Determination of distribution function by the characteristic function - Probability generating function **SECOND INTERNAL ASSESSMENT TEST&ASSIGNMENT**
Week-9	**UNIT-IV:**Some probability distributions:The Bernoulli scheme-Binomial distribution-Poisson scheme-The generalized Binomial distribution.
Week-10	**UNIT-IV:**Poisson distribution-Uniform distribution-Normal distribution-Simple problems
Week-11	**UNIT-IV:**Gamma distribution-Beta distribution-Simple problems. UNIT-V: Sample moments and their functions: The notion of a sample-The notion of a statistic
Week-12	**UNIT-V:** Distribution of a arithmetic mean of independent normally distributed random variables -the chi-square distribution
Week-13	**UNIT-V:**The distribution of the statistics-student's t-distribution-Fisher's Z-distribution-Simple Problems
Week-14	Revision
Week-15	Model exam

Subject Name : STOCHASTIC PROCESSES
Subject Code :19PCMAE2B
Semester : III
Staff in Charge : Mrs.D.KALPANA

Week	Topics to be Covered
Week-1	UNIT 1 : Introduction to Stochastic Processes – Specifications of Stochastic Processes – Stationary processes – Martingales. Chapter 2 :Sec 2.1, 2.2
Week-2	Chapter 2: sec 2.3 to 2.4
Week-3	UNIT – II : Definition of Markov Chain – Higher transition probabilities – classification of states and chains – determination of higher transition probabilities –stability of Markov chain. Chapter 3 :sec 3.1,3.2
Week-4	Chapter3:sec 3.4 ,3.5,3.6 **FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-5	UNIT -3 :Poisson process and related distributions – Generalizations of Poisson process. Chapter 4:Sections 4.1,4.2
Week-6	Chapter 4 :sec 4.3
Week-7	UNIT -4:Birth and death process – Markov processes with discrete state space-Erlang process. Chapter4 :Sections 4.4
Week-8	Sections 4.5 ,4.7 **SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT**

Week-9	UNIT 5:Renewal process – renewal processes in continuous time – renewal equation and renewal theorems. Chapter 6 : Section 6.1
Week-10	Chapter 6 : Section 6.2
Week-11	Chapter 6 : Section 6.3
Week-12	Chapter 6: Section 6.4
Week-13	Chapter 7:Section 6.5
Week- 14	Revision
Week -15	Model Examination

Subject Name : APPLIED STATISTICS
Subject Code : 19PCMAD2
Semester : III
Staff in Charge : Dr.G.PALANI

Week	Topics to be Covered
Week-1	**UNIT-I:**Measures of central tendency: Mean,Median,Quartiles,Mode.
Week-2	**UNIT-I:**Measures of dispersion: Standard deviation,Mean deviation,Quartile deviation
Week-3	**UNIT-I:** Measures of dispersion:Co-efficient of variation-problems. **UNIT-II:** Karl pearson's coefficient of correlation
Week-4	**UNIT-II:** Spearman's rank co-efficient of rank correlation-problems **FIRST INTERNAL ASSESSMENT TEST& ASSIGNMENT**
Week-5	**UNIT-II:** Regression lines-Problems
Week-6	**UNIT-III:** Testing of hypothesis-introduction-Type I error & Type II error-Large sample test-Single mean
Week-7	**UNIT-III:** Large sample test-difference of means,single proportion
Week-8	**UNIT-III:** difference of proportions -problems **SECOND INTERNAL ASSESSMENT TEST&ASSIGNMENT**
Week-9	**UNIT-IV:** Small sample test:t-test for single mean-problems
Week-10	**UNIT-IV:** Small sample test:t-test for difference of means-problems
Week-11	**UNIT-IV:** Small sample test: paired t-tests-problems **UNIT-V :**F-test for difference of variances-problems
Week-12	**UNIT-V:** Chisquare test -problems
Week-13	**UNIT-V:C**hi-square test for independence for attributes -Problems

Week-14	Revision
Week-15	Model exam

Subject Name : MANAGERIAL SKILLS
Subject Code : 19PCSBE3
Semester : III
Staff in Charge : Dr.SHIRLEY GLORIA D K

Week	Topics to be Covered
Week-1	**UNIT-I:**Time Management.
Week-2	**UNIT-I:**Organisational Awareness
Week-3	**UNIT-I:** Problem solving. **UNIT-II:** Leadership Qualities
Week-4	**UNIT-II:** Teamwork and office functional rule **FIRST INTERNAL ASSESSMENT TEST& ASSIGNMENT**
Week-5	**UNIT-II:** Being knowledgeable of Hierarchy in office, Conducting interviews
Week-6	**UNIT-III:**Conducting Meetings
Week-7	**UNIT-III:**Writing circulars,Agendas.
Week-8	**UNIT-III:** Minutes of meetings and passing resolutions **SECOND INTERNAL ASSESSMENT TEST& ASSIGNMENT**
Week-9	**UNIT-IV:** Business Communication,Email
Week-10	**UNIT-IV:** Project proposals,contracts
Week-11	**UNIT-IV:** Job application and CV **UNIT-V :**Office Etiquette,Dress code
Week-12	**UNIT-V:**Communication,Maintaining healthy work relationship
Week-13	**UNIT-V:**Effective use of technology at workplace
Week-14	Revision
Week-15	Model exam

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Subject Name : **Integral Calculus and Fourier Series**
Subject Code : 19UBMAC2
Semester : **II**
Staff in Charge : DR.SHIRLEY GLORIA D K

Week	Topics to be Covered
Week-1	**Unit I:** Properties of definite integrals, Bernoulli's formula Reduction formulae.
Week-2	Bernoulli's formula and some problems.
Week-3	Reduction formulae and problems using reduction formulae.
Week-4	**Unit II:** Double and Triple integrals. **FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-5	Changing the order of integration, Change of variables.
Week-6	Applications of Double and Triple integrals in finding area and volume (Cartesian coordinates only).
Week-7	**Unit III:** Beta and Gamma functions**:** Definitions and properties.
Week-8	Using properties of beta and Gamma functions solving problems. **FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-9	**Unit IV:** Fourier series : Definition, Finding Fourier coefficients for a given periodic function with given period 2π.
Week-10	Solving Problems using Fourier series.
Week-11	**Unit V:** Fourier series for odd functions and problems.
Week-12	Fourier series for even functions and problems
Week-13	Half-range series in $(0,\pi)$
Week-14	Revision.
Week-15	Model Examinations.

Subject Name : FUNCTIONAL MATHEMATICS

Subject Code : 19UBMAN2
Semester : II
Staff in Charge :DR.SHIRLEY GLORIA D K

Week	Topics to be Covered
Week-1	**UNIT-I:**Logic and arithmetical ability: Problems on ages
Week-2	**UNIT-I:**Problems onsurds
Week-3	**UNIT-I:** Problems on indices **UNIT-II:** Basic formulae and problems on Profit and Loss.
Week-4	**UNIT-II:**Problems based on Ratioand Proportion.. **FIRST INTERNAL ASSESSMENT TEST& ASSIGNMENT**
Week-5	**UNIT-II:**Problems based onRatioand Proportion.
Week-6	**UNIT-III:** Basic formulae and problems on Time and Work
Week-7	**UNIT-III:**Problems based on Time and Work&Timeand Distance.
Week-8	**UNIT-IV:**Problems based on Timeand Distance. **SECOND INTERNAL ASSESSMENT TEST& ASSIGNMENT**
Week-9	**UNIT-IV:**Basic formulae and problems on Trains
Week-10	**UNIT-IV:**Problems onRaces.
Week-11	**UNIT-IV :** problems based onGames of Skill.
Week-12	**UNIT-V:** Basic formulae and problems on stocks and shares
Week-13	**UNIT-V:** Basic formulae and problems on stocks and shares
Week-14	Revision
Week-15	Model exam

Subject Name : ALLIED MATHEMATICS-II
(COMPUTER SCIENCE,PHYSICS &CHEMISTRY)
Subject Code :19UBMAA2
Semester : II
Staff in Charge :Dr.K.THULUKKANAM& Mr.K.SARAVANAN (For CS & Chemistry)
DR. SHIRLEY GLORIA D. K. (For Physics) .

Week	Topics to be Covered
Week-1	UNIT -1:FOURIER SERIES : Definition,To find the Fourier coefficients of periodic functions of period 2π
Week-2	UNIT-2: Second order differential equation with constant coefficient-particular integral of the type e^ax ,cosax

Week-3	Particular integral of the type sinax,e^axV,Where Vis any function of cosax or sinax or x^2
Week-4	UNIT 3: Laplace Transforms – Laplace transformation of standard functions **FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-5	Laplace transformations – simple properties
Week-6	Inverse Laplace transforms
Week-7	Application to solution of linear differential equations with constant coefficients
Week-8	UNIT 4:Vector Differentiation – Scalar point functions,Vector point functions,Gradient,Divergence. **SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-9	Curl,Directionalderivatives,normal to a surface
Week-10	UNIT 5:Vector Integration: Line,surface integral
Week-11	Volume integral-Gauss theorem
Week-12	Stoke's theorem
Week-13	Green's theorem
Week-14	Revision
Week-15	Model Examination

Subject Name : VECTOR CALCULAS
Subject Code : 19UDMAC1
Semester : IV
Staff in Charge :Dr.A.R.RAGAVAN

Week	Topics to be Covered
Week-1	**UNIT-I:**Vector point function - Scalar point function – Derivative of vector and derivative of sum of vectors.
Week-2	**UNIT-I:**derivative of product of scalar and vector point function – derivative of scalar
Week-3	**UNIT-I:** derivative of vector product. **UNIT-II:** Introduction - The vector operator ∇ - Gradient of a scalar pointfunction.
Week-4	**UNIT-II:**Divergence of a vector - Curl of a vector - Definitions ofsolenoidal and irrotational vectors , directional derivative **FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-5	**UNIT-II:** unitnormal to the surface, tangent and normal plane

Week-6	**UNIT-III:** Laplacianoperator
Week-7	**UNIT-III:**vector identities
Week-8	**UNIT-III:**Problems based on vector identities. **SECOND INTERNAL ASSESSMENT TEST& ASSIGNMENT**
Week-9	**UNIT-IV:**Line integral - Surface integral
Week-10	**UNIT-IV:** Volume integral-Simple problems.
Week-11	**UNIT-V :** Stokes Theorem(without proof)-simple problems.
Week-12	**UNIT-V:** Gauss-divergence Theorem(without proof)-Simple problems.
Week-13	**UNIT-V:** Green's Theoremin two dimensions(without proof) – simple problems
Week-14	Revision
Week-15	Model exam

Subject Name : MECHANICS-I
Subject Code :19UDMAC2
Semester : IV
Staff in Charge : Mr.K.SARAVANAN

Week	Topics to be Covered
Week-1	**UNIT-I:**Force:Newton's laws of motion-Forces-Types of forces,Resultant of two forces on a particle-problems
Week-2	**UNIT-I:** Resultant of three forces related to a triangle acting at a point-Resultant of several forces acting on a particle-Equilibrium of a particle-Problems
Week-3	**UNIT-I:**Equilibrium of a particle under three forces-under several forces-problems. **UNIT-II:**Forces on a rigid body: Moment of a force-Moment of a force about a line-scalar moment
Week-4	**UNIT-II:**Parallel forces: Point of application of resultant of many parallel forces-Varignon's theorem. **FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-5	**UNIT-II:** Parallel forces at the vertices of a triangle-forces along the sides of a triangle-simple problems
Week-6	**UNIT-III:**Couples:moment of a couple-arm and axis of a couple-Resultant of several coplanar forces-problems
Week-7	**UNIT-III:** Moment of a certain couple as an area-couples in a parallel planes-Resultant of a couple and a force
Week-8	**UNIT-III:** Equation of the line of action of the resultant:Sum of the moments about an arbitrary point. **SECOND INTERNAL ASSESSMENT TEST& ASSIGNMENT**

Week-9	**UNIT-IV: Equilibrium of a rigid body under three coplanar forces:Co-tangent formula. A specific reduction of forces-problems**
Week-10	**UNIT-IV:**A specific reduction of forces :Reduction of coplanar forces into a force and a couple-conditions of equilibrium under coplanar forces
Week-11	**UNIT-IV:**Problems involving frictional forces. **UNIT-V:**Centre of mass-centre of gravity-finding mass centre without using integration
Week-12	**UNIT-V:**Finding mass centre using integration
Week-13	**UNIT-V:** Finding mass centre using integration-simple problems
Week-14	Revision
Week-15	Model exam

Subject Name : COMPUTER BASICS AND OFFICE AUTOMATION
Subject Code : 19UDSBE4
Semester : IV
Staff in Charge :Dr. G.PALANI

Week	Topics to be Covered
Week-1	**Unit-1:** Introductory concepts: History-Generation.
Week-2	**Unit-1:** Classification-Block diagram.
Week-3	**Unit-1** Memory unit-CPU. **Unit-2:** Input Devices: Key board, Mouse and Scanner, Output Devices: Monitor, Printer.
Week-4	**Unit-2:** Introduction to Operating systems and its features: UNIX-Windows. **First Internal Assessment Test.**
Week-5	**Unit-2:** Introduction to Programming Language: C, C++ and its features.
Week-6	**Unit-3:** Word Processing: Open, Save and close word documents; Editing text-tools, formatting.
Week-7	**Unit-3:** Word Processing: Bullets, Spell Checker-Document formatting-Paragraph alignment, indentation.
Week-8	**Unit-3:** Word Processing: Header and footers, numbering, printing-Preview, options. **Second Internal Assessment Test.**
Week-9	**Unit-4:** Spreadsheets: Excel – opening, entering text and data formatting.
Week-10	**Unit-4:** Spreadsheets: Excel – navigating; Formulas – centering, handling and copying.
Week-11	**Unit-4:** Spreadsheets: Charts – creating, formatting and printing. **Unit-5:** Power point: Introduction to Power point- Features-Understanding slide types.
Week-12	**Unit-5:** Power point: Creating and viewing slides-creating slide shows.
Week-13	**Unit-5:** Applying special object-including objects and pictures-Slide transition-Animation effects.
Week-14	Revision
Week-15	Model Exam

Subject Name : VALUE BASED EDUCATION
Subject Code :19UDVBE1
Semester : IV
Staff in Charge : Mrs.D.KALPANA

Week	Topics to be Covered
Week-1	UNIT -1,VALUES Definition and meaning of values – Human values,Social values
Week-2	Cultural and Religious values.
Week-3	Ethical values.
Week-4	Global values **FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-5	Spiritual values
Week-6	UNIT – 2,THE POWER OF POSITIVE THINKING Building Self Confidence
Week-7	UNIT -3,LEADERSHIP:The Challenge of Excellence
Week-8	Living Excellence **SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-9	UNIT 4: THE PERSONAL VALUE OF TRUTH AND ITS IMPORTANCE
Week-10	The Story of My Experiments with Truth – M.K.Gandhi(Chapter2)
Week-11	UNIT 5 : HUMAN RIGHTS
Week-12	Universal Declaration of Human Rights
Week-13	Human Rights violations
Week-14	Revision
Week-15	Model Examination

Subject Name : LINEAR ALGEBRA
Subject Code :19UFMAC1
Semester :VI
Staff in Charge :DR.M.K.PURUSHOTHKUMAR

Week	Topics to be Covered

Week-1	UNIT I:Vector Spaces: Elementary basic concepts
Week-2	UNIT I: Lineardependence and bases
Week-3	UNIT II: Dual spaces
Week-4	UNIT II:Inner Product Spaces. First Internal Assessment Test and Assignment. UNIT III: Linear Transformations
Week-5	UNIT III: : The Algebra of Lineartransformations.
Week-6	UNIT III:The Algebra of Lineartransformations.
Week-7	UNIT III: Regular
Week-8	UNIT III:Theorems- linear transformations. Second Internal Assessment Test and Assignment.
Week-9	UNIT IV: Characteristic roots
Week-10	UNIT IV: Matrices.
Week-11	UNIT IV: Rank
Week-12	UNIT V: Canonical Forms
Week-13	UNIT V: Triangular form.
Week-14	Revision.
Week-15	Model Examinations.

