Nutrition, Food Service Management and Dietetics

PROGRAMME SPECIFIC OUTCOMES (PSO)

On the completion of the programme, the students will be able to:

PSO1: Demonstrate in depth knowledge and develop proficiency in practical skills in all the major domains of Home Science and the specialized branch of Nutrition Food Service Management and Dietetics

PSO2: Pursue higher education to extend and develop the knowledge gained in the undergraduate Nutrition, Food Service Management and Dietetics program

PSO3: Function as leaders or entrepreneurs with sound moral and professional ethical values and apply the knowledge gained in the fields related to the broad spectrum of Home Science as well as the specialized discipline of Nutrition Food Service Management and Dietetics

PSO4: Show a passion for lifelong learning and self –learning and adapt to technological advancements in Nutrition, Food Service Management and Dietetics

PSO5: Develop and Prioritize effective interpersonal and communication skills to maximize work productivity as individuals or in team

PSO6: Apply the knowledge and practical skills in Nutrition, Food Service Management and Dietetics to construct community welfare models that provide pragmatic solutions to issues related to health and quality of life of the society and recommend strategies for

Food science

CO	COURSE OUTCOME – Food Science	KNOWLEDGE LEVEL
CO1	Name and classify the various food groups and identify the suitable method of preparation for different food ingredients.	K1, K2 K3
CO2	Recall and compare the composition and nutritional significance of different food groups and explain the effect of food in relation to health	K1 ,K2, K4
CO3	Outline, examine and explain changes that occur in food groups when subjected to heat, identify measures to minimize food and nutrient loss.	K1, K2 ,K3 K4,
CO4	Pursue higher education in food science by developing skills in demonstrating recipes making use of different food groups and different cooking methods	K2, K3 , K4
C05	Demonstrate technical skills to develop innovative nutritious low cost recipes that minimize wastage of resources and that would help them emerge as entrepreneurs in the food industry	K2, K3,
K1 – Remembering , K2 Understanding , K3 Applying ,K4 Analysing		

Food Preservation and Processing

CO	Course Outcomes - Food Preservation and Processing	K - Levels
CO1	Define and explain the principles of food preservation and relate the role of microorganisms in food spoilage	K1, K2
CO2	Compare, analyse and make use of the different methods of processing involving high and low temperature, and also define and interpret various drying methods	K1, K2, K4
CO3	Classify food additives and develop various food products using natural additives	K2
CO4	Distinguish and translate the knowledge on food packing and various processing technique to create wide variety of biodegradable raw material thereby contributing to preserve the environment and society at large	K4, K2
CO5	Develop jams, jellies and pickles using natural ingredients	K3

Nutrition through Life cycle

CO	COURSE OUTCOME- Nutrition through Life cycle	KNOWLEDGE LEVEL
CO1	Define and explain the principles of meal planning by making use of the food pyramid and my plate	K1, K2, k3
CO2	List and explain the nutrient needs of individuals in different stages of family life cycle.	K1,K2,
CO3	Demonstrate skills in developing balanced diets using locally available and cost effective food ingredients for different age groups in the society	K2, K3
CO4	Explain the importance of balanced diets especially for vulnerable groups such as pregnant and lactating mothers, adolescent girls and children by making use of innovative methods of communication	K2, K3
CO5	Apply the knowledge and skills gained in the course to meet personal and family health goals, serve as healthcare educators in private or public health sectors or take part in research	K3
K1 – Remembering , K2 Understanding , K3 Applying ,K4 Analysing , K5- Evaluating , K6- Creating		

Human Development

CO	COURSE OUTCOME - Human Development	KNOWLEDGE LEVEL
CO1	Define and explain the principles of growth and development	K1. K2
CO2	List the milestones in various stages of lifecycle and identify factors influencing the attainment of the milestones in each stage of life	K1,K3
CO3	Explain and compare the physical, social, emotional cognitive development in different stages of family life	K2 , K4
CO4	Identify the problems specific to various stages of life and explain strategies to solve these problems to enhance the overall wellbeing of the society	K3,
CO5	Apply the course information to start a preschool	K3
K1 – Remembering , K2 Understanding , K3 Applying ,K4 Analysing , K5- Evaluating , K6- Creating		

Human Physiology

CO	COURSE OUTCOME - Human Physiology	KNOWLEDGE LEVEL
CO1	Define cell and explain its different function. Classify and explain the functions of tissue. Explain the factors affecting blood pressure.	K1, K2, K4
CO2	Identify and explain the functions of excretory system. Draw and label the structure and explain the functions of nervous system	K1, K2, K3, K4
CO3	Explain the mechanism of respiration	K2
CO4	Explain the process of digestion and absorption of nutrients List and explain the effect of hypo and hyper secretion of hormones involved in endocrine system	K1, K4,
CO5	Distinguish between male and female reproductive system Discuss the structure and function of sense organ	K2 , K4
K1–Knowledge,K2-Understand,K3-Apply,K4–Analyze, K5 – Evaluate, K6 – Create.		

Interior Design

CO	COURSE OUTCOME - Interior Design	KNOWLEDGE LEVEL
CO1	Relate and illustrate the principles of design and color in interior and exterior of home, office and hotels	K1, K2
CO2	Select and compare various designs to decide the right choice of furniture, window treatment for varied occasions and all spaces	K1, K3
CO3	Show, relate and explain wealth out of waste and indoor planting to save environment	K1, K2

CO4	Find, relate and apply energy saving light to illumine the areas	K1, K3
CO5	Analyse, classify and compare traditional and modern practices in every aspect to solve societal problems	K2, K3, K4

Biochemistry

CO	COURSE OUTCOME - Biochemistry	KNOWLEDGE LEVEL
CO1	Explain the process of carbohydrate, protein and lipids metabolism and make use of this knowledge to improve health	K2
CO2	Explain and correlate the role of enzymes in carbohydrate, protein and lipid metabolism.	K2
CO3	Compare and explain the explain hormonal regulation of carbohydrate, protein and lipids	K2, K4,
CO4	Demonstrate inter relationship between carbohydrate, fat and protein metabolism	K2,
C05	Examine the causes of inborn errors of metabolism and make use of this knowledge to create awareness among the society	K1, K2,
K1 - Remembering, K2 - Understanding, K3 - Applying, K4 - Analyzing, K5 - Evaluating		

Clinical Nutrition

CO	Course Outcome - Clinical Nutrition	Knowledge Level
CO1	Outline and explain etiology and symptoms of various diseases	K1, K2
CO2	Examine the changes in physiology due to various diseases and spell out the various diagnostic measure	K1, K2
CO3	Explain drug nutrient interactions	K2

CO4	Examine the interaction between etiological factors and development of various disorder and create awareness about the same in the society	K2, K3
CO5	Explain metabolic disorders and list their causes so make use of this knowledge to create awareness to preventive metabolic disorders	K1, K2, K3

Therapeutic dietetics

CO	COURSE OUTCOME - Therapeutic dietetics	KNOWLEDGE LEVEL
CO1	Summarize the concepts and principles of diet therapy and the role of a dietitian.	K1, K2
CO2	Apply the principles of dietetics to plan therapeutic diets for gastrointestinal disorders.	K2
CO3	Classify the diseases of liver and febrile conditions based on causes and symptoms and plan diet therapy.	K2
CO4	Assess the grades of obesity, and Describe the symptoms, diagnostic tests and complications for dietary management of diabetes mellitus, cardiovascular diseases and hypertension using diet planning tools	K2, K3
CO5	Gained knowledge and apply the principles of dietetics to plan diseases of excretory system & cancer	K1, K3, K4
K1-Knowledge, K2-Understand, K3 -Apply, K4 Analyse		

QUANTITY FOOD PRODUCION AND SERVICE

CO	COURSE OUTCOME - QUANTITY FOOD PRODUCION AND SERVICE	KNOWLEDGE LEVEL
CO1	Recall about designing a food service facility and summarize different types of kitchen	K1, K2
CO2	Classify and categorize different types of catering equipment, Identify various methods of buying food and factors influencing their purchase	K2, K3, K4
CO3	Summarize about types of menu planning and practically experiment with standardization various techniques, portion control, stepping up of recipes	K2, K3, K5
CO4	Spell out and categorize various styles of service and table setting	K2, K4
C05	Illustrate and infer about sanitation and personnel hygiene	K2, K4
K1 - Remembering, K2 - Understanding, K3 - Applying, K4 - Analyzing, K5 - Evaluating		

Sports nutrition

CO	COURSE OUTCOME - Sports nutrition	KNOWLEDGE LEVEL
CO1	Define, translate and construct diet plans for athletes	K1, K2, K3
CO2	Outline the benefits of exercise to maintain health	K2
CO3	List and explain the role of nutrients with reference to adequate intake for sports persons	K2, K3
CO4	Relate and explain the role of water to prevent hydration in athletes	K1, K2
CO5	Explain energy system with special reference to aerobic and anaerobic pathways	K2, K4

Textile science

CO	COURSE OUTCOME - Textile science	KNOWLEDGE LEVEL
CO1	Identify and choose the natural and manmade fibers and it's use in day to day life	K1 & K3
CO2	Explain the weaving process and basic weave pattern	K2
CO3	Classify the different methods of spinning	K2
CO4	List and compare basic and special finishes and make use of the on fabrics	K1, K2, K3 K4
CO5	Compare, classify dyes and makes use of this knowledge in fabric printing on clothes with regard to natural and man made	K1, K3, K4
K1 - Remembering, K2 - Understanding, K3 - Applying, K4 - Analyzing, K5 - Evaluating		

ZOOLOGY

Department: PG & RESEARCH DEPARTMENT OF ZOOLOGY

ProgrammeName: B.Sc. ADVANCED ZOOLOGY AND BIOTECHNOLOGY

ProgrammeCode:**UAAZ**

PSO 1	Acquire knowledge anddevelop skills by harnessing the core competencies on the fundamentalconcepts of zoologicalsciences and basics of biotechnology
PSO 2	Demonstrate and nuture proficiency in experimental techniques , comprehend and apply the principles of values of the diversity, complexity of animal life and its inter-relations with the biological sciences
PSO 3	Adapt to self-directed continuous learning, venture entrepreneurial skills, aiming at global competency, which will promote professional and personal growth
PSO 4	Develop skills to perform laboratory experiments with systematic investigations,design scientific methods,discuss facts ,interpret conclusions and that will help them pursue higher education
PSO 5	Inculate communication skills to present a clear and independent expression of knowledge and ideas, self-awareness , career and leadership readiness
PSO 6	Develop critical analytical skillsin various emerging fields, on different scientific arenas and show responsibility, understanding of local and global issues

Sl.No	**Course Code**	**Course Name**	**CO′s One by One**	
			Code	**Course Outcomes**
1.	22UAAZC1	**Invertebrata**	**CO1**	Interpret the changes in the animal organisation from unicellular to multicellular complex body plan.
			CO2	To differentiate the hierarchy change from unicellular organization to multicellular forms with distinct morphological and physiological changes (e.g., poriferans to coelentrates)
			CO3	To illustrate the structure, function and parasitic adaptation in helminthes and characterize annelids.
			CO4	To identify and classify Arthropoda and compare it as the largest of all other phylum, understand Mollusca with structural and functional details.

			CO5	Classify and characterize Echinoderms with their evolutionary relationships, affinities to chordates
2	**22UBAZC1**	**Chordata**	**CO1**	To explain the characteristics changes from invertebrates to Prochordates and Chordates.
			CO2	To differentiate jawless fishes from other fish forms. Students will be able to illustrate fish physiology with neat labeled diagram
			CO3	To explain the morphology of amphibians with neat labeled diagrams the importance of Parental care in Amphibia. To classify Reptilia and study its structural pecularities. Identification methods for poisonous or non- poisonous by analyzing its characters
			CO4	Outline the special characters of birds with reference to their respiration, flight adaptations Critically analyze the characters of Archaeopteryx with reptiles and birds.
			CO5	Discuss giving reasons mammalia as the highest form of vertebrates with reference to advancement. Compare and contrast Prototheria, Metatheria and Eutheria
3	**22UBAZC2**	**Practical I: Invertebrata And Chordata**	**CO1**	Compare and examine the structure and function of the different systems in Cockroach and prawn
			CO2	Demonstrate and illustrate the structural organization of mouth parts in insects
			CO3	Mount the scales of fishes and identify its types
			CO4	Identify and utilize the knowledge of classification in the identification of specimens of biological importance
			CO5	To identify the skeletal structures of vertebrate animal frog based on osteology specimens
4	**22UCAZC1**	**Cellbiology And Biotechniques**	**CO1**	Get an overview of the structure of cell, its structural components and their functions, Recall the structure and explain the functions of plasma membrane, mitochondria , lysosomes ribosome and endoplasmic reticulum

			CO2	Understand Concepts of cancer and apoptosis, Describe and relate the structure and functions of nucleus, understand cell division and its process and the events of cell cycle
			CO3	Understand the chromatin structure, ultrastructure and macromolecular organisation of DNA andRNA, its replication, RNA structures and Recall the Central Dogma the molecular machinery involved in protein synthesis. Interpret the processes and significance of transcription, translation and post – transcriptional and – translational modifications
			CO4	To understand the techniques and principlesinvolved in histology, To know the working mechanism and compare the compound and electron microscopes.
			CO5	Explain the principle and applications of spectrophotometer, Illustrate the process of centrifugation and chromatography, Classify and distinguish the types of electrophoresis
	22UDAZC1	**Genetics**	**CO1**	Examine the inheritance of mendelian traits, gene interactions, multiple alleles and polygenic inheritance
			CO2	Explain the concept of crossing over, linkage and chromosome mapping, Illustrate the mechanism chromosomal determination of sex in man
			CO3	Understand the inheritance of sex linked genes,non-disjunction leading to chromosomal variations and associated syndromes
			CO4	List the types of mutation and explain its biological effects. Analyse the mechanism of alterations in chromosomal structures

			CO5	Identifies the merits and demerits of inbreeding and outbreeding .Analyze the need of prenatal diagnosis and apply it for management of genetic disorders. Identifies the need for genetic counselling
6	**22UDAZC2**	**Practical II - Cell Biology And Genetics**	**CO1**	Identify the types of blood cells and to analyse their functions
			CO2	Identify the mitotic cell division and the stages of cell separation in onion root tips
			CO3	Identify different types of cells from prepared slides
			CO4	Outline the life cycle of Drosophila melanogaster and identify its mutant forms
			CO5	Interpret karyotypes, identify blood groups and giant chromosomes
7	**22UEAZC1**	**Biotechnology**	**CO1**	Understands to assess the molecular tools,enzymes involved in rDNA Technology. gene transfer technique, host cell and selection strategy to synthesize a gene and to produce multiple copies by cloning
			CO2	Demonstrate the skill to analyze the concepts and principles of modern techniques in experimental biotechnology Relate the principle of blotting, gene sequencing and micro array techniques with genome analysis
			CO3	Understands the applications of biotechnology in various fields
			CO4	Elaborate and discuss the prospects microbial production of enzymes
			CO5	Demonstrate and understands the animal tissue culture techniques
8	**22UEAZC2**	**Microbiology and Immunology**	**CO1**	Outline, classify and assess the structure of microbes
			CO2	To assess the microbial growth requirements and

				maintenance of different microorganisms
			CO3	Explain and identify the role of pathogen in water and food spoilage and to assess various food preservation methods
			CO4	Understand, types of Immunity,identifies the structure and function of lymphoid organs and Lymphoid Cells. Analyse the structure, types and properties of antigens and immunoglobulins
			CO5	Interprets Humoral and Cell mediated immune response Explain antigen – antibody reactions and its clinical application, Identifies the strategies for developing vaccine and explain the importance of monoclonal antibodies Compares the types of vaccine and Vaccination schedule
9	**22UEAZC3**	**Environmental Biology**	**CO1**	Illustrate the components of ecosystem , abiotic/biotic interactions and symbiotic relationships and explainthestructureandimpactofbiogeochemicalcycles
			CO2	Analyze and interprets the concept of community and population
			CO3	Develops idea on the dynamics of ecosystem and energytransformationsacrosstrophiclevels in different ecosystems
			CO4	Gain knowledge on habitat ecosystem , perceives ideas to on waste management and design principles of green chemistry
			CO5	Interpret the importance of biodiversity and its conservation and relate the impact of mankind on the ecological balance
1	**22UEAZC4**	**AnimalPhysiology**	**CO1**	Understand the functions of important physiological systems , their physiologicalresponses and disorders associated due to organ malfunctioning
			CO2	Identifies the digestive enzymes and absorption process of food. Summarize the circulatory

				pathway, clotting mechanism and cardiac cycle
			CO3	Analyze the transport of respiratory gases, excretory mechanism
			CO4	Explain the mechanism of muscle contraction and its energetics and neural conduction
			CO5	Evaluates the importance of sensory receptor mechanisms. Identifies and explains the endocrine glands , its hormone secretion and biological role
1	**22UFAZC1**	**Developmental Biology**	**CO1**	Demonstrate the skill of explaining and illustrating the ideas and theories of developmental biology
			CO2	Illustrate the events that occur during gametogenesis, fertilization. Outline the types and patterns of cleavage
			CO3	Prediction of various ectodermal, endodermal and mesodermal derivatives relates it to organogenesis
			CO4	Elaborates and gains knowledge on the placental types, understands about the stem cells and applies its prospects for the current scenario
			CO5	Identifies the causes for infertility, gains information on the various assisted reproductive technologies.
1	**22UFAZC2**	**Evolution**	**CO1**	Identifies the possible ways of origin of life and the relates the evidences for evolution
			CO2	Analyse the theories of evolution and explains the modern evolutionary thoughts
			CO3	Identifies the differences of mimicry and coloration, gains knowledge about the isolating mechanisms
			CO4	Classifies and categorizes the types of geographical distribution of animals and

				speciation
			CO5	Predicts the trends in evolution of horse and human evolution and cultural transformation of man
1	**22UFAZC3**	**Applied Zoology**	**CO1**	Demonstrate the skill to explain all concepts pertaining to zoology and human welfare
			CO2	Discuss the important agricultural pests affects crops and methods of their control.
			CO3	Outline the life cycle of honeybees, silkworms and lac insects and list their products , and their economic value
			CO4	To gain skills and knowledge on poultry breeding and poultry farm maintenance
			CO5	Understand dairy animals management, the breeds and economic importance
1	**22UFAZC4**	**Practical III : Animal Physiology, Biotechnology And Developmental Biology**	**CO1**	To perform, report on basic experiments in physiology, Analyzeandcomparedifferenttypesofexcretoryproductsinanimals ofdifferent habitats, report on pyalin activity in human saliva in realtion to temperature or pH
			CO2	Assessthehaemoglobincontent and to know how to read theblood pressure
			CO3	Demonstration of PCR and blotting technique
			CO4	Identify the structure of gametes and developmental stages of frog and chick
			CO5	To gain knowledge on the types of placenta
1	**22UFAZC5**	**Practical IV- Environmental Biology, Microbiology And Immunology**	**CO1**	Analyse the watersamplesfor,O2,salinity,carbonates and bicarbonates
			CO2	Identify a few ecological instruments and study its importance
			CO3	Know about theadaption ofrocky shoreand sandyshoreanimals
			CO4	Perform sterilization technique, media preparation and identify the difference between Gram positive and Gram negative bacteria , Examine the quality of milk

			CO5	Perform demonstration of agglutination reaction. Comparehistologyofdifferent immune tissues
1	**22UEAZE1A**	**Biostatistics And Biochemistry**	**CO1**	Explaintheprocessof collection,classification, tabulationandpresentationofdata.
			CO2	Describes andcalculatemean,median,mode,standard deviationandCo-efficientofvariance
			CO3	Understands and calculates Karlpearson's correlation coefficient, simple linear regression. test of significance and calculates Student t test and Chi-square test to draw inference on the given data
			CO4	Explainthestructureandclassificationof carbohydrate,proteinsandlipids, Explain the reactions of Glycolysis, TCA cycle, Glycogen metabolism, GluconeogenesisandHMP Shunt explainstheclassificationofenzymesand theirmechanismofenzymeaction
			CO5	Understands thebiochemical reactionsinaminoacid metabolism,Ureacycle, and βoxidation offattyacid
1	**22UFAZE2A**	**MedicalLaboratoryTechniques**	**CO1**	Explainsafelaboratorypractices, sterilization techniques understandprotocolsandprocedurestocollectclinicalsamples, familiarize in handlingclinicalequipment and to evaluatethesafetyprecautionswhilehandlingclinicalsamples
			CO2	Evaluate the characteristicsof urine, stool , semen , CSF and sputum clinicalsamples for their abnormalities
			CO3	To identify appropriatediagnosticmethodsforevaluationofcommonhematologicdisorders,liver function andinterpretclinicalparameters
			CO4	Explain, examine and discuss the etiological agent causing infectious diseases and its clinical manifestations
			CO5	To understandtheimportanceofprognosisanddiagnosis and control measures of diseases occurring due to life style modifications

1	**22UFAZE3A**	**Aquaculture**	**CO1**	Describe different aquaculture practices and to evaluate the freshwater and brackish water resources for aquaculture
			CO2	To outline the construction of fish hatchery and maintenance of fish ponds
			CO3	Apply the knowledge of aquaculture in composite fish farming, concept of integrated farming , sewage fed fish culture and the explain induced breeding techniques
			CO4	Familiarizes the culture practice of prawn, oysters and sea weeds for production and utility
			CO5	Identify fish diseases and discuss the economic returns of aquaculture
1	**22UAAZA1**	**AlliedZoology – Paper I**	**CO1**	To classify the different levels of organization and to study the salient features of various invertebrate phyla
			CO2	To interpret the organ system and to understand life history with one type study of each invertebrate phyla
			CO3	To illustrate the salient features of prochordates and identify their inter relationships
			CO4	To describe the structural organization of shark , frog and calotes
			CO5	To describe the adaptations and advancement of structural features in birds and mammals
2	**22UBAZA2**	**AlliedZoology – Paper II**	**CO1**	Identifies the various cell organelles of an animal cell to relate its function
			CO2	Understands the basic processes involved in embryonic development
			CO3	Analyses the importance of key physiological process in the human body
			CO4	Identifies methods of environmental waste management and strategiesfor minimization
			CO5	Gains an insight on the theories of evolution and its relevance to the mechanism of speciation
2	**22UBAZA2**	**AlliedZoology Practical**	**CO1**	Analyze the structural details of invertebratesand vertebrates through dissections.
			CO2	Gains knowledge of mouth parts of insects, appendages of prawn .

			CO3	Identifies the structure of placoid scale in shark
			CO4	Identify invertebrate preserved museum specimens in laboratory in relation to external morphology
			CO5	Identify vertebrates museum specimens in laboratory in relation to external morphology
2	**22UAAZN1A**	**Economic Zoology**	**CO1**	Knowtheeconomicimportanceofanimalfarming
			CO2	Disseminateinformationoneconomicaspectsofzoology
			CO3	Toexplorethecultivablebreedsofanimalsforsustainablegrowth
			CO4	Learnthemoderntechniquesinanimalhusbandry
			CO5	Todevelopentrepreneurialskillsthroughanimalfarming
2	**22UBAZN2A**	**Public Health And Hygiene**	**CO1**	Identify current national and global public health problems
			CO2	Awareness about the issues of nutrition , health , food safety, water safety and vaccination,
			CO3	Frame a public health plan during any epidemic or spread of infectious disease , health education and first aid
			CO4	Assess the health in equalities with regard to gender, race, ethnicity, income and life style
			CO5	Identifies communicable and non communicable diseases and suggests their preventive measures

Department: PG & RESEARCH DEPARTMENT OF ZOOLOGY

ProgrammeName: M.Sc. Zoology

ProgrammeCode:**PAAZ**

PSO	Program Specific Outcome
PSO 1	Demonstrate and develop an in-depth comprehensive understanding and conceptual knowledge of key concepts in advanced zoology
PSO 2	Acquire the practical skills, ability to perform experiments, analyse, obtain accurate results and gain the ability to solve scientific problems
PSO 3	Develop cognitive hands-on skills in advanced scientific methods and apply their uses in applied and modern zoological sciences
PSO 4	Create an interest in life sciences research, critical thinking and scientific approach by bridging the knowledgeon methodologies of research and bioethical concepts
PSO 5	Demonstrate proficiencyincommunicationof scientific information and able tosucceed incompetitive examinations andinterviews
PSO 6	Motivation towards leading to an entrepreneurship approach, team work, proficiency in effective verbal communicationand to integrate their knowledge in professional competence and well being

Sl.No	Course Code	Course Name	CO′s One by One	
			Code	**Course Outcomes**
	22PAAZC1	**Functional Morphology Of Invertebrates**	**CO1**	To recall the basic concepts of animal taxonomy and classify the primitive forms, relate their origin and phylogenetic significance
			CO2	Explains the structural organization and functions of locomotory organs and feeding patterns
			CO3	To compare the nervous, respiratory and excretory structures and to analyze its working mechanism in invertebrates

			CO4	Identifies the larval forms in invertebrates and their evolutionary significance
			CO5	Understands the structure peculiarities and affinities of a few organisms belonging to minor Phyla.
2	**22PAAZC 2**	**Phylogeny And Functional Morphology Of Chordates**	**CO1**	To explain the origin and to recall the evolutionary position of Chordates
			CO2	To discuss the vertebrates integument and functioning of circulatory system
			CO3	To outline the comparative anatomy of respiratory organs and kidney in Vertebrates
			CO4	To relate the skeletal organisation with the body framework of vertebrates
			CO5	Recognise the importance of sensory organs and to identify and relate the structural details of the brain organization and compare with different group of vertebrates
2	**22PAAZC 3**	**Evolution And Animal Behaviour**	**CO1**	To identify the eras of Geological time scale and to analyse evolutionary synthesis, various patterns of evolution
			CO2	Outlines the role of genes in molecular evolution and identifies its relationship with other groups of organisms
			CO3	Understand population evolution and analyse gene frequencies Identify the trends in the evolution of modern man based on fossil history
			CO4	Describe the various behavioural patterns exhibited by animals. Analyze and identify innate and learnedbehavior among animal. Identify and discuss the rhythmicity of behavioural expressions in animals.
			CO5	Assess complexity involved in behavioural traits and evaluate hormones and their role in aggression and reproduction, identify the communication in animals and relate it to their behaviour
2	**22PBAZC**	**Cell And**	**CO1**	Describe the chemical composition of cell membrane and relates its function in transport of

	1	**Molecular Biology**		molecules across cell membranes.
			CO2	Understands the dynamics of cytoskeleton and identifies the various cell to cell communication process
			CO3	Understands the eukaryotic replication and identifies the DNA repair mechanisms
			CO4	To evaluate the role of regulatory factors and mechanism of eukaryotic transcription and translation in the synthesis of proteins.
			CO5	To recall the events of cell cycle and to understand the role of cell cycle regulatory proteins, identifies the oncogenes and cancerous cells, genes involved in apoptosis
2	**22PBAZC 2**	**Molecular Genetics**	**CO1**	To summarize the molecular mechanisms by which genetic material controls the character of organisms. Analyses the fine structure of the gene, understands the concepts of microbial genetics
			CO2	Compares homologous and non-homologous gene recombinations, analyses the DNA mobile elements
			CO3	Determines the gene mapping methods and demonstrates its importance gene analysis, Perceives ideas to explain the chromosome maps
			CO4	Distinguish between different types of mutations, examines the alteration in chromosome structure and function
			CO5	Identify the methods of karyotyping, chromosome banding techniques and identifies the causes of genetic disorders , screening of genetic disorders.
2	**22PBAZC 3**	**Environmental Biology And Biodiversity Conservation**	**CO1**	Discuss the key ecological interactions and processes, the distribution and abundance of organisms
			CO2	Relate the principles and techniques to evaluate the impact of human population growth
			CO3	Explain the structure of community and identifies

				the methods of ecological succession
			CO4	Describe the structure, dynamic functioning and productivity of the ecosystems
			CO5	To understand and recall the importance of wildlife , sensitize the students on the need for conservation approaches of wildlife and prevention of extinction.
2	**22PBAZC 4**	**Practical- I : Invertebrata, Chordata Evolution And Applied Entomology**	**CO1**	Illustrate and examine the digestive, reproductive and nervous systems of invertebrate animals. Identifies the cranial nerves and aortic arches of shark
			CO2	Makes use of theknowledgeonmountingpedicellaria, appendages and sting of some invertebrate animals
			CO3	Differentiates and compare the structure, function and mode of life of various invertebrate animals based on coelome organization and mouth parts.
			CO4	Identifies the morphology and ecological adaptations in vertebrates, correlate and categorize thevertebrates basedon their skulland jaw suspension mechanism
			CO5	Gains knowledge on identification of fossils, differentiates mimicry, colouration and illustrates the ancestry of vertebrates based on evolution of pentadactyl limb
3	**22PBAZC 5**	**Practical- II: Cell & Molecular Biology , Genetics And Environmental Biology**	**CO1**	Experiments with the calibration of microscope using ocular and stage micrometer and measures the cell, analyse the banding pattern of polytene chromosomes from Chironomous larvae and determines its cell significance
			CO2	Identifies the blood groups and determines the genotypes of blood groups based on alleles, identifies the barr bodies from buccal smear and interprets its genetic significance
			CO3	Recalls the sectional view of histological tissues from prepared slides, gains knowledge on identification of Drosophila mutants , able to distinguish normal and abnormal chromosomes from karyotyping charts

			CO4	Determination of primary production using light and dark bottle techniques. Identification of Plankton and Marine Flora **:**Phytoplankton and zooplankton Identification of locally available macroalgae, sea grass and holophytes including mangrove plants.
			CO5	Illustrate abiotic/biotic interactions and symbiotic relationships
3	**22PCAZC 1**	**Biochemistryand Biophysics**	**CO1**	Assess the formation of chemical bonds , their types and nature. Explainsthestructureof proteins and understands Ramachandran plots
			CO2	Understands the mechanismofenzymeaction,enzyme kinetics, derives the Michaelis-Menten and Line-Weaver Burk equation andidentifies the enzymeinhibition mechanism
			CO3	Correlates and discuss the carbohydrate, protein and lipid metabolic pathways and prepare a flowchart for biochemical processes, analysethecontrolsitesand keyfunctionsof regulatory enzymes in metabolicpathways
			CO4	Understands and recalls the basic biophysical concepts and biophysical factors regulating cell functions
			CO5	Understands the laws of thermodynamics and analyses the biological effects of radiation
3	**22PCAZC 2**	**Animal Physiology**	**CO1**	Understand the various parts of the alimentary canal and the process of digestion, identifies the role of enzymes in the process of digestion. Traces the pathway of oxygenated and deoxygenated blood from the chambers of the heart and compare systemic, pulmonary and coronary circulation
			CO2	Explain the respiratory structures and outlines the transport of respiratory gases. Strategic planning to avoid stress and understands the importance of Yoga and meditation

			CO3	To understand the biophysical factors , mechanism of urine formation in the different regions of the renal tubules. To define and identify the adaptations of animals to osmoregulatory mechanism at different environments
			CO4	Interpret the different sections of neuron which regulate nerve impulse transmission and describes its mechanism, analyses the role of contractile proteins in muscle contraction process and the molecular events associated with contraction
			CO5	Distinguishes the temperature regulatory mechanisms between heterotherms, homeotherms and poikilotherms
3	**22PCAZC 3**	**Immunology**	**CO1**	Describe the structure and functions of different types of cells and organs of the immune system, differentiate the biological characteristics of the antigens and antibodies, immunoglobulins
			CO2	Explain the different types of antigen-antibody interactions and their applications, understands the pathways of complement functioning
			CO3	Understand how are immune responses by CD4 and CD8 T cells and B cells are initiated and regulated.
			CO4	Differentiate various immunological responses and the ways in which they are triggered and regulated by immune molecules , describe the mechanisms of hypersensitivity reactions and auto immune reactions
			CO5	Recognise the types and mechanisms of vaccines, Summarize immune responses against pathogens, transplantation understands the steps in monoclonal antibody production and diagnosis of immune diseases.
3	**22PDAZC**	**Developmental**	**CO1**	Comprehend and discuss important basic concepts

	1	**Biology**		in developmental biology and to relate the factors that contribute to the developmental process.
			CO2	Describe the process of morphogenesis and organogenesis, along with the mechanism
			CO3	Explains the concept of embryonic development, identifies the placental types, gains ability to analyse the fundamentals of stem cells
			CO4	Discuss the recent trends in Assisted Reproductive Technology , and ethical issues associated with it. Gains knowledge on contraceptives
			CO5	illustrate mechanisms of metamorphosis , regeneration and aging process with their relevant applications
	22PDAZC 2	**Biotechnology**	**CO1**	Illustrate the structure of genetic molecules and develop novel genetic procedures for animal welfare To develop and explain the protocols for genetically manipulating cells and produce transgenic animals
			CO2	Describe emerging technologies in the field of biotechnology and explain the principles of molecular diagnosis.
			CO3	To describe the methodologies for handling animal cells based on their diverse characteristics and identify the correct biotechnological tools for detecting diseases at the genomic level
			CO4	To evaluate and analyze the fermentation process and to obtain the desired products from the cells.
			CO5	To speculate on the industrial applications of microbial enzymes, implications of biotechnological regulations and design ethical solutions
	22PDAZC 3	**Practical-III: Biochemistry, Developmental**	**CO1**	Develops skill in preparation of buffer and determining their pH , quantitative determination of biochemical constituents from blood samples,, demonstrates enzyme kinetics through simple

		Biology And Immunology		laboratory experiments and summarize enzyme activity factors
			CO2	Demonstrate the principle and functioning of bioinstruments and discuss its applications
			CO3	Identifies the stages of development in Drosophila and metamorphosis of frog, applies knowledge in identifying the developmental of chick and its process of organogenesis
			CO4	Perceives and distinguish the immune cells by blood smear preparation and classifies the lymphoid organs based on the sectional view through prepared slides and examines their immunological role in functioning of immune system
			CO5	Examine the various immunotechniques pertaining to separation of lymphocytes, precipitin test, immunoelectrophoresis and immunodiffusion and evaluates its importance in clinical diagnosis
	22PDAZC 4	**Practical Iv- Animal Physiology, Biotechnology And Aquaculture**	**CO1**	To conduct experiment on fishes to understand the concept of RQ, salt loss and salt gain
			CO2	To perform haematology experiments and identify rouleaux and haematin crystals and also determine bleeding and clotting time
			CO3	Discovers the experimental procedures to perform blotting techniques, isolation of DNA , sequencing of DNA and PCR
			CO4	Evaluates the morphometry and meristic characters of food fishes of fresh and marine water
			CO5	Identifies and complies the economically important organisms exploited in aquaculture . Gains knowledge on the use of fish farm implements , fishing gears and crafts
	22PAAZE 1A	**Applied Entomology**	**CO1**	Categorize a few insects based on ecological, behavioural, morphological and developmental attributes Examine and identify the functional morphology of insects .