Subject Name : REAL ANALYSIS-II
Subject Code : 19UFMAC2
Semester : VI
Staff in Charge : DR. G. PALANI

Week	Topics to be Covered
Week-1	**UNIT-I :** More about open sets
Week-2	Connected sets
Week-3	Bounded sets and totally bounded sets
Week-4	**UNIT –II:** Complete metric spaces **FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**

Week-5	Compact metric spaces- continuous functions on compact metric spaces.
Week-6	Continuity of inverse function- uniform continuity.
Week-7	**UNIT –III:** Calculus: Sets of measure zero- definition of the Riemann Integral
Week-8	Properties of Riemann Integral. **SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-9	**UNIT-IV :** Derivatives
Week-10	Rolle's Theorem, Law of Mean- Fundamental Theorems of Calcus
Week-11	Taylor's Theroem.
Week-12	**UNIT-V :** Sequence and series of functions: Pointwise convergence
Week-13	Uniform convergence of sequence of functions.
Week-14	Revision
Week-15	Model Examination

Subject Name : COMPLEX ANALYSIS
Subject Code : 19UFMAC3
Semester : VI
Staff in Charge :Dr.O.S.BABU

Week	Topics to be Covered
Week-1	**UNIT-I:**Functions of complex variables-Theorems on limits.
Week-2	**UNIT-I:**C-R equations-sufficient conditions-Analytic functions
Week-3	**UNIT-I:** Harmonic functions-problems. **UNIT-II:** Riemann's definition of contour integrals-Cauchy theorem.
Week-4	**UNIT-II:**Cauchy's integral formula -Formula for higher derivative**.** **FIRST INTERNAL ASSESSMENT TEST& ASSIGNMENT**
Week-5	**UNIT-II:** Cauchy's inequality-Liouville's theorem-Fundamental theorem of algebra
Week-6	**UNIT-III:** Taylor's series-Laurent's series-problems
Week-7	**UNIT-III:**Zero's of an analytic functions-Types of singularities-simple problems.
Week-8	**UNIT-IV:** Residue-Cauchy residue theorem. **SECOND INTERNAL ASSESSMENT TEST& ASSIGNMENT**
Week-9	**UNIT-IV:**Evaluations of integrals around a unit circle

Week-10	**UNIT-IV:** Evaluation of improper real integrals with poles not on the real axis.
Week-11	**UNIT-V :**Transformations-Conformal mappings-Basic properties.
Week-12	**UNIT-V:** Mappings $w = \frac{1}{z}, w = z^2, w = e^z$
Week-13	**UNIT-V:**Bilinear maps-Fixed points-Applications
Week-14	Revision
Week-15	Model exam

Subject Name : RESOURCE MANAGEMENT TECHNIQUES
Subject Code : 19UFMAE1B
Semester :**VI**
Staff in Charge :Dr.S.KARTHIGEYAN

Week	Topics to be Covered
Week-1	**Unit I :**PERT and CPM.
Week-2	**Unit I :**Project network diagram-critical path.
Week-3	**Unit I :**PERT computations. **Unit II :**Inventory Models-Basic concepts-EOQ models
Week-4	**Unit II:** Uniform demand rate,infinite production rate with and without shortages. **FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-5	**Unit II :**Uniform demand rate,finite production rate with and without shortages.
Week-6	**Unit III :**Deterministic models with price breaks-Purchase inventory model:with one price break.
Week-7	**Unit III:**Purchase inventory model:with two price breaks and with any number of price breaks-Classical news paper.
Week-8	**Unit III:**Boy problem with discrete demand. **SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-9	**Unit IV:** Queuing theory-basic concepts-Steady state analysis of M/M/1.
Week-10	**Unit IV:** Steady state analysis of M/M/C-Systems with infinite capacities
Week-11	**UnitIV :**Systems with infinite capacities **Unit V:**Sequencing problems-n-jobs through 2 machines .
Week-12	**Unit :**Sequencing problems-n-jobs through 3 machines
Week-13	**Unit V:**Sequencing problems-2-jobs through m machines-n jobs through m machines**.**

Week-14	Revision.
Week-15	Model Examinations.

Subject Name :Graph Theory
Subject Code : 19UFMAE2A
Semester :VI
Staff in Charge :Dr.J. Desdemona Kirubavathi

Week	Topics to be Covered
Week-1	Unit I Introduction- Graphs and subgraphs, Defn and examples, Degrees, Subgraphs
Week-2	Isomorphism, Independent sets and coverings
Week-3	Intersection graphs and line graphs, Matrices
Week-4	Unit II Degree sequences, Graphic sequences-Simple problems **FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-5	Connectedness: Walks,trails and paths, connecredness and components
Week-6	Blocks and Connectivity
Week-7	Unit III Eulerian graphs
Week-8	Hamiltonian graphs **FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-9	Unit IV Trees Defn, examples, Centre of a tree
Week-10	Characterization of trees
Week-11	Unit V Planarity: Introduction,Defn and properties
Week-12	Directed graphs; Defn,Basic properties,paths and connections
Week-13	Digraphs and matrices
Week-14	Revision
Week-15	Model Examination

Dr. AMBEDKAR GOVT. ARTS COLLEGE (AUTONOMOUS), CHENNAI-39
PG & RESEARCH DEPARTMENT OF MATHEMATICS
M.Sc. MATHEMATICS DEGREE PROGRAMME
TEACHING PLAN
ACADEMIC YEAR 2021-22 (EVEN SEMESTER)

Subject Name :Linear Algebra

Subject Code :19PBMAC1
Semester :II
Staff in Charge :Dr.K.THULUKKANAM

Week	Topics to be Covered
Week-1	UNIT I:Linear transformations – Isomorphism of vector spaces
Week-2	Representations of linear transformations by matrices – Linear functionals.
Week-3	UNIT II:The algebra of polynomials –Polynomial ideals
Week-4	The prime factorization of a polynomial
Week-5	Determinant functions. **FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-6	UNIT III:Permutations and the uniqueness of determinants – Classical adjoint of a (square) matrix
Week-7	Inverse of an invertible matrix using determinants
Week-8	Characteristic values – Annihilating polynomials. **SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-9	UNIT IV: "Diagonalization" Invariant subspaces – Simultaneous triangulations
Week-10	Simultaneous diagonalization – Direct-sum decompositions
Week-11	Invariant direct sums – Primary decomposition theorem.
Week-12	UNIT V: "The Rational and Jordan forms" Cyclic subspaces – Cyclic decompositions theorem (Statement only)
Week-13	Generalized Cayley – Hamilton theorem - Rational forms – Jordan forms.
Week-14	Revision.
Week-15	Model Examination.

Subject Name : R**eal Analysis-II**
Subject Code : 19PBMAC2
Semester : **II**
Staff in Charge : Dr. G. PALANI

Week	Topics to be Covered
Week-1	**UNIT-I : Measure on the Real line** - Lebesgue Outer Measure .
Week-2	Measurable sets.

Week-3	Measurable Functions.
Week-4	**UNIT-II : Integration of Functions of a Real variable** - Integration of Non-negative functions . **FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-5	The General Integral , Riemann and Lebesgue Integrals.
Week-6	**UNIT-III : Fourier Series and Fourier Integrals** - Introduction and Orthogonal system of functions .
Week-7	The theorem on best approximation - The Fourier series of a function relative to an orthonormal system.
Week-8	Properties of Fourier Coefficients and The Riesz-Fischer Thorem. **SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-9	**UNIT-IV : Multivariable Differential Calculus** - Introduction - The Directional derivative - Directional derivative and continuity.
Week-10	The total derivative and The total derivative expressed in terms of partial derivatives - The matrix of linear function.
Week-11	The Jacobian matrix and The chain rule - The mean - value theorem for differentiable functions - A sufficient condition for differentiability.
Week-12	**UNIT-V : Implicit Functions and Extremum Problems :** Functions with non-zero Jacobian determinants .
Week-13	The inverse function theorem- and The Implicit function theorem.
Week-14	Revision.
Week-15	Model Examinations.

Subject Name :Partial Differential equations
Subject Code :19PBMAC3
Semester :II
Staff in Charge :Dr.J. Desdemona Kirubavathi

Week	Topics to be Covered
Week-1	Unit I Formation and solution of PDE of first order,Cauchy problem, Orthogonal surfaces
Week-2	Compatible systems,Charpits method
Week-3	Classification and canonical forms of PDE
Week-4	Unit II Elliptic Differential equations-Derivation of Laplace and Poisson equation,BVPs, Variables separable solution **FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**

Week-5	Dirichlet and Neumann problem for a rectangle, Interior and exterior Dirichlet problem for a circle
Week-6	Interior Neumann problem for a circle, Solution of Laplace equation in cylindrical and spherical coordinates
Week-7	Unit III Parabolic differential equations- Derivation and elementary solution of diffusion equation, Separation of Variables method
Week-8	Solution of diffusion equation in cylindrical and spherical coordinates **SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-9	Unit IV Hyperbolic differential equations-Occurence and solution of wave equation (1D), solution by canonical reduction,D Alembert solution, Vibrating string problem
Week-10	Riemann Volterra solution, separable method,simple problems
Week-11	Solution of 1D wave equation in cylindrical and spherical coordinates, Uniqueness theorem
Week-12	Unit V Solution of PDE using Laplace Transforms
Week-13	Solution of PDE using Fourier transforms
Week-14	Revision
Week-15	Model Examination

Subject Name :TOPOLOGY
Subject Code :19PBMAC4
Semester :II
Staff in Charge :DR.M.K.PURUSHOTHKUMAR

Week	Topics to be Covered
Week-1	UNIT I:The definition and some Examples- Elementary concepts - open bases and open subbases
Week-2	UNIT I:weak topologies - The function Algebras $\boldsymbol{C}$ (X,R) and $\boldsymbol{C}$ (X,C).
Week-3	UNIT II: Compactness: Compact Spaces – Products of Spaces
Week-4	UNIT II: Tychonoffs Theoremand locally compact spaces. **FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**. UNIT III: Compactness for metric spaces
Week-5	UNIT III: Ascoli's Theorem – Separation: T1 – spacesand Hausdorff spaces-Completely Regular spaces and Normal spaces
Week-6	UNIT III:Separation: T1 – spacesand Hausdorff spaces
Week-7	UNIT III: Completely Regular spaces

Week-8	UNIT III: Normal spaces **SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT**.
Week-9	UNIT IV: Urysohn's Lemma and The Tieze extension theorem
Week-10	UNIT IV:The Urysohn'simbedding Theorem
Week-11	UNIT IV: Connected spaces
Week-12	UNIT V: The Components of a space – Totally disconnected spaces
Week-13	UNIT V: locally connectedspaces. Approximation: The Weierstrass approximation Theorem.
Week-14	Revision.
Week-15	Model Examinations.

Subject Name : NUMERICAL ANALYSIS
Subject Code :19PBMAE1A
Semester : II
Staff in Charge : Mrs.D.KALPANA

Week	Topics to be Covered
Week-1	UNIT 1 : The solution of nonlinear equations f(x)=0.The solution of linear system AX=B. Chapter 2 : sec 2.1 to 2.4
Week-2	Chapter 2: sec 2.6 to 2.7
Week-3	Chapter3:sec3.3 to 3.5
Week-4	Chapter3:sec 3.6 ,3.7 **FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-5	UNIT 2:Interpolation and polynomial approximation – Curve fitting. Chapter 4 :sec 4.1 , 4.2
Week-6	Chapter 4 :sec 4.3 ,4.4
Week-7	Chapter5 :sec5.1 ,5.2
Week-8	UNIT 3: Numerical Differentiation – Numerical Integration Chapter6 :sec6.1,6.2 **SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-9	Chapter 7 :sec 7.1,7.2
Week-10	UNIT 4 :Solution of ordinary differential equations Chapter 9:sec 9.1,9.2,9.3

Week-11	Chapter 9: sec 9.4,9.5,9.6
Week-12	UNIT 5: Solution of partial differential equations Chapter 10 : sec 10.1,10.2
Week-13	Chapter :10.3
Week- 14	Revision
Week -15	Model Examination

Subject Name :MATHEMATICS FOR COMPETITIVE EXAMINATIONS
Subject Code :19PBMAD1
Semester :II
Staff in Charge :Mrs. D. KALPANA

Week	Topics to be Covered
Week-1	UNIT I:Problems of Ages,
Week-2	UNIT I: Surds and indices.
Week-3	UNIT II: Profit and Loss,
Week-4	UNIT II: Ratio and Proportions. **FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT** UNIT III: Time
Week-5	UNIT III: work,
Week-6	UNIT III: Time and distance
Week-7	UNIT III: Time and distance
Week-8	UNIT III:Time and work **SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-9	UNIT IV: Permutations and
Week-10	UNIT IV:Combinations
Week-11	UNIT IV:Permutations and Combinations
Week-12	UNIT V: Stocks
Week-13	UNIT V: Shares.
Week-14	Revision.

Week-15	Model Examinations.

Subject Name : LEADERSHIP & COMMUNICATION SKILLS
Subject Code :19PBSBE2
Semester : II
Staff in Charge : Dr.SHIRLEY GLORIA D.K.

Week	Topics to be covered
Week-1	UNIT I: Leadership-Nature,characteristics or features of leadership-objectives of leadership.
Week-2	UNIT I: Functions or role of a leader-Qualities of a good leader-skills of a leader.
Week-3	UNIT I: Leader Vs Manager-Leadership and management. UNIT II: Leadership styles-Autocratic leadership-Democratic leadership
Week-4	UNIT II:Laissez-Faire leadership or free rein leadership-Bureaucratic leadership style **FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-5	UNIT II:Supportive leadership-Charismatic leaders.
Week-6	UNIT III: Communication-Elements of communication-Process of communication.
Week-7	UNIT III: Functions of communication-Features of communication-.
Week-8	UNIT III:Benefits of communication-Principles of communication **SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-9	UNIT IV:Methods or types of communication-Formal communication-Merits and demerits-informal communication or grapevine.
Week-10	UNIT IV: Merits and demerits-Rumour-Reasons for spread of remours-Negative impact of remours-methods to deal with remours.
Week-11	UNIT IV: Formal Vs informal communication. UNIT V : Oral communication-Written communication-downward communication
Week-12	UNIT V: Upward communication-Horizontal communication-Types of communication networks.
Week-13	UNIT V: Barriers to communication-Steps to overcome barriers to communication..
Week-14	Revision.
Week-15	Model Examinations.

Subject Name :COMPLEX ANALYSIS
Subject Code :19PDMAC1

Semester :IV
Staff in Charge :DR.A.SAROJINI

Week	Topics to be Covered
Week-1	UNIT I:Cauchy's Integral Formula: Definition of Analytic Function and Introduction to Complex Integration,The Index of a point with respect to a closed curve,The integral formula,Higher Derivatives.
Week-2	UNIT I:Local properties of Analytic functions: Removable singularities,Taylor's Theorem,Zeros and Poles.
Week-3	UNIT I: The Local Mapping,The maximum principle. UNIT II:The General form of Cauchy's Theorem: Chains and Cycles.
Week-4	UNIT II:Simple continuity,Homology,The General statement of Cauchy's Theorem,Proof of Cauchy's Theorem. **FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-5	UNIT II:Calculus of Residues: The Residue Theorem,The Argument Principle.
Week-6	UNIT III:HarmonicFunctions: Definition of Harmonic function and basic properties,Mean Value Property.
Week-7	UNIT III:Poisson Formula. Hormonic functions and Power series expansions: Schwarz Theorem,The Reflection Principle.
Week-8	UNIT III:Weierstress's Theorem,Taylor's series,Laurent series. **SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT**.
Week-9	UNIT IV:Partial Fractions and Factorization: Partial Fractions,Infinite Products.
Week-10	UNIT IV:Canonical Products,Gamma function. UNIT V:Simply Periodic Functions: Representation by Exponentials.
Week-11	UNIT V:The Fourier Developments,Functions of Finite order. Doubly Periodic Functions: The Period Module.
Week-12	UNIT V:Unimodular Transformations,Canonical basis,General Properties of Elliptic functions.
Week-13	UNIT V:The Weierstrass Theory: The Weierstrass P function,The functions $\zeta(z)$and $\sigma(z)$,The Differential Equation.
Week-14	Revision.
Week-15	Model Examinations.

Subject Name : OPTIMIZATION TECHNIQUES
Subject Code : 19PDMAC2
Semester :**IV**

Staff in Charge :Dr.S.KARTHIGEYAN

Week	Topics to be Covered
Week-1	**Unit I :**Integer Linear Programming: Introduction – Importance of IntegerProgramming Problem
Week-2	**Unit I :**Gomory's Cutting Plane Method.
Week-3	**Unit I :**Branch and BoundMethod.. **Unit II :**Goal Programming : Introduction - Concept of Goal Programming
Week-4	**Unit II:** Goal Programming Model formulation – Graphical Solution Method of GoalProgramming. **FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-5	**Unit II :**Modified Simplex method of Goal Programming.
Week-6	**Unit III :**Classical Optimization Techniques: Introduction – UnconstrainedOptimization – Constrained Multi-variable Optimization with Equality Constraints
Week-7	**Unit III:**Lagrangian Method - Constrained Multi-variable Optimization with inequalityConstraints – Kuhn-Tucker conditions.
Week-8	**Unit III:**Non-linear Programming Problem: Introduction – Formulation of NLPP – GeneralNLPP – Graphical solution. **SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-9	**Unit IV:** Quadratic Programming: Introduction – Kuhn-Tucker conditions.
Week-10	**Unit IV:** General Quadratic Programming Problem – Wolfe's Modified simplex method
Week-11	**Unit IV :**Beale's Method. **Unit V:**Dynamic Programming: Introduction – Bellman's Principle ofOptimality.
Week-12	**Unit V :** Minimum Path problem – Single additive constraint: Multiplicativeseparable return
Week-13	**Unit V:**Additively separable return – Single multiplicative constraint:Additively separable return**.**
Week-14	Revision.
Week-15	Model Examinations.

Subject Name : FUNCTIONAL ANALYSIS
Subject Code : 19PDMAC3
Semester : IV
Staff in Charge :Dr. G.PALANI

Week	Topics to be Covered
Week-1	**Unit-1:** Banach Spaces : Definition – Some examples.
Week-2	**Unit-1:** Banach Spaces : Continuous Linear Transformations.
Week-3	**Unit-1:** Banach Spaces : The Hahn-Banach Theorem . **Unit-2:** The natural embedding of N in N**.
Week-4	**Unit-2:** - Open mapping theorem –closed graph theorem. First Internal Assessment Test.
Week-5	**Unit-2:** Conjugate of an operator.
Week-6	**Unit-3:** Hilbert Spaces - Definition and properties.
Week-7	**Unit-3:** Hilbert Spaces – Bessel's inequality – Orthogonal complements.
Week-8	**Unit-3:** Hilbert Spaces - Orthonormal sets. **Second Internal Assessment Test**.
Week-9	**Unit-4:** Conjugate space H* - Adjoint of an operator – Self-adjoint operator.
Week-10	**Unit-4:** Conjugate space H* - Normal and Unitary Operators.
Week-11	**Unit-4:** Projections. **Unit-5:** Preliminaries on Banach Algebras **:** Definition and some examples.
Week-12	**Unit-5:** Preliminaries on Banach Algebras**:** Regular and singular elements – Topological divisors of zero.
Week-13	**Unit-5:** Preliminaries on Banach Algebras **:** Spectrum – the formula for the spectral radius – the radical and semi-simplicity.
Week-14	Revision
Week-15	Model Exam

Subject Name :Mechanics
Subject Code :19PDMAC4
Semester :IV
Staff in Charge :Dr.O S Babu

Week	Topics to be Covered
Week-1	**UNIT-I**: **Mechanical Systems:** The Mechanical system- Generalized coordinates

Week-2	Constraints - Virtual work
Week-3	Energy and Momentum
Week-4	**UNIT-II: Lagrange's Equations:** Derivation of Lagrange's equation- Examples **FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-5	Integrals of the motion
Week-6	**UNIT-III: Hamiltonian's Equations:** Hamiltonian's Principle - Hamiltonian's Equations
Week-7	Other variational principles.
Week-8	**UNIT–IV**: **Hamilton-Jacobi Theory:** Hamilton's Principle function **SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-9	Hamilton –Jacobi Equation
Week-10	Separability.
Week-11	**UNIT-V**: **Canonical Transformation:** Differential forms and generating functions
Week-12	Special Transformations
Week-13	Lagrange and Poisson brackets.
Week-14	Revision
Week-15	Model Examination

Subject Name : Fluid Dynamics
Subject Code :19PDMAE1C
Semester : IV
Staff in Charge : A.R. RAGAVAN

Week	Topics to be Covered
Week-1	**UNIT-I : Kinematics of Fluids in motion.** Real fluids and Ideal fluids- Velocity ofa fluid at a point, Stream lines , path lines , steady and unsteady flows- Velocitypotential - The vorticity vector
Week-2	Local and particle rates of changes - Equation ofcontinuity - Worked examples - Acceleration of a fluid
Week-3	**UNIT –II:Equations of motion of a fluid.**Pressure at a point in a fluid at rest.- Pressure at a point in a moving fluid
Week-4	Euler's equation of motion - Bernoulli's Equation– Examples **FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**

Week-5	**UNIT –III:Some three dimensional flows.**Introduction- Sources, sinks anddoublets
Week-6	Images in a rigid infinite plane
Week-7	Axi symmetric flows : Stokes streamfunction
Week-8	**UNIT-IV : Some two dimensional flows :** Meaning of two dimensional flow – Useof Cylindrical polar coordinates - The stream function **SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-9	The complex potential fortwo dimensional , irrotational, incompressible flow - Complex velocity potentials forstandard two dimensional flows - Some worked examples
Week-10	Two dimensional Imagesystems - The Milne Thompson circle Theorem and some of its applications.
Week-11	**UNIT-V :** Stress components in a real fluid. - Relations betweenCartesian components of stress- Translational motion of fluid element
Week-12	The rate ofstrain quadric and principle stresses - Some further properties of the rate of strainquadric - Stress analysis in fluid motion - Relation between stress and rate of strain
Week-13	The coefficient of viscosity and Laminar flow - The Navier – Stokes equations ofmotion of a Viscous fluid
Week-14	Revision
Week-15	Model Examination

Subject Name : **Personality Development**
Subject Code :19PDSBE4
Semester : **II**
Staff in Charge :Dr. K.THULUKKANAM

Week	Topics to be Covered
Week-1	**Unit I:** Personality definition, determinants,heredity.
Week-2	Environment and situation.
Week-3	Self awareness and benefits of self awareness.
Week-4	**Unit II :Enhancing self awareness:** self analysis,behaviour and motivation. **FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-5	Modes of thinking,modes of acting and modes of interacting.
Week-6	**Unit III: The BIG FIVE model:** Extroversion,agreeableness.
Week-7	Emotional stability and conscientiousness.

Week-8	Openness to experience and self-monitoring. **SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT**
Week-9	**Unit IV:Traits for building positive personality:** Chief traits for building personality.
Week-10	Concious programming and subconcious programming.
Week-11	**Unit V: Personal grooming:**Men dress,shirts,trousers,ties,socks,shoes belts and watches.
Week-12	Women dress, hair,shoes /sandal,bags.
Week-13	Accessories.
Week-14	Revision.
Week-15	Model Examinations.

DR.AMBEDKAR GOVERNMENT ARTS COLLEGE (Autonomous)
VYASARPADI, CHENNAI – 39
DEPARTMENT OF SOCIAL WORK
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ANNUAL CURRICULUM PLAN
(Semester: I,II,III,IV)

MONTH & DATE	COMPONENTS OF CURRICULUM	PERSON INCHARGE OR RESOURCE PERSON	VENUE	RESULTS OR OUTCOME
October 2021 Due to COVID Admission was started late.	ADMISSION FOR FIRST YEARS SELECTION PROCESSES: - Written Test(50) – Group Discussion(5) – Interview (10) BSW- 5 NSS- 5 UG MARKS- 100 Total: 175 Marks	HOD & STAFF	Department of Social Work	
SEPTEMBER First & second week 2021	• **Orientation** – 2 days	HOD/STAFF	I MSW Classroom	
	• **Social Skill Experimental Lab- 10 days** **Day 1:** Introduction to the lab, Activities and assignment – 1 **Day 2**: presentation of the assignment, about & Rapport building , introduction to social work assignment -2 **Day 3:** presentation of the assignment, communication and personality, scope and various field of social work. assignment - 3 **Day 4:** presentation of the assignment, street theatre training, social work and other subjects .Assignment - 4 **Day 5:** presentation of the assignment, mime training, introduction to community assignment – 5	Various Resources persons and staff will come for each session based on their specialized subjects (Refer SSEL File)	I MSW Classroom	

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ANNUAL CURRICULUM PLAN
(Semester: I,II,III,IV)

	Day 6: presentation of the assignment, leadership training, skills needed for Social Work, assignment -6 **Day 7:** presentation of the assignment, Media and social work. Assignment - 7 **Day 8:** presentation of the assignment, Values ad ethics of Social Work. Assignment - 8 **Day 9:** presentation of the assignment, concept of Individual, assignment 9 **Day 10:** Presentation of the assignment, Activity, end of SSEL.	Various Resources persons and staff will come for each session based on their specialized subjects (Refer SSEL File)		
	Regular classes starts after SSEL: Core: Social Work Profession Core: Work with Individuals	Ms. Sakthi Devi	I MSW Classroom	
	Core: Work With Groups Core: Social & Psychological Foundations of Social Work	Ms. Rahel Jenifer	I MSW Classroom	
SEPTEMBER III & IV Week 2021	**FIELD WORK PRACTICUM- I** **Observation Visits:** 10 Observation Visits starts: Every Tuesday &Thursday. Staff accompany the students to various organizations in Chennai for a observation visits.	STAFF INCHARGE	Various Non Govt. & Govt. Organizations	

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OCTOBER I Week	**FIRST INTERNAL TEST** **Afternoon: Rural Camp Pre Planning**	STAFF INCHARGE Student Convener & Co convener of the camp along with faculties and students	I MSW Classroom	
OCTOBER II Week	**SEMINARS TO BE TAKEN BY STUDENTS** **SECOND INTERNAL**			
OCTOBER III Week	Core: Social Work Profession Core: Work with Individuals Afternoon: Rural Camp Pre planning	Ms. Sakthi Devi	I MSW Classroom	
OCTOBER IV week	Core: Work With Groups Core: Social & Psychological Foundations of Social Work	Ms. Rahel Jenifer	I MSW Classroom	
NOVEMBERIII week	**FIELD WORK PRACTICUM- I** RURAL CAMP (8 Days)	STAFF INCHARGE	Any Remote Rural place in Tamil Nadu	
December I week	**THIRD INTERNAL TEST**	STAFF INCHARGE	I MSW Classroom	
December III week	**MODEL EXAM** **FIELD WORK INTERNAL & EXTERNAL VIVA**	STAFF INCHARGE	I MSW Classroom	

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	END OF SEMESTER	COE OFFICE	RESPECTIVE ROOMS	

ANNUAL CURRICULUM PLAN

MONTH & DATE	COMPONENTS OF CURRICULUM	PERSON INCHARGE OR RESOURCE PERSON	VENUE	RESULTS OR OUTCOME
FEBRUARY II – semester starts FEB	**Regular Classes starts from November :** **Core:** Community Organization & Social Action **ED :** Disaster Management	Ms.Sakthi Devi	I MSW Classroom	
	Core: Social Work Research & Statistics **ID:** Management of Organizations	Ms. Rahel Jenifer		
FEB	**FIELD WORK PRACTICUM- II** Each student will be place in an organization and every Tuesday and Thursday they have to go for field work training in the		Various organizations	

ANNUAL CURRICULUM PLAN
(Semester: I,II,III,IV)

	respective organization Students complete the following task: • Case Study • Group Work • Community Organization • Proper documentation and Recording of the work done by the trainee	Field work coordinators		
FEB MARCH III week	TRIBAL VISIT- Tribal visits are part of the Curriculum and students will be taken to a tribal place and they will be learning the livelihood patterns of Tribal people. **FIRST INTERNAL TEST**	STAFF INCHARGE STAFF INCHARGE	ANY TRIBAL PLACE IN TAMILNADU Respective Classrooms	
APRIL III week	**SEMINARS TO BE TAKEN BY STUDENTS** **SECOND INTERNAL** **THIRD INTERNAL TEST**	STAFF INCHARGE STAFF INCHARGE	 Respective Classrooms	

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APRIL I week ARPIL III week	**PG Research Project:** 3 research proposals to be submitted and to be presented by the students based on their specializations. Out of 3 topic one will be selected – students will be started working on their research projects **MODEL EXAM** **FIELD WORK INTERNAL & EXTERNAL VIVA**	STAFF INCHARGE	Respective Classrooms	
MAY	**END OF SEMSETER**			
May	**Summer internship - I**			

SEMESTER - III

MONTH & DATE	COMPONENTS OF CURRICULUM	PERSON INCHARGE OR RESOURCE PERSON	VENUE	RESULTS OR OUTCOME

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III – semester starts June	**Regular Classes starts from June :** **Specialization: Community Development & Empowerment** **Core:** Rural Community Development **Core:** Urban Community Development **ID:** Social Work Intervention for Environment Protection	Ms.Sakthi Devi	II MSW – CD & E Classroom	
	Specialization: Medical & Psychiatry **Core:** Medical Social Work Practice **Core:** **ID:** Counseling	Ms. Rahel Jenifer	II MSW- M& P Classroom	
	Common paper for both the specialization: Social Policy & Social Legislation		Common class room	
	I – INTERNAL VIVA for Research for both CD & M&P Students should submit chapter –I Introduction & Review of Literature Chapter II Research Methodology	Respective Research Guides	Common class room	
July	**FIELD WORK PRACTICUM- III** Each student will be place in an organization based on their specialization and every Tuesday and Thursday they have to go for field work training in the respective organization Students complete the following task: • Case Study, Group Work, Community Organization • Specialization objectives and task	Field work coordinator Agency Supervisor Field work coordinators	Various organizations	

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(Semester: I,II,III,IV)

	• Proper documentation and Recording of the work done by the trainee				
August II Week	**FIRST INTERNAL TEST** **CD& E & M&P**	STAFF INCHARGE	Respective Class rooms		
	II – INTERNAL VIVA for Research for both CD & M&P Students should submit The data collection tools for the research and should get the approval for data collection.	Respective Research Guides	Common class room		
September I Week	**SEMINARS TO BE TAKEN BY STUDENTS** **SECOND INTERNAL** **CD & E & M&P**	STAFF INCHARGE	Respective Class rooms		
	III – INTERNAL VIVA for Research Students should submit the Data collection Pre test data & actual data collection	Respective Research Guides	Common class room		
October I week	**THIRD INTERNAL TEST**	STAFF INCHARGE	Respective Class rooms		**SEMESTER-IV**
October III week	**MODEL EXAM** **FIELD WORK INTERNAL & EXTERNAL VIVA**	STAFF INCHARGE	II MSW Classroom		
November	**END OF SEMESTER**	COE OFFICE	RESPECTIVE ROOMS		

MONTH & DATE	COMPONENTS OF CURRICULUM	PERSON INCHARGE OR RESOURCE PERSON	VENUE	RESULTS OR OUTCOME

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(Semester: I,II,III,IV)

II – semester starts November	**Regular Classes starts from November based on their Specialization : Community Development** **Core:** Development Planning **Core:** Entrepreneurship Development **Core :** Research Project (CD&E)	Ms.Sakthi Devi	II MSW CD & E Classroom	
	Regular Classes starts from November based on their Specialization : Medical & Psychiatry **Core**: Psychiatric Social Work **Core:** Community Health **Core :** Research Project (M&P)	Ms. Rahel Jenifer	II MSW M&P Classroom	
December	**FIELD WORK PRACTICUM- II** Each student will be place in an organization based on their specialization and every Tuesday and Thursday they have to go for field work training in the respective organization Students complete the following task: • Case Study, Group Work, Community Organization • Specialization objectives and task • Proper documentation and Recording of the work done by the trainee	Field work coordinators	Various organizations	
December	III – INTERNAL VIVA for Research Students should submit Chapter: 4 Data analysis and Interpretation			
January	**INTERNATIONAL/ NATIONAL STUDY TOUR**	STAFF	ANY NATIONAL	

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(Semester: I,II,III,IV)

		INCHARGE	/INTERNATIONAL PLACE	
January III week	**FIRST INTERNAL TEST** **PUBLIC INTERNAL VIVA** **Students should present their research project** **Along with soft binding of the book**	STAFF INCHARGE	Respective Classrooms	
February 1 week	**SEMINARS TO BE TAKEN BY STUDENTS** **SECOND INTERNAL**	STAFF INCHARGE		
February III week	**THIRD INTERNAL TEST**	STAFF INCHARGE	Respective Classrooms	
March week	**MODEL EXAM**	STAFF INCHARGE	Respective Classrooms	
March III week	**FIELD WORK INTERNAL & EXTERNAL VIVA** **RESEARCH FINAL EXTERNAL VIVA**	Staff in charge & External examiner External Examiner		
April	**END OF SEMSESTER**			
May	**BLOCK PLACEMENT - II**	Field work	Respective Agency	

ANNUAL CURRICULUM PLAN
(Semester: I,II,III,IV)

		coordinator Agency Supervisor	based on the specializations	

B.Sc Degree Program in Psychology
Teaching Plan (Odd Semester – 2021-2022)
Class: B.Sc Psychology – I Year Semester I
Subject Code: 19UAPSC1 Name of the Subject : General Psychology I
Subject in charge: Dr. H. Sai Geetha

HOURS	Unit	Topics to be covered
5	Unit – 1	Definition, goals, history of psychology,
5	Unit – 1	Schools and modern perspectives
5	Unit – 1	Psychology in India, Methods of psychology, Scope and Branches of Psychology
5	Unit – 2	Sensation-Meaning, Psychophysics, Thresholds, Weber's Law, Adaptation, Basic sensation: Vision
5	Unit – 2	Hearing, Touch and other Skin senses, Olfaction, Gustation.
5	Unit – 2	Attention, Perception, Illusion and hallucination
3	Unit – 3	Consciousness – Definition, Types, Natural state and waking state of consciousness
6	Unit – 3	Sleep- stages, disorders and dream & theories of dream
6	Unit – 3	Altered states of consciousness- meaning, hypnosis, use of drugs, meditation and other altered states
5	Unit – 4	Learning – Definition, Classical conditioning
5	Unit – 4	Operant conditioning, similarities and differences between classical and operant conditioning
5	Unit – 5	Social& cognitive learning- Latent, Insight and observational
6	Unit – 5	Memory- Definition , processes and information processing model
5	Unit – 5	Forgetting- meaning, theory and causes
4		Improving memory

B.Sc Degree Program in Psychology
Teaching Plan (Odd Semester – 2021-2022)
Class: B.Sc Psychology – I Year Semester I
Subject Code: 19UAPSC2 Name of the Subject : Biological Psychology I
Subject in charge: Mrs. Gandhijayanthi

HOURS	Unit	Topics to be covered
4	Unit – 1	Meaning and Viewpoints to explore Biology of Behaviour

6	Unit– 1	Approaches that relate brain and behaviour and Levels of analysis
5	Unit -1	Correlating brain anatomy with behaviour
6	Unit– 2	Methods of visualising and stimulating the living human brain, Contrast X-rays, X-ray Computer Tomography, Magnetic Resonance Imaging, Positron Emission Tomography, Functional , Magnetic Resonance Imaging, Diffusion Tensor Imaging and Transcranial Magnetic Stimulation.
4	Unit – 2	Recording human psychophysiological activity- Scalp Electron Encephalography, Magneto Encephalography, Muscle Tension, Eye Movement, Skin Conductance, and Cardiovascular Activity.
3	Unit – 2	Invasive physiological research methods-Stereotaxic surgery, Lesion Methods, Electrical Stimulation, and Invasive Electro Physiological Recording Methods.
6	Unit– 3	Basic features of the Nervous System: An overview, Meninges, Ventricular system and production of cerebrospinal fluid.
6	Unit – 3	Cells of the Nervous System: Neurons, Supporting cells, Blood-brain barrier
5	Unit – 3	Neural Communication: An overview, measuring electrical potentials of axons. Membrane Potential: Balance of two forces, Action Potential, Conduction of the action potential.
4	Unit– 4	Communication between Neurons: Structure of synapses
6	Unit – 4	Neurotransmitter: meaning- types,
4	Unit – 4	Activation of receptors- Postsynaptic potentials- Termination of postsynaptic potentials.
7	Unit -5	Nervous System: Development of the central nervous system, Brain: Forebrain,
6	Unit – 5	Hind brain, and Midbrain, Division of Nervous System: Central Nervous System,
3	Unit – 5	Peripheral Nervous System- Spinal nerves, Cranial nerves, Autonomic Nervous system – Sympathetic and Parasympathetic.