			CO2	Identification of important pests affecting agricultural crops like paddy, sugarcane, cotton, groundnut and coconut and suggest preventive and control measures .
			CO3	Differentiates between mulberry and non-mulberry silkworms and their biology and evaluates the various factors required for silkworm rearing and formulates methods to identify silk quality for marketing
			CO4	Understands to develop modern bee hives for apiary management, evaluates the value of honey and by products of honey bee colony, outlines the methods for lac cultivation
			CO5	Identify the potential impact of a few common insect species on human health and society in general, Ables to formulate management strategies for controlling pest
3	**22PBAZE 2A**	**Bioinstrumentation**	**CO1**	Compareandcontrasttheprincipleandapplicationsof electron , flourscent and phase contrast microscopy
			CO2	To understand the working principle of centrifugation and spectroscopy and its application
			CO3	Apply the suitable bioanalytical techniques to separate and analyse biomolecules by chromatography and electrophoresis
			CO4	Apply knowledge to learn techniques of histology and histochemistry
			CO5	To discover the techniques of animal cell culture and relate the applications for the study of animal cells, tissues. To identify and demonstrate the various immunotechniques
4	**22PCAZE 3A**	**Molecular And Human**	**CO1**	Classifies hormones based on chemical nature and interprets the cell signalling mechanism based on hormone binding to cell surface receptors and

		Endocrinology		nuclear receptors
			CO2	Identifies the integration of the hypothalamus and hypophysis. List the biological functions of various anterior and posterior pituitary hormones and explains the causes of classical dysfunction of pituitary
			CO3	Compiles endocrine interaction towards physiological functions and related disorders of the thyroid, parathyroid and pancreatic glands
			CO4	Assess the importance and coordination of adrenal cortex and adrenal medulla, distinguishes the difference between the regions of the adrenal, identifies the biological functions of the hormone secretions for normal function and dysfunction
			CO5	Understand and recalls the structural organization of reproductive organs the testis and ovary, identifies the reproductive cells involved in synthesizing hormones and analyse the normal levels of hormones that regulate reproductive functions and other physiological processes in human males and females
4	**22PDAZE 4A**	**Research Methodology**	**CO1**	Understand and gains knowledge on concept and types of research
			CO2	Applies knowledge to identify research problem, create an experimental research design and integrate the bioanalytical techniques and statistical methods to validate research investigations
			CO3	Understand the methods to compile literature and information needed for research
			CO4	Obtain information on scientific methods, scientific writing, relevant to research, publishing and presentation strategies
			CO5	To understand the safety guidelines in laboratory, the need for patenting, piracy and bioethics
4	**22PDAZE 5A**	**Aquaculture**	**CO1**	To develop knowledge on the fish farm and their maintenance.
			CO2	Understand the methods of fish seed and feed

				production and develops knowledge on hatchery techniques
			CO3	To apply the knowledge about different culture methods in aquaculture and gain knowledge on fish and shrimp breeding techniques and larval culture.
			CO4	Identifies the different fishes diseases, diagnosis and their management strategies
			CO5	Analyses the various fishing crafts and gears and develops knowledge on fish marketing modalities
4	**22PBAZD 1**	**Biostatistics And Bioinformatics**	**CO1**	Demonstrates,analyze andmeasurethedescriptive statisticsanddevelops skillsindiagrammaticrepresentations of statistical data
			CO2	Describe statistical methods and probability distributions, Analyze the importance of probability and student's - t-Test,Evaluatethe statisticalproblem using chi-square andF-test. and to applystatistics andfindsolutioninsolvingresearch problems
			CO3	Relate,organizeandexamine thecorrelation and regressionanalysesamongvariousdata
			CO4	Explore the biological databases, retrieve and visualize biological data stored in the databases and to describe the data meaningfully using bioinformatics tools
			CO5	Analyze the properties of gene and protein sequences and deduce their functions, structure and evolutionary relationships , Make phylogenetic predictions or prediction of structure of proteins and nucleic acids
4	**22PCAZD 2**	**Microbiology**	**CO1**	Describe the structure of different kinds of bacteria and viruses and explain concepts relating to their growth and multiplication.
			CO2	Demonstrates the sterilization techniques, media preparation and types of bacterial culture , interprets the bacterial growth curve

			CO3	Discovers the microbial interaction in environment and agriculture
			CO4	Identify causative organisms of some important diseases, their mode of transmission,control measures and treatment of the diseases
			CO5	Applies knowledge to identify useful and harmful microbes in food processing and dairy industry

Visual Communication

Department: UG Visual Communication

Programme Name: B.Sc Visual Communication

Programme Code: UVSC

PROGRAMME SPECIFIC OUTCOMES (PSO's)

On the completion of the programme, the students will be able to:

PSO Nos	PROGRAMME SPECIFIC OUTCOMES
PSO1	Demonstrate creative and visualization ability and able to learn practical skills in all the major domains of Media Communication and the specialized branch of Visual Communication.
PSO2	Pursue higher education to extend and develop the knowledge gained in the Undergraduate Visual Communication.
PSO3	Function as a leader or Entrepreneur with sound moral and professional ethical values and apply the knowledge gained in the fields related to the broad spectrum of Media Communication as well as the specialized discipline of Visual Communication. PSO4
PSO4	Show a passion for lifelong learning and self-learning and adapt to technological Advancements in, Visual Communication.
PSO5	Develop and prioritize effective interpersonal and communication skills to ensure quality Media Production Skills & Content as individuals or in a team.
PSO6	Apply the knowledge and skills of Media Production, Communication to construct Social Harmony and community welfare through media content that provides pragmatic solutions to issues related to Social, Political, Cultural, and Development aspects of the nation.

COURSE OUTCOMESfor Individual Subjects

Semester -1

Sl.No	Course Code	Course Name	Co Nos	Course Outcomes
1	22UAVCC1	VISUAL COMMUNICATION	CO1	To understand and apply the basics of Human Communication
			CO2	To understand the forms, types and barriers in Communication
			CO3	To understand the significant Models and theories in Communication
			CO4	To understand and analyze the visual process, meanings and interpretations of Visual Imageries.
			CO5	To Demonstrate the power of

				Visual Imageries
2	22UAVCC2	VISUAL LITERACY(PRACTICAL)	CO1	Students will be able to identify and choose the visual element for creation.
			CO2	Students will be able to analyze the effectiveness of combinations of shapes and colors in visual construction
			CO3	The course will help the students to create abstraction.
			CO4	The course will help the students to choose the relevant color combinations for different visual aids.
			CO5	Students will be able to demonstrate artistic skills by using a different medium
3	22UAVCA1	CONTEMPORARY MEDIA	CO1	The students will understand the nature and growth of Newspaper and Magazines in India.
			CO2	To inculcate the knowledge of developments of Radio, Television and cinema.
			CO3	To gain an understanding of digital revolution in Photography and film production
			CO4	The students will have in-depth knowledge on the recent developments in Tele-communication and Television Technology
			CO5	The student will gain knowledge of contemporary developments in Social Media and Web Technology
4A	22UAVCN1A	UNDERSTANDING MEDIA (NME)	CO1	This introduces the basic understanding of Media and their practice
			CO2	This introduces the basic understanding of Books Industry and their practice
			CO3	This introduces the basic understanding of Newspapers & Magazines Organization and their practice
			CO4	This introduces the basic

				understanding of Radio and their practice
			CO5	This introduces the basic understanding of Television Industry and their practice
4B	22UAVCN1B	VISUAL ARTS AND AESTHETICS (NME)	CO1	To understand ancient civilization
			CO2	To analyze the Buddhist, Jain, Hindu and Islamic Art Forms
			CO3	To analyze the ThePallava, Chola, Pandiya, Vijayanagar and Nayaka Art Forms
			CO4	To apply the Structural Codes and Symbolismof any of the above Art Forms and make a Case Study
			CO5	Create a Masterpiece using a Visual Depiction of any of the Art Forms
4C	22UAVCN1C	FOLK & TRADITIONAL MEDIA (NME)	CO1	The students will be able to understand the origin of Folk Media
			CO2	The students will be able to analyse the strength of Folk Media in comparing other modern mass media
			CO3	The students will be able to relate to different folk forms of India
			CO4	The students will be able to appreciate the richness of Tamil traditional forms of performing arts.
			CO5	The students will understand the dynamics of traditional street plays and modern street theatre

Semester -2

Sl.No	Course Code	Course Name	Co Nos.	Course Outcomes
5	22UBVCC1	PUBLICATION DESIGN	CO1	Recognize and Summarize the Growth and development of Printing & Graphic Industry
			CO2	Define Sketch various Design Elements in Publication
			CO3	Understand the Concept of Pre-Press Production
			CO4	Understand the Concept of E-Publishing
			CO5	Students will be able to understand the process and challenges print production
6	22UBVCA2	WRITING FOR MEDIA (PRACTICAL)	CO1	To analyse news structure, to identify hard & soft news, and to write a feature (15 Hours)
			CO2	To identify & analyse different genres, script formats, Evolve Characterization, create commercial (15Hours)
			CO3	Apply & create a Blog, creating content for SMC(15Hours)
			CO4	Using a Manual Template, generate Testing & Feedback mechanism (15Hours)
			CO5	Create a learning module & to prepare a lesson structure (15Hours)
7	22UBVCC2	VISUAL DESIGN (PRACTICAL)	CO1	The students will effectively use the lines and shapes in design.
			CO2	The students can produce different types of design patterns.
			CO3	Students will be able to use appropriate fonts and numeric for their specific needs.
			CO4	Students can design communication materials for business communication.
			CO5	Students can be a successful designers in visual merchandising and corporate communication
			CO1	To understand the scope of Public Relations
			CO2	To understand the Movie Genres &

8A	22UBVCN2A	SOCIAL MEDIA COMMUNICATION (NME)		their Audience
			CO3	To apply the use of Internet and understand the concept of Global village
			CO4	To analyze the various New Media Practices and the regulations
			CO5	To understand the concept of Media Convergence and the use of Social media
8B	22UBVCN2B	THE GREAT INDIAN ARTISTS (NME)	CO1	The students will understand the nature of Indian modern Art
			CO2	The students will understand the life history of Indian Painters
			CO3	The student will be able to analyse different styles and forms of Indian Artists
			CO4	The students will understand the contribution of eminent painters to the Indian Art
			CO5	The students will be able to appreciate the work of Art
8C	22UBVCN2C	MODERN TAMIL DRAMA(NME)	CO1	The students will understand the origin of Tamil plays
			CO2	The students will be able to understand how the Therukuthoo was part of our every day life of Tamil people
			CO3	The students will understand the aesthetics of “Muthamizh”
			CO4	The students will understand the growth of Tamil Plays
			CO5	The students will understand the transformation of modern Tamil dramas

Semester -3

Sl.No	Course Code	Course Name	Co Nos.	Course Outcomes
9	22UVCC1	ADVERTISING	CO1	To understand the nature & scope of various media
			CO2	To understand and apply the strategies in creating Ad Copies
			CO3	To understand the structure & Function of Ad Agencies & Media Planning
			CO4	Creating and Executing a Campaign Plan
			CO5	To understand Advertising research
10	22UCVCC2	DIGITAL PHOTOGRAPHY(PRACTICAL)	CO1	The student will be able to operate the DSLR cameras
			CO2	The students will be able to do the visual composition through the electronic device
			CO3	Students will be able to demonstrate good visual presentation for different applications
			CO4	Students will be able to choose a specialization in their career .
			CO5	Students will be able to produce different aesthetic expressions through electronic devices
11	22UCVCA3	COMPUTER GRAPHICS(PRACTICAL)	CO1	Gain better understanding of both Raster and Vector graphics and its advantages
			CO2	Apply the elements, principles and Aesthetics of design in Computer Graphics
			CO3	Have in-depth expertise on the application of different tools in Photoshop to create different design K2
			CO4	Create Logo and Print Ads by using Corel draw and InDesign Software

			CO5	Create Poster design, Book Cover, Magazines Front Page and Newsletter by using Photoshop and InDesign software.

Semester -4

Sl.No	Course Code	Course Name	Co Nos.	Course Outcomes
12	22UDVCC1	ELEMENTS OF FILM	CO1	Impart Knowledge about History of Cinema as an Art & Business
			CO2	Understanding the Process and different stages of film making
			CO3	To be able to Appreciate Film as a technical Media
			CO4	Understanding of the film genres and their role.
			CO5	Knowledge about various film formats
13	22UDVCC2	MEDIA CULTURE & SOCIETY	CO1	Summarize the Theoretical Relationship Between media Culture and Society
			CO2	Understanding the factors which determine the functioning of media in a society.
			CO3	Understanding & Knowledge about Mass Media theories of Audience, Key Terms and Concepts
			CO4	Students can Analyze the Relationship Between Mass media and its Effects.
			CO5	Knowledge about Relationship between Media & Culture, Analyze key terms and Concepts Related to Culture & Communication.
14	22UDVCA4	TELEVISION PRODUCTION	CO1	The students will get the placement in the television companies as producers, directors, and technicians
			CO2	The students will be able to work in the pre-production process
			CO3	Students will be able to use appropriate fonts and numeric for their specific needs.
			CO4	The students will apply the

				knowledge in audio recording during the live recording as well as the offline shoot.
			CO5	The students will apply their knowledge in online and offline editing for the effective final output ofthe television program.

Semester - 5

Sl.No	Course Code	Course Name	Co Nos.	Course Outcomes
15	22UEVCC1	MEDIA RESEARCH	CO1	To understand, apply &analyze the What, How & Why of Social Research Design
			CO2	To understand, apply &analyze the What, How & Why ofContent Analysis Techniques
			CO3	To understand, apply &analyze the What, How & Why ofQualitative Research
			CO4	To understand, apply &analyze the What, How & Why ofQuantitative Research
			CO5	To understand, apply &analyze the What, How & Why ofThe Media Audience Research
16	22UEVCC2	DIGITAL FIM MAKING(PRACTICAL)	CO1	To learn the basics ofPre-productionprocess- scripting, Screen play writing, Storyboard, planning and Budget
			CO2	To improve student's skills in camera operation , various Camera movement and Composition Techniques
			CO3	Gain in-depth knowledge about film Production, Directing, Cinematography and Editing Techniques
			CO4	Identify and distinguish the role and responsibilities of crew members in film making.
			CO5	To equip the students in Marketing and Promotion
			CO1	Understand the Importance of Web

				pages as a tool of Communication
17	22UEVCC3	WEB DESIGNING (PRACTICAL)	CO2	How to design Principles are applied in designing website
			CO3	Understand the concept and the soft wares used to design a web pages
			CO4	Develop designing skills to develop a quality website for Different customers
			CO5	Skills in Designing and development of web pages with links for different Platforms,such as DTP & Mobile Phones
18	22UEVCC4	DEVELOPMENT COMMUNICATION	CO1	To analyze and harness the potential of communication for holistic social development.
			CO2	To acquire skills to use development communication for social change.
			CO3	To review and analyze the schemes and policies for development
			CO4	To organize campaign for creating awareness
			CO5	To create IEC materials
19 A	22UEVCE1A	MEDIA ANALYTICS (Electives-I)	CO1	To understand Planning &Media Strategy
			CO2	To understand Media Costs & Media Buying Problems
			CO3	To understand Social Media Analytics
			CO4	To understand the opportunities and trends in Indian Media Business
			CO5	Case Study
19 **B**	22UEVCE1B	INDIAN MEDIA BUISNESS (Electives-I)	CO1	To understand The Indian Print Media Business Opportunities and Trends
			CO2	To understand The Business of Television Opportunities and Trends
			CO3	To understand The Business of Films opportunities and Trends
			CO4	To understand The Business of MusicOpportunities and Trends
			CO5	Case Study- Content Creation, Report on Media Buying / Media Selling.
			CO1	To enable students to appreciate

19 **C**	22UEVCE1C	FILM APPRECIATION (Electives-I)		film in a more informed manner
			CO2	To elucidate the process of film making through cinematography
			CO3	To provide a general introduction to the concept of film as art and the role sound.
			CO4	To appreciate the role of film as a powerful visual medium and the role of editing in film making
			CO5	To provide a general Understanding of Role of Director in creating a good cinema

Semester -6

Sl.No	Course Code	Course Name	Co Nos.	Course Outcomes
20	22UFVCC1	MEDIA MANAGEMENT	CO1	Distinguish and learn to evaluate Media Management from Management Perspective
			CO2	Acquaint the learners on the ownership and structure of Media industry.
			CO3	Develop the skills in Media Planning and Project Management
			CO4	Appraise on the principles of Media economics, Revenue streams and cost factors
			CO5	Understand the impact of Global Media Business in India
22	22UFVCC2	MEDIA LAWS AND ETHICS	CO1	Will know the Importance of Freedom of Expression of Indian Constitution
			CO2	Will know the Importance of Freedom of Expression of Indian Constitution
			CO3	Will be introduced to Code of Ethics which Media Practioners should follow
			CO4	Appraise on the functioning of Press Council of India and their Principles
			CO5	Understand the concept of Human Rights and its Influence on society

23	22UFVCC3	3D ANIMATION(Practical)	CO1	Understandthe basic concept of 3D Animation, and apply the tools to create 3D modelling
			CO2	Gain expertise on the application of animation to create Model objects using material
			CO3	Apply the knowledge on Materials, Surfacing,and Texturing
			CO4	Acquaint the learners with Knowledge aboutlighting and camera techniques in 3D Animation
			CO5	Gain knowledge about rendering and compositing
24	22UFVCE3	PROJECT	CO1	Plan a Media Portfolio Project that wins approval from Staff Guides
			CO2	Conduct Research and Create Pre-Production Schedules for the Media Project
			CO3	Execute the Production of the Media Project
			CO4	Heighten aesthetics and complete the Post Production Works for the Project
			CO5	Gain Placement through presentation to Internal and External Jury and presentation at film festivals and other fora. K3
25 A	22UFVCE2A	ADVERTISING PHOTOGRAPHY(P) (ELECTIVES-II)	CO1	The students will be able to work with the planning and preparation of advertising photography projects.
			CO2	The students will be able to persuade the client in budget negotiation.
			CO3	Students will effectively work on re-touching and improvising the images of the product and model.
			CO4	Students will be able to use props and backdrops appropriate to match the concept
			CO5	The students will be successful in commercial ventures.

25 B	22UFVCE2B	PHOTOJOURNALISM (ELECTIVES –II)	CO1	Students will have knowledge of Photojournalism as a Profession
			CO2	Will have knowledge about essentials of news
			CO3	An Introduction to Principles of Photographic Composition
			CO4	Will be exposed to Creation of Photo-essays & Photo stories
			CO5	Knowledge about different file formats for storing the news photographs
25 C	22UFVCE2C	SCREEN PLAY AND DIRECTION(ELECTIVES –II)	CO1	To understand and apply the aspects as detailed in Film Art
			CO2	To understand and apply the aspects as detailed in Filming Reality
			CO3	To understand and apply the aspects as detailed in Fiction to Film
			CO4	To understand and apply the aspects as detailed in Screenplay
			CO5	To understand and apply the aspects as detailed in Introduction to Cinematography

Plant Biology and Plant Biotechnology

Department : Plant Biology and Plant Biotechnology
Programme Name: B.Sc. Plant Biology and Plant Biotechnology
Programme code: UPBP

Program Specific Objectives

PSO1: Acquire theoretical knowledge and hands on training in various fields to develop practical skills, handling equipment and laboratory use along with collection and interpretation of various plant groups used for food and medicine
PSO2: Acquire academic excellence and core knowledge in major discipline with an aptitude for higher studies, research and to meet competitive exams for their career development
PSO3: obtain the aptitude, skill and creativity to required to become a successful entrepreneur in related Bio-enterprises
PSO4: prepare the student community for lifelong learning by drawing awareness to the immense knowledge of plants through hands on training on structure and functions of various plant components.
PSO5: developed the capability to communicate efficiently and comprehensibly the concepts related to the Plant Biology and Plant Biotechnology field
PSO6: Gain the ability to recognize, formulate, and resolve problems in the field Botany to contribute to service efforts to both the Society and National level

For B.Sc., Plant Biology and Plant Biotechnology

Sl.No	Course Code	Course Name	CO's – One by one
1	22UAPBC1	Algology	**CO1** Would have deeper understanding of Algae at structural and functional level. **CO2** Would have broad knowledge on the pigments pattern in Algae **CO3** Would demonstrate a clear understanding of the vegetative structure, reproduction and life cycle of Algae **CO4** Would develop skill on working principles of microscopy and identification of Algal types. **CO5** Would gain the knowledge of economic importance of different algal groups
2	22UBPBC1	Mycology & Lichenology	**CO1** State general characters of fungi and their ecological significance. **CO2** Explicate the basis of classification of fungi and their life cycles. **CO3** Categorize the causal organisms according to the diseases caused by fungi **CO4** Deduct and relate the life cycle of lichens **CO5** Compile the economic importance of fungi and lichens
3	22UBPBC2	Major Practical - I	**CO1** Demonstrate algae and fungi based on their

			morphological structure **CO2** Experiment with the algal, fungal and lichens at generic level based on anatomical variations **CO3** Examine the morphological and internal structural pattern found in the lichens **CO4** Equipped with micro preparation of algal and fungal species from various samples **CO5** Formulate the hands on training on s identification of lower life forms through specimens
4	22UCPBC1	Bryophytes & Pteridophytes	**CO1** Illustrate the characteristics of algae and bryophytes, their habitats, and classification **CO2** Organize and illustrate the morphological and internal structural characteristics selected forms of bryophytes and pteridophytes **CO3** Compare and contrast the asexual and sexual reproduction in the bryophytes and pteridophytes. **CO4** Interpret and summarize the nature of evolution pattern in the origin and development of stele in pteridophytes **CO5** Compile the various economic importance of bryophytes and pteridophytes
5	22UDPBC1	Gymnosperms & Palaeobotany	**CO1** summarize the general features of both morphological and anatomical features of Gymnosperms **CO2** assess the reproductive structure and life cycle of Gymnosperms **CO3** evaluate the economic importance of Gymnosperms **CO4** analyze the fossils and its process and methods of fossilization **CO5** gather geological time table and compile the features of fossil plants
6	22UDPBC2	Major Practical - II	**CO1** Enumerate the extensive study on the lower cryptogams and phanerogams. **CO2** Practice the morphology, anatomy and reproductive structures from algae to gymnosperms **CO3** Experiment to identify, differentiate and observe the morphological, anatomical features of lower plant groups **CO4** Persuade and analyze the reproductive features of the cryptogams and phanerogams. **CO5** Invent to identify and appreciate the different fossils

			forms and their course of formation
7	22UEPBC1	Anatomy and Embryology	**CO1** Demonstrate the different types of plant tissues through their structural organization and functions **CO2** Construct the organization and complexity of tissue types **CO3** Categorize the features of normal and anomalous secondary growth **CO4** Criticize the structure of reproductive organs; appreciate the development of pollen and embryo sac. **CO5** Elaborate the agents of pollination; examine development of embryo and endosperm in a seed.
8	22UEPBC2	Genetics, Evolution & Plant breeding	**CO1** demonstrate Mendel's law of inheritance and Gene to gene interactions **CO2** Illustrate the extra-chromosomal inheritance and sex determination in plants **CO3** Analyze in details about the Bacterial genetics and its applications **CO4** evaluate the process of evolution using the evidences and theories **CO5** Elaborate objectives, different methods and importance of plant breeding.
9	22UEPBC3	Morphology, Taxonomy of Angiosperms & Economic Botany	**CO1** Illustrate the reproductive morphology of Angiosperm plants **CO2** Utilize the system of classification, recognize and infer the characteristic features of flowering plants **CO3** Examine techniques of herbarium preparation and analyze the role of ICN in plant nomenclature **CO4** evaluate the distinguishing floral features of angiosperm families and assess their economic importance **CO5** build the floral diagram, compile the floral formula of given families
10	22UEPBC4	Cell and Molecular Biology	**CO1** Outline the ultra structure and functions of cell organelles and nucleus **CO2** Organize the structure and function of chromosomes **CO3** Categorize the cell division processes within the cell and Differentiate between the particulars of the mitotic and meiotic divisions.

			CO4 Perceive the structural details of nucleic acids and elucidate the pattern of gene expression. **CO5** Elaborate a model for the Operon concept for gene expression
11	22UFPBC1	Plant Biotechnology & Bioinformatics	**CO1** Illustrate and demonstrate the principle of rDNA technology for genetically modified plants **CO2** Make use of the process of PCR, ACE, Blotting techniques with its applications for GMO. **CO3** Analyze the importance of plant tissue culture and molecular techniques in crop improvement programme. **CO4** Assess to address environmental, Biosafety and socio-ethical issues on transgenic plants. **CO5** Elaborate the bioinformatics tools in retrieval and handling biological data from genomic and proteomic databases.
12	22UFPBC2	Ecology, Phytogeography & Biostatistics	**CO1** Interpret the components in a different ecosystem **CO2** Identify the interaction among the biotic and abiotic factors in the ecosystem **CO3** Recognize the pattern of plant succession and Illustrate interactions among the living organisms **CO4** Categorize the different vegetation pattern in the Phytogeographical regions of India **CO5** expertise in the areas of biostatistics and its applications in modern topics of Life Science
13	22UFPBC3	Plant Biochemistry & Plant Physiology	**CO1** Demonstrate the diverse physiological processes in plants and biochemical constituents of plants. **CO2** Apply the structure & function of the Biomolecules and its physiological mechanism on plant metabolism **CO3** Analyze mechanics and structures for water and mineral uptake and its transport translocation of food and sap. **CO4** Criticize the basic aspects of photo biology and its relevance to photosynthetic function and plant respiratory metabolism and its significance **CO5** Elaborate the different nature of physiological activity of plant growth substances, flowering, fruit ripening photoperiodism, dormancy and germination in

			plants
14	22UFPBC4	Major Practical - III	**CO1** enrich the students' knowledge on writing the description to identify the plants and economic importance of plants **CO2** Build a practical skill for plant identification through botanical keys and preparation of Herbarium **CO3** Examine slide for identification of various stages of cells and its organelles and other spotters in evolution; **CO4** compare the anatomy of the various parts of a plant like stem, root and leaves **CO5** Compile and summarize the reproductive structures in plants and the development of embryo
15	22UFPBC5	Major Practical - IV	**CO1** Illustrate the interaction between soil – plant – air continuum by the way of transpiration **CO2** Determine the structure and function of plant organs in plant growth **CO3** Analyze the basic principles of Mendelian genetics and methods of cultivation of mushroom **CO4** Criticize the anabolism, catabolism and growth regulators in plant growth and development. **CO5** Formulate the distribution of angiosperm plants in the earth and effect of ecology on their growth
16	22UEPBE1A	Microbiology	**CO1** Illustrate the microbial diversity with the kingdom and domain concept. **CO2** Organize the characteristics and classification of Microbes **CO3** Examine the morphology, physiology, genetics and reproduction of bacteria. **CO4** Assess knowledge on the nutritional requirements, media types for microbial growth, its measurement and maintenance. **CO5** Develop the industrial microbial fermentation of various products.
17	22UEPBE1B	Fermentation Technology	**CO1** Demonstrate the basics of upstream and downstream processing of Bioprocess engineering **CO2** Utilize knowledge of microbial growth and conditions required for growth, culture media on operation of Bioreactor

			CO3 Analyze processes involved in the area of food and beverage industry. **CO4** Evaluate formulation of products and processes related to microbes in pharmaceutical industries. **CO5** Formulate knowledge on process & products of amino acids, organic acids
18	22UEPBE1C	Plant Protection	**CO1** Illustrate the concepts of plant pathology and Rephrase the fundamentals plant pathology techniques **CO2** Identify the symptomatology to diagnose fungal, bacterial and viral disease **CO3** Analyze the epidemiology nature and forecast disease **CO4** Assess the delineating host pathogen interactions. **CO5** Develop suitable disease management strategies and suitable control measures
19	22UFPBE2A	Mushroom Technology	**CO1** List different varieties of mushroom, distinguish between edible and non edible, and classify them. **CO2** Characterize, compare the cultivating mushroom and trace the lifecycle. **CO3** Experiment the cultivation procedure, design new culture technique and analyze the pest and factors affecting growth of mushroom. **CO4** Develop technologies for harvesting, packaging and acquire knowledge to avail loan from banks **CO5** Summarize uses of mushroom and create new recipes for marketing.
20	22UFPBE2B	Herbal Botany	**CO1** Interpret the historical development of ethno botany and its uses **CO2** Recognize and identify important local native plant species. **CO3** Categorize medicinally used local plants and their native habitats and consumed practice **CO4** Evaluate the various plant parts utilize in Ethanobotany and its applications on human wealth **CO5** Formulate the techniques for solve human problem of clinically well in health care and life support system
21	22UFPBE2C	Forest Technology	**CO1** Demonstrate knowledge of principles of forestry and silviculture

			CO2 Develop skills in Forest management for utilization and conservation of Endangered species **CO3** Analyze the different Silviculture practice of locally available forest trees for human wealth **CO4** Assess knowledge of properties of wood and Wood preservation technologies and wood seasoning methods **CO5** Build the Tree improvement methods such as vegetative propagation biotechnology methods for improvement of forest tree breeding program
22	22UFPBE3A	Water management	**CO1** Working knowledge of water quality characteristics of water sources **CO2** Ability to describe the purpose and operational steps of key water treatment processes used to improve water quality **CO3** Working knowledge of drinking water regulations and standards required to protect public health **CO4** Identify and Recognize a various types water resources for conservation of water **CO5** Working knowledge of Sewage and effluent treatment to control the Water pollution
23	22UFPBE3B	Plant Pharmacogncy	**CO1** Outline the identify drug from natural origin and their supply, cultivation, collection, storage **CO2** Apply the methods for the quality control and conformity of drugs from natural origin. **CO3** Distinguish the appropriate methods according to the source of the natural product material. **CO4** Criteria adopted for methods for quality control for drugs **CO5** Estimate the phytochmical products such as carbohydrates, gums, musilages, enzymes and protein contain drugs.
24	22UFPBE3C	Horticulture	**CO1** scope and importance of horticulture, classification of horticultural plants, brief note on some families of horticultural importance. **CO2** Deals with soil science and fertility management for horticultural crops. **CO3** Complete knowledge about Scope and importance of commercial floriculture in India

			CO4 aware with the mechanism of Pest and Disease Management of Horticultural Crops **CO5** awareness of basics of ornamental and landscape gardening and study of Plant Propagation and Nursery Management.

PHYSICS

Department : PHYSICS
Programme Name: B.Sc. PHYSICS
Programme code: UG PHY

PROGRAM SPECIFIC OUTCOMES (PSO's)

On completion of the programme, the students will be able to:

PSO1: Demonstrate the basics of Physics theoretically and its role on nature based elements and also to provide hands on learning experience practically

PSO2: Pursue higher studies leading to research programs

PSO3: Function independently and to handle Problem Solving methodically and draw a logical conclusion and to have the background to consider ethical and moral responsibilities

PSO4: Demonstrate skills of Physics for dissemination of scientific results

PSO5: Develop interpersonal and communication skills to the best of their potential and to create a strong foundation for competing aptitude tests

PSO6: Apply the knowledge of Physics to the Society and also to implement it to save the environment

Sl.No	Course Code	Course Name	CO's – One by one
1	22UAPHC1	**MECHANICS AND PROPERTIES OF MATTER**	Learn about the behaviour of physical bodies and the basic concepts related to the motion of all the objects
			Apply the concept of centre of gravity and centre of pressure to some materialistic systems and hydrodynamics in everyday applications
			Learn the basics of properties of matter, how Young's modulus and rigidity modulus are defined and how they are evaluated for different shapes of practical relevance
			Identify materials suitable for construction of buildings and bridges based on the moduli of elasticity
			Understand Viscosity and surface tension and its applications in our day to day life
2	22UBPHC1	HEAT, THERMODYNAMICS AND SOUND	Would have a deeper knowledge of fundamentals
			Would have a broad understanding of the basic experimental concepts of heat and sound.
			Would have understood and developed ideas of concepts to apply all with practical applications to solve the problems
			Would gain knowledge from all basic laws and Carnot engine and have an idea about engine design.
			Would gain knowledge of sound and ultrasonics

			and itsapplications.
3	**22UBPHC2**	**Major Practical – I**	Understand the usage of basic laws and theories to determine various properties of the matter given
			Use standard methods to calibrate the given low range voltmeter and to measure resistance of the given coil and various physical quantities
			Use of basic laws to study the thermal properties of matter, spectral properties and optical properties of the given prism
4	**22UCPHC1**	**OPTICS AND SPECTROSCOPY**	Distinguish the different types of Dispersion, Deviation, Aberrations and achromatism
			Understand the basic ideas of Interference of Light and calculate wavelength difference and fringe width from the interference pattern
			Apply their understanding of diffraction pattern and calculate dispersive power of grating, and Resolution
			Analyse different types of polarized light, Optical activity, specific rotator power
			Analyze the prerequisite in a molecule towards its rotational and vibrational activity.
5	**22UDPHC1**	**ATOMIC PHYSICS**	To understand about the classification of solids on the basis of band theory
			To Understand about various types of mass spectrographs
			To understand about atom models and quantum numbers
			To study the Production/applications of X rays
			Tostudy the functions of various Photoelectric cell and its applications.
6	**22UDPHC2**	**MAJOR PRACTICAL – II**	Familiarize with apparatus for mechanical, optical and electrical experiments for accurate measurements of physical parameters
			Develop **skill** in setting up of apparatus for accurate measurement of physical parameters
			Gain conceptual understanding skill in a systematic way of measurements so as to minimize the possible errors and Analyze them by plotting graphs
7	**22UEPHC1**	**ELECTRICITY AND ELECTROMAGNETISM**	Apply the laws and principles to determine the magnetic effect on current
			Analyze the behavior of thermal and chemical effect of current
			Explore the knowledge of electromagnetic induction in various applications
			Acquire the basic ideas of AC and DC circuits and

			enhance problem solving skills
			Summarize the concept of electromagnetic waves to discuss Maxwell equations
8	**22UEPHC2**	**ANALOG AND DIGITAL ELECTRONICS**	Would possess sufficient knowledge on various semiconductor materials and its working
			Would understand the different modes of transistor and oscillator circuits, their working and applications in domestic, industrial and scientific devices
			Would design and solve Boolean algebra and Karnaugh maps
			Would construct sequential logic circuits
			Would find job opportunities in research and development
9	**22UEPHC3**	**CLASSICAL AND STATISTICAL MECHANICS**	Gain knowledge in solving mechanics of particles.
			To apply the concepts of classical mechanics to various simple systems (Simple pendulum)
			To apply mathematical concepts in statistical Mechanics
			To understand and apply statistics in thermodynamics systems.
			To study the various quantum statistics using mathematical formulation.
10	22UEPHC4	**RELATIVITY AND QUANTUM MECHANICS**	Gain knowledge in the concepts of Special theory of Relativity
			Evolve ideas about the dual nature of matter
			Recognize basic terms in Quantum Mechanics and different operator mechanism
			Formulate basic theoretical problems in one, two and three dimensions and solve them
			Apply Schrodinger equation to various problems such as linear harmonic oscillator, quantum mechanical tunneling, hydrogen atom etc.
11	**22UEPHE1A**	**MIROPROCESSOR FUNDAMENTALS**	Assess and explain basics of microprocessor, its internal architecture and its operation within the area of manufacturing and performance
			Apply knowledge and demonstrate programming proficiency using the various addressing modes and data transfer instructions of the target microprocessor
			Compare accepted standards and guidelines for the appropriate Microprocessor to meet specified performance requirements
			Design circuitry to the Microprocessor I/O ports in order to interface the processor to external devices. Draw the timing diagrams.