B.Sc Degree Program in Psychology

Teaching Plan (Odd Semester – 2021-2022)

Class: B.Sc Psychology – I Year Semester I

Subject Code: 19UAPSA1 Name of the Subject : School Psychology

Subject in charge: Mrs. Vishnupriya

HOURS	Unit	Topics to be covered
5	Unit – 1	Definition of School Psychology, Characteristics
5	Unit – 1	Role of School Psychologist
5	Unit -1	Becoming School Psychologist.
5	Unit – 2	Human Diversity and Education: Differences in Cognitive Styles & Learning Strategies,

5	Unit – 2	Activities on learning strategies
5	Unit – 2	Readiness for Learning & Classroom Achievement
5	Unit – 3	Social Interaction between Teacher and Child
5	Unit – 3	Influence of Peer Group
5	Unit – 3	Conformity and non-conformity in school.
5	Unit – 4	Learning Disabilities
5	Unit – 4	Learning Disabilities
5	Unit – 4	School refusal problems and truancy.
5	Unit -5	Teaching Methods: Teacher - centered method, Learner - centered method
5	Unit – 5	Content focused method, Interactive/participative method.
5	Unit – 5	Activities on Teaching methods

B.Sc Degree Program in Psychology

Teaching Plan (Odd Semester – 2021-2022)

Class: B.Sc Psychology – I Year Semester I

Subject Code: 19UAPSN1 Name of the Subject : Emotional Intelligence

Subject in charge: Mrs. Gandhijayanthi

HOURS	Unit	Topics to be covered
2	Unit - 1	Emotional Intelligence-Definition and importance
2	Unit – 1	Emotional Quotient and Intelligence Quotient.
2	Unit -1	Activities
2	Unit – 2	Self-awareness
2	Unit – 2	Self management
2	Unit – 2	Activities
2	Unit – 3	Social –awareness
2	Unit – 3	relationship management
2	Unit – 3	Activities
2	Unit – 4	Techniques to manage emotions: Meditation, Yoga, Mindfulness, Time out,
2	Unit – 4	Relaxation Exercise and Be the fog.
2	Unit – 4	Practicing of techniques
2	Unit -5	Conflict Management
2	Unit – 5	Effective Leadership
2	Unit – 5	Application of EI in relationships and workplace

B.Sc Degree Program inPsychology

Teaching Plan (Odd Semester – 2021-2022)

Class: B.Sc Psychology – II Year Semester III

Subject Code: 19UCPSC1 Name of the Subject : Developmental Psychology I

Subject in charge: Mrs. Vishnupriya

HOURS	Unit	Topics to be covered
5	Unit - 1	Meaningof developmentalchanges, Significant facts about development, Developmental stages, Developmental Issues, Conception of Age
6	Unit – 1	Characteristics of the Prenatal Period, How Life begins, Importance of Conception, Periodsof Conception, Periods of Prenatal development
4	Unit -1	Stages of child Birth - Types of childbirth – Attitudes of significant people - Prenatal hazards & complications of low birth weight
5	Unit – 2	Characteristics of Infancy, developmental tasks
5	Unit – 2	Major adjustment of Infancy,Conditions influencing adjustment to Postnatal life
5	Unit – 2	Characteristics of the Infant, Hazards of Infancy.
6	Unit – 3	Characteristics of Babyhood, Developmental tasks of babyhood,Physical development ,Physiological development, Muscle Control
5	Unit – 3	Speech development, Emotional behaviour, Socialization, Interest in Play, Development of Understanding ,Beginnings of Morality
4	Unit – 3	Beginnings of Sex-Role typing, Family Relationships, Personality development, Hazards and Happiness.
6	Unit – 4	Characteristics of Early Childhood, Developmental tasks, Physical development, Physiological habits
4	Unit – 4	Skills of Early Childhood, Improvement in Speech, Emotions, Socialization, Play
5	Unit – 4	Development of Understanding, Moral development, Common Interests, Sex-role Typing, Family Relationship, Personality development, Hazards and Happiness.
5	Unit -5	Characteristics of Late Childhood, Developmental tasks, Physical development , Skills , Speech improvement
6	Unit – 5	Emotions and Emotional Expressions, Social groupings and Social behaviour, Play interest and activities, Increase in Understanding , Moral attitudes and behaviour, Interests
4	Unit – 5	Sex-role Typing, Changes in Family relationships, Personality Changes,

		Hazards and Happiness

B.Sc Degree Program in Psychology
Teaching Plan (OddSemester – 2021-2022)
Class: B.Sc Psychology – II Year Semester III
Subject Code: 19UCPSC2 Name of the Subject : Introduction to Theories of Personality
Subject in charge: Mrs. Gandhi Jayanthi

HOURS	Unit	Topics to be covered
2	Unit - 1	Definition, Meaning & Nature, Individual Uniqueness, Gender, Culture, Formal Theories, Personal Theories
3	Unit – 1	Subjectivity in Personality Theories, Self-Report Measure: Biological Measures,Behavioral Assessment
5	Unit -1	Projective Techniques , Clinical Interviews, Online and Social Media Analysis.
8	Unit – 2	Sigmund Freud: Classical Psychoanalysis, Instincts, Structure of Mind, Psychosexual Development Therapeutics Techniques, Free Association. Catharsis, Dream Analysis
6	Unit – 2	Carl Jung: Analytical Psychology, Psychological Types, Collective Unconscious
6	Unit – 2	Alfred Adler: Individual Psychology, Inferiority Feelings ,Role of Birth Order.
5	Unit – 3	Erik Erikson: Identity Formation, Ego Crises, Approaches to Trait: Lexical, Statistical, Theoretical
5	Unit – 3	Gordon Allport: Culture, Functional Equivalence, Personal Disposition
5	Unit – 3	Eysenck's: Hierarchical Model of Personality, Cattell's Taxonomy: The 16 Personality Factor.
5	Unit – 4	Gestalt: Kurt Lewin's Field Theory; Martin Seligman: Learned Helplessness and the Optimistic/ Pessimistic Explanatory Style
5	Unit – 4	Rotter: Locus of Control theory Maslow: Hierarchy of Needs, Self-Actualization ,
5	Unit – 4	Rogers: Growth, Inner Control , Becoming One's Self
5	Unit -5	Albert Bandura: Social-Cognitive Learning Theory, Self- System
4	Unit – 5	Skinner: Operant Conditioning
6	Unit – 5	Cognitive Style, Perceptual Mechanisms, Schema Theory, Kelly's Personal Construct Theory

B.Sc Degree Program in Psychology
Teaching Plan (Odd Semester – 2021-2022)
Class: B.Sc Psychology – II Year Semester III
Subject Code: 19UCPSA3 Name of the Subject : Statistics In Psychology

Subject in charge: Dr. H. Sai Geetha

HOURS	Unit	Topics to be covered
3	Unit - 1	Meaning of statistics, Importance of Statistics in Psychology, Parameters and Estimates, Descriptive Statistics, Inferential Statistics
3	Unit – 1	Variables and their types; Levels of measurement: Nominal Scale, Ordinal Scale, Interval Scale, Ratio Scale; Frequency tables: Making a Frequency Table
4	Unit -1	Frequency tables for Nominal Variable, Grouped Frequency Tables, Frequency Graphs: Histogram, Frequency Polygon.
6	Unit – 2	Mean- from Frequency Distributions - Assumed Mean Method-Properties of Mean. Median – Calculation of Median from Ungrouped data- Calculation of Median from a Frequency Distribution.
4	Unit – 2	Mode- Calculation of Mode in a Frequency Distribution. Comparison of Mean, Median and Mode- Guidelines for the Use of Central Tendencies.
4	Unit – 2	Range- Calculation of Range- Average Deviation- Calculation of the Average Deviation. Semi Interquartile Range- Calculation of Q1, Q3 and Quartile Deviation.
6	Unit – 2	Variance and Standard Deviation- Methods of Calculating Variance and Standard Deviation from Ungrouped data- Calculation of Standard Deviation from Grouped data- Calculation of Standard Deviation from Assumed Mean.
5	Unit – 3	Normal Distribution: Properties of Normal Curve- Areas under the Normal Curve- Importance of Normal Distribution- Skewness- Kurtosis- Importance of measures of Skewness and Kurtosis.
4	Unit – 3	Correlation: Concept of Correlation- Scatter Plot- Product Moment Correlation- Calculation of Product Moment Correlation-
6	Unit – 3	Spearman's Rank- Difference Correlation Co-efficient- Properties of Correlation Co-efficient.
5	Unit – 4	Core logic of Hypothesis testing - Hypothesis testing process – One tailed and two tailed hypothesis tests. Decision Errors: Type I Error – Type II Error.
5	Unit -4	Inferential statistics: t-test – t-test for a single sample – t' test for a dependent means – Assumptions of single sample and t' test for dependent means.
5	Unit -4	t' test for independent means: distribution of difference between means – Hypothesis testing with 't' test for independent means.
5	Unit -5	Chi-Square: Degrees of Freedom- Test of the Hypothesis of Normality- Calculation of the Chi-Square for 2x2 tables- Yates' Correction for Continuity- Assumptions of Chi Square test,
5	Unit – 5	Non-parametric Methods: Sign test- Assumptions and Uses of Sign Test- Median Test- Run Test
5	Unit – 5	Kolmogrov and Smirnov Two Sample test- Precautions of use of Non-parametric tests.

B.Sc Degree Program in Psychology
Teaching Plan (Odd Semester – 2021-2022)

Class: B.Sc Psychology – II Year **Semester III**

Subject Code: 19UCSBE3 **Name of the Subject : Personality Enrichment**

Subject in charge: Mrs. Gandhijayanthi

HOURS	Unit	Topics to be covered
2	Unit– 1	Definition of Personality, Determinants of Personality – biological, psychological and socio-cultural factors
2	Unit – 1	Misconceptions and Classifications
2	Unit -1	Need for personality development.
2	Unit – 2	Definition of self, self concept and self awareness, Self analysis through SWOT and Johari window
2	Unit – 2	Definition of Motivation, Types of Motivation, Techniques and strategies for self motivation,
2	Unit – 2	Motivation checklist and Goal setting based on the principle of SMART, Self motivation and life
2	Unit – 3	Definition and importance of memory
2	Unit – 3	Causes of forgetting, Techniques of improving memory
2	Unit – 3	Decision making process
2	Unit – 4	Definition of study skills, Characteristics of study skills
2	Unit – 4	Techniques of passing exams
2	Unit – 4	Activities
2	Unit -5	Definition and characteristics of Assertiveness
2	Unit – 5	Assertive: submissive, Aggressive – differences
2	Unit – 5	Assertiveness skills.

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Teaching Plan (Odd Semester – 2021-2022)

Class: B.Sc Psychology – II Year Semester III

Subject Code: 19UCEVS1 **Name of the Subject : Environmental Studies**

Subject in charge: Mrs. Vishnupriya

HOURS	Unit	Topics to be covered
2	Unit - 1	Definition, Multidisciplinary nature of environmental science
2	Unit – 1	Scope and importance
2	Unit -1	Global environmental problems
2	Unit – 2	Concept of an ecosystem. Structure and function of an ecosystem.
2	Unit – 2	Producers, consumers and decomposers. Energy flow in the ecosystem.

2	Unit – 2	Food chains, food webs and ecological pyramids
2	Unit – 3	Introduction – Definition : Value of biodiversity: consumptive use, productive use.
2	Unit – 3	India as a mega-diversity nation
2	Unit – 3	Hot-spots of biodiversity. Brief account on biodiversity conservation
2	Unit – 4	Definition – Cause, effects and control measures of :- a) Air pollution, b) Water pollution.
2	Unit – 4	Solid waste Management : Causes, effects and control measures of urban and industrial wastes.
2	Unit – 4	Role of an individual in prevention of pollution.
2	Unit -5	Water conservation, rain water harvesting.
2	Unit – 5	Climate change, global warning, acid rain, ozone layer depletion, nuclear accidents.
2	Unit – 5	Waste land reclamation.

B.Sc Degree Program in Psychology
Teaching Plan (Odd Semester – 2021-2022)

Class: B.Sc Psychology – III Year **Semester V**

Subject Code: 19UEPSC1 **Name of the Subject : Abnormal Psychology- I**

Subject in charge: Dr. H. Sai Geetha

HOURS	Unit	Topics to be covered
10	Unit – 1	Definition, Incidence, Historical views of Abnormal Behaviour
10	Unit – 1	Humanitarian approach, Contemporary views of Abnormal behavior
10	Unit – 2	Causal and Risk Factors
10	Unit -3	Anxiety Disorders
10	Unit – 3	Biological, psychosocial, socio cultural causes, Treatment and outcome
5	Unit – 4	Somatoform Disorders
5	Unit – 4	Dissociative disorders
5	Unit – 4	Causal factors, Treatment and outcome
10	Unit – 5	Prevention and Treatment

B.Sc Degree Program in Psychology
Teaching Plan (Odd Semester – 2021-2022)

Class: B.Sc Psychology – III Year **Semester V**

Subject Code: 19UEPSC2 **Name of the Subject : Social Psychology I**

Subject in charge: Mrs. Vishnupriya

HOURS	Unit	Topics to be covered
15	Unit - 1	Introduction to social Psychology
15	Unit -2	Social Cognition
15	Unit – 3	Attitudes and Behaviour
15	Unit – 4	Conformity
15	Unit - 5	Interpersonal Attraction & Altruism

B.Sc Degree Program in Psychology
Teaching Plan (Odd Semester – 2021-2022)

Class: B.Sc Psychology – III Year **Semester V**

Subject Code:19UEPSC3 **Name of the Subject Introduction To Research Methodology**

Subject in charge: Mrs.Vishnupriya

HOURS	Unit	Topics to be covered
8	Unit - 1	Introduction to Research methodology
7	Unit – 1	Research Process & Criteria for good research
8	Unit - 2	Methods of Data collection
7	Unit – 2	Analysis of Data
6	Unit -3	Sampling fundamentals
9	Unit – 3	Types of Sample Designs
8	Unit – 4	Methods of data collection
7	Unit - 4	Methods of data collection
9	Unit - 4	Report Writing
6	Unit - 5	Types of Report writing and Precautions

B.Sc Degree Program in Psychology
Teaching Plan (Odd Semester – 2021-2022)

Class: B.Sc Psychology – III Year **Semester V**

Subject Code:19UEPSC4 Name of the Subject :EXERIMENTAL PSYCHOLOGY-II

Subject in charge: Mrs. Gandhi Jayanthi J

HOURS	Unit	Topics to be covered
10		Introduction and demo
5	1	Eyesencks, Personality Questionnaire
5	2	Self-esteem inventory
10	3	David Battery of Differential Aptitute test
5	4	Thurstone Interest Schedule
5	5	Achievement Motivation
5	6	Student Stress Scale
5	7	Coping Strategies Scale
5	8	Job satisfaction
5	9	Religious Attitude Scale
5	10	Creativity
10		Overall discussion

B.Sc Degree Program in Psychology
Teaching Plan (odd Semester – 2021-2022)

Class: B.Sc Psychology – III Year Semester V

Subject Code: 19EPSE1 Name of the Subject : Organizaional Psychology

Subject in charge: Mrs. Gandhijayanthi

HOURS	Unit	Topics to be covered
10	Unit - 1	Scope, History,
5	Unit – 1	Challenges for OD
10	Unit -2	Learning
10	Unit – 2	Concepts of motivation
5	Unit – 3	Concepts of motivation: Theories
5	Unit – 4	Leadership theories
5	Unit – 4	Leadership theories
10	Unit – 5	Attitudes:
10	Unit – 5	Job Satisfaction

DEPARTMENT OF STATISTICS – LESSON PLAN - ODD SEMESTER

SUBJECT: DESCRIPTIVE STATISTICS **SEMESTER: I**

Staff Handled : Prof. K. Gokila & Dr. R. Lakshmi Priya

Week	Topics	Remark
Week 1	Introduction to Statistics, Definition, Function, Application, Limitations, Primary and Secondary data. Methods of Collecting Primary Data	
Week 2	Preparation of Questionnaire and Schedule, Sources of Secondary Data	
Week 3	Measurement of Scale, Classification and Tabulation Objects and Types of Classification, Formation of a Discrete and Continuous Frequency Distribution, Tabulation of Data, Parts of a Table, General Rules and Types of Tables.	
Week 4	Diagrammatic and Graphical Representation – Introduction, Significance of Diagrams and Graphs, General Rules for Constructing Diagrams	
Week 5	Types of Diagrams, Graphs and Graphs of Frequency Distribution, Box Plot	
Week 6	Measures of Central Value – Introduction, Types of Averages, Arithmetic Mean, Median, Mode, Geometric Mean, Harmonic Mean, Relationship Among the Averages	
Week 7	Measures of Dispersion – Inter quartile Range or the Quartile Deviation and its Coefficient	
Week 8	Mean Deviation and its Coefficient, Standard Deviation, Coefficient of Variations, Lorenz Curve.	
Week 9	Skewness, Moments and Kurtosis – Introduction, Measures of Skewness, Moments and Measures of Kurtosis	
Week 10	Correlation – Introduction, Types of Correlation, Methods of Studying Correlation – Scatter Diagram Method, Karl Pearson's Coefficient of Correlation, Coefficient of Determination, Properties of the Coefficient of Correlation	
Week 11	Rank Correlation Coefficient, Concurrent Deviation Method, Multiple and Partial Correlation , Concepts and Simple Problems	
Week 12	Regression – Introduction, Uses of Regression, Difference Between Correlation and Regression Analysis, Regression Lines, Regression Equations, Regression Equations for grouped data, Limitations of Regression Analysis	
Week 13	Curve Fitting – Introduction, Principle of Least Squares, Fitting a Straight Line, Fitting a Second Degree polynomial, Fitting a Curve of the Form $Y = ae^{bx}$, Fitting a Curve of the Form $Y = ab^{x}$, Fitting a Curve of the Form $Y = ax^{b}$	
Week 14	Association of Attributes – Introduction, Difference between Correlation and Association, Notation and Terminology, Consistency of Data, Association and Disassociation	
Week 15	Methods of Studying Association, Association of Two Attributes, Partial Association.	

SUBJECT: PROBABILITY DISTRIBUTIONS – I **SEMESTER: III**

Staff Handled : Prof. K. Gokila & Prof. T.Uma

Week	Topics	Remark
Week 1	Discrete Uniform distribution : Definition, calculation of raw and central moments, M. G. F, Characteristic function and Problems. Definition of Bernoulli distribution.	
Week 2	Bernoulli distribution: Definition, calculation of raw and central moments moments, M. G. F, Characteristic function, cumulant generating function and additive property. Binomial distribution: Definition and moments. Calculation of M.G.F	
Week 3	Binomial distribution: Calculation of Characteristic function, cumulant generating function and additive property. The recurrence relationship between moments – Problems related with Binomial distribution. Concept of Fitting of Binomial distribution.	
Week 4	Poisson distribution: Definition-calculation of raw and central moments- recurrence relationship between moments - M.G.F- Characteristic function and cumulants - additive property.	
Week 5	Negative Binomial distribution: Definition-calculation of raw and central moments- M.G.F- Characteristic function and cumulants.	
Week 6	The concept of fitting of Poisson and fitting of Negative Binomial distribution.	
Week 7	Geometric distribution: Definition-calculation of raw and central moments- M.G.F- Characteristic function and cumulants.	
Week 8	Geometric distribution: Lack of memory and their Problems	
Week 9	Additional problems with Geometric distribution	
Week 10	Partial correlation: Definition, properties and Calculation from simple correlation	
Week 11	Multiple correlation: Definition, properties and Calculation from simple correlation	
Week 12	Regression : Definition, Importance and applications, Concept of two regression lines, calculation of two regssion lines, Properties of regression co-efficients.	
Week 13	Concept of WLLN. Importance of Central Limit Theorem. Explanation of various central limit theorems (statement only)	
Week 14	Limiting distributions: Relationship between Poisson distribution and Binomial distribution. Relationship between Poisson distribution and Neagtive Binomial distribution	
Week 15	Convergence: Limiting concept of Binomial distribution to Poisson and Negative binomial distribution. Additional problems.	

SUBJECT: STATISTICAL ESTIMATION THEORY **SEMESTER: V**

Staff handled: Prof. M. Sathiyamurthy

Week	Topics	Remark
Week 1	Introduction to estimation theory, notations and terminology, typres of estimation. Point Estimation: Characteristics of good Estimators, Properties and unbiasedness. problems in unbiasedness property.	
Week 2	Concept of Consistency, theorems and problems in Consistency	
Week 3	Additional theorems and problems in unbiasedness and consistency.	
Week 4	Concept of Efficiency and Most efficient estimator. Problems to identify most efficient estimators.	
Week 5	Concept of likelihood function.Sufficient statistics: Definition , Neyman-Fisher Factorization theorem , theorems based on sufficient statistics.	
Week 6	Sufficient statistics for various parameters in various distribution, Simple problems.	
Week 7	Concept of Minimum variance unbiased estimators, Theorems on MVUE	
Week 8	Regularity conditions of Cramer – Rao Inequality and proof of the theorem, simple problems	
Week 9	Concept of Rao- Blackwellization, proof of the theorem. Applications and simple problems.	
Week 10	Various methods of Estimation, Method of Maximum likelihood Estimation, Properties of MLE, problems of finding MLE for the parameter of Bernoulli,Binomial and Poisson distribution.	
Week 11	Problems of finding MLE for the parameter of Exponential, Uniform and Normal distribution.	
Week 12	Method of moments and method of Least square. Problems based on the mentioned methods	
Week 13	Method of minimum Chi-square and method of minimum variance. Problems based on the mentioned methods	
Week 14	Concept of Interval Estimation**,** Definition of interval estimator, confidence coefficient, confidence limits, pivotal quantity. Confidence Interval for proportion(s) based on Normal, simple problems.	
Week 15	Confidence Interval for mean(s) and variance(s) based on Normal and simple problems.	

SUBJECT: DESIGN OF EXPERIMENTS **SEMESTER: V**

Staff Handled : Dr. R. Lakshmi Priya

Week	Topics	Remark
Week 1	Introduction to Design of Experiments, Basic Principles, Replication, Randomization and Local Control Techniques.	
Week 2	Concept and properties for size of experimental unit, Methods of determination of experimental units .	
Week 3	Introduction of ANOVA. Assumptions and Concept of One-way classification, problems in One way ANOVA.	
Week 4	Assumptions and Concept of two-way classification, problems in two way ANOVA.	
Week 5	Multiple range tests: Newman Keul's test, Duncan's multiple range	

	test and Tukey's test . Simple problems.	
Week 6	Concept of Transformations Square root, Angular and Log transformations. Simple Problems.	
Week 7	Concept of Linear Model and its classifications. Concept of Completely Randomized Design (CRD) and its analysis. Problems in CRD	
Week 8	Concept of Randomized Block Design (RBD) and its analysis. Problems in RBD	
Week 9	Concept of Latin Square Design(LSD) and its analysis. Problems in LSD	
Week 10	Concept of missing plot technique, Least square method of estimating missing single Observations and two observations.	
Week 11	Problem of missing single Observations and two observations in CRD and RBD.	
Week 12	Problem of missing single Observations and two observations in LSD	
Week 13	Introduction to Factorial experiments, Analysis of 2^2 factorial experiment and problems	
Week 14	Analysis of 2^3 factorial experiment and problems	
Week 15	Analysis of and 3^2 factorial experiments and problems	

SUBJECT: STATISTICAL QUALITY CONTROL **SEMESTER: V**

Staff Handled : Dr. R. Lakshmi Priya

Week	Topics	Remark
Week 1	Introduction to SQC, Scope and need in Industry, advantages and limitations, Causes of Quality variation	
Week 2	Concept of Statistical process control charts, Uses of the Shewhart - control chart, Specification and tolerance limits - 3 sigma limits - warning limits.	
Week 3	Concept of $\overline{X}$ and R chart. Purpose of $\overline{X}$ and R chart. Problems in $\overline{X}$ and R chart.	
Week 4	Concept of σ and s – chart, Purpose of σ and s – chart. Problems in σ and s - chart	
Week 5	Basis of sub grouping - plotting X and R results - Determining the trial control limits. Interpretation of control charts X and R	
Week 6	Applications of various control charts with simple problems.	
Week 7	Introduction of control chart for attributes, Concept and purpose, construction of p chart. Applications of p chart. Problems in p chart	
Week 8	Concept and purpose, construction of p chart. Applications of p chart. Problems in np chart.	
Week 9	Concept and purpose, construction of c-chart. Applications of c-	

	chart. Problems in c chart.	
Week 10	Acceptance of sampling plans for attributes, Producer's risk and consumer's risk, Concepts of AQL, LTPD, AOQ, AOQL, ATI and ASN.	
Week 11	Concept of Single sampling plan, OC, AOQ, ATI curves. Problem of Single sampling plan.	
Week 12	Concept of Double and Multiples sampling plans, OC, AOQ, ATI curves. Problem of double and Multiples sampling plans.	
Week 13	Concept of variable sampling plans , Sigma known, OC curve , Problems.	
Week 14	Concept of variable sampling plans , Sigma un known, OC curve, Problems.	
Week 15	Determination of n and k for one sided specification, OC curve, Problems.	

SUBJECT: DEMOGRAPHY **SEMESTER: V**

Staff Handled : Prof. K. Gokila

Week	Topics	Remark
Week 1	Sources of Demographic data , Civil Registration and Population Census	
Week 2	Measurement of Population, Rates and Ratios of vital events.	
Week 3	Measurement of Population, Rates and Ratios of vital events.	
Week 4	Mortality measurements: Crude Death rate and Specific Death rate. Merits and Demerits. Related simple problems	
Week 5	Infant Mortality rate and Standardized Death rate, Merits and Demerits . Direct and Indirect methods of standardisation Related simple problems	
Week 6	Infant Mortality rate and Standardized Death rate, Merits and Demerits . Direct and Indirect methods of standardization. Related simple problems	
Week 7	Concept of Fertility , Measures of fertility, Crude Birth rate and General fertility rate, merits and demerits. Related simple problems	
Week 8	Measures of fertility: Age Specific Fertility rate and Total fertility rate. Merits and demerits. Related simple problems	
Week 9	Measurement of population growth- Pearle's vital index. Net reproduction rate- Gross reproduction rate. Related simple problems	
Week 10	Concept of Life table, assumptions and Structure	
Week 11	Construction of life table, Relationship between function of the life table	
Week 12	Uses of Life table , abridged life table (Concept only) and simple problems	
Week 13	Stationary Population: Definition and examples	
Week 14	Stable Population and Force of Mortality (Definition only) -	
Week 15	Gompertz and Makchamlaw and its uses	

SUBJECT : MATHEMATICS FOR STATISTICS **SEMESTER: I**

Staff Handled : Prof. M. Sathiyamurthy & Prof. D. Shanmugam

Week	Topics	Remark
Week 1	Introduction to Partial fractions, definition and problems	
Week 2	Series: Definition of Binomial series and problems	
Week 3	Series: Definition of Exponential series & Logarithmic series and problems	
Week 4	Introduction of Polynomial and roots, realtion between roots and co-efficients and problems for finding roots with degree of order polynomial equation.	
Week 5	Problems for finding roots with degree of order three polynomial equation.	
Week 6	Problems for finding roots with degree of order four polynomial equation.	
Week 7	Differentiation, definition, Problems in Product rule and quotient rule	
Week 8	Differentiation: Problems in function of function rule and logarithmic differentiation.	
Week 9	Differentiation: Problems with implicit function.	
Week 10	Integration: definition, simple problems	
Week 11	Integration by parts and problems	
Week 12	Integration by Substitution I,II and III and problems	
Week 13	Introduction of Gamma function, theorems and problems	
Week 14	Introduction of Beta I and Beta II function, theorems and problems	
Week 15	Relationship between Beta and Gamma function and problems	

SUBJECT: 'C' LANGUAGE FOR STATISTICS **SEMESTER: III**

Staff Handled : Prof. M. Sathiyamurthy & Prof. D. Shanmugam

Week	Topics	Remark
Week 1	Introduction to "C", variables, data types- definition, theoretical questions	
Week 2	declarations, type conversions, increment and decrement – definition, theoretical questions	
Week 3	Bitwise, Logical an Assignment operators – definition, theoretical questions, example	
Week 4	Expression and conditional expressions, control structures, If-Else, SWITCH, WHILE,FOR and DO WHILE loop structures – definition, syntax, flowchart diagram, theoretical questions, example	
Week 5	Break continue, GO and Lable statements. Function, function returning – definition, syntax, flowchart diagram, theoretical questions, example	
Week 6	Non-integers, Function arguments -Static and register variables – definition, theoretical questions, example	
Week 7	Arrays and Strings-Array Declaration, Multi dimensional Arrays – definition, theoretical questions, example	
Week 8	Strings/Character Arrays, Array initialization-Pointers and addresses	

	– definition, theoretical questions, example	
Week 9	Pointers and Arrays-Pointer to function – definition, theoretical questions, example	
Week 10	Structures and functions, Array of structures Fields – definition, theoretical questions, example	
Week 11	Unions-type definition – – definition, theoretical questions, example	
Week 12	standard input and output –formatted output – definition, theoretical questions, example	
Week 13	File Access, File handling in C-File descriptions – definition, theoretical questions, example	
Week 14	Error handling-'Low level i/o-Read and Write' – definition, theoretical questions, example	
Week 15	Open, Create, Close, Unlike - Random Access-seek and I seek – definition, theoretical questions, example	

SUBJECT: QUANTITATIVE METHODS (BBA) **SEMESTER: III**

Staff Handled : Prof. D. Shanmugam

Week	Topics	Remark
Week 1	Nature and scope of statistical methods – Limitations – Preparation of Questionnaire and schedule– Definition, importance, processing and analyzing of data preparation of report, theoretical questions	
Week 2	Collection of data – primary and secondary data – sources – methods of collection of data, merits and demerits, theoretical questions	
Week 3	Methods of collection of primary and secondary data. Observational studies and sample surveys— theoretical questions	
Week 4	Diagrammatic representation of data – one and two dimensional– Introduction, advantages, limitations of a diagram, rule for making diagram	
Week 5	Bars – Types of Bar diagrams. Graphical representation of data – Introduction, advantages, limitations of a diagram, rule for making diagram	
Week 6	Frequency curve – frequency polygon – Histogram and Ogive curve– Difference between Diagram and Graph, Theoretical questions	
Week 7	Measures of central tendency – Arithmetic Mean – Meaning, Definition, discrete series, continuous series, merits and demerits, Problems	
Week 8	Median, Mode– Meaning, Definition, discrete series, continuous series, merits and demerits, Problems	
Week 9	Geometric Mean and Harmonic Mean – Merits and Demerits Meaning, Definition, discrete series, continuous series, merits and demerits, Problems	
Week 10	Measures of Dispersion – Absolute and Relative measures – Range, Quartile deviation – Meaning, Definition, discrete series, continuous series, merits and demerits, Problems	
Week 11	Mean deviation, Standard deviation and its Coefficients Meaning, Definition, discrete series, continuous series, merits and demerits, Problems	
Week 12	Measure of Skewness and Kurtosis– Meaning, Definition, merits and	

	demerits, Problems	
Week 13	Fundamental sets of frequencies – Consistency of Data – Introduction, definition	
Week 14	Conditions for consistency – Contingency table – Introduction, definition	
Week 15	Association of attributes– Introduction, definition	

SUBJECT: STATISTICS FOR BEGINNERS **SEMESTER: I**

Staff Handled : Prof. D. Shanmugam

Week	Topics	Remark
Week 1	Introduction of Statistics – Definition – Definition, importance, processing and analyzing of data preparation of report, theoretical questions	
Week 2	Scope of Statistics – Importance, application of statistics, theoretical question	
Week 3	limitations of statistics –theoretical questions	
Week 4	Collection of Data : Data collection – methods of collection of data, merits and demerits, theoretical questions	
Week 5	Primary data – Secondary data – sources of data – methods of collection of data, merits and demerits, theoretical questions	
Week 6	Classification – Tabulation of data – Objects and Types of Classification, Formation of a Discrete and Continuous Frequency Distribution, Parts of a Table, General Rules and Types of Tables.	
Week 7	Presentation of Data : Diagrammatic presentation of data – construction of simple bar – sub divided – multiple bars – pie diagram – pictograms – cartograms	
Week 8	Graphical presentation of Data – Histogram, frequency polygon – frequency curve –advantages, rule for making Graph	
Week 9	Ogives – advantages, rule making Graph	
Week 10	Measures of Central tendency – Arithmetic Mean – Meaning, Definition, discrete series, continuous series, merits and demerits, Problems	
Week 11	Median –Mode – Meaning, Definition, discrete series, continuous series, merits and demerits, Problems	
Week 12	Geometric Mean – Harmonic Mean – Meaning, Definition, discrete series, continuous series, merits and demerits, Problems	
Week 13	Theory of attributes – consistency of data – Introduction, definition, theoretical questions	
Week 14	independence of attributes and Association of attributes – Introduction, definition, properties, theoretical questions	
Week 15	Yule's coefficient of association – coefficient of colligation – Introduction, definition, theoretical questions, simple problem	

SUBJECT: BUSINESS STATISTICS (B.COM) **SEMESTER: III**

Staff Handled : Prof. T.Uma

Week	Topics	Remark
Week 1	Introduction of Statistics, Definition , Scope , Limitations – Collection of primary and secondary data	
Week 2	Classification and Tabulation of data	
Week 3	Diagrammatic and Graphical representation of statistical data.	
Week 4	Measures of central tendency: Arithmetic Mean, Median, Mode, Geometric Mean and Harmonic Mean, Merits and Demerits.	
Week 5	Calculation of Arithmetic Mean, Median, Mode, Geometric Mean and Harmonic Mean for individual series	
Week 6	Calculation of Arithmetic Mean, Median, Mode, Geometric Mean and Harmonic Mean for discrete series and continuous series	
Week 7	Measures of Dispersion: Absolute and Relative measures – Range, Quartile deviation, Mean deviation, Standard deviation and its Coefficients .Merits and Demerits	
Week 8	Measures of Dispersion:Calculation of Range, Quartile deviation, Mean deviation, Standard deviation and its Coefficients	
Week 9	Measures of Skewness and Kurtosis and its problems.	
Week 10	Correlation: Definition, types, properties, Methods. Problem for finding Karl Pearson's Correlation.	
Week 11	Problem for finding Rank Correlation and Concurrent deviation method	
Week 12	Regression Analysis: Definition and properties, calculation of two regression lines.	
Week 13	Time Series: Definition, Components of Time Series , Measurement of Trend	
Week 14	Measurement of Seasonal variation by various methods and problems.	
Week 15	Index Numbers: Definition, problems in the construction of Index numbers, simple and weighted Index numbers. Test for Index Numbers – Chain base method – Cost of living Index Number – Uses – Simple problem.	

SUBJECT: OPERATIONS RESEARCH (M.COM) **SEMESTER: I**

Staff Handled : Dr. R. Lakshmi Priya & Prof. M. Sathiyamurthy

Week	Topics	Remark
Week 1	Introduction to Operations Research, Meaning , definition , origin and history, characteristic feature , need , scope and	
Week 2	Models of O.R and Phases of O.R . Linear Programming Problem(LPP), Meaning, assumptions, applications . Formulation LPP, advantages and Limitations.	
Week 3	Obtaining optimal solution for LPP – Graphical method	
Week 4	Obtaining optimal solution for LPP –Simplex method for Maximization function	
Week 5	Obtaining optimal solution for LPP– Simplex method for Minimization function	
Week 6	Duality in LPP meaning , construction dual LPP and problems	
Week 7	Transportation Problem, meaning -Balanced and Unbalanced problems, Initial Basic Feasible Solution by North West Corner Rule	

	and Least Cost method	
Week 8	Transportation Problem: Initial Basic Feasible Solution by Vogel's Approximation method , Solution by optimality by MODI method	
Week 9	Assignment Problem : Models, Hungarian method and problems	
Week 10	Introduction of Game , meaning , types of games, basic assumptions ,finding value of game for pure strategy, finding saddle point by graphical method and value of the game	
Week 11	Network analysis: Network diagram and critical path method CPM and PERT	
Week 12	Sequencing Problem: Meaning , assumption and 2 machine problems	
Week 13	Queueing theory: Meaning , objectives, limitations, Elements of Queueing system, Characteristics of M/M/1: ∞/FIFO	
Week 14	Problems in M/M/1: ∞/FIFO . Problems and Characteristics of M/M/I : N/FIFO	
Week 15	Statistical Quality Control (SQC): Meaning of quality , Quality control, benefits and uses of SQC . Construction of Control charts- X and R chart.	