			Analyze and Evaluate assembly language programs; select appropriate assemble into machine a cross assembler utility code that will provide solutions real-world control problems
12	**22UEPHE1B**	**MATHEMATICAL PHYSICS**	Demonstrate competence with the basic idea of vector calculus and differential equations and apply it to physical systems
			Apply the knowledge of matrices to solve basic physics problems
			Use the method of Laplace transforms to solve initial-value problems for linear differential equations with constant coefficients
			Gain basic knowledge of partial differential equations which in turn is applicable in advanced problems involved in quantum mechanics
			Develop good aptitude and problem solving skills
13	**22UEPHE1C**	**SPECTROSCOPY**	Understand basic concepts related to various spectroscopic techniques
			Study the theories behind the spectroscopic methods
			Gain insight into the instrumentations associated with spectroscopy and their applications in scientific studies
			Get the aptitude of solving various spectrums
			Apply the concepts for further research
14	**22UEPHE1D**	**COMPUTER PROGRAMMING IN C^{++}**	Understand the basic elements in 'c'-programming.
			Aware of different types of operators and expressions in C language.
			Choose the loops and decision making statements to solve the problem
			Implement different operation an arrays and use function to solve the given problem
			Gain the aptitude of solving logical problems
15	22UFPHC1	**NUCLEAR PHYSICS**	Gain knowledge in the concepts of nuclear properties
			Understand radioactivity and its applications
			study on various Nuclear fission and Nuclear fusion reactions through experiments
			Study the limitation of various of source of accelerators and detectors in nuclear reactions
			Obtain knowledge of elementary particles concepts and cosmic rays
16	22UFPHC2	**SOLID STATE PHYSICS**	Acquire the knowledge of fundamental interatomic forces and the bonds between them
			Analyze the concept of crystal systems and its

			diffraction pattern
			Apply the laws and principles to understand the concept of magnetism
			Summarize the classification of materials and dielectric nature of a material
			Explore the knowledge of superconductivity in various applications
17	22UFPHC3	**Major Practical – III**	Apply knowledge of mathematics and physics fundamentals and an instrumentation to arrive solution for various problems
			Use standard methods to calibrate the given high range voltmeter and use BG for measuring various electrical quantities
			Understand the usage of basic laws and theories to determine various properties of the matter given, spectral properties and optical properties of materials
18	22UFPHC4	**Major Practical – IV**	Construct and verify basic logic gates
			Illustrate realization of Boolean expression in SOP and POS form
			Determine various parameters
19	22UFPHC5	**Major Practical – V**	Understand the fundamentals and importance of assembly level programming of Microprocessor 8085 and practicing different types of programming.
			Develop testing and experimental procedures on microprocessor to analyse their operation under different cases
			Ability to test the fundamental understanding of Oscillators, multivibrations, Digital to analog conversions using Operational amplifier and 555 Timer circuits
20	**22UFPHE2A**	**ENERGY PHYSICS**	Gain knowledge in the concept of Energy
			Evaluate ideas about the energy conversion
			Recognize basic teams in the energy physics and different energy conversion process
			Formulate basic theoretical problems in the energy crisis and solve them through energy conversion
			Apply energy conversion technique to solve problem pertaining to energy in sufficiency
21	**22UFPHE2B**	**NANO PHYSICS**	Gain basic knowledge about nano materials
			Understand the scientific perspective of nanomaterials
			Identify techniques suitable for nanomaterial synthesis.

			know the significance of nanomaterials in everyday life
			Apply the knowledge for further research
22	**22UFPHE3A**	**OPTOELECTRONICS**	Understand the fundamental process of optoelectronic transitions and characterization
			Utilize the concepts of laser to different optoelectronic devices
			Design and analyze photo detectors from semiconductor optoelectronic devices
			Demonstrate the basic requirements of optical fiber
			Apply the principles of fiber optic communication in everyday life
23	**22UFPHE3B**	**MEDICAL PHYSICS**	Understand the biological system of our body
			Acquire the major aspects of medical physics and the application of physics to medicine.
			Define different quantitative, mathematical science and physical tools to analyze problems
			Interpret the data obtained from testing, diagnostic instruments such as X-rays, ECG, EMG, EEG, ultrasonic images, and CT images
			Work independently and demonstrate the ability to manage time and to work as a part of a team, and learn independently with open– mindedness to learn how solve the daily life problems.
24	**22UCPHA1**	**ALLIED PHYSICS-I (THEORY)**	Understand the various moduli involved in the materials
			Know about the forces acting on liquids due to surface tension and viscosity
			Develop basic understanding about the transmission of heat due to the process of conduction, convection and radiation
			Comprehend and apply various laws of thermodynamics and the concept of entropy for many everyday phenomena
			Understand the applications if interference, diffraction and polarisation in the areas relating to Optics
25	22UDPHA2	**ALLIED PHYSICS – II (THEORY)**	Apply the knowledge of current electricity to technological advances
			Gain knowledge on the fundamental principles of electricity and magnetism and its applications in everyday life
			Acquire sufficient knowledge on the properties of atoms and nuclei and its applications
			Understand fundamental principles of

			semiconductors, p-n junction diode, zener diode and transistors and its applications in electronic devices
			Understand the structure of various number systems and basic logic gates and its applications in computers
26	22UDPHA3	**ALLIED PHYSICS PRACTICAL**	Understand the usage of basic laws and theories to determine various properties of the matter given
			Use standard methods to calibrate the given low range voltmeter and to measure resistance of the given coil and various physical quantities
			Design basic analog and digital circuits and study its characteristics
27	**22UAPHN1A**	**FUNDAMENTALS OF PHYSICS –I**	Gain knowledge in the fundamental units, states of matter, different types of energies and their sources.
			Concepts of the energy storage devices - experimental and theoretical studies.
			Recognize basic concepts of renewable energy sources and different type of energy conversion
			Formulate basic theoretical problems in the energy crisis and solve them through energy conversion process
			Apply energy conversion technique to solve problem pertaining to energy in sufficiency
28	**22UAPHN1B**	**ENERGY PHYSICS**	Gain knowledge in the concept of Energy
			Evaluate ideas about the energy conversion
			Recognize basic terms in the energy physics and different energy conversion process
			Formulate basic theoretical problems in the energy crisis and solve them through energy conversion
			Apply energy conversion technique to solve problem pertaining to energy in sufficiency
29	**22UBPHN2A**	**FUNDAMENTALS OF PHYSICS – II**	Gain knowledge in the fundamental quantities, their units and conversion
			Understand concepts of the energy storage devices and their application
			Recognize basic concepts of energy, AC and DC energy source and their conversion methods.
			Formulate basic theoretical problems in the energy crisis and solve them through energy conversion process
			Apply energy conversion technique to solve problem pertaining to energy in sufficiency
30	**22UBPHN2B**	**LASER**	Gain knowledge about the basic concepts

		PHYSICS	underlying laser
			Study about the production of laser by various means
			Assess about the applications of lasers in industry and medicine
			Know how laser is used in telecommunication
			Understand the importance of laser in day to day life

CHEMISTRY

Department: PG & RESEARCH DEPARTMENT OF CHEMISTRY

ProgrammeName: B.Sc. CHEMISTRY

ProgrammeCode: UCHE

PSO 1 : Understand the basics of chemistry and its role in our daily life.

PSO 2: Improve their skill in theoretical concepts and laboratory experiments so as to pursue higher education.

PSO 3: To solve the problem independently and to knowledge in their field.

PSO 4: To learn chemistry concepts independently and think methodically.

PSO 5: To communicate on the basic concepts of chemistry.

PSO 6: To get hands on experience.To apply knowledge and practical skills in chemistryto help the society.

Sl.No	Course Code	Course Name	CO′s One by One	
	22UACHC1	General Chemistry I	**Code**	**Course Outcomes**
			CO1	Gain knowledge about various quantum numbers and occupancy of electrons on various quantum levels; Understand the variation of periodic properties of elements.
			CO2	Get idea behind the structure and bond type of simple inorganic molecules.
4			**CO3**	Learn to classify organic compounds with various functional groups and naming of organic compounds based on IUPAC rules
			CO4	Gain the knowledge on hybridization and interpret geometry of organic molecules;
			CO5	Gain knowledge on various atomic models and basic concepts and theories behind the development of quantum theory of atoms.
	22UBCHC1	General Chemistry II	**CO1**	Acquire knowledge on s-block elements and its compounds.
4			**CO2**	Know on the various steps involved in metallurgical processes and the applications of metals in daily life
			CO3	Explain preparation, properties and some synthetic applications of aliphatic hydrocarbons
			CO4	Learn the structural strains in the compounds and their

				impact on properties.
			CO5	Get knowledge on fundamental theories governing the gaseous and liquid states of matter and their correlation.
4	22UBCHC 2	Volumetric Analysis Practical	**CO1**	Acquire the knowledge on basic principles of volumetric analysis and perform the process methodically
			CO2	Apply the skills to pursue higher studies and work with professional ethics in industries and research laboratories.
			CO3	Apply the concepts and develop the skills to perform quantitative estimation of the given solutions. Understand the laboratory skills.
4	22UCCHC 1	General Chemistry III	**CO1**	Gain knowledge about compounds of boron and carbon family and their industrial applications
			CO2	Gain knowledge about compounds of nitrogen and oxygen family and their industrial applications
			CO3	Know the basic knowledge of aromaticity, aromatic electrophilic substitution and synthesis of some important aromatic compounds
			CO4	Gain knowledge about concept of First law of Thermodynamics and its applications and also explain the laws of Thermochemistry
			CO5	Learn the theory of colloids and nanomaterials
4	22UDCHC 1	General Chemistry IV	**CO1**	Gain clear knowledge about halogen family, noble gases and their applications
			CO2	Understand important name reactions with mechanism involved in both the preparations and properties of alkyl and aryl halides.
			CO3	Get idea on the reactions of alcohols, phenols ethers and epoxides and their reaction mechanisms.
			CO4	Acquire knowledge about the theoretical and mathematical concept second and third law of thermodynamics and their applications in day-to-day life
			CO5	Gain knowledge about kinetics and its theories and can solve the problems related to kinetics
5	22UDCHC 2	Inorganic Qualitative Analysis	**CO1**	Understand the basic principle inorganic reactions and analyse the inorganic salt systematically
			CO2	Acquire analytical skill to identify the unknown inorganic salt cntaining cation and anion.

			CO3	Apply the skills to pursue higher studies and work with professional ethics in industries and research laboratories.
5	22UECHC 1	Organic Chemistry I	**CO1**	Understand the basic concepts of isomerism and stereo chemistry. Apply Cahn-Ingold-Prelog rules to assign configurations.
			CO2	Gains a good knowledge on the synthesis of aldehydes/ketones/carboxylic acids. interpret the mechanism of nucleophilic reactions and oxidation-reduction reactions.
			CO3	Gains knowledge ofpreparation, properties and applications of N-containing compounds. classify primary, secondary, and tertiary amines.
			CO4	Acquire thorough knowledge of synthesis, reactions,mechanism, uses and important features of heterocyclic compounds.
			CO5	Gains knowledge of rearrangement reactions. Understand the types of rearrangement and its synthetic applications.
5	22UECHC 1	Organic Chemistry I	**CO1**	Acquire knowledge of transition elements' chemistry and electronic configurations, and compare the group elements like Zn, Fe, Co, Ni.
			CO2	Recognize IUPAC nomenclature of coordination complexes. Description of theories of CFT with various geometries. Relating pairing energy and CFSE. The concept of Jahn-teller distorting and spectral properties.
			CO3	Understand the concepts of stability constants of coordination compounds with illustrations. Comparative knowledge of kinetic and thermodynamic studies.
			CO4	Recognize the metal ions in biology, functions, and correlating structure of Metalloproteins and enzymes. Required knowledge of the structure of Haemoglobin and myoglobin. Interpretation of Photosynthesis and biological nitrogen fixation.
5			**CO5**	Synthesis and classification of organometallic compounds. Identify organometallic compounds using the 16 and 18 electron rules. The concept of photochemistry by applying Wilkinsons catalysts, hydroformylation reaction, and Zeigler-Natta catalysts.

10	22UECHC 3	Physical Chemistry I	**CO1**	Understand the fundamental concepts of conductance studies
			CO2	Acquire knowledge the fundamentals of electro chemical cells Understand the EMF calculations of cells
			CO3	Apply the methods of determination of pH, Understand the basic concepts of storage cells and fuel cells ..Understand the basic principles of polarography.
			CO4	Understand the basic concepts of symmetrical elements. knowledge to write Point groups. Construct the group multiplication table C2Vand C3V point groups -ApplyingMatrix representation of symmetry operations.
			CO5	gain knowledge on general basic principles of spectroscopy acquire knowledge on rotational spectroscopy and its applications Analyze the bond length, isotope effect.
11	22UECHE 1A	Agricultural Chemistry	**CO1**	Definition and composition of the soil, Analyze the properties of soil for plant growth. Knowledge of colloids, soil texture, soil water, soil air, soil temperature, and its fertility
			CO2	Outline the various types of fertilizers nitrogen, phosphorus, and potassium. Knowledge of fertilizers on plant growth to get better yield. Concept of secondary and micronutrients. Interpretation of complex fertilizers, mixed fertilizers, and bio-fertilizers
			CO3	Required knowledge of manures from agriculture, industrial and urban wastes. Evaluate the usage of farm yarn, compost, oil cakes, bone meal, etc., Methods adopted to prepare different fertilizer mixers for plant growth.
			CO4	Concepts of pest control and its management. Classification of usage of pesticides and their impact on the environment. Safety measurement in handling pesticides. Knowledge of natural occurring and synthesis of the inorganic-organic form of pesticides.
			CO5	Knowledge of fungicides and herbicides to protect the plant. Compounds of inorganic and organic type preparation copper and sulphur compounds. Concepts of

				Rodenticides, Attractants, and repellents.
12	22UFCHC 1	Organic Chemistry II	**CO1**	Understand the stereo chemistry and different types of carbohydrates, interconversions and their structural properties.
			CO2	Gain a good knowledge of synthetic strategies and recognizes the terminologies involved in organic synthesis.
			CO3	Gain knowledge and learn about the classification, structure and properties of Alkaloids, Terpenoids, Steroids, Hormones,Amino acids and proteins.
			CO4	Use the green route to synthesise the dyes and rubbers in the industry. Apply the Microwave and ultrasound methods to green synthesis.
			CO5	Understand the instrumentation techniquesofUV,IR ,NMR and Mass spectroscopy. Apply the spectroscopic techniques to identify the complex organic molecules.
13	22UFCHC 2	Inorganic Chemistry II	**CO1**	Outline of nuclear concepts, composition, forces, and stability. Illustrate the nuclear models, concepts of mass defects, and binding energy calculations. Knowledge of Q value and isotopic terms with examples
			CO2	Analyze the radioactive techniques using Geiger-Muller counter Relationship of radioactive series, displacement laws, and rate of integration of nuclear reaction. Nuclear fission and fusion concepts specific application of fission reaction in Nuclear reactor to produce electricity. Utility of isotopes in various fields of everyday life.
			CO3	The concepts of the solid structure of ionic crystals. Require knowledge of X-ray and Neutron diffraction techniques. Analysis of the defects in solids and non-stoichiometric materials. Summarizing the optical, electrical, and magnetic properties of solids.
			CO4	Defining the laws of crystallography. Classification and relating the types of solids. Interpreting the Weiss and Miller indices. Sketch the analyze the structure of Sodium chloride, Zinc Blende, rutile, Wurtzite cesium chloride, fluorite, etc.,
			CO5	Require knowledge of ionic conductors focusing applications on battery technology. Working and reactions

				of Na-S and Li batteries. Explanation of Nanomaterial methods of synthesis properties and applications in various fields. Citing the superconductor concepts.
14	22UFCHC 3	Physical Chemistry II	**CO1**	Summarize the principles of IR spectroscopy and its applications .Acquire knowledge about the basics of Raman spectra and its applications .Applying the theory and instrumentation of NMR
			CO2	Correlate the nature and the characteristics of catalysis and its types . Acquire knowledge in the concept of adsorption and its applications differentiate types of adsorption. Applying the theory of kinetics in enzyme catalysis. Solving Michaelis Menton equation.
			CO3	Know about the Phase rule and its application to various systems Applying Clausius - Clapeyron equations for the various phase transitions. Explaining the phase-diagram for watersystem,sulphur system, Lead-Silver system
			CO4	Understand the Raoult's law, non-ideal solutions and Colligative properties , Gain knowledge of ideal and non-ideal solutions and reasons for deviations of non-ideal solutions from ideal behaviour. derive the thermodynamic relationship between vapour pressure and Colligative properties.
			CO5	Explain the various types of photochemical process Acquire knowledge of various laws of photo chemistry and to draw *Jablonski*diagram.Ellucidate the kinetics of photochemical reactions in H_2-Cl_2 system, Analyzing energy transfer in photochemical reaction .Determining the Quantum efficiency of photochemical reaction.
15	22UFCHC 4	**Physical Chemistry Practical**	**CO1**	Acquire the knowledge on basic principles of physical Chemistry.
			CO2	Apply the concepts and develop the skills to perform quantitative estimation of given sample.
			CO3	Apply the skills to pursue higher studies and work with professional ethics in industries and research laboratories.
16	22UFCHC 5	**Gravimetric Estimation Practical**	**CO1**	Acquire the knowledge on basic principles of gravimetric analysis and perform the process methodically

			CO2	Apply the concepts and develop the skills to perform quantitative estimation of barium, lead, nickel, calcium etc; with precision using sintered and silica crucible. Understand the theory of various processes such as precipitation, filtration and incineration .
			CO3	Apply the skills to pursue higher studies and work with professional ethics in industries and research laboratories.
17	22UFCHC 6	**Organic Analysis Practical**	**CO1**	Understand the basic principle organic reactions and analyse the organic substance systematically
			CO2	Acquire analytical skill to identify the unknown organic substance based on aliphatic or aromatic and identify the various elements present such as nitrogen, halogen and sulphur present along with the functional groups.
			CO3	Apply the skills to pursue higher studies and work with professional ethics in industries and research laboratories.
18	22UFCHE 2B	Pharmaceutical Chemistry	**CO1**	**Acquire basic knowledge** and to **understand** the values of various medicinal plants.
			CO2	**To know** about the Sulpha Drugs, Antibiotic To learn the structural features of sulpha drugs.
			CO3	**Obtain knowledge** towards the basic information about the drugs affecting CNS and its examples.
			CO4	To **learn** the importance of drugs used for cancer, diabetics, To **classify** blood into various groups based on the composition.
			CO5	To **learn** about the property and physiological function of harmones.
19	22UFCHE 3A	Analytical Chemistry	**CO1**	Acquire thorough knowledge of Role of Analytical Chemistry, Use Analytical balance, Recognize handling of reagents, and Safety in the analytical laboratory.
			CO2	Classify the errors in experimental data, Describe the Sources of errors and the effects upon the analytical results.
			CO3	Explain the Theoretical considerations of titrimetric analysis.
			CO4	Explain and tp understand the Principles of gravimetric

				analysis, Compare Principle involved in thermo gravimetric analysis and differential thermal analysis.
			CO5	Explain Principles and process of solvent extraction.

Department: PG & RESEARCH DEPARTMENT OF CHEMISTRY

ProgrammeName: M.Sc. Chemistry

ProgrammeCode: PCHE

PSO1: Understand and apply the practical and theoretical knowledge of chemistry to create innovative methods in the respective field.

PSO2: Demonstrate multi level application of domain to address problems in the society

PSO3: Exhibit competent skills in handling laboratory equipment and experiments so as become successful industrialists and researchers who will engage in policy making.

PSO4: Emerge as responsible citizens who promote green chemistry and create awareness about eco-friendly methods of sustaining the environment .

PSO5: Evolve as effective leaders who possess and display professional ethics and moral standards in any specialised filed of chemistry chosen

PSO6: Demonstrate preparedness to adapt to the digital advancements in their field of chemistry and demonstrate judicious use of technology for the right purpose.

Sl.No	Course Code	Course Name	CO′s One by One	
			Code	**Course Outcomes**
20	22PACHC1	Inorganic Chemistry – I	**CO1**	Concept of hybridization structure of molecules. Outline VSEPR theory and MO approach in chemical bonding. Knowledge of pseudo halogens, inter-halogens, oxides, and oxyacids of halogens and noble gas compounds.
			CO2	Illustration of weak chemical forces, packing and arrangement patterns of atoms/ions in solids. Required knowledge of the structure of AB and AB_2 types of compounds with examples.
			CO3	Knowledge of Band theory, conducting properties of solids, and liquid crystals. Interpretation of point group, space group, molecular and crystallographic symmetry. Illustrate the chemistry of solid states using X-ray diffraction,

				powder diffraction, and neutron diffraction methods.
			CO4	Required knowledge of boron, boranes, borazines, boron nitride, and hydroborate ion chemistry. Summarize the types of carborantheir its properties structure of metallocarboranes, metal cluster multiple Metal-Metal bonds.
			CO5	Classify the types of inorganic polymers and , compare them with organic polymers. Knowledge of, chain and cluster compounds of silanes, silicon nitrides, siloxanes, cyclophosphazanesand , S-N compounds. Illustrate the structure and bonding in isopolyacids, heteropoly acids and silicates.
21	22PACHC2	Organic Chemistry – I	**CO1**	Understand various kinds of reaction mechanism and apply in Hammett and Taft equation and interpretation of reaction and substituent constant.
			CO2	Define various kinds of substitution reaction mechanism and evaluate the synthetic utility of organic reactions. Knowledge of ester hydrolysis, alkylation of active methylene compounds and synthetic utility of enamines, Finkelstein reaction and Wurtz coupling reaction.
			CO3	Exhibit the difference between aromatic electrophilic and nucleophilic substitution reaction mechanism. Aromatic nucleophilic substitution in aryl halides by Meisenheimer complex mechanism and benzyne mechanism.
			CO4	The required knowledge of Organic reactive intermediates: Generation, stability and reactivity of carbocations, carbanions, free radicals, carbenes, benzynes and nitrenes.
			CO5	Illustration of Stereochemistry of mono and di-substituted cyclic compounds and apply in the field of synthetic routes of preparing new compounds. Interpretation of homotopic, enantiotopic and diastereotopic and concept of R and S nomenclature of allenes, spiranes and biphenyls

22	22PACHC3	Physical Chemistry – I	**CO1**	**Acquire** thorough knowledge of absolute reaction rate theory, **Interpret** Thermodynamic Terms**Use**Significance of entropy and volume of activation**Describe**Reactions in solution, **Recognize**factors determining reaction rates in solutions, effect of dielectric constant and ionic strength.
			CO2	**Classify** Dynamics of unimolecular reactions,**Describe**Rice-Ramsperger- Kassel (RRK) theory, Rice-Ramsperger-Kassel -Marsus (RRKM) theory.**Define**Potential energy surfaces,**Illustrate**Linear free energy relationship-Hammett equation, Taft Equation.
			CO3	**Explain** Mechanism ofEnzymecatalysis,**define** Enzyme Catalysis,**Relate**effect of pH and temperature on enzyme catalysis, **Deduce**Michaelis-Menten equation**Infer**Mechanism of enzyme inhibition
			CO4	**Illustrate** the concepts of Ionic interactions, theory of electrolytes, **Categorize** double layer models.**Analyse** Debye-Hückel limiting law
			CO5	**Understand and explore** the designs of Batteries, Fuel cells and ion selective electrodes
23	22PACHE1 A	Green Chemistry	CO1	Define the basic concepts and principles of green chemistry.Able to do alternative starting materials and processes with examples
			CO2	Understand microwave mediated organic synthesis . Knowledge of microwave reaction such as functional group transformations, condensation reaction, oxidation, reductions, multi component reactions and its advantage
			CO3	Learn about ionic liquids and phase transfer catalyst. Understand various chemical reaction synthesis and its applications of green chemistry
			CO4	Understand the role of catalyst in green

				chemistry. Knowledge of basic concepts , various types ,synthesis and uses of Bio catalyst in green chemistry
			CO5	Explain alternative synthesis , reagents used and various reaction conditions applied in green chemistry
24	22PBCHC1	Inorganic Chemistry-II	**CO1**	Describe the types, factors influencing, determination of stability of complexes, and its comparison. Summarize the stereochemical aspects of inorganic complexes, and nomenclature of chiral complexes. Learn the applications of ORD and CD in the identification of complexes with illustrations.
			CO2	Aquire knowledge of splitting in d-orbitals of various geometry, factors, and evidence. Summarize spectral and magnetic properties of complexes.
			CO3	Aquire knowledge of ground and other state term symbols. Outline of correlation diagram and Orgel diagram for the weak field of octahedral and tetrahedral complexes.
			CO4	Outline the inner sphere and outer-sphere electron transfer reaction mechanism. Summarize the complimentary and non-complimentary reactions, cross-reactions and Marcus-Hush theory.
			CO5	Summarize general principles and reactions of organometallic compounds using catalysis. Aquire knowledge of hydrogenation of olefins, hydroformylation of olefins, Monsanto process

				using various organometallic catalysts.
25	22PBCHC2	Organic Chemistry – II	**CO1**	Understand the reaction involving addition to carbon-carbon double bond.
			CO2	Describe Nucleophilic addition to –C=O bond.
			CO3	Summarize the elimination reactions
			CO4	Study of mechanism of various molecular rearrangements
			CO5	Concept of oxidation and reduction with metal catalysts.
26	22PBCHC3	Physical Chemistry - II	**CO1**	**Summerize** the drawbacks of classical theory and the need for quantum theory. **Relate** the Schrodinger equation to get the solution for wave equation of microparticle like electron.
			CO2	**Use** the application of quantum theory to study the molecules based on theories like MO theory and VB theory. **Correlate** variation and perturbation theory to study the hybridization of orbitals of molecules.
			CO3	**Explain** the Micro wave spectroscopy- Theory, **Classify**Instrumentation**, define** selection rules, **Identify** Energy levels in atoms and molecules
			CO4	**Explain** Vibrational spectra of diatomic molecules, **Relate** rotational character of vibration spectra**Contrast**simple harmonic and unharmonic oscillator.
			CO5	**Explain** Principles, theory, instrumentation of Polarography, **Define** Flame photometry, **Classify** AAS and AES, **Interpret** the spectra from instruments, **Compare** the Merits and Demerits of instrumentational analysis
27	22PBCHC4	**Practical - Organic Chemistry**	**CO1**	Understand the basic principle organic reactions and analyse the organic substance systematically
			CO2	Acquire analytical skill to identify the unknown organic substance based on aliphatic or aromatic and identify the various elements present such as nitrogen, halogen and sulphur present along with the functional groups.

			CO3	Apply the skills to pursue higher studies and work with professional ethics in industries and research laboratories.
28	22PBCHC5	**Practical - Inorganic Chemistry**	**CO1**	Acquire the knowledge on basic principles of qualitative analysis.
			CO2	Learn the skill to prepare inorganic complexes
			CO3	Learn the principle and applications of EDTA titrations.
29	22PBCHE2A	Petroleum Chemistry	**CO1**	Summarize the origin of petrol, characteristics physical and chemical properties, exploration of oil, satellite imaginary drilling operations, refining and petrochemicals.
			CO2	Concepts of thermal, catalytic and hydro cracking, mechanisms of catalytic alkylation, isomerization and hydro desulphurization. Studies on removal of impurities and solvent refining.
			CO3	Analyze the additives for gasoline, kerosene, and diesel. Concepts of knocking character, octane and cetane number. Summarize the test methods of oils.
			CO4	Required knowledge of production of synthetic petrol, Berguis process. Concepts of lubricants its mechanism, classifications synthesis and properties.
			CO5	Outline of petrochemicals aliphatic and oleginic base chemicals, concepts of aromatics, production of producer gas, water gas and industrial gases.
30	22PCCHC1	Inorganic Chemistry-III	**CO1**	**Correlate** the PES of homonuclear diatomic molecules (N_2, O_2) and heteronuclear diatomic molecules (CO, HCl) and polyatomic molecules (H_2O, CO_2, CH_4, NH_3).
			CO2	**Relate** Tracer Application of radioisotopes in

				agriculture, industry and medicine. **Compare** theory of nuclear fission, nuclear fusion, stellar energy. **Illustrate**
			CO3	**Explain** the IR spectroscopy-Introduction, **Classify**stretching frequency of some inorganic ions, **define** selection rules, **Identify** effect of coordination on the stretching frequency-sulphato, carbonato, sulphito, aqua, nitro, thiocyanato, cyano, thiourea, DMSO complexes. **Infer** applications of ^{1}H, ^{15}N,^{19}F, ^{31}P-NMRspectroscopy in structural problems
			CO4	**Explain** ESR spectroscopy-Introduction, presentation of esr spectra g and A parameters **Relate**number of MB signals, isomer shift, quadrupole splitting **Illustrate** Mössbauerspectroscopyapplications to ^{57}Fe and ^{119}Sncompounds.
			CO5	**Explain** Types of organometallic compounds on the basis of the nature of M-C bond, **Define** EAN rule: 18e- and 16e- rules, **Classify** Structure of carbonyls (simple and polynuclear) ,**Interpret** Carbonyls – isolated concept.,**Compare**Nitrosyls – bridging and terminal nitrosyls, bent and linear nitrosyls, **Recognize** Alkyl and Aryl – preparation and properties.
31	22PCCHC2	Organic Chemistry – III	**CO1**	**Compare and Relate Electronic spectra and Infrared spectra.** Summarize Various factors affecting IR stretching frequencies.
			CO2	Illustrate Origin of NMR spectrum-Nuclear spin states–NMR active nuclei–Nuclear magnetic moment–Larmor equation–Population density of nuclear spin states. Correlate Two interacting nuclei: AB, AX, AA'BB', pair of doublet and AB quartet. Three interacting nuclei: AMX, ABX, ABC systems (only pattern is required). Understand NMR imaging (MRI)

			CO3	**Relate** ^{13}C NMR–difficulties in recording ^{13}C NMR: Homo nuclear and heteronuclear coupling. Understand ^{13}C NMR and origin of ^{13}C satellite peaks. **Illustrate**Identification of organo phosphorous compounds P-P bond in NMR.Explain basic aspects of 2-D NMR techniques.
			CO4	**Explain**Origin, basics and bloc diagram of Mass spectrum. **Describe**fragmentation patterns of organic molecules and heterocyclic compounds **Define**McLafferty rearrangements of organic molecules.
			CO5	**Describe** the Determination of molecular formula of organic compounds using elemental (CHN) analysis data. **Illustrate** the Structural determination of simple organic compounds using UV, IR, NMR and Mass spectral data.
32	22PCCHC3	Physical Chemistry-III	CO1	Understand the basic concepts of partial molar properties and correlate the chemical potential with temperature and pressure
			CO2	Understand the theories related to transport processes such as diffusion, heat flow etc., by means of driving forces and fluxes. Gains a good knowledge of entropy of irreversible process.
			CO3	Know the limitations of classical thermodynamics in the evaluation of macroscopic properties. Apply the various applications of quantum statistics and compare the classical and quantum statistics. Understands the concept of distribution of particles among various energy states.
			CO4	Acquire knowledge on basic concepts and applications of Determine the selection rules for spectral transitions energies and molecular orbitals.
			CO5	Gains knowledge about the basic processes of

				photochemistry and their applications. Understands the principles and applications of radiation chemistry.
33	22PCCHE3A	Material Chemistry	**CO1**	Outline and explain the synthesis of nano materials.
			CO2	Apply characterization techniques to analysenanomaterials and also to interpret..
			CO3	Get deep knowledge about various methods of polymerization. Understand the Principles of Polymer reactivity and stereochemistry of Polymerization. Acquire the Knowledge about polymers, types of polymers, Mechanism and Kinetics of polymerization.
			CO4	Understand the theories of conducting properties of materials. Get the knowledge on the structural importance of industrially important materials.
			CO1	Outline and explain the synthesis of nano materials.
34	22PDCHC1	Organic Chemistry-IV	**CO1**	Illustrate Photochemical reactions.RelateNorrish type I & II reactions. Paterno-Büchi reaction.
			CO2	Classify stereochemistry of electrocyclic reactions, cycloadditions and Sigmatropic reactions. Correlate FMO approach,Correlation diagram approach.
			CO3	Describe and classify Structure, synthesis and their reaction of the following systems.
			CO4	Describe Isolation and classification of terpenoids. Illustrate general methods to elucidate the structure of terpenoids. Describe the biosynthesis of terpenes. Explain the biosynthesis of steroids.
			CO5	Explain and Compare the Structural elucidation and biosynthesis ofchinconine, morphine, reserpine, cocaineand nicotine.
35	22PDCHC2	Physical Chemistry-IV	**CO1**	Acquire knowledge on fugacity and its effect on variation of temperature and pressure. Understand the basic concepts of activity and activity coefficient of non-electrolytes.