LESSON PLAN - EVEN SEMESTER

SUBJECT: PROBABILITY THEORY **SEMESTER - II**

Staff Handled : Prof. K. Gokila & Dr. R. Lakshmi Priya

Week	Topics	Remark
Week 1	Introduction of Probability and terminology. Definition of Random experiment , Sample point, Sample space ,Events . Theorems on Algebra of events and Operations on events	
Week 2	Concept of Classical and statistical approach to probability. Concept of axiomatic approach to probability and Problems.	
Week 3	Additional problems in probability axioms and concepts	
Week 4	Definition of Conditional Probability- problems	
Week 5	Addition–Multiplication theorem – concept and Problems	
Week 6	Baye's theorem- applications - Problems.	
Week 7	Discrete Random variables - Probability mass function – calculation of Distribution function and Examples	
Week 8	Continuous Random variable: Calculation of Distribution function with Examples.	
Week 9	Mathematical Expectation and their properties with some examples. Proof of Cauchy Schwartz inequality.	
Week 10	Definition of Moment generating function, Characteristic function and Cumulant generating functions. Discuss their properties	
Week 11	Calculation of Moment generating function, Characteristic function and cumulant generating for discrete and continuous distributions.	
Week 12	Moment generating function, Characteristic function and Cumulant generating functions for discrete and continuous distributions. Proof of Chebyshev's Inequality and problems.	
Week 13	Bi-variate distributions: Probability mass function (p.m.f) and Probability density function (p.d.f.). Calculation of Cumulative distribution function (c,d.f.) with some problems.	
Week 14	Discuss the concept of Marginal and Conditional expectation and	

	their properties	
Week 15	Calculation of Marginal and Conditional expectation and their properties with some Problems.	

SUBJECT: PROBABILITY DISTRIBUTIONS – II **SEMESTER - II**

Staff Handled : Prof. K. Gokila & Prof. T.Uma

Week	Topics	Remark
Week 1	Normal distribution: Definition, limiting form of Binomial distribution, calculation of mode and median- chief characteristics.	
Week 2	Normal distribution: Calculation of moments, M.G.F, Characteristic function and cumulants. Recurrence relationship between the moments. Concept of additive property of normal variates.	
Week 3	Concept of Standard Normal variable and its uses. Explanation of Area Property. Calculation with area property of Normal distributions. Simple problems	
Week 4	Rectangular (Uniform) distribution: Definition, Calculation of Distribution function, Calculation of moments raw and central moments, M.G.F, Characteristic function.	
Week 5	Exponential distribution : : Definition, Calculation of Distribution function, Calculation of moments raw and central moments, M.G.F, Characteristic function.	
Week 6	Additive property of Exponential variates. Some theorems related with Exponential distribution. Additional problems.	
Week 7	Gamma distribution: Definition, Calculation of Distribution function, Calculation of moments raw and central moments, M.G.F, Characteristic function.	
Week 8	Additive property of Two Gamma variates. Limiting form of gamma distribution.	
Week 9	Additional problems.	
Week 10	Beta distribution of first kind: Calculation of MGF and Constants.	
Week 11	Beta distribution of second kind: Calculation of MGF and Constants.	
Week 12	Derivation of Students t distribution. Calculation of moments, MGF Graph of t-distribution. Limiting form of t – distribution. Applications of t- distribution.	
Week 13	Derivation of Snedecors F distribution. Calculation of moments and MGF. Calculation of constants. Applications of F-distribution.	
Week 14	Relationship between t. F and $\chi 2$ distributions	
Week 15	Derivation of Chi-square distribution. Calculation of moments and MGF, Additive property and applications of Chi-square distribution.	

SUBJECT: SAMPLING TECHNIQUES **SEMESTER - VI**

Staff Handled : Dr. R. Lakshmi Priya

Week	Topics	Remark
Week 1	Introduction of Sample survey, Principal steps in a sample survey, Designing, Organization, execution and principles a sample survey.	
Week 2	Concept of Pilot survey. Sampling Vs Complete Census. Types of sampling	
Week 3	Sampling errors vs Non sampling errors. Concept of Standard error. Advantages and limitations of a sample survey.	
Week 4	Introduction of probability sampling, Terms of Sampling theory from finite population. Simple random sampling with and without replacement - Properties - Unbiased estimate of the mean.	
Week 5	Advantages and disadvantages of SRSWOR and SRSWR. variance and mean finite population correction - Estimation of standard error from a sample.	
Week 6	Relative precision of SRSWOR over SRSWR. Determination of sample size. Problems of SRSWOR an SRSWR.	
Week 7	Concept of Stratified random sampling, Advantages and limitations, Properties, Unbiased estimates of mean and variance .	
Week 8	Estimates of the mean, Concept of allocations, calculation of variance by optimum and proportional allocations and variance of the sample mean with cost function.	
Week 9	Comparison of the variances by various allocations in Stratified random sampling. Simple problems.	
Week 10	Relative precision of a stratified sampling and simple random sampling.	
Week 11	Estimation of gain in precision in stratified sampling and simple Problems.	
Week 12	Additional problems in SRSWOR and Stratified RS.	
Week 13	Concept of Systematic sampling, Properties – Estimate of mean and variance of the estimated mean.	
Week 14	Systematic sampling – Properties – Estimate of mean and variance of the estimated mean, Systematic sampling in the presence of general linear trend.	
Week 15	Merits and demerits of systematic sampling. Comparison of simple and stratified with systematic random sampling. Problems.	

SUBJECT : TESTING OF STATISTICAL HYPOTHESES **SEMESTER - VI**

Staff Handled : Prof. K. Gokila

Week	Topics	Remark
Week 1	Introduction of Statistical testing, Notations and terminology. Statistical Hypothesis, Null and Alternative Hypotheses, Simple and Composite hypotheses, Critical region ,Type-I and Type-II error, Uses of testing of hypothesis.	

Week 2	Sampling distribution, standard error , Calculation of Most Powerful test , Uniformly Most powerful test. Simple problems.	
Week 3	Proof of Neyman-Pearson Lemma and Simple problems.	
Week 4	Concept of Likelihood ratio test procedure, properties – Tests for mean of normal population.	
Week 5	Likelihood ratio test procedure: Test for variance of a normal population.	
Week 6	Likelihood ratio test procedure: merits and demerits, additional problems	
Week 7	Large Sample Tests: single mean, difference between two means and problems.	
Week 8	Large Sample Tests: single proportion, Equality of two proportions and problems.	
Week 9	Large Sample Tests: single variance, Equality of two variances, correlation coefficient and problems.	
Week 10	Small sample tests: Single mean, difference between means based on sample(s) form normal population(s) and problems	
Week 11	Small sample tests: Single variance, ratio of variances based on sample(s) form normal population(s). Tests for co-efficient of correlation and problems.	
Week 12	Chi-square Tests: Tests for association, independence and goodness of fit and problems.	
Week 13	Non-Parametric tests: Sign, Median, Mann- Whitney U-test and problems	
Week 14	Non-Parametric tests: Wilcoxon – signed rank tests , Run tests and simple problems	
Week 15	Non-Parametric tests: Kolmogrov Smirnov Tests one sample and two sample problems.	

SUBJECT: APPLIED STATISTICS **SEMESTER -VI**

Staff Handled : Prof. T.Uma

Week	Topics	Remark
Week 1	Introduction of Time series, Components of time series, Additive and multiplicative models and applications of time series.	
Week 2	Measurement of trend: Free hand and Semi average method. Problems.	
Week 3	Measurement of trend: Moving average method and Least square method. Problems.	
Week 4	Measurement of seasonal variations: Simple average method and Ratio to trend method. Problems.	
Week 5	Measurement of seasonal variations: Ratio to moving average method Problems.	
Week 6	Measurement of seasonal variations: Link relative method - Problems.	
Week 7	Index Numbers: Weighted and Unweighted, Uses, Classification - Construction of Laspeyre's, Paasche's and Fisher's price index numbers. Problems.	
Week 8	Index Numbers: Marshall- Edgeworth, Kelly's and Darbish-Bowley,	

	Problems.	
Week 9	Calculation for good Index number by Time reversal test and factor reversal test. Problems.	
Week 10	Quantity Index numbers: Laspeyre's, Paasche's and Fisher's quantity index numbers. Problems.	
Week 11	Quantity Index numbers: Fixed and Chain base index numbers - Optimum test for index numbers . Problems.	
Week 12	Quantity Index numbers: Marshall- Edgeworth, Kelly's and Darbish-Bowley Cost of living index numbers. Problems.	
Week 13	Official Statistics: Statistical System in India CSO and NSSO and its functions , Introduction about Ministry of Statistics and Planning.	
Week 14	Official Statistics: Present structure of the Indian statistical system - Functions of a statistical system	
Week 15	Agricultural statistics, Industrial statistics , Trade statistics, Labour statistics , Transport and Communication statistics , Examples.	

SUBJECT : STOCHASTIC PROCESS **SEMESTER - VI**

Staff Handled : Prof. M. Sathiyamurthy

Week	Topics	Remark
Week 1	Introduction to Stochastic Process, Basic Concepts , Definition and examples of stochastic process,	
Week 2	Classification of general stochastic processes into discrete and continuous time, discrete and continuous state spaces, types of stochastic processes, elementary problems.	
Week 3	Introduction to Markov chains, Definition and examples of Markov chain-Transition Probability Matrix	
Week 4	Chapman Kolmogrov equation, classification of states, Problems for finding recurrence.	
Week 5	Problem for finding Ergodic states in a Transition Probability Matrix	
Week 6	Problem for finding periodicity of states in a given Transition Probability Matrix.	
Week 7	Basic limit theorem of Markov chain and its problems	
Week 8	stationary probability distribution and its applications.	
Week 9	Problems in stationary probability distribution	
Week 10	Markov Process with discrete state space, Poisson Process, definition, Postulates , Properties of Poisson Process.	
Week 11	Markov Process with discrete state space: Pure birth process and its applications.	
Week 12	Markov Process with discrete state space: Birth and death Process, Extinction Probability and its applications.	
Week 13	Markov Process with discrete state space: Birth and death Process, Extinction Probability and its applications.	

Week 14	Markov Process with discrete state space: Yule – Furry process and its applications.	
Week 15	Markov Process with discrete state space: Yule – Furry process and its applications.	

SUBJECT : REAL ANALYSIS AND MATRIX ALGEBRA SEMESTER - II

Staff Handled : Prof. M. Sathiyamurthy & Prof. D. Shanmugam

Week	Topics	Remark
Week 1	Introduction of functions, Classification of functions, Equivalence, countability, Least Upper Bound, Greatest Lower Bound and theorems.	
Week 2	Sequences of Real Numbers: Definition of Sequence and Subsequence, Limit of a Sequence, Convergent Sequences, Theorems and probems on Convergent Sequence.	
Week 3	Divergent Sequences, Bounded Sequences, Monotone Sequences. Theorems and problems on Divergent Sequences, Bounded Sequences, Monotone Sequences	
Week 4	Sequences of Real Numbers: Operations on Convergent Sequences, and problems.	
Week 5	Operations on Divergent Sequences, limit Superior and Limit Inferior, Cauchy Sequences. Related theorems and problems.	
Week 6	Series with Non – Negative Terms, Alternating Series, Conditional Convergence and Absolute Convergences and problems	
Week 7	Riemann Integral: Definition, properties, Derivatives, Rolle's Theorem and problems	
Week 8	Darboux Property, The Law of Mean, Fundamental Theorems of Calculus- First and second	
Week 9	Improper integrals and problems	
Week 10	Theory of Matrices: Definition, Types of matrices- square, Row, Column, Diagonal, Scalar, and Unit Matrix	
Week 11	Calculation of Transpose and Conjugate of Matrix, Symmetric, Skew symmetric and Hermitian matrix. Singular, Non- singular and Orthogonal Matrix	
Week 12	Matrix multiplication and Determinant of the matrix and problems	
Week 13	Rank of a matrix, Elementary transformations, Working rule to find the Rank of a matrix, calculation of ranks.	
Week 14	Vectors: Linear dependence and independence of vectors- Consistency of non- homogeneous linear equations- Homogeneous equations- Eigen values and eigen vectors	
Week 15	Cayley –Hamilton theorem , Inverse of a matrix and its problems	

SUBJECT: NUMERICAL METHODS **SEMESTER - IV**

Staff Handled : Prof. M. Sathiyamurthy & Prof. D. Shanmugam

Week	Topics	Remark
Week 1	Finite differences, forward and backward differences, various operators and their basic properties and problems.	
Week 2	Interpolation with equal intervals: Newton's forward differences and simple problems.	
Week 3	Interpolation with equal intervals: Newton's backward differences and simple problems.	
Week 4	Interpolation with unequal intervals: Divided differences and their properties.	
Week 5	Newton's divided differences for interpolation and problems.	
Week 6	Lagrange's formula for interpolation and problems.	
Week 7	Central difference interpolation formula: Gauss forward and backward differences formula and problems.	
Week 8	Stirling and Bessel's central difference formula and problems.	
Week 9	Everett's central difference formula and problems.	
Week 10	Inverse interpolation: Lagrange's method and problems.	
Week 11	Inverse interpolation: iteration of successive approximation method and problems.	
Week 12	Numerical differentiation- Numerical differentiation upto 2^{nd} order only and problems.	
Week 13	Numerical intergration:-Trapezoidal rule, simpsons $1/3^{rd}$ and $3/8^{th}$ rules and problems.	
Week 14	Weddle's rule, Euler's summation formula and problems.	
Week 15	Numerical method of solution of ordinary differential equations-Taylor's series method-Euler method and problems	

SUBJECT: BUSINESS STATISTICS (BBA) **SEMESTER - IV**

Staff Handled : Prof. D. Shanmugam

Week	Topics	Remark
Week 1	Correlation Analysis – Definition – Types – properties, simple problem	
Week 2	Scatter diagram – Karl Pearson's Correlation Coefficient– definition, diagram, simple problem	
Week 3	Spearman's Rank Correlation Coefficient – definition, properties, simple problem.	
Week 4	Regression Analysis – Definition – methods – Properties	
Week 5	Regression equations – definition, simple proplem	
Week 6	Regression lines – properties – Related simple problem	
Week 7	Time Series – Definition – Components – Measurement of Trend – Definition, diagram, theoretical question, simple problem	

Week 8	Graphical method, Semi average method, Moving average method– definition, graphical methods, simple problem	
Week 9	Method of Least squares – Measurement of Seasonal Variations – definition, problem	
Week 10	Index Numbers – Definition – Methods	
Week 11	Test for Index Numbers – Cost of living Index Number – Concepts and Simple Problems	
Week 12	Chain base method – Uses of Index Numbers – Simple problems	
Week 13	Concept of Sampling – Methods of Sampling – definition, theoretical question	
Week 14	Random Sampling – Stratified Sampling – definition, theoretical question	
Week 15	Systematic Sampling – Sampling Error – Non sampling Error. – definition, theoretical question	

SUBJECT: STATISTICS IN REAL LIFE **SEMESTER - II**

Staff Handled : Prof. D. Shanmugam

Week	Topics	Remark
Week 1	Time Series : Introduction - Definition – uses	
Week 2	Components of time series – free hand method – Methods of semi averages – Moving average method – definition, theoretical question, simple problem	
Week 3	3 yearly moving average – 5 yearly moving averages –definition, simple problems only	
Week 4	Official Statistics: Present official statistical systems in India – uses, theoretical question	
Week 5	Ministry of Statistics and Programme implementation - uses, theoretical question	
Week 6	NSSO, CSO and their functions – uses, theoretical question	
Week 7	Definitions : Registration of vital events – National Income Statistics – uses, theoretical question	
Week 8	Agricultural Statistics – Industrial Statistics in India – Trade Statistics in India – uses, theoretical question	
Week 9	Labour Statistics in India – Financial Statistics in India – uses, theoretical question	
Week 10	Index numbers: Index numbers and their definitions - construction and uses of fixed and chain based index numbers– uses, theoretical question, simple problems	
Week 11	simple and weighted index numbers - Laspeyre's, Paasche's, Fisher's, and Marshall-Edgeworth index numbers – uses, theoretical question, simple problems	
Week 12	optimum tests for index numbers-Cost of living index numbers (simple problems only), uses, theoretical question, simple problems	
Week 13	Statistical quality control – definition of quality - uses, theoretical question,	
Week 14	need for quality control in industry – definition, uses, theoretical questions	
Week 15	control charts – Mean chart and Range chart – definition, uses, theoretical questions, simple problems	

SUBJECT: 'C' LANGUAGE FOR STATISTICS **SEMESTER - II**

Staff Handled : Prof. M. Sathiyamurthy & Prof. D. Shanmugam

Week	Topics	Remark
Week 1	Introduction to "C", variables, data types- definition, theoretical questions	
Week 2	declarations, type conversions, increment and decrement – definition, theoretical questions	
Week 3	Bitwise, Logical an Assignment operators – definition, theoretical questions, example	
Week 4	Expression and conditional expressions, control structures, If-Else, SWITCH, WHILE,FOR and DO WHILE loop structures – definition, syntax, flowchart diagram, theoretical questions, example	
Week 5	Break continue, GO and Lable statements. Function, function returning – definition, syntax, flowchart diagram, theoretical questions, example	
Week 6	Non-integers, Function arguments -Static and register variables – definition, theoretical questions, example	
Week 7	Arrays and Strings-Array Declaration, Multi dimensional Arrays – definition, theoretical questions, example	
Week 8	Strings/Character Arrays, Array initialization-Pointers and addresses – definition, theoretical questions, example	
Week 9	Pointers and Arrays-Pointer to function – definition, theoretical questions, example	
Week 10	Structures and functions, Array of structures Fields – definition, theoretical questions, example	
Week 11	Unions-type definition – – definition, theoretical questions, example	
Week 12	standard input and output –formatted output – definition, theoretical questions, example	
Week 13	File Access, File handling in C-File descriptions – definition, theoretical questions, example	
Week 14	Error handling-'Low level i/o-Read and Write' – definition, theoretical questions, example	
Week 15	Open, Create, Close, Unlike - Random Access-seek and I seek – definition, theoretical questions, example	

SUBJECT: OPERATIONS RESEARCH (B.COM) **SEMESTER - II**

Staff Handled : Prof. T.Uma

Week	Topics	Remark
Week 1	Introduction to Operations Research , Meaning , Scope of OR	
Week 2	Models and Limitations of O.R	
Week 3	Introduction of Linear Programming Problem , Mathematical Formulation	
Week 4	Linear Programming Problem: Solution procedure of Graphical method and problems	
Week 5	Linear Programming Problem: Concept of Simplex method and its problems.	
Week 6	Linear Programming Problem: Problem in Simplex method	
Week 7	Transportation Problem: Formulation, North West Corner and problems	
Week 8	Transportation Problem: Least Cost Method and problem.	
Week 9	Transportation Problem: Vogel's Approximation method and problem.	
Week 10	Assignment problem: Formulation , Hungarian method of Assignment	
Week 11	Assignment problem: Maximization case problems.	
Week 12	Assignment problem: Minimization case problems.	
Week 13	Network analysis : Calculation of CPM	
Week 14	Network analysis : EST -EFT -LST -LFT and Total Float. Calculation of PERT and problem	
Week 15	Difference between PERT and CPM . Additional problems	

SUBJECT: QUANTITATIVE TECHNIQUES
FOR BUSINESS DECISIONS (M.COM) **SEMESTER - II**

Staff Handled : Dr. R. Lakshmi Priya & Prof. M. Sathiyamurthy

Week	Topics	Remark
Week 1	Meaning , scope and limitations of quantitative techniques, uses of quantitative techniques in business decisions	
Week 2	Concepts of Probability , definition of Probability, sample space, addition theorem of probability , multiplication theorem and its problems	
Week 3	Concept of Conditional probability, Baye's theorem and problems.	
Week 4	Binomial distribution: MGF, Constants and problems	
Week 5	Poisson distribution: MGF, Constants and problems	
Week 6	Normal distribution : MGF, Constants and problems. Fitting and testing the Goodness of fit	
Week 7	Concept of statistical inference, Testing of Statistical hypothesis , Terminology : Null – Alternative hypothesis- type I and type II error	
Week 8	Large Sample test: Procedure for Test for single Mean and problems	
Week 9	Large Sample test: Procedure for Test for difference of means and problems	
Week 10	Significance tests in Small samples: Procedure and problems for Testing the significance of the mean , Testing difference between	

	means of two samples and F- test .	
Week 11	Chi square test: Procedure and problems for independence of Attributes	
Week 12	Analysis of Variance: Assumptions, One way and two way classifications. Problems.	
Week 13	Decision Theory : Meaning, Definitions,Uncertainty – pay offs – Expected opportunity loss (EOL) – Maximin principle – Minimax principle –Bayes principle. construction of Decision tree analysis.	
Week 14	Interpolation: Binomial expansion method and Newton's forward problems	
Week 15	Interpolation: Problems in Newton's backward method. Problems in Extrapolation	

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TEACHING PLAN (ODD SEMESTER)

Class : B.Sc., Physics E/M and T/M -- I Year Semester : I
Subject Code : 19U
APHC1
Name of the Subject: MECHANICS AND PROPERTIES OF MATTER
Subject-in-charge: Dr. N. Mani and Dr. D. Subashini

WEEK	TOPICS TO BE COVERED
Week 1	Impulse – impact – Laws of impact – direct impact and oblique impact between two smooth spheres
Week 2	loss of kinetic energy – motion of two interacting bodies – reduced mass. Compound pendulum – theory – determination of g and k
Week 3	Center of mass – velocity and acceleration of centre of mass – determination of motion of individual particle – system of variable mass.
Week 4	Centre of gravity of solid and hollow tetrahedron, solid and hollow hemisphere
Week 5	Centre of pressure – vertical rectangular lamina – vertical triangular lamina. Equation of continuity of flow – Venturimeter
Week 6	Euler's equation of unidirectional flow – Torricelli's theorem – Bernoulli's theorem and its applications.
Week 7	Hooke's Law – Stress – Strain - Elastic constants – Expressions for Poisson's ratio interms of elastic constants
Week 8	Workdone in stretching and twisting a wire – rigidity modulus by static torsion
Week 9	Torsional pendulum – rigidity modulus and moment of inertia.
Week 10	Cantilever – expression for bending moment – Experiment to find Young's modulus – Non uniform bending –
Week 11	Experiment to determine Young's modulus by Koenig's method – uniform bending
Week 12	expression for elevation – experiment to determine Young's modulus using microscope.
Week 13	Surface tension-Definition – Excess of pressure over curved surface – Application to spherical and cylindrical drops and bubbles
Week 14	Variation of surface tension with temperature – Jaegar's method.

Week 15	Viscosity-Definition – Coefficient of viscosity – Rate of flow of liquid in a capillary tube – Poiseuille's formula

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Class : B.Sc., Physics E/M and T/M -- II Year Semester -- III
Subject Code : 19UCPHC1
Name of the Subject: OPTICS AND SPECTROSCOPY
Subject-in-charge: Dr. T. HEMA THANKA CHRISTLET and Mrs. P. R. KANIMOZHI

WEEK	TOPICS TO BE COVERED
Week 1	Spherical aberration in lenses - methods of minimizing spherical aberration - condition for minimum spherical aberration in the case of two lenses separated by a distance.
Week 2	Chromatic aberration in lenses - Condition for achromatism of two thin lenses (in and out of contact.
Week 3	Dispersion produced by a thin prism - Combination of prisms to produce - Dispersion without deviation - Deviation without dispersion.
Week 4	Analytical treatment of interference - expression for intensity - condition for maxima and minima in terms of phase and path difference
Week 5	Airwedge - determination of diameter of thin wire - Michelson's interferometer - theory .
Week 6	applications - determination of wavelength; thickness of thin transparent material and resolution of interferometer.
Week 7	Fresnel diffraction - diffraction at a circular aperture and narrow wire.Fraunhoffer diffraction - single slit - double slit - (simple theory).
Week 8	Plane diffraction grating - Determination of wavelengths using grating - normal incidence - oblique incidence (theory).
Week 9	Dispersive power of a grating.Resolving power of grating - Difference between resolving power and Dispersive power.
Week 10	Double refraction - Nicol prims -polarizer and analyzer - Huygen's explanation of double refraction in uniaxial crystals.
Week 11	Quarter wave plate and Halfwave plate - plane, elliptically and circularly polarized light - production and detection .
Week 12	Optical Activity - Fresnel's explanation of optical activity - specific rotatory power - determination using Laurent's half shade

	polarimeter.
Week 13	Introduction to spectroscopy - Electromagnetic spectrum –characteristics of electro magnetic radiation .
Week 14	Quantization of energy - regions of the spectrum – classification of molecules – rigid rotator .
Week 15	Vibrational spectroscopy – harmonic oscillator - Raman effect - experimental set up - Characteristics of Raman lines.

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TEACHING PLAN (ODD SEMESTER)

Class : B.Sc., Physics E/M and T/M -- III Year Semester -- V
Subject Code : 19UEPHC1
Name of the Subject: **ELECTRICITY AND ELECTROMAGNETISM**
Subject-in-charge: Dr. S. SESHADRI and Dr. LYDIA CAROLINE MANOHAR

WEEK	TOPICS TO BE COVERED
Week 1	Magnetic flux and magnetic induction- BiotSavart law- magnetic induction at a point due to a straight conductor carrying current - magnetic induction at a point on the axis of a circular coil carrying current.
Week 2	Amperes circuital law-magnetic field inside a long solenoid-Lorent'z force on a moving charge- direction of force-torque on a current loop in a uniform magnetic field.
Week 3	Moving coil Ballistic galvanometer-theory -experiment to find charge sensitivity and absolute capacity of a capacitor.
Week 4	Thermoelectricity- Seebeck effect- laws of thermo e.m.f-– measurement of thermo e.m.f using potentiometer-Peltier effect-demonstration.
Week 5	Thomson effect- demonstration - thermodynamics of thermo couple –thermo electric diagram –uses - Faradays laws of electrolysis-electrical conductivity of an electrolyte.
Week 6	specific conductivity- Kohlrausch's bridge method of determining the specific conductivity of an electrolyte -Arrhenius theory of electrolytic dissociation- Accumulators-lead accumulators-alkali accumulator-standard cadmium cell.
Week 7	Faraday's laws of electromagnetic induction-self induction –self

	inductance of a long solenoid.
Week 8	Mutual induction-mutual inductance between two co-axial solenoids-experimental determination of mutual inductance .
Week 9	Coefficient of coupling - eddy currents-uses - Earth inductor-uses-search coil- induction coil and its uses.
Week 10	Growth and decay of current in LC,LR and CR circuits with d.c.voltages - determination of high resistance by leakage –growth and decay of charge in LCR circuit-conditions for the discharge to be oscillatory –frequency of oscillation.
Week 11	Alternating Current-Resistance in an AC circuit-Inductance in an AC circuit- Capacitance in an AC circuit-AC through an inductance and resistance in series- capacitance and resistance in series .
Week 12	LCR series resonance circuit -sharpness of resonance-parallel resonance circuit -power in an AC circuit-power factor.
Week 13	Introduction- Maxwell's equations- -Displacement current
Week 14	Poynting vector-Electromagnetic waves in free space.
Week 15	Hertz experiment for production and detection of EM waves.

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Class : B.Sc., Physics E/M and T/M -- III Year Semester -- V
Subject Code : 19UEPHC2
Name of the Subject: ANALOG AND DIGITAL ELECTRONICS
Subject-in-charge: Dr. D. Subashini and Mrs. P.R. Kanimozhi

WEEK	TOPICS TO BE COVERED
Week 1	PN junction theory - V-I characteristics of a PN junction diode - Zener diode - equivalent circuit.
Week 2	Voltage regulator -Field effect Transistor FET-MOSFET.
Week 3	UJT-SCR -characteristics - FET as a VVR-UJT relaxation oscillator-SCR as a switch and rectifier
Week 4	Transistor - Different modes of operations-CB mode &CE mode-RC coupled amplifier – Emitter follower.
Week 5	Feedback principle -effect negative feedback-and Barkhaussen criterion - Phase shift and Wien Bridge oscillators using transistors .
Week 6	Expression for frequency- Multivibrators-Astable, Monostable and Bistable multi vibrators using transistors - Schmitt trigger.

Week 7	Operational Amplifier- characteristics-parameters-applications-Inverting amplifier - Non inverting amplifier.
Week 8	Adder - Subtractor - Integrator – Differentiator- Solving simultaneous equations-comparator -square wave generator -Wien bridge oscillator.
Week 9	555 timer, block diagram & working-astable& monostable multivibrator -Schmitt trigger.
Week 10	Number Systems and Conversions -BCD Code - Gray code - 1's and 2's complements.
Week 11	Basic logic gates - NAND, NOR and EX-OR gates - NAND and NOR as Universal Building blocks - Laws and theorems of Boolean algebra –- NAND-NAND circuits.
Week 12	Karnaugh's map- SOP and POS- applications-Half adder-Full adder-Half subtractor-full subtractor.
Week 13	RS, Clocked RS, D, J-K and J-K Master-Slave Flip-flop.
Week 14	Shift registers and Counters- Multiplexers and Demultiplexers.
Week 15	Decoders and Encoders - Memory Circuits -D/A and A/D converters.

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Class : B.Sc., Physics E/M and T/M -- III Year Semester -- V
Subject Code : 19UEPHC3
Name of the Subject: CLASSICAL AND STATISTICAL MECHANICS
Subject-in-charge: Dr. K. Srinivasan and Dr. S. Karthikeyan

WEEK	TOPICS TO BE COVERED
Week 1	External and internal forces, centre of mass-Conservation of linear momentum-Conservation of angular momentum.
Week 2	Conservation of energy-work-energy theorem-Conservative forces-examples-Constraints-Types of constraints-Examples.
Week 3	Degree of freedom-Generalized coordinates - transformation equations- Generalized velocities- Generalized Momentum.
Week 4	Principle of virtual work, D'Alembert's principle, Lagrange's equation of motion for conservative and non conservative systems.
Week 5	Simple applications-simple pendulum-Atwood's machine-compound pendulum.
Week 6	Hamilton's principle-Deduction of Lagrange's equation of motion from Hamilton's principle-Deduction of Hamilton's principle from D'Alembert's principle.
Week 7	Phase space-The Hamiltonian function H -Hamilton's Canonical equation of motion.
Week 8	Physical significance of H- Deduction of Canonical equation from a variational principle.
Week 9	Applications-Harmonic oscillator-Planetary motion-Compound pendulum
Week 10	Micro and macro states-The mu-space and gamma space-fundamental postulates of statistical mechanics.
Week 11	Ensembles-different types -Thermodynamical probability-entropy and probability-Boltzmann's theorem- Maxwell-Boltzmann statistics-
Week 12	Maxwell-Boltzmann energy distributive law- Maxwell-Boltzmann velocity distributive law.

Week 13	Development of Quantum statistics- Bose - Einstein and Fermi - Dirac statistics.
Week 14	Derivation of Planck's radiation formula from Bose – Einstein statistics - Free electrons in metal.
Week 15	Fermi gas-Difference between classical and quantum statistics

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Class : B.Sc., Physics E/M and T/M -- III Year Semester -- V
Subject Code : 19UEPHC4
Name of the Subject: RELATIVITY AND QUANTUM MECHANICS
Subject-in-charge: Dr. N. Mani and Dr. T. Hema Thanka Christlet

WEEK	TOPICS TO BE COVERED
Week 1	Frames of reference - Galilean transformation - Michelson - Morley experiment.
Week 2	Postulates of special theory of relativity - Lorentz transformation - length Contraction – time dilation - Relativity of simultaneity.
Week 3	Addition of velocities - variation of mass with velocity– Mass energy relation - Elementary ideas of general relativity.
Week 4	Phase and group velocity - wave packet - expression of De Brogile's wave length.
Week 5	Davisson and Germer's experiment - G.P.Thomson's experiment.
Week 6	Heisenberg's uncertainty principle and its consequences.
Week 7	Inadequacy of classical mechanics - Basic postulates of quantum mechanics -Schrodinger equation.
Week 8	Properties of wave function - Probability interpretation of wavefunction.
Week 9	Linear operators - self adjoint operators - expectation value - eigenvalues and eigenfunctions.
Week 10	Orbital angular momentum operators and their commutation relations.
Week 11	Separation of three dimensional Schrodinger equations into radial and angular parts.
Week 12	Elementary ideas of spin angular momentum of an electron - Pauli matrices.
Week 13	Free particle solution - Particle in a box
Week 14	Potential well of finite depth (one dimension) - linear harmonic oscillator.
Week 15	Rigid rotator and hydrogen atom.

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Class : B.Sc., Physics E/M and T/M -- III Year Semester -- V
Subject Code : 19UEPHE1
Name of the Subject: ENERGY PHYSICS
Subject-in-charge: Dr. A.C. GANESH KUMAR and Dr. M. KARL CHINNU

WEEK	TOPICS TO BE COVERED
Week 1	World's reserve of Commercial energy sources and their availability.
Week 2	India's production and reserves-Conventional and non-conventional sources of energy.
Week 3	Comparison – Coal- Oil and natural gas –applications - merits and demerits.
Week 4	Solar constant -Solar spectrum-Solar radiations outside earth's atmosphere –at the earth surface- on tilted surfaces.
Week 5	Solar Radiation geometry-Basic Principles of Liquid flat plate collector –Materials for flat plate collector -Construction and working.
Week 6	Solar distillation–Solar disinfection - Solar drying-Solar cooker(box type)-Solar water heating systems – Swimming pool heating.
Week 7	Introduction-Photovoltaic principle-Basic Silicon Solar cell- Power output and conversion efficiency-Limitation to photovoltaic efficiency.
Week 8	Basic photovoltaic system for power generation-Advantages and disadvantages-Types of solar cells.
Week 9	Application of solar photovoltaic systems - PV Powered fan – PV powered area lighting system – A Hybrid System.
Week 10	Biomass Energy - Introduction-Biomass classification- Biomass conversion technologies-Bio-gas generation-Factors affecting bio-digestion.
Week 11	Working of biogas plant- floating and fixed dome type plant -advantages and disadvantage of -Bio-gas from plant wastes-Methods for obtaining energy from biomass.

Week 12	Thermal gasification of biomass-Working of downdraft gasifier-Advantages and disadvantages of biological conversion of solar energy.
Week 13	Wind Energy Conversion-Classification and description of wind machines, wind energy collectors-Energy storage.
Week 14	Energy from Oceans and Chemical energy resources-Ocean thermal energy conversion-tidal power, advantages and limitations of tidal power generation.
Week 15	Energy and power from waves- wave energy conversion devices-Fuel cells- and application of fuel cells- batteries- advantages of battery for bulk energy storage- Hydrogen as alternative fuel for motor vehicles.