			CO2	Apply the verification of Onsagar reciprocal relation to thermoelectric effect, thermo- osmotic effect, thermo-mechanical and thermo -kinetic effect. Apply irreversible thermodynamics to biological and non-linear system.
			CO3	Compare the various partition functions like translational, rotational and vibrational partition function in terms of energy. Understand the theory of heat capacities.
			CO4	Apply the basic concepts of group theory to determine the vibrational modes in molecules. Interpret the electronic spectra of molecules.
			CO5	Understand the principle and instrumentation of surface technique like SEM,TEM,STM,AFM and ESCA and interpret thermal analysis curves of TGA,DTA, DSc and DTG
36	22PDCHC3	Practical - Physical Chemistry	**CO1**	Understand the basic principle rate of chemical reactions
			CO2	Apply the theoretical knowledge of adsorption in experiment.
			CO3	Learn to analyse the given ions quantitatively by conductometric and potentiometric titrations.
37	22PDCHC4	Practical - Inorganic Chemistry	**CO1**	Understand the basic principle preparation of inorganic complexes.
			CO2	Acquire analytical skill to analyse the ions in the given solution quantitatively.
			CO3	Apply the skills in interpretating the spectra of inorganic compounds.
38	22PDCHC5	Practical - Organic Chemistry	**CO1**	Acquire the knowledge on basic principles of organic preparations
			CO2	Learn the sill to analyse the organic compounds quantitatively.
			CO3	Learn the principle and applications separation

				techniques of organic compounds.
39	22PDCHE4A	Bio inorganic Chemistry	**CO1**	**Summarize**Inorganic Elements in Biological Systems**Explain**Basic Bioenergetics, **Relate**Biology of calcium carriers and the role in muscle contraction. **Classify** the enzymes. **Correlate** Active transport of cations across membranes with Sodium pump
			CO2	**Describe** the hemoglobin and myoglobin – structures and work functions, **Correlate** cytochromes – structure and work functions – in respiration, **Classify** iron-Sulphur proteins (non-heme iron protein). **Relate** chlorophyll – structure – photosynthetic sequence
			CO3	**Explain** the Metal Ion Deficiency and Disease: Fe, Cu and Zn, **Classify**the Classes of toxic metal compounds – Cu, Cd, Fe, Pb, Ca and Hg toxicity,**Infer**detoxification.
			CO4	**Explain** Au in rheumatic arthritis **Correlate** Pt, Au and metallocene in anticancer drugs, **Relate** metals in radio diagnosis and magnetic resonance imaging. **Compare** Nitrogen cycle and hydrogen cycle.
			CO5	**Explain** Fe, Cu, Zn and V storage and transport, **Define**metallothionein,**Illustrate**carbonic anhydrase, **Compare** transporting some toxic metals – Zn2+ ion complexes.
40		Project		

MATHEMATICS

Department : MATHEMATICS
Name: B.Sc. Mathematics
Programme code: UMAT

B.Sc. MATHEMATICS

PROGRAMME SPECIFIC OUTCOMES (PSOs):

PSO1: Demonstrate a thorough understanding of fundamental concepts of mathematics (algebra, geometry, calculus, trigonometry, statistics, analysis, etc.), problem solving skills, applications of mathematics.

PSO2: Pursue higher education to widen the knowledge base in mathematics, gain expertise over specialized fields of pure and applied mathematics, to gain skills for competitive exams.

PSO3: Develop skills for teaching profession, self-employment, managerial skills for entrepreneurship and computer skills for software development and e-governance, etc.

PSO4: Demonstrate preparedness for a lifelong learning, adapting to modern trends and advancements in the realm of mathematics, adapt to self learning through online resources, passionate towards data analysis and modeling.

PSO5: Develop interpersonal and communication skills for an effective result oriented work environment, work in tandem with a team and acquire leadership qualities.

PSO6: Develop environmental awareness, appreciate human values, basic knowledge of human rights, commitment to cause of society and nation building.

Sl. No.	Course Code	Course Name	CO's – One by one	
1.	**22UAMAC1**	**CLASSICAL ALGEBRA AND NUMBER THEORY**	**CO1**	Recall matrices and the operations on them, identify various types of square matrices and evaluate the powers of square matrices.
			CO2	Find the roots of certain types polynomial equations.
			CO3	Find an approximate solution of polynomial equations
			CO4	Find the divisors of an integer.
			CO5	Find the highest power of a prime in □!.
2.	**22UAMAC2**	**CALCULUS**	**CO1**	Compute *n*th derivatives.
			CO2	Find radius of curvature of a curve in Cartesian coordinates.
			CO3	Find asymptotes and p-r equations of curves.
			CO4	Adept in optimization of functions of two and three variables.
			CO5	Evaluate double and triple integrals.
3.	**22UBMAC1**	**TRIGONOMETRY AND ANALYTICAL GEOMETRY-THREE DIMENSIONAL**	**CO1**	Expand trigonometric functions as a series.
			CO2	Classify hyperbolic and inverse hyperbolic functions.
			CO3	Analyze and Explain about the Tangent Plane and Radical planes.
			CO4	Find equations of cone, quadratic cone with various conditions.
			CO5	Find equations of right circular cylinder with various conditions.
4.	**22UBMAC2**	**LAPLACE TRANSFORMS AND FOURIER SERIES**	**CO1**	Define Laplace Transforms, summarize its properties, evaluate Laplace Transforms of simple functions.
			CO2	Find the Inverse Laplace Transforms of simple functions.
			CO3	Recall the formulae pertaining Laplace Transforms and inverse Laplace Transforms. Apply Laplace Transform in solving ordinary differential equations.
			CO4	Elaborate on Fourier series expansions, Find Fourier series of some periodic functions.
			CO5	Define odd and even functions, could

				expand them as Fourier series and learn half - range series.
5.	**22UCMAC1**	**DIFFERENTIAL EQUATIONS**	**CO1**	Solve first order higher degree differential equations.
			CO2	Find the solution of second order differential equations with constant coefficients.
			CO3	Find the solution of second order differential equations with variable coefficients.
			CO4	Evaluate solution of standard types of partial differential equations.
			CO5	Learns solutions of Lagrange's equation and Charpit's method.
6.	**22UCMAC2**	**MATHEMATICAL STATISTICS**	**CO1**	Apply Distribution functions and analyze the problems based on Joint Probability mass function -Joint Probability distribution function - Marginal distribution function - Joint density function -conditional distribution function
			CO2	Simplify and choose the problems in Mathematical expectations.
			CO3	Understand the basics of sampling distributions and explore the concepts of testing of hypothesis.
			CO4	Infer the results from single mean, two means and paired t-test problems using t-distribution.
			CO5	Infer the results from two variance problems using F-distribution and independence of attributes problems using χ^2 - distribution
7.	**22UDMAC1**	**VECTOR CALCULUS**	**CO1**	Recall the basics of vectors. Understand and illustrate both scalar and vector point functions and their derivatives. Summarize the algebra of vector differentiation.
			CO2	Explain the concepts of grad, div and curl. Analyze their physical & geometrical meanings and applications, find directional derivatives and normals to surfaces and classify as to whether the field is solenoidal or irrotational.
			CO3	Summarize various vector identities; apply them to solve simple problems.

			CO4	Recall the concept of multiple integrals, demonstrate the understanding and evaluation of line, surface and volume integrals, and adapt them to solve some geometrical & physical problems.
			CO5	Apply the knowledge of vector integration to understand integral theorems meaningfully, interpret the relationship between line, surface, volume integrals, and examine in some simple situations.
8.	**22UDMAC2**	**MECHANICS-I**	**CO1**	Recall the basic concept of forces and understand the Equilibrium of a particle.
			CO2	Analyze the concept of Moments and parallel forces.
			CO3	Illustrate couples and find the equation of the line of action of the resultant.
			CO4	Understand the laws of frictions and solve related problems.
			CO5	Define Centre of mass and finding centre of gravity by using integration.
9.	**22UEMAC1**	**ABSTRACT ALGEBRA**	**CO1**	Understand and appreciate the structure of groups and subgroups.
			CO2	Understand the concept of homomorphism and isomorphism of groups.
			CO3	Demonstrate the abstract thinking and ability to prove Cayley's theorem.
			CO4	Gain knowledge about the concepts of rings and quotient rings.
			CO5	Analyse the concept of the Field of Quotients of an Integral Domain and Euclidean Rings
10.	**22UEMAC2**	**Real Analysis – I**	**CO1**	Demonstrate the basic knowledge of the real numbers that causes the formal development of Real analysis.
			CO2	Define sequences and series of real numbers, interpret and apply the acquired knowledge to determine whether the given sequence and series are convergent/divergent.
			CO3	Explain the basic ideas of limits and apply the concepts of limits to the

				theory of sequences and series.
			CO4	Explain and analyze the concepts of metric space; and define Continuity functions of metric spaces.
			CO5	Know how to make to use of the mathematical ideas to prove the basic results.
11.	**22UEMAC3**	**Mechanics – II**	**CO1**	Demonstrate the understanding of basic concepts of velocity, acceleration etc., could relate them in linear motion with constant acceleration, analyze the motion and solve problems in some simple situations.
			CO2	Define and analyze simple harmonic motion, summarize equation of motion & some important formulae, relate it to simple pendulum and solve simple problems.
			CO3	Explain and analyze the motion of a projectile and its attributes. Able to apply the knowledge to solve problems on projectile motion.
			CO4	Outline the laws of impact, analyze motions after impact and solve related problems.
			CO5	Explain the concept of moment of inertia, interpret parallel & perpendicular axis theorems and evaluate M.I of some simple bodies.
12.	**22UEMAC4**	**OPERATIONS RESEARCH**	**CO1**	Formulate a real-life problem into a linear programming problem and find its optimal solution by graphical method and by applying simplex algorithm.
			CO2	Apply Big-M method and Dual simplex algorithm to solve an LPP and to analyze and solve an LPP using duality concepts.
			CO3	Derive optimal strategies in a competitive environment (two players situation) using the methodologies of game theory.
			CO4	Select an appropriate method to find the IBFS and checking for optimality of a transportation problem and find its optimal solution.

			CO5	Apply Hungarian algorithm to identify an optimal solution for an assignment problem.
13.	**22UEMAE1A**	**NUMERICAL METHODS**	**CO1**	Find the roots of algebraic and transcendental equations using various methods.
			CO2	Develop the knowledge of direct and indirect methods of solving simultaneous linear equations.
			CO3	Explain the concept of interpolation (forward, backward, central) and apply them in suitable situations.
			CO4	Evaluate the value of a function when the arguments are not equally spaced.
			CO5	Summarize the rules of numerical integration (Trapezoidal, Simpson's) and apply them to evaluate definite integrals.
14.	**22UEMAE1B**	**DISCRETE MATHEMATICS**	**CO1**	Understand connectives.
			CO2	Write normal forms and understand the theory of inference for the statement calculus.
			CO3	Demonstrate the understanding of predicate calculus.
			CO4	Elaborate on Sets and relations.
			CO5	Explain functions and recursions.
15.	**22UFMAC1**	**LINEAR ALGEBRA**	**CO1**	Explain the basic concept of vector spaces and bases.
			CO2	Construct the orthonormal basis using Gram-Schmidt orthogonalization process.
			CO3	Solve the system of linear equations.
			CO4	Represent a linear transformation in the form of a matrix.
			CO5	Find the canonical forms and triangular forms for a given square matrix.
16.	**22UFMAC2**	**REAL ANALYSIS-II**	**CO1**	Demonstrate the basic knowledge of open sets and closed sets that causes the formal development of Real analysis.
			CO2	Define Compactness, Completeness and Connectedness; interpret and apply the acquired knowledge to determine continuous functions on compact metric space; understand the concept of uniform continuity and continuity of

				inverse function.
			CO3	Explain and analyze the concepts of partition of an interval.
			CO4	Know how to apply and analyze the ideas of Rolle's theorem and mean value theorem and solve the problems.
			CO5	Know how to make use of explain the concept of Pointwise convergent and uniform convergent; Also analyze the given series is pointwise convergent, uniformly convergent.
17.	**22UFMAC3**	**COMPLEX ANALYSIS**	**CO1**	Test the analyticity of functions of complex variable.
			CO2	Find the integrals of complex functions using Cauchy's integral formula and explain them such as Cauchy's inequality, Liouville's theorem, fundamental theorem of algebra.
			CO3	Find power series expansion of complex functions and the region of validity.
			CO4	Evaluate definite integrals and improper real integrals in light of Cauchy's residue theorem.
			CO5	Elaborate on conformal mapping and learn bilinear transformations and some standard transformations.
18.	**22UFMAE2A**	**GRAPH THEORY**	**CO1**	Explain the fundamental concepts of Graph Theory. Further, identify and construct examples to represent graphs in matrix form.
			CO2	Define graphical partitions and construct graphs realizing the partitions. Also, elaborate the connectedness of graphs.
			CO3	Understand and explain Eulerian and Hamiltonian graphs, apply these concepts in some real-life situations.
			CO4	List out the properties of trees and prove related theorems.
			CO5	Illustrate the concept of planarity and digraphs; use Graph Theory as a modeling tool.
19.	**22UFMAE2B**	**ELEMENTARY NUMBER THEORY**	**CO1**	explain the concept of division algorithm and solve simple problems.
			CO2	demonstrate the features of

				congruences and able to explain Chinese remainder theorem.
			CO3	Demonstrate the understanding of quadratic residues
			CO4	compute the greatest integer function and explain the mobius inversion formula
			CO5	evaluate the Diophantine equations
20.	**22UFMAE3A**	**RESOURCE MANAGEMENT TECHNIQUES**	**CO1**	Draw networks and find the critical path in a network problem and also able to analyze the available floats.
			CO2	Find the economic order quantities for some deterministic inventory models with and without shortages.
			CO3	Find the economic order quantity for some deterministic inventory models with price breaks and also able to find optimum order size for a probabilistic inventory model with discrete demand.
			CO4	Minimize the average queue length and average waiting time of the customers in finite and infinite capacity queueing systems with single server and multi-server models.
			CO5	Find the optimal sequence of jobs so as to minimum total elapsed time and idle times of the machines in a sequencing problem.
21.	**22UFMAE3B**	**PARTIAL DIFFERENTIAL EQUATIONS WITH APPLICATIONS**	**CO1**	Recall preliminaries of PDE and Fourier series, understand the method of separation of variables and solve simple problems.
			CO2	Understand and analyze wave equations and solve problems.
			CO3	Understand and analyze one dimensional heat equations and solve problems.
			CO4	Understand and analyze two-dimensional heat equations and solve problems.
			CO5	Understand and analyze two-dimensional heat equations in polar coordinates and solve problems.
22.	**22UAMAA1**	**ALLIED MATHEMATICS-I**	**CO1**	Recall the basics of Matrices and learns Hermitian, Skew Hermitian, Orthogonal,Unitary Matrices and solve

				related problems.
			CO2	To familiarize about Eigen values and Eigen Vectors andapply Cayley-Hamilton theorem for finding inverse.
			CO3	Analyze the method of solving reciprocal equations.
			CO4	Recall the basic concepts and understand the expansions of Trigonometric functions.
			CO5	Understand and find Fourier series of a given periodic function.
23.	**22UBMAA2**	**ALLIED MATHEMATICS-II**	**CO1**	Recall differentiation, understand the concepts of n^{th} derivatives, radius of curvature and solve related simple problems.
			CO2	Learn solution methods for second order differential equations with constant coefficients having RHS functions as e^{ax}, cosax, sinax, e^{ax} V and could evaluate simple problems.
			CO3	Define Laplace Transforms, summarize its properties, find LT & Laplace inverse Laplace transform of certain simple functions and apply them to solve simple ODEs.
			CO4	Recall basics of vector algebra and learns gradient, divergence, curl and their applications, and solve simple problems.
			CO5	Recalls Multiple integrals learns evaluating line, surface and volume integrals, relate them by understanding integral theorems(Gauss, Green's, Stoke's) and justify integral theorems through simple examples.
24.	**22UAMAN1A**	**ANALYTICAL SKILLS AND APTITUTE**	**CO1**	Make use of arithmetical problems in numbers, fractions and roots.
			CO2	Recall the formulae of Simple and Compound interest and find the solutions of Simple and Compound interest problems.
			CO3	Formulate the permutations and combinations and determine its solutions. Find also the probabilities

				and solve it.
			CO4	Find an odd man out and estimate the values of series.
			CO5	Understand Bar Graphs and Pie Charts, find the solution to its interpretation.
25.	**22UAMAN1B**	**DESCRIPTIVE STATISTICS**	**CO1**	Classify, tabulate and interpret data.
			CO2	Represent data pictorially.
			CO3	Compute measures of averages arithmetic mean, geometric mean and harmonic mean.
			CO4	Compute median and mode.
			CO5	Compute the measures of dispersion such as standard deviation, quartile deviations, etc.
26.	**22UBMAN2A**	**FUNCTIONAL MATHEMATICS**	**CO1**	Interpret to do arithmetical problems on ages, surds and indices.
			CO2	Understand problems on Profit and Loss, Ratio and Proportion. Also, find its solution.
			CO3	Relate problems on Time and Work, Time and Distance. Also, estimate its solution.
			CO4	Recall problems on Trains, problems on Races and Games of Skill, determine its solution.
			CO5	Define stocks and shares, find solutions to problems on stocks and shares.
27.	**22UBMAN2B**	**FUNCTIONAL STATISTICS**	**CO1**	Find the coefficient skewness for the given data.
			CO2	Compute moments and kurtosis for the given data.
			CO3	Identify the degree of relationship from coefficient of correlation.
			CO4	Establish the relationship between two variables using regression analysis.
			CO5	Fit linear and quadratic curves for the given data.

Department : MATHEMATICS
Name: M.Sc. Mathematics
Programme code: PMAT

M.Sc. MATHEMATICS

PROGRAMME SPECIFIC OUTCOMES (PSOs)

PSO1: Gain in depth knowledge in mathematics, apply the knowledge gained in the specialized fields such as fluid mechanics, optimization techniques, numerical Analysis, Mathematical Models and solutions to real life problems.

PSO2: Develop interest for learning advances and recent trends in mathematics and have a footing for research in their domain of interest.

PSO3: Become a successful academician, software professional, entrepreneur, adept in policy making and decision making.

PSO4: Develop a responsible and committed citizen, who would promote the wellness of society, the state and strive for environmental sustainability.

PSO5: Evolve as a good teacher who nurtures and follows ethics, morals, cultural values and integrity.

PSO6: Adapt to theoretical and technological advances in mathematics, new mathematical software. To acquaint with evolving digital world and judiciously use them for right purposes, nation building and committed to the cause of social welfare.

Sl. No.	Course Code	Course Name	CO's – One by one	
1.	**22PAMAC1**	**ABSTRACT ALGEBRA**	**CO1**	Recall the fundamentals of Group theory, define conjugacy as an equivalence relation, Prove Cauchy's and Sylow's theorems and find the p-Sylow's subgroup of a given group.
			CO2	Summarize various properties of the External and internal direct product of

				finite number of groups,define the invariants of a group,and explain the relation between isomorphic groups of prime order and their variants.
			CO3	Define the degree of a polynomial and it's properties, explain the concept of principal ideal ring, and elaborate the connections between algebraic elements and finite extension.
			CO4	Prove the Remainder theorem, explain the splitting fields, demonstrate the concept of multiple roots, discuss simple extension of a field.
			CO5	Understand the relation between normal extensions and the splitting field of some polynomial over F, analyze the fundamental theorem of Galois theory and solvability by radicalsand solve simple problems.
2.	**22PAMAC2**	**REAL ANALYSIS – I**	**CO1**	Recall monotonic functions, bounded functions and understand the concepts of total variation and its properties.
			CO2	Understand Riemann Stieltjes integrals, its properties.
			CO3	Understanding the difference between necessary and sufficient condition for Riemann-Stieltjes integral.
			CO4	Demonstrate and the understanding of Riemann's theorem on conditionally convergent series and Euler's product for Riemann-Zeta function.
			CO5	Recognize the difference between Pointwise convergence and uniform convergence of sequence of functions and illustrate the effect of uniform convergence on the limit function with respect to continuity, differentiability and integrability.
3.	**22PAMAC3**	**ORDINARY DIFFERENTIAL EQUATIONS**	**CO1**	Recall and understand fundamentals, degree and order. Solve second order homogeneous equation, understand and illustrate Wronskian.
			CO2	Solve homogeneous equation of order n. Demonstrate solution methodologies such as Annihilator method to solve non-homogeneous

				equation.
			CO3	Explain regular singular points, power series solution method to solve Legendre equation.
			CO4	Explain the nature of singular points. Discuss solutions to Euler equation and Bessel's equation.
			CO5	Analyze existence and uniqueness of solutions, in particular Lipschitz condition. Evaluate successive approximations and solve Exact equation.
4.	**22PAMAC4**	**GRAPH THEORY**	**CO1**	Analyze the types of graphs, represent them in matrix form and explain paths and connections.
			CO2	Determine the connectivity of graphs, prove theorems related to connectivity, understand Eulerian and Hamiltonian graphs.
			CO3	Define matchings and edge colourings, applying these concepts in some real life situations.
			CO4	Discuss vertex coloring and find chromatic polynomials for graphs.
			CO5	Illustrate the concept of planarity and to solve problems that can be modeled by graphs.
5.	**22PAMAE1A**	**DIFFERENCE EQUATIONS**	CO1	Recall Difference operator, list their properties, understand summation and their properties and apply them to solve some summation problems.
			CO2	Summarize and analyze solution methodologies for linear equations with constant coefficients such as annihilator method, variation of parameters and utilize them to solve some simple equations.
			CO3	Demonstrate solution methodologies for some special types of linear equation with variable coefficients and solve related equations.
			CO4	Recall transformation techniques, Understand Z- transforms and list their properties, find Z- transforms of some simple functions and apply

				them to solve difference equations and summation equations.
			CO5	Understand theorems on linear systems, explain Putzer algorithm and apply it to solve systems and analyze theorems on stability.
6.	**22PAMAE1B**	**RESOURCE MANAGEMENT TECHNIQUES**	**CO1**	Simulate inventory problems and queueing problems using Monte-Carlo simulation.
			CO2	Solve the decision-making problems under uncertainty and decision-making problems under risk.
			CO3	Classify and build a mathematical model to some deterministic inventory problems with and without shortages and determine an optimal order quantity for them.
			CO4	Construct a mathematical model and find an optimal solution to some stochastic inventory problems in real-life and also classify the items in the inventory using ABC analysis.
			CO5	Develop a mathematical model for some real-life queueing problems and analyze them by finding its performance measures.
7.	**22PBMAC1**	**LINEAR ALGEBRA**	**CO1**	Define linear transformation and its properties,explain Invertible and Non - singular transformation, discuss linear functional.
			CO2	Understand the algebra of polynomials and its ideals,define determinant functions
			CO3	summarize the additional properties of determinants,understands permutations and the uniqueness of determinants,explain annihilating polynomials.
			CO4	Define Invariant subspaces, discuss simultaneous diagonalization, prove the primary decomposition theorem.
			CO5	understand the concept of cyclic subspaces and cyclic vectorsprove the cyclic decomposition theorem and the generalized Cayley-Hamilton theorem,discuss the Jordan Canonical

				forms.
8.	**22PBMAC2**	**REAL ANALYSIS – II**	**CO1**	Explain the basic knowledge measurable sets and measurable.
			CO2	Know how to classify the Riemann and Lebesgue Integral.
			CO3	Demonstrate the concepts of orthogonal, orthonormal system of functions and its applications.
			CO4	Understand the concept of directional derivative, continuity and total derivative; using these concepts they gain knowledge about mean value theorem and chain rule for multi-variable functions.
			CO5	Discuss and prove the inverse function theorem, implicit function theorem.
9.	**22PBMAC3**	**PARTIAL DIFFERENTIAL EQUATIONS**	**CO1**	Develop skills in the formulation and solution of I order PDE, classify the PDE and reduce them into canonical form.
			CO2	Elaborate Laplace and Poisson equation, solve the three kinds of BVP (Dirichlet, Neumann and mixed).
			CO3	Discuss the solution of BVP describing diffusion equation in various coordinate systems using variables separable method.
			CO4	Provide a detailed study of wave equation representing the hyperbolic PDE, present problems like vibrating string and periodic solutions of wave equation.
			CO5	Learn and understand the solution of PDE using transformation techniques (Laplace and Fourier).
10.	**22PBMAC4**	**TOPOLOGY**	**CO1**	Analyze basis and different types of topological space.
			CO2	Compute limit points of a subset of a topological space.
			CO3	Apply the countability and separation axioms.
			CO4	Explain Metrization of spaces.
			CO5	Provide information on compactifying of topological spaces.
11.	**22PBMAE2A**	**NUMERICAL ANALYSIS**	CO1	find the solution of nonlinear

				equations and also to Illustrate the solution of linear equations.
			CO2	solve the problems based on Interpolation and polynomial approximation.
			CO3	solve and analyze the problems on Numerical Differentiation and Numerical Integration.
			CO4	determine the solution of ordinary differential equations.
			CO5	estimate and also to find the solution for Partial differential equations.
12.	**22PBMAE2B**	**FORMAL LANGUAGES AND AUTOMATA THEORY**	**CO1**	Able to define regular expressions and regular grammars, formulate Finite Automata that recognizes regular expressions and regular grammars.
			CO2	Remember the properties of regular sets. Understand the Myhill-Nerode Theorem and minimization of finite automata.
			CO3	Define Context-free grammars, Create Derivation trees using the simplification of context-free grammars; Understand Chomsky normal form and Greibach normal form.
			CO4	Design Pushdown Automata and apply it to context-free languages in order to recognize. Create Normal forms for deterministic pushdown automata.
			CO5	Develop the pumping lemma for CFL's; Analyze the Closure properties for CFL's. Extend CFL to find its Decision algorithms.
13.	**22PBMAD1**	**MATHEMATICS FOR COMPETITIVE EXAMINATIONS**	**CO1**	Solve simple problems in Problems of Ages, Surds and indices and use them in competitive exams.
			CO2	Evaluate simple problems in Profit and Loss, Ratio and Proportions and apply them in real-life problems.
			CO3	Solve simple problems in Time and work, Time and distance and use them in competitive exams.
			CO4	Solve simple problems in Permutations and Combinations and use them in competitive exams.

			CO5	Solve simple problems in Stocks and Shares and use them in competitive exams.
14.	**22PCMAC1**	**MATHEMATICAL METHODS**	**CO1**	discuss functional of variational problems with fixed boundaries in real time situations.
			CO2	demonstrate various types for the extremum of the functional in fixed and moving boundaries.
			CO3	Apply Fourier transforms to solve Laplace equations.
			CO4	explain the types of Integral equations and its kernels.
			CO5	apply Green's function to solve integral equations.
15.	**22PCMAC2**	**DIFFERENTIAL GEOMETRY**	**CO1**	Find arc length, curvature and torsion of space curves.
			CO2	Find the point of contact between curves and surfaces.
			CO3	Outline intrinsic properties, understand surface of revolution and isometric correspondence.
			CO4	Explain Geodesics, Geodesic curvature and elaborate on Gauss-Bonnet theorem and find Gaussian curvature.
			CO5	Understand lines of curvature, developables, minimal surfaces and ruled surfaces.
16.	**22PCMAC3**	**MATHEMATICAL STATISTICS**	**CO1**	Able to define the various types of random variables of discrete and continuous types. Evaluate problems on various types of random variables of discrete and continuous types
			CO2	Find the Chebyshev Inequality and Absolute moments.
			CO3	Determine distribution functions by the Characteristic function.
			CO4	Define the distributions of Binomial, Poisson, Uniform, Normal, Gamma and Beta. Find the distributions of Binomial, Poisson, Uniform, Normal, Gamma and Beta and solve it.
			CO5	Recall and distinguish the distributions

				like the chi-square distribution, student's t-distribution, Fisher's z-distribution and find its solution.
17.	**22PCMAE3A**	**TENSOR ANALYSIS AND THEORY OF RELATIVITY**	CO1	Able to define the various types of tensors. Evaluate problems on various types of tensors using Kronecker Symbols.
			CO2	Find the Christoffel Symbols and estimate their values using their properties.
			CO3	Determine Covariant Differentiation of Tensors and evaluate Riemann–Christoffel Curvature Tensor and Intrinsic Differentiation.
			CO4	Define Special Theory of Relativityand Relativistic Kinematics. Determine the values of Special Theory of Relativityand Relativistic Kinematics using tensors.
			CO5	Recall and distinguish the Relativistic Dynamics and Accelerated Systems. Solve its problems.
18.	**22PCMAE3B**	**WAVELETS**	CO1	Aquire knowledge in basics of discrete Fourier transforms and fast Fourier transforms.
			CO2	Construct wavelets on $\mathbb{Z}_N$ and apply them.
			CO3	Able to understand Fourier transform and convolution on $\ell^2(\mathbb{Z})$ and implement.
			CO4	Construct multi resolution analyses and computer wavelets with compact support.
			CO5	Solve differential equations using Galerkin methods.
19.	**22PCMAE4A**	**STOCHASTIC PROCESSES**	CO1	Classify the stochastic processes.
			CO2	Explain about the higher transition probability and the Markov chain
			CO3	Construct a very wide knowledge in Poisson process and also to analyze the process.
			CO4	Determine the Birth and Death process of Markov process of discrete state space.
			CO5	Discuss about the Renewal process

				in continuous time and explain about the Renewal theorems.
20.	**22PCMAE4B**	**NUMBER THEORY AND CRYPTOGRAPHY**	CO1	Understand and apply Euclidean algorithm, study congruences and their properties.
			CO2	Elaborate on finite fields and quadratic reciprocity.
			CO3	Encipher matrices DES
			CO4	Assimilate the concept of public key cryptography and implement it.
			CO5	Demonstrate the understanding of Elliptic curves and Elliptic curve crypto systems
21.	**22PCMAD2**	**APPLIED STATISTICS**	CO1	Demonstrate the basic knowledge of various measures of central tendency and their properties.
			CO2	Know how to compute correlation and rank correlation and construct the relationship between two variables using regression.
			CO3	Know how to solve the problems related to testing of hypothesis (large sample tests).
			CO4	Demonstrate the knowledge of testing of small sample tests.
			CO5	Acquire the knowledge to examine the goodness of fit and test for independence of attributes.
22.	**22PDMAC1**	**COMPLEX ANALYSIS**	**CO1**	Find Index of a point, zeros, poles and examine singularities also evaluate Complex integrals by applying Cauchy's integral formula.
			CO2	Summarize Chains, cycles, simple connectivity, homology and prove General Cauchy's theorem, Residue theorem, Rouche's theorem and find residues.
			CO3	Define harmonic function and its properties. Demonstrate related results such as Mean Value theorem, Poisson's formula, Poisson's integral and its properties, Hurwitz's theorem etc.
			CO4	Define Meromorphic function.

				Explain Mittag-Lefler theorem and summarize Infinite Products, Canonical products and solve problems. Elaborate on Legendre Duplication formula, Genus, Gamma function and its properties.
			CO5	Define Elliptic function and explain its properties. Analyze periodic and doubly periodic functions and prove Weierstrass functions.
23.	**22PDMAC2**	**OPTIMIZATION TECHNIQUES**	**CO1**	Model an integer programming problem and find an optimal solution to the real-life cases.
			CO2	Develop a goal programming model, analyze it and determine an optimal solution using modified simplex algorithm and graphical methods.
			CO3	Formulate and classify a non-linear programming problem and determine an optimal solution using different methods.
			CO4	Apply Kuhn-Tucker conditions to a quadratic programming problem and find an optimal solution using Wolfe's and Beale's methods.
			CO5	Predict an optimal solution to various types of problems in real-life using dynamic programming principle.
24.	**22PDMAC3**	**FUNCTIONAL ANALYSIS**	CO1	Understand and develops knowledge in Normed linear space, Continuous Linear Transformation.
			CO2	Demonstrate and the understanding of open mapping theorem, Closed graph theorem and uniform boundedness theorem.
			CO3	Define and elaborate on Hilbert Space, its properties and orthogonalization.
			CO4	Understand the concept of operators (adjoint, self-adjoint, normal and unitary) and projections.
			CO5	Gains knowledge of Banach algebras, Topological divisors of zero, spectrum and spectral radius.
25.	**22PDMAC4**	**MECHANICS**	**CO1**	Find generalized co-ordinates and using in solving problems on virtual

				work, energy and momentum.
			CO2	Apply Lagrange's equations in solving Kepler's problem and pendulums. Also to solve the problems using the concept of ignorable co-ordinates.
			CO3	Discuss geodesic problem, Brachistochrone problem and projectile problem using Hamilton's principle.
			CO4	Find Hamilton-Jacobi equations and apply on separability of a system.
			CO5	Verify conditions of canonical transformations and find relation between Lagrange and Poisson brackets.
26.	**22PDMAE5A**	**FLUID DYNAMICS**	CO1	Classify fluids, define stream lines & equi potentials, analyze some simple flows and demonstrate equation of continuity.
			CO2	Explain pressure. Learn Euler's and Bernoulli equations and solve problems.
			CO3	find velocity potential for some simple three dimensional flows, find stokes stream function for axisymmetric flows, and solve some simple problems.
			CO4	understand the concept of CVP and evaluate it for some simple flows, use CVP to analyze certain flows, Interpret image system, Milne Thompson circle theorm and its applications.
			CO5	Understand stress components and normal stresses. Discuss Navier-stokes equation.
27.	**22PDMAE5B**	**FUZZY SETS AND THEIR APPLICATIONS**	CO1	Mention the fundamental notions in fuzzy.
			CO2	Do the fuzzy operations and apply them.
			CO3	List the relations in fuzzy sets and fuzzy graphs.
			CO4	Demonstrate the concept of fuzzy functions and fuzzy analysis.
			CO5	Apply fuzzy sets in uncertainty modeling.

PSYCHOLOGY

Department : **PSYCHOLOGY**

Programme Name: **B.Sc. PSYCHOLOGY**

Programme code: **UG PS**

PROGRAMME SPECIFIC OUTCOMES (PSO)

On completion of the programme, the students will be able to:

PSO1: Demonstrate strong theoretical knowledge in the basic concepts of Psychology

PSO2: Pursuing higher studies in the specialized fields of Psychology such as clinical, organizational, educational etc

PSO3: Transforming as leaders and entrepreneurs with moral and professional ethics through the discipline of Psychology

PSO4: Exhibit their preparedness for effective handling and adaptation of different life situations for themselves and others

PSO5: Develop and utilize interpersonal and intrapersonal skills in self understanding and team work by learning psychological skills

PSO6: Turn out as responsible citizens by serving the society and Saving the environment through the application of acquired psychological principles, techniques and practical skills.

Sl.No	Course Code	Course Name	CO's – One by one
1	**22UAPSC1**	GENERAL PSYCHOLOGY-I	Explain the nature, methods and the scope of Psychology
			Define the basic concepts of psychology
			Summarize the theoretical underpinnings of the basic

			concepts
			Relate psychological process underlying behaviour
			Recall the schools of psychology
2	**22UAPSC2**	BIOLOGICAL PSYCHOLOGY-I	Explain the fundamentals of biology of behaviour
			Examine various research methods of studying the nervous system
			Demonstrate the neural communication of behavior
			Illustrate the structure of the nervous system
			Outline the functions of the nervous system
3	**22UAPSA1**	**EDUCATIONAL PSYCHOLOGY**	Explain the nature, scope, need and methods of educational psychology
			Relate the theoretical perspectives of educational psychology in classroom settings
			Identify the human diversity in education
			Identify the effective teaching methods
			Categorize the exceptionality to meet the educational needs
4	**22UAPSN1A**	**EMOTIONAL INTELLIGENCE**	Define emotional intelligence and its components

			Building the EQ competencies
			Identify the techniques of emotional management
			Apply the emotional intelligence in different situations for self
5	**22UAPSN1B**	**EFFECTIVE STRESS MANAGEMENT**	Explain different sources of stress in our daily life
			Summarize the model of stress
			Identify techniques for managing stress
			Examine applications of relaxation training in coping with stress
6	**22UBPSC1**	**GENERAL PSYCHOLOGY-II**	Illustrate theories of motivation, emotion, intelligence and personality
			Name the various assessments of personality, intelligence and creativity
			Compare individual differences in motivation, emotion, personality, cognition, intelligence and creativity
			Identify techniques for effective problem solving and decision making
7	**22UBPSC2**	**BIOLOGICAL PSYCHOLOGY-II**	Demonstrate brain development and plasticity

			Find the biological basis of hunger & thirst
			Illustrate the effect of hormones.
			Outline types of memory and effects of brain damage on learning and memory
			Examine the physiological basis for emotion and its effect on health
8	**22UBPSA2**	**SCHOOL PSYCHOLOGY**	Define the basic concept of school psychology
			Identify the different cognitive styles and learning strategies
			Examine parent-teacher and peer relationship
			Outline different problems in schools
			Identify different teaching methods in school for effective teaching
9	**22BPSN2A**	**PSYCHOLOGY FOR EFFECTIVE LIVING**	Define the concept of self
			Explain the importance of diet and exercise in our health and the concept of ways of coping with illness
			Apply the adjustment strategies in family, parent child relationship and Intimate relationship
			Summarize the concept of

			impression formation and interpersonal relationship in effecting with friendliness, self-disclosure and loneliness
			Identify different kinds of relationship with others and its importance in our healthy life
10	**22BPSN2B**	**IMPORTANCE OF INTERPERSONAL SKILLS**	Outline qualities of interpersonal relationship skills
			Identify individual and group functioning
			Recall the ways of dealing with interpersonal relationship
			Utilize suitable techniques for effective Interpersonal relationship
11	**22UCPSC1**	**DEVELOPMENTAL PSYCHOLOGY-I**	Define the concepts related to child birth
			Outline the growth during infancy, babyhood and childhood periods of human development
			Identify the nature and components of human development during infancy, babyhood and childhood stages of development
			Analyze the threats and menace during infancy, babyhood and childhood stages.

12	**22UCPSC2**	**INTRODUCTION TO THEORIES OF PERSONALITY**	Define basic concepts in personality
			Compare and contrast between Freudian and Neo Freudian theories of personality
			Distinguish type and trait theories of personality
			Examine the concepts in Humanistic existential theories of personality
			Evaluate social, cognitive and social perspectives on personality
13	**22UCPSA3**	**STATISTICS IN PSYCHOLOGY**	Recall the basics of statistics in psychology
			Demonstrate the measures of central tendency and variability
			Relate normal distribution to data interpretation
			Infer basic concepts of inferential statistics
			Choose appropriate Non-parametric statistical methods
14	**22UDPSC1**	**DEVELOPMENTAL PSYCHOLOGY-II**	Define the concepts in adolescence and adulthood
			Outline the changes and growth during adolescence and adulthood
			Identify the nature and components of human

			development during adolescence and adulthood.
			Infer the threats and menace during infancy, babyhood and childhood stages.
15	**22UDPSC2**	**EXPERIMENTAL PSYCHOLOGY-II**	How to find out attention span and distraction
			Demonstrate learning and motivation concepts
			Assess emotion and intelligence
16	**22UDPSA2**	**HEALTH PSYCHOLOGY**	Define the need and importance of health psychology
			Outline the models and factors influencing health behaviour.
			Identify the nature and factors influencing quality of life and illness
			List the ways of managing illness and improving health.
			Utilize knowledge of health behaviours to promote health
17	**22UEPSC1**	**ABNORMAL PSYCHOLOGY-I**	Explain the history and causes of abnormal behaviour
			Relate the models of psychology to abnormal behaviour.
			Identify therapies and treatment methods for abnormal behaviour

			Examine the symptoms and causes of anxiety, somatic and dissociative disorders.
			Identify the treatment procedures for anxiety, somatic and dissociative disorders.
18	**22UEPSC2**	**SOCIAL PSYCHOLOGY-I**	Explain the history of social psychology and research methods in relevance to social psychology.
			Illustrate the concept and importance of self in relation to social context.
			Explain the social beliefs and judgments for forming attitudes and behaviour
			Identify the factors, Characteristics and resistance for conformity, compliance and obedience.
			Examine the reasons, conditions and characteristics of helping behaviour.
19	**22UEPSC3**	**INTRODUCTION TO RESEARCH METHODOLOGY**	Spell out the objectives, need and importance of research
			Illustrate the process of research.
			Choose the appropriate sampling techniques for research
			Identify the suitable methods of data collection.

			Organize a good research report
20	**22UEPSC4**	**EXPERIMENTAL PSYCHOLOGY-II**	Test personality and self esteem
			Measure the differential abilities and vocational interest of people
			Assess stress levels and coping styles
			Measure religious attitude and attitude towards job
			Assess the level of creativity
21	**22UEPSE1A**	**ORGANIZATIONAL PSYCHOLOGY**	Explain scope and history of organizational psychology and opportunities for organizational psychologist
			Illustrate different learning theories and its uses in organizational setting
			Identify the different types of motivation theories in an organization
			Examine the approaches of Leadership in an organization
			Analyze the causes and consequences of job satisfaction
22	**22UEPSE1B**	**MARKETING AND CONSUMER BEHAVIOR**	Outline the basics and core concepts of marketing and consumer behaviour
			Summarize levels and patterns of market

			segmentation
			Explain the influence of personal, psychological, social and cultural factors in consumer behaviour
			Examine different processes and models of buying behaviour
			Apply the research methods in marketing
23	**22UFPSC1**	**ABNORMAL PSYCHOLOGY-II**	Explain the causes and symptoms of major abnormal behaviours
			Identify the therapies and treatment methods for major abnormal behaviour
			Analyze substance related disorders
			Apply therapies to overcome substance related disorders.
			Evaluate neuro development disorders
24	**22UFPSC2**	**SOCIAL PSYCHOLOGY-II**	Spell out the theories of persuasion and aggression
			Infer the influence of group on individual's behavior.
			Summarize the nature and sources of prejudice.
			Identify the techniques to resist persuasion, counter prejudice and reduce aggression.

			Examine the sources of liking and love
25	**22UFPSC3**	**GUIDANCE AND COUNSELING**	Explain the nature and scope of counseling and guidance
			Distinguish different approaches to counseling and guidance
			Apply different assessment techniques in counselling
			Identify the qualities of counsellors
			Examine special areas in counselling
26	**22UFPSE2A**	**HUMAN RESOURCE MANAGEMENT**	Explain the functions and scope of Human Resource Management
			Examine the sources and process of recruitment and selection
			Identify the importance and uses of different types of training methods in an organization
			Examine different performance appraisal methods in an organization
			Analyze about compensation benefits in organization
27	**22UFPSE2B**	**APPLIED PSYCHOLOGY**	Spell out the fields of applied psychology
			Demonstrate the role of psychologist in different

			settings
			Explain psychological principles that are employed in different fields
28	**22UFPSE3A**	**POSITIVE PSYCHOLOGY**	Illustrate eastern and western perspectives on positive psychology
			Apply positive emotions to life
			Identify the concept of positive cognitive process
			Summarize positivity in different cultural background and different age groups
			Identify the influence of personal factors on future perspective
29	**22UFPSE3B**	**COGNITIVE PSYCHOLOGY**	Define the basic concept of cognitive psychology
			Explain the cognitive neuroscience of memory, consciousness, thinking and problem solving
			Illustrate the cognitive neuroscience of sensation, perception and attention

STATISTICS

Department : STATISTICS
Programme Name : B.Sc STATISTICS
Programme Code: USTT

PROGRAMME SPECIFIC OUTCOMES (PSO's)

PSO1: Compare the facts in theoretical and practical skill/knowledge in their program domain of Statistics.

PSO2: Pursue Higher Education to Develop and Design Analytical skills in the fields of Statistical Applications

PSO3: Classify as a leader with a sound moral, Professional and ethical value by applying the skill of Statistical tools and acquired knowledge.

PSO4: Develop an intense for lifelong learning and determine to adapt to emerging technical language in the field of Statistics and Mathematic/Data Science

PSO5: Importance of relationship to perceive an excellent, interpersonal and communication skills to take part in the work effectively as individuals and to extend the support to organize in team.

PSO6: Emerge as a responsible citizen by using the proper statistical tool while extract the inferences based on the facts and serving the society and saving the environment

S.NO	Course Code	Course Name	CO's one by one
1	**22UASTC1**	**DESCRIPTIVE STATISTICS**	Classify and summarise the statistical data of discrete and continuous frequency distribution
			Construct diagrammatic and graphic representation to demonstrate the real life problems
			Analyse and Interpret the inferences from the mathematical calculations
			Compare the relationship to obtain the qualitative and quantitative measures
			Categorise the concept of the association of attributes and obtain the qualitative measures between two attributes

2	**22UBSTC1**	**PROBABILITY THEORY**	Ability to distinguish between random and non random experiment
			Outline their knowledge to conceptualise the probabilities of events including axiomatic approach
			Recall the concept of discrete and continuous random variables and their probability distributions including expectations and moments
			Differentiate MGF and characteristic function and solve complex problems
			Concepts of conditional probability and Bayes theorem to develop analytical skills
3	**22UCSTC1**	**PROBABILITY DISTRIBUTIONS**	Label and classify the basic assumptions of several importance discrete and continuous probability distributions
			List out the importance of various distributions to real life problems
			Study the probability pattern of big data for further analysis
			Ability to identify and label the distribution for classification techniques
			To study the relationship between the distributions
4	**22UDSTC1**	**STATISTICAL ESTIMATION THEORY**	Explain and estimate the parametric values
			Demonstrate the concept of parameter, statistic and sampling distributions
			Compare various estimation techniques
			Define the sampling distribution of t,F and chisquare
			The concept of blackwelisation will equip the estimator for an unknown parameter. Leads to obtain an upper bound for the parameter through Cramer Rao Inequality. Make inferences using t, F and chi-square distribution
5	**22UESTC1**	**SAMPLING TECHNIQUES**	Define the sample survey and list the types of sampling

			Classify and solve the comparison of Stratified random sampling with SRSWOR &SRSWR
			Basic knowledge of complete enumeration of sample and principle steps in sample survey
			Categorizevarious statistical sampling scheme such as simple random sampling, stratified and systematic sampling.
			Define the sample survey, select appropriate sampling techniques and estimate the parameters of different allocation techniques.
6	**22UESTC2**	**TESTING OF STATISTICAL HYPOTHESES**	Framing the hypothesis for solving the problems with the critical values and identify the confidence limits.
			Develop the most powerful test for simple hypothesis Vs simple hypothesis for practical problems
			List the properties of Likelihood Ratio test
			Explain Parametric and Non- parametric test
			Summarize the procedure for hypothesis testing in Research methodology
7	**22UESTC3**	**STATISTICAL QUALITY CONTROL**	Explain the importance of SQC in industry
			To identify various causes of variations to control the outliers
			Choose an appropriate sampling plan for Attributes
			Construct and examine control charts and interpret the process control
			Compare the known sigma and unknown sigma in VSP
8	**22UESTC4**	**OPERATIONS RESEARCH**	Recall the models in OR
			Develop the mathematical model for primal – dual problem

			Maximize and minimize the function of linear model
			Distinguish the models between Assignment and Transportation problems and prioritize the order of jobs in sequencing
			Disseminate the project and construct the network model. Design the basic concept of game theory, saddle point and fair game
9	**22UFSTC1**	**DESIGN OF EXPERIMENTS**	Define the basics of experimental Design
			Classify and analyse the linear models
			Construct and layout the designs of CRD, RBD & LSD with interpretation and compare their efficiency between the design
			Make use of various factors with various levels to construct the experiments
			Describe BIBD,Split Plot Design and Analysis of Covariance
10	**22UFSTC2**	**APPLIED STATISTICS**	Understand the components of time series
			Interpret the future values by summarizing past time series values
			Construct the different types of Index numbers
			Analyse the economic crisis by constructing various Index numbers
			Acquire knowledge about the function of NSSO, CSO
11	**22UFSTC3**	**STOCHASTIC PROCESSES**	Make use of probability and states space to understand the process with time
			Demonstrate the probability distribution of the states space with given transition probability matrix
			Classify and understand the various types of discrete and continuous stochastic process
			Simplify the numerical solution of transition probability matrixes for real time problem
			Pursue higher studies with the concept of

			Poisson process and Branching process and apply Markov property for estimating the future behavior of the process
12	**22UBSTC2**	**COMPUTATIONAL STATISTICS - I**	Tabulate and classify uni-variate and bi-variate frequency distribution
			Distinguish the bar diagram and histogram
			Interpret the results for correlation and regression lines
			Apply measures of skewness to grouped and ungrouped data and Recall the curve fitting
			Explain the concept of the Cayley – Hamilton theorem
13	**22UDSTC2**	**COMPUTATIONAL STATISTICS - II**	Choose the appropriate test statistics for testing the significance for small samples
			Find the expected frequencies based on theoretical frequencies
			Compare the independent samples and dependent samples in testing procedure
			Estimate the parameter by using different methods and interpret the result
			Identify the test for independence of attributes
14	**22UFSTC4**	**COMPUTATIONAL STATISTICS - III**	Categories proper test to Non- parametric test
			Construct simple random sample by using random number tables
			Analyse the real life problems of CRD, RBD and LSD
			Construct the ideal measure for Index numbers
			Identify the outliers in control chart and interpret the results
15	**22UCSTE1A**	**DEMOGRAPHY AND VITAL STATISTICS**	Explain the various basic concepts of vital statistics
			Construction of Life table for the purpose of calculation of Insurance premiums and death benefits
			Classify the various methods of measuring fertility and mortality
			Applying Laws to forecast the techniques
			List out the advantages and disadvantages of various measures for comparative purpose

16	**22UCSTE1B**	**MANAGERIAL ECONOMICS**	Develop the Knowledge of the basic concepts of supply and demand
			Examine how changes in demand and supply affect markets
			Distinguish between Monopoly and Duopoly
			Ability to identify the relationship between production and costs
			Compare Total revenue and marginal revenue functions
17	**22UESTE2A**	**RELIABILITY THEORY AND SURVIVAL ANALYSIS**	Define concept of Reliability and Hazard failure rate
			Estimating the parameters, IFR,DFR distribution
			Recall the Markov analysis
			Outline the concept time and censoring in survival analysis
			List out the elementary properties of life tables and estimation of survival function
18	**22UESTE2B**	**REGRESSION ANALYSIS**	Understand the components of prediction model
			Study the linear relationship between regression and predicted variables.
			Identify the models violations and transformation of variables
			Relate the model accuracy with MAE, MAPE, R^2
			Acquire knowledge about latent variables by introducing the dummy variables for categorical regressors.
19	**22UFSTE3A**	**RESOURCE MANAGEMENT TECHNIQUES**	Define the basics and classify the inventory models and identify the optimistic models with shortage cost and storage cost.
			Understand the basic parameters of queueing models which will help to reduce the estimated waiting time of a customer and to improve customer behaviours in future.
			Demonstrate the replacement policy of a good and understand the pattern of mean failure rate.
			Classify the decision making circumstances and identify the optimum solution with respect to profit as well as loss.

			Understand the real time unimaginable or non availability of data by using the concept of simulation which will help to reach a better solution for a practical situation without any loss.
20	**22UFSTE3B**	**DATA MINING**	Apply Data mining concepts in different fields and Examine the types of data to be mined
			Discover interesting patterns from large amounts of data to analyse and extract to solve problems
			Select and apply proper data mining algorithms to build analytical applications.
			Evaluate supervised and unsupervised models and algorithms.
			Design and implement data mining application using realistic data sets and modern tools
21	**22UFSTE3C**	**PYTHON PROGRAMMINGFOR STATISTICS**	To motivate the students to understand the fundamentals of Python programming.
			Exhibit the knowledge of Statistical Programming Skills based on real life datasets
			Develop the procedure for efficient Data Handling Techniques in Python
			Understand Python codes and packages for statistical analytical techniques.
			Analyse the real time data set by using Python
22	**22UASTA1**	**MATHEMATICS FOR STATISTICS**	Demonstrate simple problem with integration
			Describe the various methods of integration and solve the problem
			Define the concept of partial fraction
			Solve the polynomial equation with real and imaginary roots and developing their analytical skills
			Compare Beta and Gamma function. Illustrate the examples for the concepts of differentiation and integration
23	**22UBSTA2**	**REAL ANALYSIS AND MATRIX ALGEBRA**	Describe fundamental properties of Real numbers that leads to the formal development of Real Analysis
			Explain the theoretical basis of sequences

			including theorem and proof
			Demonstrate the basic theory of sequences and evaluate the mathematical problems
			Examine the simple techniques for testing the convergence of series and construct rigorous mathematical proof of basic results in real analysis
			To construct a data set with the acquired knowledge of Matrices.
24	**22UCSTA1**	**NUMERICAL METHODS**	Examine the solution for Algebraic and Transcendental equation
			Solve the simultaneous linear algebraic equations, finite difference and interpolation for equal interval
			Construct and extrapolate interpolation with unequal intervals
			Compare the various operators used for interpolation and extrapolation
			Ability to solve ordinary differential equation and numerical integration problem.
25	**22UDSTA2**	**'C' LANGUAGE FOR STATISTICS**	Define basics of "c" language. Enumerate and describe basic operators and expression
			Manipulating Input and output operations. Apply looping in 'c' programming
			Acquaint with various concept and components related to "c" programming language and structure of 'c' program
			'c' programming with basic notions of developing simple program and visualizing graphics in 'c'
			Utilize the concepts of multidimensional arrays and pointers to store and recall multiple variables in a data set.
26	**22UDSTA3**	**PROGRAMMING IN 'C' LANGUAGE & NUMERICAL METHODS**	Acquaint with various concept and components related to "c" programming language and structure of 'c' program
			'c' programming with basic notions of developing simple program and visualizing graphics in 'c'
			Utilize the concepts of multidimensional arrays and pointers to store and recall

			multiple variables in a data set.
			Compare the various operators used for interpolation and extrapolation using 'C' programming
			Ability to solve ordinary differential equation and numerical integration problem using 'C'
27	**22UASTN1A**	**STATISTICS FOR BEGINNERS**	Define the basics and need of Statistics
			Construct diagrammatic and graphical representation to demonstrate the real life problems
			Describe the structure of the given sample data set by using statistical measures
			Make use of different formula to measure the averages
			Categorize the concept of the association of attributes and obtain the qualitative measures between immeasurable variables.
28	**22UASTN1B**	**MATHEMATICAL STATISTICS - I**	Label and classify the basic assumptions of several importance of discrete distributions
			List out the importance of various distributions to real life problems
			Study the probability pattern of big data for further analysis
			Ability to identify and label the distribution for classification techniques
			Match the real time data into theoretical distribution by fitting of distribution
29	**22UBSTN2A**	**STATISTICS IN REAL LIFE**	Demonstrate the application of statistics in various sectors
			Acquire knowledge about the function of NSSO, CSO
			Analyse the economic crisis by constructing various Index numbers
			Interpret the predicted values by summarizing time series values
			Outline the need of SQC in industry.
30	**22UBSTN2B**	**MATHEMATICAL STATISTICS - II**	Understand the concept of Normality.
			Demonstrate the concept of parameter, statistic and sampling distributions
			Define the sampling distribution of t,F and chisquare
			Framing the hypothesis for solving the problems with the critical values.

			Outline the procedure for hypothesis testing in Research methodology
31	**22UFSBE6**	**DATA ANALYSIS USING MS EXCEL AND SPSS**	Understand the basics of data entry and analyse the simple data which will help to pursue data science in their higher studies
			To classify the data set to understand the pattern of the data.
			Analyse the real life examples data by Excel
			Interpret the analysis of statistical data by using EXCEL and SPSS
			Make use of EXCEL AND SPSS knowledge to solve the problems in research methodology
32	**22UESBE5**	**PROGRAMMING IN R**	To motivate the students to understand the fundamentals of R programming.
			Exhibit the knowledge of Statistical Programming Skills based on real life datasets
			To recall efficient Data Handling Techniques in R
			Understand R codes for statistical analytical techniques
			Analyse the real time data set by using R
33		**QUANTITATIVE METHODS**	Define the basic and need of statistics
			Make use of the collected data and present in the form of diagrams and graphs
			Analyse and interpret the inferences from the mathematical formula
			Categories the concept of association of attributes and obtain the qualitative measures between two attributes
			Identify the shape of the distribution using skewness and kurtosis
34		**BUSINESS STATISTICS**	Examine the correlation between variables and to predict for the future based on the past data
			Interpret the predicted values by summarizing time series values
			Analyse the economic crisis by constructing various Index numbers
			Construct the different types of index numbers
			Idea of conducting the sample survey and

			selecting appropriate sampling techniques
35		**BUSINESS STATISTICS**	Define the basics and need of Statistics
			Construct diagrammatic and graphical representation to demonstrate the real life problems
			Summarize the structure of the given sample data sets by using statistical measures
			Examine the Correlation between variables and predict the future based on the past and present available data
			Interpret the future values by summarizing past time series values. Analyse the economic crisis by constructing various Index Numbers.
36		**OPERATIONS RESEARCH**	Identify and classify the different models in OR
			Utilize the OR models to solve the problems
			Develop the mathematical models for real time problems
			Finding the optimum cost by assigning the jobs and transporting the goods
			Disseminate the project and construct the network models.
37		**OPERATIONS RESEARCH**	Identify the models in OR
			Maximize and minimize the function of linear models
			Disseminate the project and construct the network model
			Formulate the models of Assignment and Transportation and prioritize the order of jobs in sequencing
			Define the basic concept of game theory saddle point and fair game. Outline the need of SQC in industry
38		**QUANTITATIVE TECHNIQUES FOR BUSINESS DECISIONS**	List the applications of quantitative techniques in business
			Enumerate and classify the basic assumptions of several important discrete and continuous probability distribution
			Framing the hypothesis for solving the problems with the critical values.
			Apply appropriate statistical tools for testing small and large samples
			Compare the various operators used for

			interpolation and extrapolation

COMMERCE

commerce-1-1-1-UG-PG-word

Department : PG AND RESEARCH DEPARTMENT OF COMMERCE
Programme Name: B.COM
Programme code: UCOM

PSO1: Equip the graduates for in-depth knowledge in Accounting and Finance, Corporate Accounting, Decision Making, Cost analysis and familiarizes with Banking, Legal compliance, Management of Human resources and Practical Knowledge in Auditing to meet the industry expectations.

PSO2: Students can pursue Higher Education like M.COM, MBA, MSW and pursue professional courses such as CA, CMA, ACS, Law and Management courses.

PSO3: Students are being trained to in still entrepreneurial sprits with sound ethics and Morale and also to face the challenges in Entrepreneurial ventures

PSO4: Create strong base for life long and continuous learning through self-study

PSO5: Acquire the core Competencies of Business Acumen , develop analytical and critical thinking, effective team building, Communication Skill for better business Solutions

PSO6: Make students to become responsible tax payers, protecting the Business Environment by optimum utilization of resources applying waste management as a responsible citizen in global Scenario.

Sl. No	Course Code	Course Name	CO's – One by one	
1	22UACOC1	Financial Accounting I	Code	Course Outcomes
			CO1	Explain basic accounting concepts and conventions Prepare final accounts of Trading
			CO2	Identify, classify and rectify errors in the process of recording transactions and to prepare Suspense accounts Analyse bank book (Cash Book) and pass book and prepare bank reconciliation statement
			CO3	Discuss the Need, Importance and Causes of Depreciation Prepare Asset Accounts by applying various methods of Depreciation.
			CO4	Compute the insurance claims for Loss of Stock & Consequential Loss, Apply Average Clause to compute the Amount of Claim
			CO5	Identify and apply single entry and double entry system of accounting according to the nature of business.
			CO1	Interpret the basic concepts of management and its functions

2	**22UACOC 2**	**Principles of Management**	**CO2**	Gain knowledge on the notions of Planning and Decision-making
			CO3	Identify the types of organising with respect to Authority relationships, Delegation and Decentralisation
			CO4	Outline the Recruitment process and stages in Selection procedure and Apply the Leadership styles and Motivational Theories in Directing
			CO5	Apply the various controlling measures and coordination techniques
3	**22UACON 1A**	**Retail Marketing**	**CO1**	Explain the concepts of Retailing and discuss the various formats of Retail.
			CO2	Acquire knowledge on the Factors influencing Customer's Buying Decisions and Store Design
			CO3	Explain the various pricing methods
			CO4	Outline the various types of customers loyalty and store loyalty
			CO5	Identify the CRM and Its Process
4	**22UACON 1B**	**E-COMMERCE**	**CO1**	Identify the concepts of e-commerce and its application in Human Relations, Customer Relationship Management, Marketing and Banking sector
			CO2	Formulate the various phases of set up, design, marketing, maintenance and enhancement phase of launching of e business
			CO3	Apply different techniques of internet business & marketing and the role of Business-to- Business, Customer-to-Business and Customer-to-Customer market places.
			CO4	Discuss the traditional and modern methods & problems of the electronic payment system.
			CO5	Apply the legal and ethical principals in e-commerce
5	**22UBCOC 1**	**Financial Accounting – II**	**CO1**	Understand the branch trading and P/L account for independent and wholesale branch
			CO2	Equip the students to prepare Departmental Accounts with Transfers at Cost Price and Invoice Price
			CO3	Apply the knowledge of preparing Hire Purchase from Instalment purchase system
			CO4	Gain the knowledge of Partners admission and retirement Accounting and finding of new Ratios
			CO5	Apply the accounting procedure of Dissolution and Partners Insolvency
6	**22UBCOC 2**	**Business Communication**	**CO1**	Demonstrate the principles of effective communication and Identify the barriers involved in Business communication and the way to resolve the same and Identify various structures of a business letter and Diagnose different Modern Communication methods
			CO2	Preparation of sales letters, collection letters and reminders, complaints, claims and adjustments

			CO3	Compare the Bank Correspondence and Insurance Correspondence
			CO4	Prepare corporate correspondence, minutes, reports and office notes.
			CO5	Appraise applications for situation vacant
7	**22UBCON 2A**	**Banking Practices**	**CO1**	To help to gather knowledge on banking and financial system in India
			CO2	To provide knowledge about commercial banks and its products
			CO3	To aim to familiarize banking system in India
			CO4	To enable them to understand better customer relationship
			CO5	To create awareness about modern banking services like e-banking, m banking and internet banking.
8	**22UBCON 2B**	**Principles of Insurance**	**CO1**	Explain the concepts and importance of insurance
			CO2	Outline the different polices of life insurance
			CO3	Gain knowledge on the concept of Fire Insurance
			CO4	Outline the concepts of Marine Insurance policies
			CO5	Apply the principles of Motor Vehicle Insurance, Burglary & Personal Accident Insurance
9	**22UCCOC 1**	**Corporate Accounting I**	**CO1**	Apply the concept of pro-rata allotment in allocating the shares to the general public.
			CO2	Analyse the redemption of preference shares and debentures
			CO3	Understand and remember the advanced concepts of preparing the financial statement of accounts
			CO4	Finding the commission payable to the underwriters for the support of selling the shares to the public.
			CO5	Evaluate the company's goodwill and the value of shares before investing in a company.
10	**22UCCOC 2**	**Legal aspects of Business**	**CO1**	Understand and recall the fundamentals of contract
			CO2	Explain and assess the performance and discharge of Contracts
			CO3	Gain knowledge about indemnity and guarantee
			CO4	Identify the rights and duties of agent and agency business framework
			CO5	Construct and simulate the various Provisions applicable in the Sale of Goods Act
11	**22UCCOC 3**	**Banking Law and Financial system**	**CO1**	Understand the banking systems in India and identify the different types of banks.
			CO2	Gain knowledge about negotiable instruments
			CO3	Identify various financial services that can be used as an alternative measure for short term and long term financial needs.
			CO4	Apply the recent technological development and trends in E banking

			CO5	Explain and Relate the importance of financial services like Factoring and Leasing.
12	**22UCCOC4**	**Consumer Behaviour**	**CO1**	Understand the consumer behaviour and identify the different types of consumers.
			CO2	Identify the provisions and models with regard consumer behaviour
			CO3	Classify and assess the internal influence of consumer behaviour practices.
			CO4	Explain the external influence of consumer behaviour and the services rendered to consumers
			CO5	Integrate pre purchase and post purchase behaviour and process of online purchase decisions.
13	**22UDCOC1**	**Corporate Accounting II**	**CO1**	Analyse the various methods of purchase consideration calculation. Compare the types of amalgamation, Absorption and External Reconstruction
			CO2	Analyse the final statements of banking companies and by visiting into banks to know how they prepared their books of accounts in real life
			CO3	Preparation of consolidated balance sheet of Holding and subsidiary companies, profit calculation and treatment of dividend
			CO4	Classify and compare the various modes of winding up and analyse the role of liquidator while distribution money as per the law.
			CO5	Preparation of Accounting price level changes/ Inflation Accounting
14	**22UDCOC2**	**Company Law**	**CO1**	Discuss on the various provisions related to the incorporation and filing of documents of Companies through electronic mode.
			CO2	Understand the important documents as per Companies Act
			CO3	Apply the provisions of the Companies Act in share capital and appointment of director.
			CO4	Apply the provisions of the Company's Act for conducting various statutory meetings
			CO5	Identify different types of Winding up of Company
15	**22UDCOC3**	**Marketing**	**CO1**	Develop an idea about Marketing and its functions. Explain the innovations in Modern Marketing
			CO2	Illustrate various factors of segmentation
			CO3	Make student understand about various product and pricing decision and explain Product life cycle
			CO4	Equip the student to take effective distribution decision
			CO5	Demonstrate awareness about current trends in marketing environment to enable them to take practical measures
	22UDCOC4		**CO1**	Identify the impact of business environment on business decisions.
			CO2	Illustrate the effects of government policy on the economic

16		**Business Environment**		environment.
			CO3	Predict the legal framework on the regulation of business entity
			CO4	Assess of the social responsibility of business..
			CO5	Evaluate the pros and cons of New Technology Policy of India.
17	**22UECOC1**	**Cost Accounting**	**CO1**	Understand the concept of Cost Accounting, Financial Accounting and Management Accounting, Identify the significance of reconciliation of statements and Preparation of Cost sheet. Define material control by different methods of price computation
			CO2	Describe the methods of calculating Labour turnover and also reducing it. Explain the different types of bonus Plans with examples
			CO3	Demonstrate the importance of Overhead costs and their classification, Prepare apportion of Overheads and re-distribute it to various departments, Prepare statement showing Machine Hour Rate
			CO4	Analyse the meaning and features of process costing with its advantages and disadvantages, Categorize the various types of process losses
			CO5	Analyse the operating expenses of transportation
18	**22UECOC2**	**Financial Management**	**CO1**	Demonstrate understanding of capital structure, its source and leverage concepts.
			CO2	Solve the given problems on capital budgeting and investment decision.
			CO3	Compute cost of individual source of capital and also their overall averages based on specific information
			CO4	Explain the concept of dividend policy, its relevance and various models associated with dividend policy.
			CO5	Determine factors affecting working capital and calculation of working capital based on given information. Enable students to strengthen their knowledge on the important concepts of financial management.
19	**22UECOC3**	**Human Resource Management**	**CO1**	Compare and Contrast Human resource Management and Personnel Management.
			CO2	Analyse the implication of planning and selection and the process pertaining to it
			CO3	Demonstrate a holistic view of training and training methods associated with the same
			CO4	Develop a need based career planning for the employee in an Organization.
			CO5	Conceptualize the various theories of Motivation and its implication and relevance in the current scenario
	22UECOC4		**CO1**	Understand the term Income, Person, Assessment Year, Previous Year, Assessee. Describe the provisions

20		**Income Tax Law and Practice I**		connected with Residential status ofIndividual, Firm & Company.
			CO2	Explain the meaning of Salaries under Income Tax Act 1961 and apply theprovisions to solve problems.
			CO3	Discuss House Property income under Income Tax Act 1961 and apply theprovisions to solve problems.
			CO4	Describe the meaning of Capital Gains under Income Tax Act 1961 and apply the provisions to solve problems
			CO5	Analyse the role of Income Tax Authorities
21	**22UECOE 1A**	**Indirect Taxes**	**CO1**	Compare Tax vs Duty, Direct Tax vs Indirect Tax, explain powers of union/states, varieties of indirect taxes.
			CO2	Explain first principles of valuation, procedure for assessment and payment of Customs duty, types of Customs duty and warehousing.
			CO3	Discuss an overview of Goods and Service Tax (GST)
			CO4	Describe CGST Act 2017.
			CO5	Apply IGST Act. Ensures students to study the challenges in implementation of GST andways to overcome them.
22	**22UECOE 1B**	**Office Management**	**CO1**	Analyse and Describe the importance of Front Office Management
			CO2	Apply proper Record Keeping Principles and Office Accommodation & Landscaping
			CO3	Use the Right Charts and prepare Manuals for reporting formal reporting
			CO4	Discuss the Functions of Personnel Management From Hiring to Firing
			CO5	Explain the effective use of office Automation and Labour Saving Gadgets at work
23	**22UFCOC 1**	**Management Accounting**	**CO1**	Understand the meaning of management accounting and will analyse and interpret the financial statements
			CO2	Interpret the financial position of a company by preparing Fund Flow Statement and Cash Flow Statement.
			CO3	Apply the procedure of budget preparation and also will prepare budgets
			CO4	Analyse the various ratio methods and its applications in business
			CO5	Understand the concept of marginal costing and also will apply the concept in decision making
24	**22UFCOC 2**	**Practical Auditing**	**CO1**	Explain the terminologies related to auditing to equip the students to identify the basic concepts of auditing.
			CO2	Identify, Classify and vouching documents related to financial transactions
			CO3	Analyze the Impact of ERP in auditing environment
			CO4	Apply the provisions of companies act in relation to appointment of company auditor
			CO5	Apply the standards related to auditing in real auditing

				scenario
25	**22UFCOC 3**	**Income Tax Law and Practice II**	**CO1**	Discuss the meaning of Business Income & Professional Income under Income Tax Act 1961 and apply the provisions to solve problems.
			CO2	Describe Income from Other Sources under Income Tax Act 1961 and apply the provisions to solve problems.
			CO3	Explain the provisions of Set off, Carry Forward of losses & Clubbing of Income under Income Tax Act 1961.
			CO4	Elaborate the provisions of Chapter VI A of Income Tax Act 1961 and solve simple problems
			CO5	Analyse the different assessment procedures and define TDS, E-Returns& PAN.
26	**22UFCOE2 A**	**Investment Management**	**CO1**	Knowledge about investment
			CO2	Analysis of types of investment avenues
			CO3	Classifying the risk and returns
			CO4	Understanding new issue markets
			CO5	Knowledge about listing and control system
27	**22UFCOE2 A**	**Corporate Social Responsibility**	**CO1**	Understand the History and Evolution of Corporate Social Responsibilities and Analyse the Concept of Charity and Sustainability
			CO2	Compare the Corporate Social Responsibilities, Activities and Outline the legislation in Corporate Social Responsibilities of India
			CO3	Identify the Drivers of Corporate Social Responsibilities in India
			CO4	Acquire the knowledge of Stakeholders and Public Sector in Corporate Social Responsibilities
			CO5	Analyse the Responsibilities of Corporate Foundations
28	**22UFCOE3 A**	**Entrepreneurial Development**	**CO1**	Define entrepreneur, understand the several theories of entrepreneurship and recognize the entrepreneurial development in India.
			CO2	Conceive new business ideas and identify project opportunities and formulation of project report
			CO3	Identify the Enterprises and Opportunities for entrepreneurial Career
			CO4	Acquire the awareness about the role and scope of women entrepreneur and rural entrepreneur
			CO5	Find the sources of finance and integrate the knowledge about government incentives, subsidies policies, tax concession to SSI units.
	22UFCOE3 B		**CO1**	Define Factory as per Factories Act, 1948 Deliberate the details of various welfare, Safety and Health measures available to workers in a factory Working hours of Adults, Holiday rates, Employment of young persons, employment ofwomen.
			CO2	Discuss procedure for Registration of Trade Unions

29		**Industrial Law**		Understand the need for raising General Funds, Immunity from civil and criminal liability and penalties and procedures.
			CO3	Deliberate the Importance of Minimum Wages Act, 1948. Explain the components of Minimum wages &, Fixation and revision of wages.
			CO4	Discuss the reasons for Industrial Disputes, Elaborate the objectives of 'The Industrial Disputes Act,1947' Distinguish strikes, Lockouts, Layoff and Retrenchment
			CO5	Deliberate the Nature and scope, definitions, rules of 'The workmen's compensation Act1923, Differentiate Permanent, partial and temporary disablement. and the compensation

Department : PG AND RESEARCH DEPARTMENT OF COMMERCE
Programme Name: M.COM
Programme code: PCOM

PSO1: Apply practical subject knowledge and skills for introduction of innovative ideas for new products which are beneficial to society and also ably face the challenges of the dynamic business environment.