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TEACHING PLAN (EVEN SEMESTER)

Class : B.Sc., Physics E/M and T/M -- I Year Semester -- II
Subject Code : 19UBPHC1
Name of the Subject: HEAT, THERMODYNAMICS AND SOUND
Subject-in-charge: Dr. A.C. GANESH KUMAR and Dr. T. HEMA THANKA CHRISTLET

WEEK	TOPICS TO BE COVERED
Week 1	Specific heat capacity – Specific heat capacity of solids – Dulong and Petit's law – Specific heat capacity of liquid – method of mixtures.
Week 2	Barton's correction – Specific heat capacity of gases – C_p and C_v by Regnault's method.
Week 3	Joule-Kelvin effect – porous plug experiment – Linde's method of liquefying air.
Week 4	Thermal conductivity – rectilinear flow of heat – thermal conductivity of a good conductor – Forbe's method –
Week 5	Thermal conductivity of a bad conductor – Lee's disc method – radiation – blackbody radiation.
Week 6	Wien's law – Stefan's law – Newton's law of cooling from Stefan's law.
Week 7	Thermodynamic equilibrium – zeroth law of thermodynamics – first law of thermodynamics – Reversible and irreversible

	processes.
Week 8	Second law of thermodynamics-Heat engine – Carnot's engine – Carnot's theorem – thermodynamics scale of temperature.
Week 9	Entropy – entropy and available energy – temperature – entropy diagram for Carnot's cycle - III Law of thermodynamics – Nernst's heat theorem-Maxwell's thermodynamic relations.
Week 10	Simple Harmonic Motion –Composition of two S.H.M in a straight line-at right angles-Lissajous's figures.
Week 11	Free, Damped, Forced vibrations - Resonance -Fourier theorem-application.
Week 12	Laws of transverse vibration of strings - Sonometer-Determination of AC frequency using sonometer - Determination of frequency using Melde's apparatus-Decibels - Intensity levels - decibel-noise pollution.
Week 13	Ultrasonics – production – piezo electric crystal method.
Week 14	Magnetostriction method – applications. Acoustics of buildings – reverberation – Absorption coefficient.
Week 15	Sabine's formula – Acoustics aspects of halls and auditoriums.

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TEACHING PLAN (EVEN SEMESTER)

Class : B.Sc., Physics E/M and T/M -- II Year Semester -- IV
Subject Code : 19UDPHC1
Name of the Subject: ATOMIC PHYSICS
Subject-in-charge: Dr. S. SESHADRI and Dr. K. SRINIVASAN

WEEK	TOPICS TO BE COVERED
Week 1	The free electron theory of metals – expressions for electrical conductivity – thermal conductivity.
Week 2	Wiedman-Franz's law-Hall effect-magneto resistance-determination of electronic charge – Millikan' s oil drop method.
Week 3	Electron microscope – Band theory of solids – classification of solids on the basis of band theory.
Week 4	Discovery-properties- analysis – Thomson's parabola method.
Week 5	Aston's mass spectrograph – Bainbridge's mass spectrograph.
Week 6	Dempster's mass spectrograph – Dunnington's method of determining e/m.
Week 7	Early atomic spectra-Thomson model-Alpha particle scattering-Rutherford 's nuclear model-drawbacks-Bohr atom model.
Week 8	Bohr's interpretation of the Hydrogen spectrum-correction for nuclear motion-evidences in favour of Bohr's theory-Ritz combination principle-correspondence principle-Sommerfield'srelativistic atom model-drawbacks.
Week 9	The vector atom model – Quantum numbers associated with the vector atom model — the Pauli's exclusion principle – periodic classification of elements.
Week 10	Coupling schemes-L-S Coupling-j-j Coupling- Hund rules-magnetic dipole moment due to orbital motion of the electron- due to spin of the electron -
Week 11	Stern and Gerlach experiment-spin-orbit coupling-optical spectra-spectral terms-spectral notation- selection rules- intensity rules- interval rule- fine structure of sodium D line- hyperfine structure.
Week 12	Normal Zeeman effect- theory and experiment- quantum mechanical explanation - Larmor's theorem- Anomalous Zeeman

	effect- Paschen –Bach effect-Stark effect.
Week 13	Production of X-rays – properties-absorption of X-rays – X-ray absorption edges- Bragg's law – Bragg's X-ray spectrometer –the powder crystal method –Laue's method – Rotating crystal method –X-ray spectra.
Week 14	Continuous spectra- characteristic spectra-Moseley's law -importance–width of spectral lines-Doppler broadening-collision broadening-X-ray Detectors-scintillation detector.
Week 15	Semiconductor detectors Compton effect- theory and experimental verification.-Einstein's photoelectric equation-photoelectric cells-photo emissive cells-photovoltaic cells-photoconductive cells.

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TEACHING PLAN (EVEN SEMESTER)

Class : B.Sc., Physics E/M and T/M -- III Year Semester -- VI
Subject Code : 19UFPHC1
Name of the Subject: NUCLEAR PHYSICS
Subject-in-charge: Dr. S. Karthikeyan and Dr. S. Seshadri

WEEK	TOPICS TO BE COVERED
Week 1	General properties of nucleus- binding energy – BE/A curve – significance.
Week 2	Proton electron theory- proton neutron theory -Nuclear forces –characteristics.
Week 3	Meson theory of nuclear forces – Yukava Potential- Nuclear models.
Week 4	Fundamental laws of radio activity –theory of α ,β and ϒ decay- properties of alpha, beta and gamma rays.
Week 5	Neutrino and its properties-electron capture. - nuclear isomers.
Week 6	Mossabauer effect - applications- Radio carbon dating- radio isotopes – uses.
Week 7	Inematics of nuclear reaction-Nuclear fission –Nuclear fusion – Nuclear reactor-uses.
Week 8	Atom bomb - hydrogen bomb-fusion reactor –plasma confinement.
Week 9	Artificial transmutation-Q value of nuclear reaction-types of nuclear reaction.

Week 10	Neutron sources and properties- Detectors-G.M.Counter-scintillation counter-bubble chamber.
Week 11	Wilson cloud chamber-Accelerators-cyclotron-synchrocyclotron-betatron-synchr otrons.
Week 12	Cosmic rays-introduction-discovery-latitude, altitude and azimuth effects-longitudinal effect-north –south effect.
Week 13	Seasonal and diurnal changes-primary and secondary cosmic rays-nature of cosmic rays- cosmic ray showers-Van Allen belt- origin of cosmic radiation.
Week 14	Elementary particles-introduction-particles and antiparticles-antimatter-the fundamental interaction.
Week 15	Elementary particle quantum numbers-conservation laws and symmetry-the quark model.

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TEACHING PLAN (EVEN SEMESTER)

Class : B.Sc., Physics E/M and T/M -- III Year Semester -- VI
Subject Code : 19UFPHC2
Name of the Subject: SOLID STATE PHYSICS
Subject-in-charge: Dr. LYDIA CAROLINE MANOHAR and Dr. K. SRINIVASAN

WEEK	TOPICS TO BE COVERED
Week 1	Types of bonds in crystals - Ionic, covalent, Metallic, Vander waal's and Hydrogen Bonding.
Week 2	Bond energy of sodium chloride molecule - variation of inter atomic force with inter atomic spacing.
Week 3	Cohesive energy - cohesive energy of ionic solids.
Week 4	Crystal Lattice -Primitive and unit cell-seven classes of crystal-Bravais Lattice-Miller Indices-Structure of crystals.
Week 5	Simple cubic, Face centered cubic, Body centered cubic and Hexagonal close packed structure -Sodium Chrloride, Zinc Blende and Diamond Structures.
Week 6	Crystal Diffraction – Bragg's law-Experimental methods-Laue method, powder method.
Week 7	Spontaneous Magnetization –classical Theory of Diamagnetism.
Week 8	Weiss theory of Para magnetism – Ferromagnetic domains – Bloch wall.
Week 9	Basic ideas of anti-ferromagnetism – Ferrimagnetisms – Ferrites in computer Memories.
Week 10	Band theory of solids –classification of insulators, Semiconductors, conductors – intrinsic and extrinsic semiconductor.
Week 11	Carrier concentration for electron - Polarization – frequency and temperature effects on polarization.
Week 12	Dielectric loss-ClausiusMosotti relation-determination of dielectric constants.
Week 13	Superconductivity - Introduction - General Properties of Superconductors - effect of magnetic field.
Week 14	Meissner effect - effect of current - thermal properties - entropy -

	specific heat -energy gap - isotope effect - Type–I and Type–II Superconductors.
Week 15	Explanation for the Occurrence of Super Conductivity - BCS theory - Application of Superconductors - High T_C superconductors.

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Class : B.Sc., Physics E/M and T/M -- III Year Semester -- VI
Subject Code : 19UFPHE1
Name of the Subject: MICROPROCESSOR FUNDAMENTALS
Subject-in-charge: Dr. A.C. GANESH KUMAR and Dr. M. KARL CHINNU

WEEK	TOPICS TO BE COVERED
Week 1	Architecture of 8085 – registers, flags, ALU, address and data bus.
Week 2	Demultiplexing address/data bus – control and status signals – control bus.
Week 3	Programmer's model of 8085 –Pin out diagram – Functions of different pins.
Week 4	Instruction set of 8085 – data transfer, arithmetic, logic, branching and machinecontrol group of instructions –
Week 5	Addressing modes – register indirect, direct, immediate andimplied addressing modes.Assembly language & machine language.
Week 6	Programming techniques: addition,subtraction, multiplication, division, ascending, descending order, largest and smallest(single byte).
Week 7	Memory interfacing
Week 8	Interfacing 2kx8 ROM and RAM, Timing diagram of 8085.
Week 9	MOVRd, Rs – MVI Rd,data(8))
Week 10	Interfacing input port and output port to 8085
Week 11	Programmable peripheral interface 8255.
Week 12	Flashing LEDs.
Week 13	Interrupts in 8085 - hardware and software interrupts.
Week 14	RIM, SIM instructions –priorities.
Week 15	Simple polled and interrupt controlled data transfer.

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Class : B.Sc., Physics E/M and T/M -- III Year Semester -- VI
Subject Code : 19UFPHE2
Name of the Subject: OPTO ELECTRONICS
Subject-in-charge: Dr. N. Mani and Dr. D. Subashini

WEEK	TOPICS TO BE COVERED
Week 1	Introduction – PN junction as a Light Source (LED).
Week 2	LED materials – Advantages – LCD.
Week 3	Characteristics and action of LCD – Advantages.
Week 4	Laser- Introduction– characteristics of Laser– Spontaneous and stimulated emission.
Week 5	Einstein coefficients- condition for population inversion.
Week 6	Three level scheme– semi conductor.
Week 7	Photo detector- characteristics of photo detectors.
Week 8	PN junction photo detector– PIN photo diode.
Week 9	Avalanche photo diode- Photo transistor.
Week 10	Introduction – principle of optical fibre.
Week 11	Light transmission in a optical fibre.
Week 12	Acceptance angle – Numerical aperture.
Week 13	Fibre index profiles – Step index, graded fibre (transmission of signals).
Week 14	Advantages of fibre optic communications, optical switching.
Week 15	Logic gates

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Class : B.Sc., Physics E/M and T/M -- III Year Semester -- VI
Subject Code :
Name of the Subject: RELATIVITY AND QUANTUM MECHANICS
Subject-in-charge: Dr. N. Mani and Dr. T. Hema Thanka Christlet

WEEK	TOPICS TO BE COVERED
Week 1	Frames of reference - Galilean transformation - Michelson - Morley experiment.
Week 2	Postulates of special theory of relativity - Lorentz transformation - length Contraction – time dilation - Relativity of simultaneity.
Week 3	Addition of velocities - variation of mass with velocity– Mass energy relation - Elementary ideas of general relativity.
Week 4	Phase and group velocity - wave packet - expression of De Brogile's wave length.
Week 5	Davisson and Germer's experiment - G.P.Thomson's experiment.
Week 6	Heisenberg's uncertainty principle and its consequences.
Week 7	Inadequacy of classical mechanics - Basic postulates of quantum mechanics -Schrodinger equation.
Week 8	Properties of wave function - Probability interpretation of wavefunction.
Week 9	Linear operators - self adjoint operators - expectation value - eigenvalues and eigenfunctions.
Week 10	Orbital angular momentum operators and their commutation relations.
Week 11	Separation of three dimensional Schrodinger equations into radial and angular parts.
Week 12	Elementary ideas of spin angular momentum of an electron - Pauli matrices.
Week 13	Free particle solution - Particle in a box.
Week 14	Potential well of finite depth (one dimension) - linear harmonic oscillator.
Week 15	Rigid rotator and hydrogen atom.

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Class : B.Sc., Physics E/M and T/M -- III Year Semester -- VI
Subject Code :
Name of the Subject: CLASSICAL MECHANICS AND MATHEMATICAL PHYSICS
Subject-in-charge: Dr.S. KARTHIKEYAN AND Dr. K. SRINIVASAN

WEEK	Topics to be covered
Week 1	Constraints and Degrees of Freedom – Generalized Notations - coordinates – displacement – Velocity – Acceleration – Momentum – Force.
Week 2	Potential Energy – D'Alembert's Principle – Lagrangians equation from D'Alembert's principle.
Week 3	Application of Lagrange's equation of motion to Linear Harmonic Oscillator, Simple Pendulum and Compound Pendulum.
Week 4	Phase Space – Hamiltonian function – Hamiltonian Principle – Hamilton's canonical equations of motion.
Week 5	Physical significance of H – Applications of Hamiltonian equations of motion to Simple Pendulum.
Week 6	Compound Pendulum and Linear Harmonic Oscillator.
Week 7	Definition – The Beta function – Gamma function – Evaluation of Beta function.
Week 8	Evaluation of Gamma function –Relation between Beta and Gamma functions.
Week 9	Problems-Bessel function- Generalising and recurrence relation.
Week 10	Introduction – special types of Matrices – Transpose of a Matrix – The Conjugate of a Matrix – Conjugate Transpose of a Matrix – Symmetric and Anti symmetric.
Week 11	Hermitian and skew Hermitian – Orthogonal and Unitary Matrices – Properties – Characteristics equation – Roots and characteristics vector –
Week 12	Diagonalization of matrices - inverse of a matrix - Cayley-Hamilton theorem – Problems.
Week 13	Divergence and curl of a vector point function - Line Integral – Surface Integral – Volume Integral (without problem).

Week 14	Gauss’s Divergence theorem and it’s proof - Deduction from Gauss theorem – Green's theorem in the plane.
Week 15	Stoke’s theorem in space - simple problems.

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Class : B.Sc., Physics E/M and T/M -- III Year Semester -- VI
Subject Code :
Name of the Subject: INTEGRATED ELECTRONICS
Subject-in-charge: Dr.D. SUBASHINI AND Dr. M. KARL CHINNU

WEEK	Topics to be covered
Week 1	Number systems – binary – hexadecimal – Binary addition – subtraction (1's and 2's compliment method).
Week 2	Multiplication - division - BCD – Conversion – simplification of logic circuits - using (i) Boolean algebra, (ii) Karnaugh map.
Week 3	Demorgan's theorems - NAND and NOR as universal building blocks.
Week 4	Half adder, full adder.
Week 5	Half subtractor and full subtractor – 4 bit adder/subtractor.
Week 6	Decoder, encoder - multiplexer – de multiplexer.
Week 7	R.S flip flop, D flip flop and JK flip flops - JK Master Slave flip flop.
Week 8	Synchronous and ripple counters - BCD counter – Up/Down counters - shift registers.
Week 9	Serial and parallel registers - ring and twisted ring counter.
Week 10	Characteristics parameters – differential gain – CMRR – Slew rate – bandwidth – applications.
Week 11	Inverter, non-inverter, integrator, differentiator, summing, difference and averaging amplifier.
Week 12	Solving simultaneous equations - comparator - square wave generator - Wien's bridge oscillator - Schmitt trigger.
Week 13	Timer 555 - Internal block diagram and working - astable and monostable multivibrator.
Week 14	Schmitt trigger, D/A converter.
Week 15	Binary weighted method - A/D converter - successive

	approximation method.

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Class : B.Sc., Physics E/M and T/M -- III Year Semester -- VI
Subject Code :
Name of the Subject: NUMERICAL METHODS
Subject-in-charge: Mrs. P.R.KANIMOZHI AND Dr. T. HEMA THANKA CHRISTLET

WEEK	Topics to be covered
Week 1	Method of triangularisation
Week 2	Gauss elimination method
Week 3	Inverse of a matrix - Gauss-Jordan method
Week 4	Bisection method – Regula falsi method
Week 5	Newton - Raphson method - - Horner's method
Week 6	Solution of ordinary differential equation - Euler's method.
Week 7	Finite differences – operators
Week 8	E,D – relation between operators –linear interpolation
Week 9	Interpolation with equal intervals – Newton forward interpolation formula – Newton backward interpolation formula.
Week 10	Principles of least squares - fitting a straight line
Week 11	linear regression
Week 12	fitting an exponential curve.
Week 13	Trapezoidal Rule
Week 14	Simpson's 1/3 rule and 3/8 rule
Week 15	Applications - Weddle's rule

2.3.4 பாடத்திட்ட செயலாக்கம்

பருவம் I,III,V

:020 ஜூன் - பாடங்கள் அறிமுகம்

:020 ஜூலை - அலகு -1

:020 ஆகஸ்ட் - அலகு -2 முதல் அகமதிப்பீட்டுத்தேர்வு

:020 செப்டம்பர் - அலகு 3&4 ஒப்படை இரண்டாம் அகமதிப்பீட்டுத்தேர்வு

:020 அக்டோபர் - அலகு 5 கருத்தரங்கம் - மாதிரித்தேர்வு

:020 நவம்பர் - பருவத்தேர்வுகள்

பருவம் II,IV,VI

:020 திசம்பர் - பாடங்கள் அறிமுகம் அலகு-1

:020 ஜனவரி - அலகு -2 முதல் அகமதிப்பீட்டுத்தேர்வு

:020 பிப்ரவரி - அலகு 3&4 ஒப்படை இரண்டாம் அகமதிப்பீட்டுத்தேர்வு

:020 மார்ச் - அலகு 5 கருத்தரங்கம் - மாதிரித்தேர்வு

:020 ஏப்ரல் - பருவத்தேர்வுகள்

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