PSO2: To implement professionalism, social and ethical commitment in order to create responsible leaders and also identify the research attitude to pursue research in new and advanced domain.

PSO3: To promote innovative entrepreneurial skill among the students to meet the challenges of trade and industry with business ethics and morale.

PSO4: Create practical exposure through internship/project and to acquire high creative and innovative ability for suggesting ethical business solution to improve community and welfare of the society.

PSO5: Emerge as accomplished business leaders (or) executives with effective managerial skills to solve social and environmental issues in the society.

PSO6: Prepare students to adopt the new technology in the field of accountancy and expertise as CA, Management Accountant's, Tax Practitioner's and Charted Company Secretaries.

Sl. No	**Course Code**	**Course Name**	**CO's – One by one**	
	22PACOC		**Cod**	**Course Outcomes**

30	**1**	**Advanced Corporate Accounting & Accounting Standards**	**e**	
			CO1	Understand the concepts relating to preparing Holding and Subsidiary companies Accounts.
			CO2	Analyse the Final Accounts of Banking companies and have efficiency in preparation of schedules and accounting statements.
			CO3	Knowledge On IRDA Regulations regarding Fire, Marine and Life Insurance companies and preparation of schedules and accounting statements.
			CO4	Enable the skill of recording financial transactions and preparation of reports in accordance with ICAI Accounting Standards and IFRS reports
			CO5	Apply Double accounting system to special Accounts of Electricity companies and Railways
31	**22PACOC2**	**Advanced Financial Management**	**CO1**	Learn Financial Management concepts , principles and sources of finance.
			CO2	Analyse the Cost of capital measurement and its parameters.
			CO3	Apply the knowledge of capital structure and its application.
			CO4	Identify and evaluate the process of calculating capital budgeting and its returns
			CO5	Apply working capital management procedure and its impacts.
32	**22PACOC3**	**Corporate Laws**	**CO1**	Identify the important role played by Information Technology Act,2000 and its Regulations.
			CO2	Critically appraise and make use of Intellectual Property Rights Act, Copy Rights Act 1957, The Trade and Merchandise Marks Act,1958.
			CO3	Acquire knowledge on SEBI guidelines on Capital Market operations and its powers and functions.
			CO4	Discuss the provisions relating to the Competition Act, 2002 and Competition Commission
			CO5	Explaining Consumer Protection Act in day to day life, Significance of Environmental Protection Act and our survival.
33	**22PACOE1A**	**Organizational Behaviour**	**CO1**	Get a knowledge into the basic concepts, conceptual foundations and importance of organisational behaviour
			CO2	Explain the concepts of perception and attributes, attitude, personality and learning theories of personality shape
			CO3	Gain the knowledge from various theories of Motivation and its significance
			CO4	Understand the stages of group development, motivational, leadership concepts, styles and theories of leadership

			CO5	Analyse the attitude to changes and overcome resistance to change and stress management techniques
34	**22PACOE1B**	**Digital Marketing**	**CO1**	Explain the role and importance of digital marketing in a rapidly changing business landscape
			CO2	Discuss the key elements of a digital marketing strategy
			CO3	Illustrate how the effectiveness of a digital marketing can be measured
			CO4	Demonstrate advanced practical skills in digital marketing tools such as SEO,SEM,Social media and Blogs.
			CO5	Deal with target groups digitally.
35	**22PACOE1C**	**Insurance and Risk Management**	**CO1**	Demonstrate the understanding of the importance of the Insurance industry and its Intermediaries
			CO2	Explain the role of Insurance Regulatory and Development Authority in the regulation and development of the insurance industry.
			CO3	Assess and compare different products with respect to Life Insurance, Health Insurance and Group Insurance.
			CO4	Analyse the various Non-Life Insurance in relation to General Insurance, Fire Insurance, Miscellaneous Insurance, Vehicle Insurance, House Property Insurance and Burglary Insurance.
			CO5	Identify and evaluate the Risk and formulate risk management strategies.
36	**22PBCOC1**	**Accounting for management**	**CO1**	Introduction of Management Accounting and educate the students its Advantages and limitations.
			CO2	Compute the different financial statements for the organisation
			CO3	Compute the different financial statements for the organisation
			CO4	Learn and Apply Variance analysis in Material, Labour, Sales.
			CO5	Apply marginal Costing to take Business Decisions Relating to Make or Buy, Decision of Sales Mix, or Product Mix, Plant Merger and Export Decision
37	**22PBCOC2**	**Labour legislation**	**CO1**	Give the knowledge of Factories Act and Safety, Health and welfare measures of employees
			CO2	Course gives understanding about the Industrial disputes and settlement procedures and Trade Union Activities
			CO3	Demonstrates workmen's compensation in distributing compensation and settling claims.
			CO4	Understand the importance of Employee's State Insurance scheme
			CO5	Knowledge about Payment of wages and fixation of Minimum wages
	22PBCOC3		**CO1**	Learn the concepts of service marketing and acquire

38		**Services Marketing**		knowledge about the various classifications of services.
			CO2	Identify employee's role in service delivery and Gain the knowledge of Marketing Mix and service strategy
			CO3	Understand the sales promotion strategy and publicity of product and services
			CO4	Analyse how to deliver quality services and Understand the concept of Service quality gaps.
			CO5	Analyse the distribution system and its significance and using of different delivery methods.
39	**22PBCOE2A**	**Human Resource Development**	**CO1**	Get a knowledge into the basic concepts, conceptual foundations and importance of Human Resource Management
			CO2	Analyse the Human Resources Acquisition and Human resource planning.
			CO3	Demonstrate a holistic view of training and training methods associated with the same.
			CO4	Apply performance appraisal and compensation management strategies.
			CO5	Implementation of E-HRM practices.
40	**22PBCOE2B**	**E-Commerce**	**CO1**	Basic concepts of e-commerce and its features
			CO2	Network infrastructure of E-commerce o and components
			CO3	Gain essential knowledge on security aspect of e-commerce
			CO4	Gain application knowledge on e-commerce in business
			CO5	Apply Multimedia systems and conceptual knowledge in e-commerce.
41	**22PBCOE2C**	**Enterprise Resource Planning**	**CO1**	Conceptual Model of ERP and The Evolution of ERP
			CO2	ERP related Technologies and various Data sources
			CO3	ERP implementation in Different area of Management
			CO4	ERP implementation strategies in Life cycle
			CO5	ERP Market place and Applications of various software solutions.
42	**22PBCOD1**	**Modern Banking**	**CO1**	This course aims to cover the various concepts of Banking Industry.
			CO2	Identify the various Modern banking services proving by various banks.
			CO3	Demonstrate the credit control measures and get the knowledge of RBI.
			CO4	Enlighten the students to add the sources of Negotiable instruments.
			CO5	Explore the knowledge of Loans and advances and legal procedures of lending services of banks.
	22PCCOC1		**CO1**	Provide working knowledge and educate the students with the concepts of Income Tax in India

43		**Income Tax Law and Practice - I**	**CO2**	Compute income under the head income from capital gains, other sources.
			CO3	Apply provisions relating to Clubbing of Income and Set Off and Carry Forward of Losses in computing total income.
			CO4	Assess taxable income and tax liability of an individual considering all the eligible deductions from the Gross Total Income.
			CO5	Discuss and explain the provisions relating to TDS, Advance tax, Refund of tax. Demonstrate the understanding of the assessment procedures and the ability to file return of Income.
44	**22PCCOC 2**	**Applied Costing**	**CO1**	Define and classify cost, methods and techniques. Differentiate cost control and cost reduction tools and techniques.
			CO2	Apply the steps under cost accounting system to reduce the cost of the product.
			CO3	Understand the concept of overhead costing, apportionment and absorption of overheads, cost control accounting and Reconciliation of cost and financial accounts.
			CO4	Forecast futures sales and working capital requirements.
			CO5	Understanding and apply the accounting techniques in contract and operating costing
45	**22PCCOC 3**	**Internationa l Business**	**CO1**	To understand the principles and concepts in international business
			CO2	Earmark various forums and International organisations.
			CO3	Provide the knowledge of international financial management in theinternational perspective to develop marketing strategies for thedynamic international markets.
			CO4	Outline the documentation formalities and procedure related toimport and export.
			CO5	Students able to frame a design and framework for internationalbusiness and evaluate the international marketing strategies.
46	**22PCCOC 4**	**Business Research Methods**	**CO1**	Understand the meaning and purpose of research, types of researchand problems encountered by researchers
			CO2	Identify the research problem, planning the research design andframing hypothesis for the Research.
			CO3	Prepare the questionnaire and collect primary and secondary dataand describe the inductive nature of qualitative and scalingtechnique.
			CO4	Students able to apply appropriate modern statistical tools anddrawing inference.
			CO5	Describe the Report writing and involve in research

				activity usefulto the society.
47	**22PCCOE3A**	**Logistics and supply chain Management**	**CO1**	Define various concepts in Logistics management; it gives the wideridea about the logistics.
			CO2	Discuss the inventory control, demand forecasting, distributionmanagement, and logistics in 21st century.
			CO3	Analyse supply chain management and its global applications
			CO4	Explain the role of manager, drivers, and key enablers in supply chainmanagement.
			CO5	Develop and apply analytical techniques to design and operateintegrated supply chains. Analyse and improve supply chainprocessers.
48	**22PCCOE3B**	**Business Taxation-I**	**CO1**	Understand tax planning, tax avoidance, tax evasion and assessment procedure for various persons.
			CO2	Draft tax planning for setting up of new business
			CO3	Communicate the various procedure of tax planning regards tospecific management decisions.
			CO4	Construct the tax planning for non-resident company assessee
			CO5	Explain the various provision and amendments pertaining to wealth tax.
49	**22PCCOE3C**	**Group Dynamics and Team Building**	**CO1**	Identify the types of groups and how groups operate in organizations.
			CO2	Explain the roles and power of team leadership along with creating effective groups and teams.
			CO3	Apply the knowledge of quick decision making and analytical skills required to handle critical situations.
			CO4	Analyse and manage conflicting situations in the work place.
			CO5	Gain the knowledge of group communication and network
50	**22PCCOD2**	**Advertising and Salesmanship**	**CO1**	Communicate their ideas and messages about the product or serviceto the potential Consumers
			CO2	Create creative advertisements for various products and choose thecorrect media for advertising
			CO3	Appraise the Advertising Agencies and their services Evaluate the role of a Salesman, understand selling process and applyvarious selling theories
			CO4	Follow the ethics in selling their products or services, Recruit theright people for Marketing and Advertising jobs
			CO5	Develop the qualities required for a Marketing Manager, Start theirown Advertising Agency with the acquired

				knowledge
51	**22PDCOC 1**	**Business Ethics and Values**	**CO1**	Acquire a basic knowledge and clear understanding about business ethics and moral values.
			CO2	Understand the effects of corruption, harassment, victimizationand managing ethics in workplace
			CO3	Identify the Corporate Social Responsibility, Arguments for and against social responsibility and Ethics and Ecology
			CO4	Acquire the Work Ethics, Work culture and corporate culture
			CO5	Examine the Roles and responsibilities of Board of Directors, Internal Auditors and External Auditors.
52	**22PDCOC 2**	**Financial markets and Institutions**	**CO1**	Understanding about money market and its constituents, developed money market and lack of Indian Money Market.
			CO2	Clear understanding and equipped knowledge in commercial paper market and gilt edged market.
			CO3	Explain about the trading mechanism in capital market and new issues market.
			CO4	Identify the various services and functions of Financial Markets
			CO5	Compare the Financial Services provided by Banking and Financial Corporations
53	**22PDCOE4 A**	**Security Analysis and Portfolio Managemen t**	**CO1**	To impart knowledge about the various types of investment
			CO2	To provide exposure about Risk and return and Portfolio
			CO3	Identifies the types of risks and return analysis
			CO4	Analyse the fundamental and technical aspects of financial markets.
			CO5	Evolve and revise portfolio management
54	**22PDCOE4 B**	**Managemen t Information System**	**CO1**	Outline the concepts & Types of Management Information System
			CO2	Gain knowledge on MIS Planning, Development & Control
			CO3	Identify different support models & acquire knowledge on BPR
			CO4	Analyse the role of Information Technology in corporate

				decision making
			CO5	Gain ethical awareness 7 moral reasoning of MIS Problems &issues.
55	**22PDCOE4C**	**Total Quality Management**	**CO1**	Apply the concepts, principles and philosophies ofTQM
			CO2	Identify and apply strategic planning and leadership techniques in developing quality culture.
			CO3	Understanding the six sigma concepts and methodology
			CO4	Analyse and utilize the various concepts and TQM tools towards effective business management
			CO5	Compare and Analyse the importance and requirements of organization evaluation standards (ISO 9000,ISO 14000 and ISO 14001)
56	**22PDCOE5A**	**Customer Relationship Management**	**CO1**	Get a knowledge into the basic concepts, conceptual foundationsand importance of Customer Relationship Management.
			CO2	Apply the strategies of Customer retention and customer acquisition
			CO3	Identify the suitable customer segmentation and its applications.
			CO4	Understand the importance of Service Quality and contribution toCRM.
			CO5	Apply the Technological innovations to CRM development.
57	**22PDCOE5B**	**Business Taxation-II**	**CO1**	Get knowledge into the concepts of Indirect taxes and Tax systemin India.
			CO2	Analyse the Customs laws and implementation system and refundprocedures.
			CO3	Demonstrate the valuation of custom duty for the Imports and Exports
			CO4	Apply the GST Regulations and implement the different rates intovarious products.
			CO5	Get the knowledge of Levying of GST and Filing of GST Returns
58	**22PDCOE5C**	**Foreign Exchange Management**	**CO1**	To discuss the functioning of foreign exchange markets and determination of foreign exchange rates
			CO2	To apply the concept of financial fragility & analyze Transaction, Translation and Economic exposure risks
			CO3	To evaluate the foreign exchange risk and identify the financial instruments to minimize the risk
			CO4	To use the different documents needed for export and import
			CO5	To compile & compare different types of Insurance required for export & import, EPCG schemes & services

BBA

Department: **BUSINESS ADMINISTRATION**

Programme Name: **B.B.A**

Programme Code: **UBBA**

PSO1: Remember and familiarize with the core concepts of Business and Administration.

PSO2: Demonstrate innovative skills and to venture into his/her own business or excel in executive roles in private/government sector

PSO3: Expose and apply to real business situations through field work, Industrial visits and project report and develop interpersonal and communications skills to make them successful entrepreneurs and leaders

PSO4:. Analyse various financial management techniques and pursue higher education.

PSO5: Reflect the moral responsibility of business grounded on professional ethics to the business and to all relevant stakeholders and the natural environment.

PSO6:. Emerge as responsible citizens to utilize the knowledge and skills gained for the betterment of the society

Sl.No	Course Code	Course Name	CO′s One by One	
			Code	**Course Outcomes**
1	**22UABBC1**	**FUNDAMENTALS OF MANAGEMENT**	**CO1**	Demonstrate to apply general management knov situation
			CO2	Explain the various concepts of management
			CO3	Develop and make the students to know the organ and responsibility relationships associated with
			CO4	Infer professional challenges that managers face in
			CO5	Adapt the students to appreciate the emerging ide

				management
2.	**22UABBC 2**	**FINANCIAL ACCOUNTING**	**CO1**	Formulate the general purposes and functions of ac
			CO2	Interpret the main financial statements and their pu
			CO3	Recall conceptual knowledge on basics of accounti
			CO4	Identify the reasons for the difference between c pass book balances
			CO5	Compile and prepare final accounting process and
3.	**22UBBBC 1**	**BUSINESS COMMUNICATION**	**CO1**	To Enumerate basic concepts and mechanics of Or
			CO2	To Develop business report writing skills.
			CO3	To Develop presentation skills and communicate c
			CO4	To improve the skills of drafting letters.
			CO5	To Gaining an understanding of emerging electron
4.	**22UBBBC 2**	**BUSINESS ENVIRONMENT**	**CO1**	Students can understand the concept of Business E
			CO2	Its creates knowledge of Political Environment am
			CO3	Enable the students to know about the Socio-Cultur onBusiness.
			CO4	Students can get the knowledge of Economic & Te
			CO5	It enrich the students in Global Environment like V
5.	**22UCBBC 1**	**PRODUCTION AND QUALITY ASSURANCE MANAGEMENT**	**CO1**	To understand of importance of Production manag
			CO2	To identify and evaluate the key factors in Plant Ca decisions
			CO3	To understand various methods of materials manag
			CO4	To apply techniques for effective utilization of ope managing the processes to produce good quality pr competitive prices

			CO5	To Categorize and prioritize the maintenance progr
6.	**22UCBBC 2**	**HUMAN RESOURCE MANAGEMENT**	**CO1**	To aiming to enable the students in Human Resour
			CO2	To introduce the students about placement and trai
			CO3	To facilitate the knowledge about performance app methods
			CO4	To provide an idea about different compensation p
7.	**22UCBBC 3**	**MARKETING MANAGEMENT**	**CO1**	To develop an idea about marketing and its functio
			CO2	To enhance the students on consumer behavior
			CO3	To familiarize students about product and its classi
			CO4	To make them understand pricing policies.
			CO5	To introduce the concept of sales forecast.
8.	**22UCBBC 4**	**ORGANIZATIONAL BEHAVIOUR**	**CO1**	Students will gain knowledge to analyze and comp explainindividual behavior related to motivation ar
			CO2	It identifies the processes used in developing comm conflicts.
			CO3	Student understands the concepts of group dynami
			CO4	Analyze the behavior of individuals and groups i the keyfactors that influence organizational behavi
			CO5	Assess the potential effects of organizational- level Culture and change) on organizational behavior.
9.	**22UDBBC 1**	**MANAGEMENT INFORMATION SYSTEM**	**CO1**	Students will understand basics of information data
			CO2	Come to know working with database
			CO3	Understand the importance of various information
			CO4	Develop about the DSS and DBMS
			CO5	Come to know about role of SDLC and System An
10	**22UDBBC 2**	**VALUES AND ETHICS FOR BUSINESS**	**CO1**	The students will demonstrate knowledge of the ap
			CO2	Analyze and differentiate between honest and trans misleading business practices

			CO3	Examining ethical imperative decision
			CO4	Understanding how to represent and behave as an e
			CO5	Analyzing the roles of ethical corporate governanc the ethics of globalization
11	**22UDBBC 3**	**LEGAL ASPECTS OF BUSINESS**	**CO1**	Make the students understand about business and c
			CO2	Develop knowledge on contract and various types
			CO3	To help the students to understand the concept of s
			CO4	Make the students understand about companies and
			CO5	To equip the students with proper knowledge abou
12	**22UDBBC 4**	**ADVERTISING AND SALES PROMOTION**	**CO1**	Understand the process involved in Advertising an
			CO2	Learn about the media selection and budget planni
			CO3	Planning the sales promotion activities
			CO4	Implementation of Sales and Advertising Strategie
			CO5	Control Measures
13	**22UEBBC 1**	**RESEARCH METHODS IN BUSINESS**	**CO1**	To understand the concept of research methodolog about research design andsampling
			CO2	To analyze methods of data and impart knowledge about various tests
			CO3	Develop data collection instrument according to t underlying theoretical framework, learn about rese and drafting.
			CO4	Develop data collection instrument according to th framework
			CO5	Explain how to collect data(quantitative and qual
14	**22UEBBC 2**	**ACCOUNTING FOR MANAGEMENT**	**CO1**	To enlighten the students thought and knowledge o
			CO2	Helps to give proper idea on financial statement an

				view
			CO3	To introduce the concept of fund flow and cash flo
			CO4	To provide knowledge about budget control keepin concept
			CO5	To develop the know-how and concept of marginal problems
15	**22UEBBC 3**	**ENTREPRENEURIAL DEVELOPMENT**	**CO1**	To aiming to develop students about Entrepreneursl
			CO2	To create an awareness on various Entrepreneurshi
			CO3	To enable them to understand project formulation
			CO4	To familiarize the students with EDP schemes
			CO5	To give an introduction about MSME, EDI and ot Entrepreneurship
16	**22UEBBC 4**	**BUSINESS TAXATION**	**CO1**	To enable to students to gain knowledge of Tax Sy
			CO2	To gain and insight on the recording and analyzin under GST.
			CO3	It makes the students about Taxation and Assessm
			CO4	Student gain the knowledge of GST Audit.
			CO5	This enable the students to understand the Custom
17	22EBBE1B	**BUSINESS MODELS**	**CO1**	Understand the basic concepts of Business ideas ar
			CO2	Understand Business plans.
			CO3	Learn basics of Start-up business activities with m
			CO4	Understanding various business model for marketi
			CO5	Come to know various how to manage HR.
18	**22UFBBC 1**	**FINANCIAL MANAGEMENT**	**CO1**	To provide introduction to Financial Management
			CO2	To create an awareness about capital structure and
			CO3	To make them understand the cost of capital in wi

			CO4	To provide knowledge about dividend policies and
			CO5	To enable them to understand working capital man
19	**22UFBBC 2**	**MARKETING OF SERVICES**	**CO1**	Understand the concepts and growth of service ma
			CO2	Appreciate the difference between marketing physi services
			CO3	Recognise the challenges faced in services delivery model.
			CO4	Learn about the various types of services
			CO5	To understand the SWOT analysis,BCG and Anso
20	**22UFBBC 3**	**LOGISTICS AND SUPPLY CHAIN MANAGEMENT**	**CO1**	Understand the fundamentals of elements and func drivers and demand forecasting
			CO2	To apply various techniques of inventory managen situations
			CO3	Analyze how supply chain decisions related to faci various industries and designing the supply chain
			CO4	How various warehousing management system and practiced in various industries
			CO5	How logistics and supply chain strategies can creat IT applications
21	**22UFBBE 2A**	**FUNDAMENTALS OF EVENT MANAGEMENT**	**CO1**	Obtain a sense of responsibility for the multi-disci management
			CO2	Gain confidence and enjoyment from involvement event management
			CO3	Identify best practice in the development and deliv and corporate gatherings
			CO4	Identify the key elements of a conference and the p selection, registration, catering, accommodation, tr entertainment
			CO5	Identify management essentials such as developing breakdown structures, risk mitigation and continge

Economics

Department : P.G. & RESEARCH DEPARTMENT OF ECONOMICS

Programme Name : B.A. Economics

Programme Code : PECO

PSO 1 – Understanding and acquiring both theoretical and practical knowledge on socio-economic concepts and systems domestically and internationally.

PSO 2 – Apply knowledge and specialize in the field of economic decision and policy framing at micro and macro level and pursue for further higher studies.

PSO 3 – Emerge as leaders and entrepreneurs of economic ecosystem who prioritise professional ethics and moral values in any setting they are placed in for noble profession.

PSO 4 – Establish independent and lifelong learning and appraise applications to the real world circumstances.

PSO 5 – Develop proficiency in communicative skills to defend socio-economic causes for the betterment of the community as an individual and in organisation.

PSO 6 – Rise and function as responsible citizen by facing challenges prevalent in the society and in nation building by providing solutions for the challenges prevalent in the society, business, economics and environment.

S. No.	Course Code	Course Name	CO's One by One	
			Code	Course Outcomes
1	22UAECC1	Indian Economy - I	CO1	To label and outline the feature of Indian economy.
			CO2	To summarize and compare the agriculture problems before independence.
			CO3	Analyse and compare the Indian economic strategy during plan period.
			CO4	Distinguish, determine and construct the agriculture and industrial development during plan period.
			CO5	To discover and judge the trade policy during plan period.
2	22UAECC2	Statistics for Economics	CO1	To define and classify the concepts of statistics
			CO2	To illustrate, construct and present the statistical data in graphs and diagrams
			CO3	To classify and solve the various types of measures of central tendency and measures of dispersion.
			CO4	To compare and calculate correlation and

				regression
			CO5	To explain and construct index numbers and time series analysis
3	22UAEC A1	Principles of Marketing	CO1	Define and summarise the concept of marketing, objectives, importance and innovation in marketing.
			CO2	Explain and analyse the exchange and physical functions of marketing
			CO3	To analyse, explain and discuss the pricing methods and product life cycle while launching the product.
			CO4	Demonstrate and develop how to use communication in advertising and personal selling to promote product and services
			CO5	Point out the challenges and its corrective measures in marketing of industrial and agricultural goods.
4	22UAEC N1A	Introduction to Economics - I	CO1	To define and discuss the basic economics.
			CO2	To explain the Central Problem of an Economy.
			CO3	To explain, analyse and compare Micro and Macro Economics.
			CO4	To explain and analyse the economic systems.
			CO5	To define, illustrate and discuss the consumer budget
5	22UBEC C1	Indian Economy - II	CO1	To define and interpret the necessity liberalization.
			CO2	To outline and identify the development of growth, agriculture and industry.
			CO3	To analyse and determine the consequence of various service and financial sectors.
			CO4	To show the importance of service sectors.
			CO5	To summarize and evaluate the function of fiscal federalism.
6	22UBEC C2	Tamil Nadu Economy	CO1	To define and determine the resource endowment and characteristics of Tamil Nadu.
			CO2	To define, illustrate and estimate the theory of demographic transition
			CO3	To bring out the importance of agriculture
			CO4	To analyse and make use of industrial functions in Tamil Nadu
			CO5	To construct and examine the role of transport in economic development
7	22UBEC A2	Rural Economics	CO1	To recall and demonstrate the basic function of rural economics.

			CO2	To identify and inspect the rural unemployment in India.
			CO3	To analyse, decide and discuss about agriculture marketing.
			CO4	To appraisal and elaborate the various rural development programme.
			CO5	To examine and conclude, the importance of rural industrialization.
8	22UBECN2A	Introduction to Economics - II	CO1	To find and explain the relationship between production and costs.
			CO2	To illustrate and analyse the various five year plans.
			CO3	To identify, evaluate and discuss the problem of unemployment.
			CO4	To evaluate and discuss the new economic policy
			CO5	To define, evaluate and discuss the problem of poverty.
9	22UCECC1	Micro Economics - I	CO1	To define, describe and discuss the various ideas on economics and its related concepts
			CO2	To remember, classify, discuss and illustrate the demand and supply.
			CO3	To remember, identify and illustrate the demand supply interaction in detail.
			CO4	To explain and discuss the consumer theory
			CO5	To evaluate and elaborate the indifference curve analysis.
10	22UCECC2	Monetary Economics	CO1	To list out and illustrate various theories of demand for money.
			CO2	To identify, distinguish and to determine the Keynesianism.
			CO3	To examine, estimate and formulate the money market.
			CO4	To analyse and judge the function of banking sector.
			CO5	To distinguish, determine and test the value of monetary policy.
11	22UCECA1	Entrepreneurial Development	CO1	To recall and outline the basic concepts in Entrepreneurial Development
			CO2	To illustrate and determine the various factors of entrepreneurial growth
			CO3	To analyse the different projects of entrepreneurs
			CO4	To distinguish and construct the types of project appraisal
			CO5	To bring out the importance of institutional finance
12	22UCEC	Micro Economics -	CO1	To explain and differentiate the concepts of costs

	C2	II		and revenue.
			CO2	To illustrate and discuss the equilibrium of the firm and industry under perfect competition market.
			CO3	To classify, construct, and elaborate price-output determination under monopoly and giving knowledge on various pricing behaviour.
			CO4	Distinguish pricing behaviour of producer under monopolistic competition and oligopoly
			CO5	Analyse and discuss the various theories of distribution.
13	22UDEC C2	Environmental Economics	CO1	To define and show the value of environmental behaviour.
			CO2	To compare and organize the difference between environment and economic development.
			CO3	To examine and evaluate the theory of sustainable development.
			CO4	To appraisal and construct the environmental theory.
			CO5	To determine and identity various environmental policy.
14	22UDEC A2	Urban Economics	CO1	To define and illustrate the need for urban economics.
			CO2	To identity, examine and evaluate the various problems of urbanisation.
			CO3	To distinguish and to determine the urban transportation and financial problems.
			CO4	To analyse and conclude various theories of rural urban migration.
			CO5	To appraisal and improve various polices for urban development.
15	22UEEC C1	Macro Economics - I	CO1	To define and illustrate the various macro-economic aspects.
			CO2	To analyse and compare various aspects of classical concepts
			CO3	To relate, organise and evaluate Keynesian concepts
			CO4	To define and interpret the value of inflation in a growing economy
			CO5	To select and to examine the theories of consumption
16	22UEEC C2	International Economics - I	CO1	To define and distinguish the concepts of international economics
			CO2	To inspect and evaluate the theory of trade
			CO3	To select, interpret and to predict the gains from trade

			CO4	To identify and distinguish the various types of tariffs and quotas
			CO5	To analyse and interpret the necessity of BOP
17	22UEEC C3	Fiscal Economics	CO1	To list out, construct and explain the importance of fiscal economics
			CO2	To summarise and estimate the necessity of public expenditure
			CO3	To list out and to judge the importance of taxation
			CO4	To compare and classify the necessity of fiscal policy
			CO5	To develop, analyse and to determine the recent trends in public finance
18	22UEEC C4	History of Economic Thought	CO1	To recall and outline the pre - classical thoughts on economics.
			CO2	To identify and distribute the classical and Marxian ideas.
			CO3	Examine, determine and test the theory of neo-classical thoughts
			CO4	To summarise and find out the relationship between Keynesian revolution and modern thoughts
			CO5	Appraise and formulate the recent ideology of Indian economic thoughts
19	22UEEC E1A	Gender Economics	CO1	To explain and utilise the need for Gender Economics
			CO2	To identify and distinguish between the classical and neo-classical economists
			CO3	To distinguish and determine the sexual division of labour
			CO4	To examine and improve the women empowerment
			CO5	To classify and evaluate feminisation
20	22UFEC C1	Macro Economics - II	CO1	To recall, outline and explain the importance of IS-LM model
			CO2	To summarise and utilise the functions of monetary policy
			CO3	To identify, examine and interpret the value of fiscal policy
			CO4	To evaluate and construct various phases of trade cycle
			CO5	To recall and organise the various sources of growth.
21	22UFEC C2	International Economics - II	CO1	To define, and to explain the various theories of foreign exchange market
			CO2	To classify, distinguish and to discuss theories of foreign exchange market.

			CO3	Outline and make use of the role of foreign capital
			CO4	Examine and evaluate various monetary agencies
			CO5	To simplify the importance and build the necessity of International Monetary Institutions
22	22UFEC C3	Agricultural Economics	CO1	To recall and demonstrate and importance of agriculture.
			CO2	To outline and development the agriculture production in India.
			CO3	Identity, distinguish and determine the necessity for agriculture labour.
			CO4	To find, classing and importance of agriculture finance.
			CO5	To simplify and interpret the agriculture policy.
23	22UFEC E2A	Demography	CO1	To define and illustrate the nature and scope of the subject demography
			CO2	To define, illustrate and identify the determinants of population growth
			CO3	To analyse and elaborate the sources of demographic data
			CO4	To define, illustrate and determine the factors of population growth and economic development
			CO5	To analyse and elaborate the population policy
24	22UECE 3A	Managerial Economics	CO1	To define, illustrate and analyse the concept of managerial economics.
			CO2	To compare, identify and analyse the managerial decision making.
			CO3	To illustrate, analyse and estimate the pricing theory.
			CO4	To compare, examine and discuss the capital budgeting.
			CO5	To explain, estimate and evaluate the investment appraisal
	22UAEC A3	Business Economics	CO1	To define basic concepts in Economics
			CO2	To interpret and organise the various demand analysis
			CO3	To classify and to compare the behavioural concepts
			CO4	To determine and to design various cost concepts
			CO5	To find out the importance and to improve the different market conditions
	22UBEC A4	Indian Economy	CO1	To define and demonstrate the features in Indian Economy
			CO2	To utilise and inspect the necessity of agricultural sector in Indian Economy

			CO3	To explain and predict the growth of Industrial Sector
			CO4	To estimate growth of service sector in India
			CO5	To recall and to test the theory of various economic reforms
	22UAEC A5	Managerial Economics	CO1	To define and rephrase the theory of Managerial Economics
			CO2	To construct and examine various theories of demand analysis
			CO3	To distinguish and to determine various cost functions
			CO4	To elaborate the market structure in different market conditions
			CO5	To analyse the pricing policy
	22UBEC A6	International Economics	CO1	To recall and illustrate the introduction of International Trade
			CO2	To make use of various theories of International Trade
			CO3	To examine and estimate the terms of trade
			CO4	To justify the foreign exchange rates
			CO5	To solve the various problems in International Agencies
	22UCDS A3	Principles of Economics – I	CO1	To define and illustrate the definitions in Economics
			CO2	To identify and discover the theories of consumption
			CO3	To distinguish and to estimate the various production function
			CO4	To formulate the theory of market structure
			CO5	To select, explain and formulate the theories of distribution
	22UDDS A4	Principles of Economics – II	CO1	To find out the National Income concepts
			CO2	To make use of various plan models
			CO3	To categorise and determine the necessity of public finance
			CO4	To estimate and elaborate the various theories of International Trade
			CO5	To test the functions of International Funding Agencies

Department : P.G. & RESEARCH DEPARTMENT OF ECONOMICS

Programme Name : M.A. Economics

Programme Code :

PSO1: Develop in-depth knowledge of advanced theoretical aspects and Fundamental Principles of Economics and its applicability in decision making in real life.

PSO2: Analyse and investigate a thirst for advanced learning in leading to research addressing changes in economic environment for community as a whole.

PSO3: – Provide skills to become empowered and forecast outcomes of the policy as an entrepreneur employed in various positions.

PSO4: – Construct systematic model for analysis and make use of knowledge on finance, health, environmental economics to formulate policies for sustainability on community and protective environment.

PSO5: – Enhance professional, employability and career prospects to empower emerging opportunity on different sectors of national economy.

PSO6: – To adopt the digital advancement in the field to understand complex economic mechanism using statistical tools and packages and to embrace new opportunity in emerging technology.

S. No.	Course Code	Course Name	CO's One by One	
			Code	Course Outcomes
1	22PAEC C1	Advanced Micro Economics	CO1	To illustrate and analyse the theories of consumer behavior
			CO2	To compare how price and output is determined in different market situations and evaluate the market structures
			CO3	To identify and examine the alternative theories of firms.
			CO4	To define, explain, and compare the theory of

				distribution.
			CO5	To explain and understand the economics of information.
2	22PAEC C2	Indian Economic Development and Policy	CO1	To find and summarize the growth of Indian economy
			CO2	To compare and classing the important of agriculture and industries.
			CO3	To summarize and analyse the impact of financial sector in post –liberalization period.
			CO4	To relate and solve and compare the poverty and inequality in Indian economic development.
			CO5	To classing and organize to determine the social issues in Indian economic development
3	22PAEC C3	Statistics For Economists	CO1	To recall and apply the basic technique of statistics.
			CO2	To list out summarize the basic concept and utilize the theory.
			CO3	To apply and distinguish and measures the correlation and regression analysis.
			CO4	To motive and estimate the different test.
			CO5	To examine evaluate and estimate various level of test.
4	22PAEC E1A	Economics of Climate Change	CO1	To find and relate the climate changes.
			CO2	To contrast and develop and make use of various economic policies.
			CO3	To tell and explain and to build for adapting climate change.
			CO4	To outline and utilize the natural resources.
			CO5	To analyse and determine to improve the global action.
5	22PAEC E2A	Economics of Infrastructure	CO1	To define, compare and explain the relationship between infrastructure and economic development.
			CO2	To construct and examine the structure of Indian transport.
			CO3	To explain and examine the communication sector in India.
			CO4	To evaluate and discuss the role of energy in economic development.
			CO5	To examine, explain and discuss the role social infrastructure.
6	22PBEC	Monetary	CO1	To list out and outline the theories of money.

	C1	Economics		
			CO2	To explain construct and distinguish various determinate of money supply and multiplier.
			CO3	To label, explain and evaluate the capital market.
			CO4	To define, illustrate and importance of banking sector.
			CO5	To interpret and make use of monetary policy.
7	22PBEC C2	Development Economics	CO1	To outline and examine the human development index.
			CO2	To recall rephrase and evaluate the various theories of development.
			CO3	To show interpret and distinguish the poverty and inequality.
			CO4	To summarize discover and criticise the agriculture and rural development in Indian.
			CO5	To outline and bean various policies for development.
8	22PBEC C3	Research Methodology	CO1	To find classing and discover research methods in economics.
			CO2	To outline, organize and examine the sampling theory.
			CO3	To apply and analyse and to determine the data processing.
			CO4	To simplify and interpret statistical inferences.
			CO5	To choose and evaluate the various test in statistics.
9	22PBEC E3A	Population Studies	CO1	To define and explain the basic concepts of population studies.
			CO2	To outline construct and conclude the population growth and distribution.
			CO3	To organize and interpret the various population structure.
			CO4	To examine and criticise the various population dynamics.
			CO5	To label, and outline the various population policy.
10	22PBEC D1	Agricultural Economics	CO1	To recall and illustrate the role an characteristics of Indian Agriculture.
			CO2	To summarize, identify and evaluate the theories of agricultural development.
			CO3	To identify and determine the agricultural markets and its price. .
			CO4	To show and make use of agriculture finance in India.
			CO5	To compare and discuss the relationship between

				agriculture and external sector.
11	22PCEC C1	Advanced Macro Economics	CO1	To find out and outline the modern Keynesian macro economics
			CO2	To identify and compare and determine the new classical macro economics.
			CO3	To identify and analyse the trade cycle theory.
			CO4	To utilize and evaluate the new Keynesian macro economics.
			CO5	To inspect and interpret the Austrian theory.
12	22PCEC C2	Public Finance	CO1	To label and interpret the basic theory's of public finance.
			CO2	To explain, identify and analyse the public expenditure.
			CO3	To recall, outline and determine about taxes
			CO4	To organize, examine and evaluate about fiscal policy.
			CO5	To summarize, develop and explain about Indian public finance.
13	22PCEC C3	Industrial Economics	CO1	To list out and outline the basic concepts of firm.
			CO2	To interpret, develop and determine the structure of industrial organization.
			CO3	To make use theories industrial location and industry the regional development.
			CO4	To illustrate the model of determine productivity.
			CO5	To summarize solve and priorities the issues.
14	22PCEC E4A	Modern Economic Thought	CO1	To recall and outline the model of post Keynesian theory.
			CO2	To interpret and identify the gender economics
			CO3	To make use of property rights and take part in new institutional economics.
			CO4	To summarize and utilize and to study the importance of ecological economics.
			CO5	To select and examine and prove the maxian economics
15	22PCEC D2	Rural Development	CO1	To define and demonstrate the theories of rural development.
			CO2	To explain, identify and distinguish the various size of land holding.
			CO3	To outline and develop the organizational changes.
			CO4	To summarize the programme and utilize the training process and judge the administration.
			CO5	To construct and examine the health care policy.
16	22PDEC	International	CO1	To find the basic concepts and select various

	C1	Economics		theories of international trade.
			CO2	To outline, identify and examine the recent theories of international trade.
			CO3	To summarize and utilize the monetary and finance policies.
			CO4	To illustrate and its make use of MNC's and explain importance.
			CO5	To explain the exchange rate risk and determine the techniques adopted.
17	22PDEC C2	Environmental Economics	CO1	To recall and organize the basic concepts.
			CO2	To select and analyse the market.
			CO3	To examine and determine about environmental valuation.
			CO4	To summarize utilise and give importance of natural recourse.
			CO5	To illustrate, identify and estimate the Economics growth.
18	22PDEC C3	Labour Economics	CO1	To define the concepts and outline the characteristics of labour Economics.
			CO2	To explain organize and determine the function of trade union.
			CO3	To identify and conclude the industrial disputes.
			CO4	To analyse and evaluate of industrial relation.
			CO5	To apply and examine the labour welfare and explain the importance.
19	22PDEC C4	Managerial Economics	CO1	To define, explain and elaborate the scope of managerial economics.
			CO2	To identify and elaborate the demand forecasting techniques.
			CO3	To classify and discuss the pricing strategies.
			CO4	To summarise and illustrate the theories of production.
			CO5	To examine and discuss the investment appraisal
20	22PDEC E5A	Human Resource Development	CO1	To interpret the relationship between HRD and HR.
			CO2	To outline and select the various HRD programme and explain its importance.
			CO3	To explain, identify to evaluate HRD progress.
			CO4	To summarize and examine the employee welfare programme.
			CO5	To show and organize the performance of HRD

English

PG & RESEARCH DEPARTMENT OF ENGLISH

Programme Name: MA English

Programme Code: PENG

PSO1: To offer students in-depth knowledge on the nuances of literary work

PSO2: To develop persuasive skills and the art of debating without offending

PSO3: To develop their competence in such a way that they can fill up the post of entrepreneurs and professionals at higher levels of management

PSO4: To become aware of their roles in society as citizens and maintain fundamental knowledge on environmental and ecological balances

PSO5: To develop their work ethics and work culture

PSO6: To be able to adapt knowledge in digital advancement and be prepared for the ever-advancing technology in modern life

S No	Course Code	Course Name	CO's one by one	
1	22PAENC1	OLD ENGLISH TO ELIZABETHAN AGE	Code	Course Outcomes
			CO1	To explain the features of medieval poetry through Chaucer.
			CO2	To construct the features of Elizabethan poetry
			C03	To define the salient features of early prose
			C04	To rate the specialty of early 16 th c playwrights
			C05	To estimate the value of the above with their contemporaries
2	22PAENC2	SHAKESPEARE	CO1	To compile the sonnets of Shakespeare nneyond prescribed ones
			CO2	To compare and contrast Shakespearean tragedy with others
			C03	To perceive the creative expression in Shakespeare‟s comedy
			C04	To elaborate upon Historical plays
			CO5	Utilize prescribed essays to understand Shakespeare‟s plays better
3	22PAENC3	JACOBEAN TO AUGUSTAN AGE	CO1	To assess the value of Jacobean Poetry

			CO2	To discuss the style of Augustan Prose
			C03	To analyze critical forms as creative art
			C04	To develop interest in Jacobean novels
			C05	To develop a keen taste for Augustan Novels
4	22PAENC4	ENGLISH LANGUAGE TEACHING AND GRAMMAR USAGES	CO1	To be appraised of the fundamentals of grammar.
			CO2	To distinguish the structure of sentence patterns
			C03	To relate the theory of ELT to the timelines
			C04	To classify the theories of ELT pedagogies
			C05	To develop the capacity of students as digital teachers
5	22PAENE1A	MODERN DRAMA	CO1	To discuss the angry young man syndrome of 20^{th} century
			CO2	To estimate the humour of2oth century literature
			C03	To deduct the finesse in which existentialism is portrayed in art
			C04	To inspect the undying wonder Man has for nature
			C05	To analyze the features of the new genre-one act plays

6	22PAEND1	ENGLISH FOR COMPETITIVE EXAMS	CO1	To develop the art of reading
			CO2	To identify errors
			C03	To explain the broad ideas about society and classify the passages
			C04	To compose letters
			C05	To interview one another and develop confidence for such sessions
7	22PBENC1	LINGUISTICS	CO1	To classify the various types of linguistics
			CO2	To translate English sounds to phonetic script
			C03	To identify the morphemes
			C04	To categorise the lexial meaning and relate it to semantics
			C05	To interpret the text using stylistic analysis
8	22PBENC2	THE ROMANTIC AGE	CO1	To spell out the knowledge of early romantics
			CO2	To interpret the works of later Romantics
			C03	To apply historical elements to legends described by Scott
			C04	To discuss the novels of Austen
			C05	To explain the humor and Pathos in the prose works of Charles Lamb

9	22PBENC3	VICTORIAN AGE	CO1	Inspect the dilemma of Man through Victorian poetry
			CO2	Outline the English sympathy for the French Royals during the Revolution in France
			C03	Illustrate the fascination for thrillers in Victorian fiction
			C04	Examine the Victorian motive – The disdain for materialism
			C05	Evaluate the extent to which the book is a typical example of a Victorian typecast.
10	22PBENE2A	MODERN EUROPEAN LITERATURE	CO1	Examine the feature of German literature
			CO2	Discuss the concept of modernists setting their plot in 18th century
			C03	Elaborate on the place of innocence in 20th century Russia
			C04	Explain the satire on Austro Hungarian hegemony on European Cities
			C05	Deduce the life in Ireland during the civil war .
11	22PBENE3A	ONE AUTHOR – BERNARD SHAW	CO1	Find elements of femme fatale in Shavian heroines

			CO2	Apply the concept of “practice makes perfect” in the play
			C03	Discuss the theme of women in army.
			C04	Analyze the futility of war handled in a comic way in the play
			C05	The Devil‟s Disciple
12	22PBEND2	ENGLISH FOR JOB MARKET	CO1	To appraise students of speaking techniques
			CO2	To formulate bits and pieces of available inputs from newspapers
			C03	To plan reports
			C04	To design own‟s resume
			C05	To demonstrate one‟s potential
13	22PCENC1	LITERARY CRITICISM – I	CO1	To analyse the nuances of criticism
			CO2	To examine the function of novels
			C03	To evaluate the use of language in poetry
			C04	To compare and contrast the elements in literature and psychology
			C05	To adapt structural patterns to literature
14	22PCENC2	WORLD CLASSICS IN ENGLISH TRANSLATION I	CO1	Discuss the influence of classical Greek literature

			CO2	Distinguish Roman classicism from the Greek.
			C03	Compare differing Roman classical literature with Augustans
			C04	Tell the background story behind literature
			C05	To build on early Spanish novels
15	22PCENC3	INDIAN CLASSICAL LITERATURE	CO1	To show the in depth of Bhasha on Indian legends
			CO2	To illustrate the writing skills of Rajaji
			C03	To compile translated Tamil epics
			C04	To discover the exotic beauty of Jataka tales
			C05	To estimate the greatness of Bodhisatva
16	22PCENC4	AMERICAN LITERATURE	CO1	To analyse the poetry of real American experience
			CO2	Compare , contrast and present opinions
			C03	To anlayse plots, themes and the stage craft of American plays
			C04	To apprise students with the defiance in American social life
			C05	To elaborate upon the patterns of American short stories

17	22PCENE4A	JOURNALISM	CO1	To define the important terms
			CO2	To identify the major growth in press
			C03	To discuss about print media
			C04	To demonstrate what is technical wrting
			C05	To compare ordinary media to social media
18	22PDENC1	INDIAN ENGLISH WRITING	CO1	To evaluate select Poem of nonnative origin
			CO2	To evaluate select Prose pieces of nonnative origin
			C03	To evaluate select plays of nonnative origin
			C04	To evaluate select fictions of nonnative origin
			C05	To evaluate select short stories of nonnative origin
19	22PDENC2	LITERARY CRITICISM – II	CO1	To analyse the kinds of meanings
			CO2	To assess the archetypes in literature
			C03	To infer the role of individual in society
			C04	To interpret the work of art
			C05	To compare the trends in making meaning
20	22PDENC4	DIASPORIC LITERATURE	CO1	Apprise the students with the scope of diasporic writings

			CO2	analyse the loss of nature‟s surroundings in the psyche of diasporic poets.
			CO3	Discuss the popular prose works on cultural identity
			CO4	Critically analyze the identity crisis of Indian diaspora
			CO5	To summarize the diasporic experience through literature

Programme Name: BA English

Programme Code: UENG

PROGRAM SPECIFIC OUTCOMES (PSO's)

On completion of the programme, the students will be able to:

PSO1: To develop communication skills and interact well in professional environment.

PSO2: To inculcate an appreciation of literary works of world literature.

PSO3: To cultivate leadership qualities in them, elimination of stage fear, understanding the formalities of public address

PSO4:To develop one‟s own character and personality by an exposure to the biographies of great men and women.

PSO5: To encourage the students to develop not only their reading habits but also the talent in sports and fine arts.

PSO6:The ultimate objective of the course is to make students into administrators, professors, entrepreneurs, sports, and distinguished personalities.

S No	Course Code	Course Name	CO's one by one	
21	22UAENC1	BRITISH LITERATURE – I	Code	Course Outcomes
			CO1	To familiarize the writers in Old English period.
			CO2	To analyze, compare, contrast and present opinions
			CO3	To develop an awareness of the literary forms through Sonnets.
			CO4	To examine the important dramatic works of that age.
			CO5	To classify the cultural life within social life of that age
22	22UAENC2	CHILDREN'S LITERATURE – I	CO1	To find the importance of Children‟s Literature.
			CO2	To recall moral values through the study of fables.

			CO3	To develop cultural understanding through folk lore
			CO4	To develop reading skills and imagination through literary text.
			CO5	To apply tales for the cultivation of linguistic repertoire.
23	22UAENA1	SOCIAL HISTORY OF ENGLAND –I	CO1	To match the literature to the life of the natives of England.
			CO2	To illustrate the events in the social history of England.
			CO3	To identify the events in the historical context in the history of England.
			CO4	To relate literature to the major events in the history of

				England.
			CO5	To outline the important socio, historical events.
24	22UAENN1A	NME –I BUSINESS ENGLISH I	CO1	To list out vocabulary needed for business life
			CO2	To select the right lingo English for commerce.
			CO3	To infer meaning from reading materials for office use.
25	22UBENC1	BRITISH LITERATURE – II	CO1	Outline the different writing styles in periodical essays
			CO2	Relate how the social events influence the work of art
			CO3	Analyze and interpret the use of language in poetry
			CO4	Infer the human pathos
			CO5	Distinguish the principles of an individual from

				the Society
26	22UBENC2	YOUNG ADULTS' LITERATURE	CO1	Tospell out the nuances of Young Adult‟s Literature.
			CO2	To develop language skills through literary text.
			CO3	To show reading skills by the study of the prescribed literary text.
			CO4	To build literary interest through the study of folk tales.
			CO5	To enhance the reading skills of the students through the stories of suspense and thrill.
27	22UBENA2	SOCIAL HISTORY OF ENGLAND – II	CO1	To have a who‟s who knowledge of leaders in Britain
			CO2	To show the impact of the

				events in France on Britain
			CO3	Show awareness of the socio-political events in England
			CO4	To relate the causes and effects of World Wars
			CO5	Show awareness of the post world war trends in science
28	22UCENC1	DRAMA-1	CO1	To spell the basic features of Drama
			CO2	To name Jacobean writers and the plays
			CO3	To demonstrate Comedy of Humours
			CO4	To list the chronology of playwrights in English Lit
			CO5	To tell what are the dramatic features of Restoration age
29	22UCENC2	FICTION – I	CO1	To categorize the features of

				early novels.
			CO2	To name at least one author of historical novels
			CO3	To summarize the elements with regional focus
			CO4	To outline the intricate features of novels
			CO5	To identify novels of Victorian age in the literary texts.
30	22UCENA3	HISTORY OF ENGLISH LITERATURE AND LITERAY FORMS	CO1	classify the genres & chronology of English literature.
			CO2	Explain the aspects of poetic techniques.
			CO3	To find the origin and types of drama.
			CO4	To name the different types of fictions.
			CO5	To understand the contributions of prose writers in

				English.
31	22UDENC1	POETRY – I	CO1	To introduce the features of epic poetry in Paradise Lost
			CO2	To understand satire in restoration Poetry
			CO3	To understand the salient features of Poetry during Romantic age.
			CO4	To make an in depth study of elements of metaphysical Poetry
			CO5	To introduce learners with form , themes and meters of Victorian Poetry
32	22UDENC2	PROSE AND NON – FICTION	CO1	To spell out the early prose writings of classical times
			CO2	To name at least one early prose writer of English nativity.
			CO3	To list out at

				least one essayist ofthe Romantic age.
			CO4	To tell the who"s who of early female English writers
			CO5	To identify biographical and autobiographical forms of writings
33	22UDENA4	HISTORY OF ENGLISH LITERATURE	CO1	To define the features of metaphysical poetry
			CO2	To show what they know of pre-Raphaelite movement
			CO3	To list out writers of the Romantic age
			CO4	Say which are the features of Victorian age
			CO5	To illustrate the literary features of 20^{th} c writers
34	22UEENC1	SHAKESPEARE: HISTORY PLAYS	CO1	Discover the background/ qualities of historical plays.
			CO2	Examine the

				historical elements in Richard – II.
			CO3	Identify the historical elements of King John‟s era.
			CO4	To summarize glimpses of Roman Empire
			CO5	Examine Elizabethan theatrics from a historical Standing
35	22UEENC2	ECO – LITERATURE	CO1	To examine ecology using various creative literature.
			CO2	To outline eco – literature through the genre of poetry.
			CO3	To match the elements of ecology to novels.
			CO4	To relate to the features of ecology to plays
			CO5	To infer the environmental consciousness through prose

36	22UEENC3	DRAMA – II	CO1	To name who wrote which play in 20th c literature
			CO2	To list out features of absurd drama
			CO3	To infer the concept of racism through American drama
			CO4	To explain the concept of kitchen sink drama
			CO5	To outline the concept of existentialism
37	22UEENC4	CLASSICAL LITERATURE IN ENGLISH TRANSLATION	CO1	To show the students the problems in translationlit
			CO2	To recall elements of Greek literature
			CO3	Inter the features of Indian ethos through literature
			CO4	To name the important characters in Roman literature

			CO5	To identify myths from gamuts of classical authors.
38	22UEENE1A	LITERARY CRITICISM	CO1	To show the students early critical writings
			CO2	To compare the arguments of two critics.
			CO3	To extend the ideas of romanticism to criticism
			CO4	To utilize critical concepts for interpreting literature
			CO5	To demonstrate 20th century critical concepts
39	22UFENC1	FICTION – II	CO1	To examine science fiction and its consequences
			CO2	To experiment the intimate portrayal of the inner states of the characters.
			CO3	To extend human relationship to

				the universe
			CO4	To illustrate and show the various forms of humour
			CO5	A select study of prize winning novels
40	22UFENC2	INDIAN WRITING	CO1	list out important Indian poets
			CO2	Select essayists and Prose writers in English
			CO3	Define the features of Indian theatre
			CO4	To tell what are the features of Indian Fiction
			CO5	To infer ethics from Indian Short stories
41	22UFENC3	POETRY – II	CO1	Define the dilemma of Man upon the rise of science in 19th c
			CO2	Rephrase the concept of ethics in the 20th c
			CO3	Utilize Irish themes to relate it to the developments in

				UK
			CO4	To examine the pathos of War poets
			CO5	List out non native English literature in Post colonial era
42	22UFENE2A	LINGUISTICS	CO1	To list out the symbolic patterns of vowels in IPA
			CO2	To list out he symbolic features of consonants in IPA
			CO3	define concepts such as language and phonology
			CO4	name the concepts behind synchronic – diachronic study
			CO5	Solve the questions in transcription
43	22UFENE3A	AMERICAN LITERATURE	CO1	examine the representative poetry of Americans
			CO2	outline the racial and cultural background that

				built American history
			CO3	Analyze the collapse of "American Dream" through lit
			CO4	Discover works on the indomitable American spirit
			CO5	Categorize short stories of American experience

Tamil

Department : DEPARTMENT OF TAMIL

Programme Name: BA TAMIL

Programme Code : **UTAM**

PROGRAMME SPECIFIC OUTCOMES (PSO)

PSO1 :	செம்மொழித் தமிழ், தமிழரின் தொன்மை, பண்பு, வாழ்வியலை அறிந்து கொள்ளல்
PSO2 :	தமிழ், தமிழர் குறித்த ஆய்வுகளை அறிதல். எழுத்து, சொல், அகம்,புறம், யாப்பு,அணி குறித்த இலக்கணங்களைக் கற்றல்
PSO3 :	தமிழின் வரலாறு, பண்பாடு, ஆட்சிமுறை மற்றும் கலை, இலக்கியங்களின் தோற்றங்களை அறிதல்
PSO4 :	இலக்கிய வகைகள், அறம், சமயம், காப்பியம், சங்க இலக்கியங்களை ஊன்றிக் கற்றல். இலக்கிய, இலக்கண முன்னோடிகளை அறிதல்
PSO5 :	ஒப்பிலக்கணம், திறனாய்வு, இதழியல், நாட்டுபுறவியல் ,கோயிற்கலை, தொல்லியல் போன்ற வளர்ந்துவரும் புதியதுறைகளை அறிமுகப்படுத்துதல்
PSO6 :	உயர்கல்விக்குத் தகுதிப்படுத்துதல்

Sl.No	Course Code	Course Name	CO′s One by One	
1	**22UAFTA1**	**மொழிப்பாடம் – 1**	CO1	**மொழியின் சிறப்பையும் நாட்டுப்பற்றையும் அறியச் செய்தல் , நாட்டுக்குழைத்த நல்லோர்களை நினைவூட்டல் , மொழியின் ஆளுமையைத் தற்காலத்துடன் பொருத்திப் பார்த்தல்**
			CO2	**சமூகத்தில் புரையோடிப் போயிருக்கும் மூட நம்பிக்கைகளை உணரச் செய்தல், நன்னம்பிக்கைகளை வளர்த்தல், புதுக்கவிதையின் முன்னோடிகளை நினைவூட்டல்.**
			CO3	சிறுகதைகளின் வழி பல்வேறு அடுக்குகளில் வாழும் மக்களின் வாழ்வியலை அறியச் செய்தல், கதைகளைப் பொதுவாழ்வுடன் பொருத்திப் பார்த்தல், சிறுகதைமுன்னோடிகளைநினைவூட்டல்.
			CO4	சிற்றிலக்கியங்களின் வகைமைகளை அறியச் செய்தல், சிற்றிலக்கியச் சிறப்பியல்புகளை நினைவூட்டல், இடைக்கால மக்களின் வாழ்வியல் கூறுகளைப் பகுத்துரைத்தல்

			CO 5	மாணவர்களின் மொழி ஆளுமையை வளர்த்தெடுத் தல், பிழைகளை நீக்கவும் சரியான முறையில் எழுதவும் பயிற்சியளித்தல், இலக்கிய வரலாற்றின் அடிப்படையில் கவிதைகளையும், இலக்கிய வகை களையும் நினைவூட்டல்.
				மொழியின் சிறப்பையும் நாட்டுப்பற்றையும் அறியச் செய்தல் , நாட்டுக்குழைத்த நல்லோர்களை நினைவூட்டல் , மொழியின் ஆளுமையைத் தற்காலத்துடன் பொருத்திப் பார்த்தல்

Sl.No	**Course Code**	**Course Name**	**CO′s One by One**	
2	**22UATAC1**	**தாள் - இலக்கியம் -1 – இக்கால இலக்கியம் – கவிதையும் உரைநடையும்**	CO 1	**மாணவர்களுக்கு நாட்டுப்பற்றின் தேவையை விளக்குதல், பாரதியாரின் கவிச்சிறப்பை எடுத்துரைத்தல், தற்கால வாழ்வியலில்**

				நாட்டுப்பற்றின் கூறுகளை பொருத்திப் பார்த்தல்
			CO 2	**மரபான தமிழ்க் கவிஞர் வரிசையை நினைவூட்டல், பாவேந்தர் சிந்தனை மரபை அறியச் செய்தல், மக்களிடம் உள்ள நம்பிக்கைகளின் பொருத்தப்பாட்டை உணரச் செய்தல்,**
			CO 3	புதுக்கவிதையின் சிறப்பை எடுத்துரைத்தல், புதுக்கவிதைகளின் வீச்சால் சமூகத்தில் ஏற்பட்ட மாற்றங்களை எடுத்துரைத்தல், இக்கால இலக்கிய வளர்ச்சியுடன் ஒப்பிடல்
			CO 4	கட்டுரை இலக்கியங்களின் தன்மையை உணரச் செய்தல், பண்டைக்கால மக்களுக்கும் மன்னருக்கும் இடையிலான உறவுகளை நினைவூட்டல், தற்கால அரசியல் சூழல்களுடன் பொருத்திப்பார்த்தல்.

			CO 5	உரைநடையின் வரலாற்றை எடுத்துரைத்தல், இலக்கியங்களில் உரைநடையின் இடத்தை அறியச் செய்தல், தற்கால இலக்கியங்களில் உரைநடைகளின் பங்கைப் பொருத்திப்பார்த்தல்.

Sl.No	Course Code	Course Name	CO′s One by One	
3	**22UATAC2**	**இலக்கணம் – 1 நன்னூல் – எழுத்ததிகாரம்**	CO 1	நூலினது வரலாறு, எழுவகை மதம், பத்து வகையான குற்றங்கள், அழகு, உத்தி முறைகள் ஆகியவற்றை கேட்டறியச் செய்தல் ஆசிரியரது இலக்கணம், மாணக்கரது இலக்கணம், நூலினது இலக்கணம் போன்றவற்றை மாணவர்கள் புரிந்து கொள்ளச்செய்தல்
			CO 2	எழுத்துக்களின் பிறப்பு, ஒலிப்பு முறைகள், கால அளவு, எண், பெயர், ஆகியவற்றை தெரிந்து கொள்ளுதல்
			CO 3	சொற்கள் புணரும் விதத்தை அறிந்து கொள்ளுதல்,
			CO	சொற்களின் பொதுவான புணர்ச்சி முறை, உயிர்

			4	எழுத்துகளின் புணர்ச்சி முறையினை புரிந்து கொள்ளுதல்.
			CO 5	மெய்யீற்றுப்புணர்ச்சி, உருபுப் புணர்ச்சி பற்றிய இலக்கணங்களை கற்றுக்கொள்ளச்செய்தல்

Sl.No	Course Code	Course Name	CO′s One by One	
4	**22UATAA1**	**தாள் – 1 தமிழக வரலாறும் மக்களும் பண்பாடும்**	CO 1	**வரலாறு மற்றும் வரலாற்றுக் காலத்திற்கு முன்பான தமிழகம் குறித்த சான்றுகளை அறிந்து கொள்ளுதல், தமிழகத்தின் இயற்கை அமைப்பு, வளங்களைத் தெரிந்து கொள்ளுதல்,**
			CO 2	**சிந்துவெளி அகழ்வாராய்ச்சியில் தெரிந்த உண்மைகளை அறிதல், பண்டைத் தமிழரின் அயல் நாட்டுத் தொடர்புகளைத் தெரிந்து கொள்ளுதல்,**
			CO 3	**தமிழ் வளர்த்த சங்கங்கள் குறித்த செய்திகளை அறிந்து , அதன்**

				வன்மை,மென்மையை புரிந்து கொள்ளுதல், சங்க இலக்கிங்களை அறிந்து கொள்ளுதல் – பண்டைத் தமிழரின் வாழ்க்கை முறைகளைத் தெரிந்து கொண்டு தற்காலத்துடன் பொருத்திப் பார்த்தல்
			CO 4	**களப்பிர,பல்லவ மன்னர்களின் தோற்றம்,முடிவு ஆட்சிப்பரப்பு, காலம், போர்கள், கலை,இலக்கியப் படைப்புகளைத் தெரிந்து கொள்ளுதல்**
			CO 5	தமிழகத்தில் நான்காம் நூற்றாண்டு முதல் ஒன்பதாம் நூற்றாண்டு வரையிலான தமிழக மக்களின் வாழ்க்கைமுறைகள் , நம்பிக்கைகள், இலக்கியங்கள் குறித்து தெரிந்து கொள்ளுதல்

Sl.No	Course Code	Course Name	CO′s One by One	
5		**சுற்றுலாவியல் – 1**	CO 1	சுற்றுலாத் தளங்களை அதன் வரலாற்றோடு அறிந்து கொள்ளுதல்.
			CO 2	சுற்றுலாவின் வகைகள், சுற்றுலாவின் நோக்கத்தை அறிந்து கொள்ளுதல்.
			CO 3	உலக நாடுகளின் சுற்றுலா வளர்ச்சியை பண்டைக்காலம் – இடைக்காலம் – மறுமலர்ச்சிக்காலம் வரலாற்றோடு தொடர்புபடுத்தி அறிந்து கொள்ளுதல்.
			CO 4	சுற்றுலாவின் அவசியங்கள், பயணத்திட்டங்கள் மேம்பாட்டுப் பணிகள் குறித்து தெரிந்து கொள்ளுதல்.
			CO 5	சுற்றுலாவின் மூலம் ஏற்படும் பொருளாதார வளர்ச்சி, வேலைவாய்ப்புகள் – தேசிய ஒருமைபாடு ஆகியவற்றை தெரிந்து கொள்ளுதல்.

Sl.No	Course Code	Course Name	CO′s One by One	
6	**22UBFTA2**	**பொதுத்தமிழ் தாள் - 2 – பக்தி இலக்கியம், உரைநடை,**	CO 1	**பன்னிரு திருமுறைகளின் சிறப்பை அறியச் செய்தல், சைவ சமய நாயன்மார்களை நினைவூட்டல், பக்தி**

		மொழிபெயர்ப்பு		**இயக்கங்களின் பணிகளை ஆய்ந்தறிதல்**
			CO 2	**ஆழ்வார் பாசுரங்களின் அழகுத்தமிழை அறியச் செய்தல் , வைணவ சமய நெறிகளை நினைவூட்டல், வைணவத்தின் சிறப்பியல்புகளைப் பகுப்பாய்வு செய்தல்**
			CO 3	கிறித்தவ, இசுலாமிய சமய நெறிகளை அறியச் செய்தல், சமய இலக்கிய முன்னோடிகளை நினைவூட்டல், தமிழகத்தில் உள்ள ஏனைய சமய நெறிகளுடன் பொருத்திப் பார்த்தல்
			CO 4	சித்தர் இலக்கியத்தின் பன்முகச் சிறப்பை அறியச் செய்தல், சித்தர்கால சமூகச் சூழலைத் , தற்கால வளர்ச்சியுடன் பொருத்திப் பார்த்தல், பழந்தமிழரின் பெருமையை உரைநடைப் பகுதிகளின் வழி நினைவூட்டல்.
			CO 5	பக்தி இயக்கங்களின் பணிகளை நினைவூட்டல், சமய நெறிகளின்

				பணிகளை மதிப்பிடல், பன்மொழி ஆளுமையை வளர்த்தெடுத்தல்

Sl.No	Course Code	Course Name	CO′s One by One	
7	**22UBTAC1**	**தாள் இலக்கியம் - 2 – இக்கால இலக்கியம் – நாடகம், புதினம், சிறுகதை**	CO 1	**மாணவர்களிடம் பகுத்தறிவு மற்றும் சமத்துவ சிந்தனைகளை பதியச் செய்தல், நாடக நெறிகளை அறியச் செய்தல், அகவாழ்வின் கூறுகள் சமூகத்தில் ஏற்படுத்தும் மாற்றங்களை ஆய்தல்**
			CO 2	**தமிழ் மக்களின் வீரப் போராட்டத்தை அறியச் செய்தல், ஆங்கிலேயர்களின் அடிமைமுறையையும் தமிழ் மக்களின் விடுதலை வேட்கையையும் நினைவூட்டல், நாட்டுப்பற்றையும் விடுதலைக் கனலையும் தற்காலச் சூழலுடன் பொருத்திக் காட்டல்.**
			CO 3	சிறுகதை இலக்கியக் கூறினை எடுத்துரைத்தல், இயற்கையுடன் ஒருங்கிணைந்த வாழ்வியலின் சிறப்பை அறியச் செய்தல்,

				சுற்றுச் சூழலியலின் தேவைகளை நினைவூட்டல்
			CO 4	புதின இலக்கியக் கூறுகளை எடுத்துரைத்தல், நெய்தல் நிலமக்களின் வாழ்வியலை அறியச் செய்தல், புதினத்தின் வழி பெண்ணியத்தின் தேவையை பொருத்திக் காட்டல்
			CO 5	சிறுகதை முன்னோடிகளை நினைவூட்டல், சிறுகதைகளில் வெளிப்படும் மக்கட்பண்புகளை வெளிக் கொணர்தல், வேறு இலக்கிய வகைமைகளுடன் சிறுகதையின் வீச்சைப் பொருத்தி பார்த்தல்.

Sl.No	Course Code	Course Name	CO′s One by One	
8	**22UBTAC2**	**நன்னூல் – சொல்லதிகாரம்**	CO 1	சொல்லின் பொது இலக்கணம், உயர்திணை, அஃறிணை,ஆண் பால், பெண் பால், பலர் பால்,ஒன்றன் பால் பலவின்பால்,தன்மை, முன்னிலை, படர்க்கையைக் குறித்தும் , செய்யுள் இலக்கணத்தைக் குறித்தும் கற்றறிதல்

			CO 2	தமிழ்ச் சொற்களின் வகைகளையும் வேற்றுமையின் வகைகளையும் அறிந்து கொள்ளச்செய்தல்
			CO 3	முற்று வினை , பெயரெச்சம், வினையெச்சம், இடைப்பிறவரல், பால் பொதுமை, தொகைநிலை, தொகாநிலை ஆகியவற்றை கற்றுப் புரிந்து கொள்ளுதல்
			CO 4	இடைச்சொற்கள் ,முன்னிலை அசைச்சொற்களின் பொருள்களையும் இலக்கணங்களையும் கற்றுணர்தல்
			CO 5	உயிர்ப்பொருள்களின் வகைகள்,பண்புகள் (குணம் தொழில்) உயிரற்றப்பொருட்கள், உரிச்சொற்களின் இலக்கணத்தை தெரிந்துக் கொள்ளுதல் .

Sl.No	Course Code	Course Name	CO′s One by One	
9	**22UBTAA 2**	**தாள் – 2 தமிழக வரலாறும் மக்களும் பண்பாடும்** -2	CO 1	**சோழர் எழுச்சிக்கான அடிப்படைக் காரணங்களை அறிதல் , பேரரசர்கள் வரிசையை நினைவூட்டல், ஆட்சி மாற்றத்திற்கான காரணங்களை ஆய்தல்**
			CO 2	**சோழர்கால ஆட்சிமுறை,**

				படைகள், நிதி,நீதி நிர்வாக நடைமுறைகள் மற்றும் மக்கள் வாழ்வியலை அறிதல், நம்பிக்கைகள், பழக்க வழக்கங்களைத் தெரிந்து கொள்ளுதல், அவற்றைத் தற்காலச் சூழலுடன் பொருத்திப் பார்த்தல்
			CO 3	இடைக்கால,முற்கால பாண்டியர்,நாயக்கர் பேரரசுகளின் தோற்றத்திற்கான காரணங்களை அறிதல், பாண்டியர் ,நாயக்கர் கால கலைப் பணிகளைத் தெரிந்து கொள்ளுதல், அக்கால மக்களின் வாழ்வியலை நினைவூட்டல், தற்கால வாழ்வியலோடு பொருத்திப் பார்த்தல்
			CO 4	ஐரோப்பியர் வருகைக்கான காரணங்களை அறிதல், ஆட்சி அதிகாரங்களில் அவர்தம் தலையீட்டிற்கான காரணங்களை ஆய்தல்,

				தற்கால தமிழகத்தின் நிர்வாக முறை மற்றும் சமூகநிலைகளோடு போஇட்டுப் பார்த்தல்
			CO 5	ஆங்கிலேயரின் ஆட்சிமுறைகளை அறிந்து கொள்ளுதல், விடுதலைப் போராட்டங்களை நினைவூட்டல், விடுதலைக்கு முன்னும் பின்னுமான வளர்ச்சி நிலைகளைப் பொருத்திப் பார்த்தல்.

Sl.No	Course Code	Course Name	CO′s One by One	
10		**சுற்றுலா வியல் – 2**	CO 1	சுற்றுலாவை அளவீடு செய்தல், திட்டமிடுதல், மேம்படுத்துதல்,சுற்றுலாப்பயனிகளின் விவரங்களை சேகரித்தல் ஆகியவற்றை தெரிந்துகொள்ளுதல்
			CO 2	சுற்றுலா விடுதிகளின் வகைகளைத் தெரிந்து கொள்ளுதல், சுற்றுலா விடுதிகளின் வரலாற்றை அறிந்து கொள்ளுதல்
			CO 3	சுற்றுலாப்பயணிகளின் போக்குவரத்து தடங்களான சாலை, இருப்புப்பாதை, நீர்வழி, வான்வழி, ஆகியவற்றைப் பற்றி அறிந்து

				கொள்ளுதல்
			CO 4	சுற்றுலாவின் அவசியங்கள், பயணத்திட்டங்கள், மேம்பாட்டுப் பணிகள் குறித்து தெரிந்துகொள்ளுதல்.
			CO 5	சுற்றுலாப் பயண முகவர்கள், பயணமுகவர்களின் பணிகள், சுற்றுலா வழிகாட்டிகள், வழிகாட்டிகளின் பண்புகள் ஆகியவற்றைத் தெரிந்து கொள்ளுதல்

Sl.No	Course Code	Course Name	CO′s One by One	
11	**22UCFTA3**	**பொதுத்தமிழ்-3**	CO 1	**அற இலக்கியங்களின் சிறப்பை அறியச் செய்தல், அற இலக்கிய ஆசிரியர்கள் மற்றும் இலக்கியங்களை நினைவூட்டல், அறக் கருத்துகளின் தேவையை வாழ்வியலோடு பொருத்திப் பார்த்தல்**
			CO 2	**சங்கம் மருவிய கால இலக்கியங்களை அறியச் செய்தல் , அக்கால வாழ்வில் நீதியின் இன்றியமையாமையை மதிப்பிடுதல், சிலப்பதிகார மாந்தர்களை நினைவூட்டல்**
			CO 3	மணிமேகலைக் காப்பியப் பின்னணியை அறியச்

				செய்தல், மணிமேகலையில் வெளிப்படும் புராணக் கருத்துகளை ஆய்தல், காப்பிய மாந்தர்களை நினைவூட்டல்
			CO 4	கம்பராமயணக் கவிச் சிறப்பை எடுத்துரைத்தல், காப்பிய மாந்தர்களின் வழி மக்கள் உளவியலை தற்காலத்துடன் பொருத்திப்பார்த்தல், காப்பியக் கூறுகளை நினைவூட்டல்
			CO 5	இலக்கியங்களின் படி நிலை வளர்ச்சிகளை அறியச் செய்தல், அற இலக்கியங்களின் தேவையை எடுத்துரைத்தல், இலக்கிய வகைமைகளை நினைவூட்டல்

Sl.No	Course Code	Course Name	CO′s One by One	
12	**22UCTAC1**	**நம்பியகப் பொருள்**	CO 1	பழந்தமிழரின் அகவாழ்வியலில் காணலாகும் களவொழுக்கம்,கற்பொழுக்கம் பற்றி மாணவர்களுக்குக் கற்பித்தல்.

			CO 2	தமிழரின் மேம்பட்ட வாழ்வையும், தமிழ்ப் பாரம்பரியத்தையும் புரிந்து கொள்ளுதல்.
			CO 3	தமிழ்ச் சமுதாயத்தின் திருமண முறைகளைப் பற்றி தெரிந்து கொண்டு, அவற்றை இக்கால திருமண முறைகளோடு ஒப்பிட்டுப் பார்த்தல்.
			CO 4	பழந்தமிழர் பின்பற்றிய உறவுமுறை மதிப்புகளையும், விருந்தோம்பல் முதலிய அறவழிச் சிந்தனைகளையும் புரிய வைத்தல்
			CO 5	அகப்பாட்டு உறுப்புகளைப் பற்றி மாணவர்களுக்கு விளங்க வைத்தல்

Sl.No	**Course Code**	**Course Name**	**CO′s One by One**	
13	**22UCTAC2**	**சமயப் பாடல்களும் சிற்றிலக்கியங்களும்**	CO 1	**சைவசமய நெறிகளை அறிந்து கொள்ளுதல் , நாயன்மார்களின் வாழ்வியல் செய்திகளை நினைவூட்டல், சைவ சமய ஒழுகலாறுகளைச் சமகாலத்தோடு பொருத்திப்பார்த்தல்**
			CO 2	**வைணவ சமய நெறிகளை அறிந்து கொள்ளுதல் , ஆழ்வார்களின் வாழ்வியல் செய்திகளை நினைவூட்டல்,**

				வைணவ சமய ஒழுகலறுகளைச் சமகாலத்தோடு பொருத்திப்பார்த்தல்
			CO 3	இடைக்கால சிற்றிலக்கிய மரபுகளை அறிந்து கொள்ளுதல், கல்ம்பகத்தின் கூறுகள் பல்வேறு தனித்தனி சிற்றிலக்கியங்களாக வளர்ச்சிப் பெற்றிருப்பதை விளக்குதல், அகப்புற மரபுகளை ஆய்தல்
			CO 4	தனித்தமிழின் அற்றைக்கால பெருமையை எடுத்துக் கூறுதல், தூதிலக்கிய மரபுகளை நினைவுகூறல், தமிழும், தூதும் தற்காலத்தில் பெற்றுள்ள இடத்தை ஒப்பிட்டுப் பார்த்தல்
			CO 5	பண்டைத் தமிழர் போர் நெறிகளை அறிந்து கொள்ளுதல் .பரணி இலக்கிய வகைமையை நினைவூட்டல், கால வரிசையில் போர்முறை மாற்றங்களை வகைப்படுத்துதல்
Sl.No	**Course Code**	**Course Name**	**CO′s One by One**	
14	**22UCTA**	**தமிழ்**	CO	**தமிழின் தோற்றம் மற்றும்**

	A3	**இலக்கிய வரலாறு 1**	1	**வளர்ச்சி நிலையை அறிதல் - தமிழ்ச் சங்கம் இருந்ததா? இல்லையா என்பதை ஆய்ந்தறிதல் –இலக்கணப் புலவர்களை நினைவூட்டல், சங்க இலக்கியங்கள் எவை என வரையறுத்தல்.**
			CO 2	**சங்கம் மருவிய காலத்தை வரையறுத்தல் – பதினெண் கீழ்க்கணக்கில் உள்ள அற,அக,புற இலக்கியங்களைத் தெரிந்து கொள்ளுதல்**
			CO 3	**இரட்டைக் காப்பியங்களின் வழி அக்காலச் சூழலை புரிந்து கொள்ளுதல் – காப்பியச் செய்திகளை நினைவூட்டல், தொடக்க கால பக்தி இலக்கியங்களைத் தெரிந்து கொள்ளுதல்**
			CO 4	**சைவ, வைணவ பக்தி இயக்கங்களை அறிதல் ,நாயன்மார்,ஆழ்வார்களின் வாழ்வியலை நினைவூட்டல், பக்தி இலக்கியங்களை**

				வகைப்படுத்தல்
			CO 5	தமிழ்ச் சூழலில் எழுந்த புத்த,சமண, இலக்கியங்களை அறிதல், புராணங்கள் , சமய இலக்கியங்களின் வழி சமயக் கருத்துகளை பொருத்திப் பார்த்தல், சமயப் பெரியோர் மற்றும் புலவர்களை நினைவூட்டல்

Sl.No	**Course Code**	**Course Name**	**CO′s One by One**	
15	**22UDFTA4**	**பொதுத்தமிழ் தாள் - 4**	CO 1	**சங்க இலக்கியங்களின் சிறப்பை அறியச் செய்தல், அக இலக்கிய ஆசிரியர்கள் மற்றும் இலக்கியங்களை நினைவூட்டல், சங்க கால அக வாழ்வியலோடு தற்கால அக வாழ்வினைப் பொருத்திப் பார்த்தல்**
			CO 2	**புறத்திணை இலக்கியங்களை அறியச் செய்தல், புற இலக்கிய ஆசிரியர்கள் மற்றும் இலக்கியங்களை நினைவூட்டல், சங்க கால புற வாழ்வியலோடு தற்கால**

				புற வாழ்வியல் கூறுகளைப் பொருத்திப் பார்த்தல்
			CO 3	ஆற்றுப்படையின் காலச் சூழலைப் புலப்படுத்துதல், அலைகுடி மக்களின் வாழ்வியலை அறியச் செய்தல், முற்கால கொடை மரபுகளையும், வள்ளல்களையும் நினைவூட்டல்
			CO 4	ஐந்திணைப் பாகுப்பாட்டினை அறியச்செய்தல், அக,புறத்திணைகளை விளக்கியுரைத்தல், முதல்,கரு,உரிப்பொருள்களை நினைவூட்டல்
			CO 5	சங்க மரபின் தோற்றம் குறித்த செய்திகளை ஆய்தல், தொல்காப்பிய இலக்கண மரபுகளை அறியச் செய்தல் சங்ககால வழ்ழ்வியல் கூறுகளை நினைவூட்டல்

Sl.No	Course Code	Course Name	CO′s One by One	
16	**22UDTAC1**	புறப்பொருள் வெண்பாமாலை	CO 1	போருக்கு அடிப்படைகளான ஆநிரை கவர்தல்,மீட்டல் குறித்து விளக்குதல், வெட்சி,கரந்தைத் திணைகளின் உட்கூறுகளை அறியச் செய்தல்,
			CO 2	மாற்றாரின் செயல்கள் வழி தூண்டப்பெறும் போர்ச்சூழலை எடுத்துரைத்தல், போரின் நிலையாமையை விளக்குதல்,
			CO 3	பகைவரின் கோட்டைகளை முற்றுகையிடல், முற்றுகையைத் தகர்த்தல் குறித்த செய்திகளை விளக்குதல், நொச்சி,உழிஞை வீர்ர்களின் போர்த்திறன்களை வெளிப் படுத்துதல்
			CO 4	இருபெரும் மன்னர் எதிர்பொருதலால் ஏற்படும் விளைவுகளை விளக்குதல், வெற்றி பெற்றவனின் இயல்புகளையும் , வீர்ர்களுக்கான பங்கீடுகளையும் எடுத்துரைத்தல்.
			CO 5	பாடப்படும் தலைவனின் வெற்றி,வீரம்,புகழ்,கல்வி போன்றவற்றை எடுத்துரைத்தல், பங்களிப்பு மற்றும் கொடைச் சிறப்பை எடுத்துரைத்தல், பழந்தமிழரின் அறப்போரினை விளக்குதல்.

Sl.No	Course Code	Course Name	CO′s One by One	
17	**22UDTAC2**	**காப்பியங்கள்**	CO 1	சிலப்பதிகாரக் காலத் தமிழரின் பழக்க வழக்க பண்பாட்டு வாழ்வியல் நெறிமுறைகளை அறிந்துகொள்ளுதல்
			CO 2	பழந்தமிழரின் அற்த்தோடு இணைந்த வாழ்வியல் சூழலை தெரிந்துகொள்ளுதல்
			CO 3	பழந்தமிழரின் வாழ்வியலில் முதன்மையானதாக கருதப்பட்ட சமயக் கொள்கைகள், கருத்துகள், நம்பிக்கை களை தற்கால நடைமுறை வாழ்வியலோடு பொருத்திப் பார்த்தல்
			CO 4	காப்பியங்களில் கதை மாந்தர்களின் வாயிலாக சமய அறநெறிக்கருத்துகள் பரப்பப்படுவதை புரிந்துகொள்ளுதல்
			CO 5	மக்களின் அன்றாட வாழ்வியலோடு தொடர்புடைய ஒழுக்கம் சார்ந்த சமய அறநெறிக் கருத்துகளைப் பரப்ப காப்பியங்கள் காலந்தோறும் பயன்படுத்தப்பட்டு வந்தமையைப் புரிந்துகொள்ளுதல்

Sl.No	Course Code	Course Name	CO′s One by One	
18	22UDTA A4	தமிழ் இலக்கிய வரலாறு – 2	CO 1	சிற்றிலக்கியங்கள் வகைமை, பதினெண் சித்தர்கள் குறித்த செய்திகளை நினைவூட்டல், உரையாசிரியர்கள், பிற்காலப்புலவர்கள் தனித்துவமான செயல்களை அறிதல் மற்றும் தற்காலச் சூழலோடு பொருத்திப் பார்த்தல்
			CO 2	ஐரோப்பிய ,தமிழகக் கிறித்தவர்கள், இசுலாமியர்கள் தமிழுக்கு ஆற்றிய பணிகளை நினைவூட்டல். அவர் தம் படைப்புகள் வழி சமயக்க கருத்துகளை அறிதல், 19 ,20 ஆம் நூற்றாண்டு படைப்பாக்கங்களை வகைப்படுத்தல்
			CO 3	புதுக்கவிதையின் தோற்றம் வளர்ச்சியை அறிதல், கவிஞர் பெருமக்களின் படைப்பாற்றலைப் புரிந்து கொள்ளுதல், தற்கால கவிதை வடிவம், பாடுபொருள்களுடன் ஒப்பிடல்.

			CO 4	**உரைநடை இலக்கியங்களின் வகைகளை அறிதல், சிறுகதை, புதினம் முதலான உரை நடைகளின் முன்னோடி அறிஞர்களை நினைவூட்டல், சமுதாய மாற்றத்தில் இவ்விலக்கியங்களின் பங்கினை ஆய்தல்**
			CO 5	இசைத்தமிழ், நாடகத்தமிழ் வரலாற்றினை அறிதல் – இதழியல் முன்னோடிகளை நினவூட்டல், – 20 ஆம் நூற்றாண்டில் தமிழகம் மற்றும் பிறநாடுகளில் தமிழின் வளர்ச்சியை ஆய்தல்

Sl.No	**Course Code**	**Course Name**	**CO′s One by One**	
19	**22UETAC1**	**செவ்வியல் இலக்கியம் (அகம்)**	CO 1	**நற்றிணைப் பாடல்களை நினைவூட்டல், அக மரபுகளை அறியச் செய்தல், வாழ்வியல் கூறுகளை பொருத்திப் பார்த்தல்**
			CO 2	**குறுந்தொகைப் பாடல்களை நினைவூட்டல் பனுவல்களின் சுவையை**

				அறியச் செய்தல் திணை,துறைகளைப் பொருத்திப் பார்த்தல்
			CO 3	கலித்தொகைப் பாடல்களின் கூறுகளை எடுத்துரைத்தல், இயற்கையோடியியைந்த மக்கள் வாழ்க்கை முறைகளை பொருத்திப் பார்த்தல், தமிழர் மாண்பை நினைவூட்டல்
			CO 4	அகப்பாடல்களின் வழி அரசியல், பண்பாட்டுக் கூறுகளை வகைப்படுத்தல், உள்ளுறை,இறைச்சி உள்ளிட்ட இலக்கியக் கூறுகளை புரிந்து கொள்ளுதல், திணைகளுக்குரிய ஒழுக்கங்களை நினைவூட்டல்
			CO 5	நீண்ட பாடல் மரபை விளக்குதல், அகமும் புறமும் இணைந்திருக்கும் பாங்கினை ஆய்தல், பண்டைய பழக்கவழக்கங்கள்,நம்பிக் கைகளை நினைவூட்டல்

Sl.No	Course Code	Course Name	CO′s One by One	
20	**22UETAC2**	**யாப்பருங்கலக் காரிகை**	CO 1	யாப்பிலக்கணத்தை அறிமுகம் செய்தல், எழுத்தின் இலக்கணத்தை நினைவூட்டல், அசைகளை வகைப்படுத்தல்
			CO 2	சீர்களின் வகைகளை நினைவூட்டல், தளையின் வகைகளை அறிமுகம் செய்தல்,
			CO 3	அடியிலக்கணத்தைக் கற்பித்தல், தொட, தொடைவிகற்பங்களை எடுத்துரைத்தல்
			CO 4	பாவிற்குரிய அடி,ஓசை களை வகைப்படுத்துதல், வெண்பா, ஆசிரியப்பாக்களின் இலக்கணம் கூறி அவற்றின் விரிவாக்கங்களை தொகுத்துரைத்தல்
			CO 5	கலிப்பா,வஞ்சிப்பா, மருட்பாக்களின் இலக்கணம் கூறி அவற்றின் விரிவாக்கங்களை தொகுத்துரைத்தல்

Sl.No	Course Code	Course Name	CO′s One by One	
21	**22UETAC3**	**தமிழ்மொழி வரலாறு**	CO 1	தமிழ்மொழியின் வளர்ச்சி வரலாற்றினை அறிந்துகொள்ளுதல், தமிழ்மொழி வளர்ந்து வந்த பல்வேறு வளர்ச்சி நிலைகளைப் புரிந்துகொள்ளுதல்.
			CO	தமிழ்மொழியின்

			2	செழுமையையும், சொல் வளமைகளை அறிந்து கொள்ளுதல்.
			CO 3	தமிழ்மொழி மற்ற மொழிகளுக்கு இலக்கன இலக்கியங்களால் செல்வாக்குமிக்க பொதுமொழியாகவும், பிறமொழிகள் உருவாக கிளைமொழியாகவும், சிறப்பு மொழியாகவும் இருப்பதை மற்ற மொழிகளோடு ஒப்பிட்டு அறிதல்
			CO 4	திராவிட மொழிகளுக்கெல்லாம் தாய்மை மொழியாக தமிழ் விளங்குவதை அறிந்து கொள்ளுதல்
			CO 5	திராவிட மொழிகளின் எழுத்து, எண்கள் தமிழ்மொழியோடு தொடர்புடையவை என்பதை தெரிந்துகொள்ளுதல்

Sl.No	Course Code	Course Name	CO′s One by One	
22	**22UETAC4**	**இலக்கியத் திறனாய்வு**	CO 1	திறனாய்வு நெறிகளை விளக்குதல், தமிழ்மொழியின் இலக்கியக் கொள்கைகளைப் பொருத்திப் பார்த்தல், இலக்கியத் திறனாய்வின் வரலாற்றினை அறிந்துகொள்ளுதல்.
			CO 2	திறனாய்வின் வகைமைகளை அறிந்துகொள்ளுதல்., திறனாய்வு வகைகளைப்

				பகுத்தறிதல், பிறவற்றுடன் பொருத்திப் பார்த்தல்
			CO 3	திறனாய்வு அணுகுமுறைகளை தெரிந்துகொள்ளுதல், வாழ்வியலுடன் பொருத்திப் பார்த்தல், தனித்துவக் கூறுகளைப் பகுப்பாய்தல்
			CO 4	திறனாய்வுக் கோட்பாடுகளைப் பகுத்தறிதல் , பிறதுறைகளுடன் பொருத்திப் பார்த்தல், புதிய அறிவியல் முறைகளை அறிந்து கொள்ளுதல்
			CO 5	கொள்கை – கோட்பாடுகளை அறிந்து கொள்ளுதல், பழந்தமிழ் இலக்கணக் கொள்கைகளை நினைவூட்டுதல், பிறதுறைகளுடன் பொருத்திப் பார்த்தல்

Sl.No	Course Code	Course Name	CO′s One by One	
23	**22UETAE1A**	**கோயில்கலையும் பண்பாடும் ஆட்சியும்**	CO 1	**கோயில் வகைகளை அறிதல், தமிழிலக்கியங்களில் கோயிலின் இடத்தை நினைவூட்டல், பல்வகைக் கட்டட வளர்ச்சி நிலைகளை அறிந்து தற்கால வடிவங்களுடன் பொருத்திப் பார்த்தல்**

			CO 2	கோயில் அமைப்புகளை அறிந்து கொள்ளுதல் , பிற்காலச் சோழர் ,பிற்காலப் பாண்டியர் , நாயக்கர் காலக் கோயில் அமைப்புகளை வகைப்படுத்துதல், கோவில்களின் கலைச் சிறப்புகளை நினைவூட்டல்
			CO 3	கோயில் சார்ந்து வளர்ந்த இசை – நடனம் – ஓவியம் முதலிய கலைகளை அறிதல், கலைச் சிறப்பு மிக்க இடங்களை நினைவூட்டல், தமிழ்ப்பகுதிகளுக்குரிய இசைக் கருவிகள், நடனம், ஓவியம் சார்ந்த நுட்பங்களை வகைப்படுத்துதல்
			CO 4	சிலை , சிற்பம் ,உலோகச் சிலைகளை வகைப்படுத்துதல், அவற்றை உருவாக்கும் முறைகளை அறிதல், சிற்பக் கலைச் சிறப்பு மிக்க இடங்களை நினைவூட்டல்
			CO 5	தமிழகத்தில் நடைபெறும் திருவிழாக்களை

				நினைவூட்டல், மன்னர்கள்கால நிர்வாக முறைகளை அறிதல் , பெருந்தெய்வம் – சிறு தெய்வ வழிபாட்டு முறைகளை ஆய்தல்

Sl.No	**Course Code**	**Course Name**	**CO′s One by One**	
24	**22UETAE1B**	**சுவடியியல்**	CO 1	சுவடி என்பதன் பொருளை அறிதல், சுவடிகளின் தோற்றம் வளர்ச்சியை அறிதல், பண்டைக்கால சுவடி எழுதுபொருள்களும் எழுதுகருவிகளையும் நினைவூட்டல்
			CO 2	சுவடிப்பதிவு தூய்மை செய்யும் முறைகளை அறிதல் எண்ணிடுதல், சுவடிகளைப் பகுப்பாய்வு செய்தல், முறையாக அட்டவணைப் படுத்தல்.
			CO 3	.சுவடியில் எழுதும் முறைகளை அறிதல், எண்கள், குறியீடுகளைப் புரிய வைத்தல், தற்கால எழுத்தமைதியுடன் ஒப்பீடு செய்தல்
			CO 4	சுவடிகளைப் படியெடுப்பதில் ஏற்படும் சிக்கல்களை அறிதல், சுவடியில் உள்ள வரிவடிவங்களை

				நினைவூட்டல், புள்ளியில்லாத, கையெழுத்துத் தெளிவற்ற மயக்கம் தரும் வரி வடிவங்களைத் புரிந்து கொள்ளுதல்,
			CO 5	மூலச்சுவடிகளுடன் ஒப்பு நோக்கல் - பாட வேறுபாடுகளை ஆய்தல், வடிவ வேறுபாடுகளைக் கண்டு தெளிதல்

Sl.No	Course Code	Course Name	CO′s One by One	
25	**22UETAE1C**	**கல்வெட்டியல்**	CO 1	கல்வெட்டு என்பதன் பொருளை அறிதல் கல்வெட்டுகளை வகைப்படுத்துதல் கல்வெட்டு அமைப்பினை விளக்குதல்
			CO 2	செப்பேடுகளை அறிதல், செப்பேட்டின் நோக்கங்களை எடுத்துரைத்தல் செப்பேடுகள் அமைப்பினை விளக்குதல்
			CO 3	நடுகற்கள் நிறுவப்பட்டதற்கான காரணங்களை அறிதல், பழங்கால நடுகல் அமைப்பை நினைவூட்டல், நடுகற்களை வகைப்படுத்துதல்
			CO 4	தமிழ் மற்றும் வடமொழிக் கல்வெட்டுகளைப் பிரித்தறிதல், தமிழி எழுத்துகளை அறிதல், வடமொழிக் கல்வெட்டு

				எழுத்துகளைத் தெரிந்து கொள்ளுதல்
			CO 5	மெய்க்கீர்த்திகளை அறிந்து கொள்ளுதல் மெய்க்கீர்த்திகளை வகைப்படுத்துதல், புகழ்மிக்க மெய்க்கீர்த்திகளை நினைவூட்டல்

Sl.No	Course Code	Course Name	CO′s One by One	
26	**22UFTAC1**	**செவ்வியல் இலக்கியம் (புறம்)**	CO 1	**புறத்திணைக் கூறுகளை அறியச் செய்தல் , ஆட்சிமுறை - கொடைச்சிறப்பினை நினைவூட்டல், மக்கள் – மன்னர் உறவுப் பின்னணியை ஆய்தல்**
			CO 2	**சங்ககால மக்களின் புறவாழ்வியலை எடுத்துக் கூறல், செம்மாந்த வாழ்வியல் கூறுகளை வரிசைப் படுத்துதல், சிறப்பான முன்னோர்களை நினைவூட்டல்**
			CO 3	அறக் கருத்துகளை நினைவூட்டல், அரசியலருக்கான தகுதிகளைப் புரிந்து கொள்ளுதல், குடிமக்களின் தகுதிகளை எடுத்துரைத்தல்

			CO 4	அலைகுடி மக்களின் வாழ்வியலை எடுத்துரைத்தல், ஐந்திணை மக்களின் இயல்புகளை அறியச் செய்தல், பனுவல் சிறப்புகளை நினைவூட்டல்
			CO 5	பாணர் இசைமரபை அறியச் செய்தல், வாழ்வியல் கூறுகளைப் பொருத்தி பார்த்தல், செம்மாந்த புறவாழ்வியலை நினைவூட்டல்

Sl.No	Course Code	Course Name	CO′s One by One	
27	**22UFTAC2**	**தண்டியலங்காரம்**	CO 1	அணியிலக்கணத்தை அறிமுகம் செய்தல், உவமை, உருவகத்தின் வகைதொகைகளை விவரித்தல்,
			CO 2	அனிகளின் சிறப்புகளை விளக்குதல், கவிஞரின் புலமைத்திறத்தால் இலக்கியங்கள் அழகு பெறுவதை எடுத்துரைத்தல்
			CO 3	இலக்கியங்களில் அணியின் கூறுகள் விரவியுள்ளதை எடுத்துரைத்தல்,
			CO 4	சிலேடை, விரோதம் முதலான மொழிக்கூறுகள் இலக்கியச்

				சுவையைக் கூட்டுவதைத் தொகுத்துரைத்தல்
			CO 5	அணிகளின் வழி கருத்துப் புலப்பாடு எளிமையாதலையும் இறவாத்தன்மை கொள்வதையும் எடுத்துரைத்தல்,

Sl.No	Course Code	Course Name	CO′s One by One	
28	**22UFTAC3**	**திராவிட மொழிகளின் ஒப்பிலக்கணம்**	CO 1	தமிழ்மொழி மற்றும் திராவிட மொழிகளின் தொன்மை வரலாற்றினை அறிந்துகொள்ளுதல், மொழியும் மொழியியலும் குறித்த இலக்கணங்களை அறிந்துகொள்ளுதல்
			CO 2	தமிழ்மொழி எழுத்துகளின் உயிரொலிகளின் இயைபும் திரிபும், மெய்யொலிகளின் இயைபும் திரிபும் தெரிந்துகொள்ளுதல் மற்ற திராவிடமொழிகளின் ஒலி அளவுகளை அறிதல்
			CO 3	தமிழ் மொழியின் உயிரொலிகள், மெய்யொலிகள் மற்ற திராவிட மொழிகளோடு இயைந்து, திரிந்து வருவதை ஒப்பிட்டுப் பார்த்தல்
			CO 4	தமிழ் இலக்கண வகைமைகளோடு மற்ற திராவிட மொழிகளின் இலக்கண வகைமைகளை ஒப்பிட்டு, ஒற்றுமை

				வேற்றுமைகளை தெரிந்துகொள்ளுதல்
			CO 5	திராவிட மொழிக்குடும்பங்களின் ஒலி வகை, ஒலியழுத்தம், பெயர்ச்சொல் - இடம், திணை, பால், எண் உணர்த்தும் முறை வினை வகைகள் - தன்வினை, பிறவினை, இயக்கு வினை சொற்றொடரென இலக்கிய வகைமைகளை அறிதல்

Sl.No	Course Code	Course Name	CO′s One by One	
29	**22UFTA E2A**	நாட்டுப் புறவியல்	CO 1	**நாட்டுப்புறவியலின் தோற்றத்தினை அறியச் செய்தல், ஏட்டிலக்கியங்களில் நாட்டுப்புறக் கூறுகளின் தாக்கத்தை ஆய்தல், நாட்டுப்புறவியலின் முன்னோடிகளை நினைவூட்டல்**
			CO 2	**நாட்டுப்புறவியலின் வகைகளை அறியச் செய்தல், அதன் பல்வகை வடிவங்களை விளக்குதல், இசை, தாளம் குறித்த செய்திகளை நினைவூட்டல்**
			CO	பழமொழி,, விடுகதைகளை

			3	நினைவூட்டல், இவற்றின் தேவையை அறியச் செய்தல், தற்காலச் சூழலில் பழமொழி மற்றும் விடுகதைகளின் இடத்தை மதிப்பிடுதல்
			CO 4	தமிழில் சிறந்து விளங்கும் நாட்டுப்புறக் கதைகள், கதைப்பாடல்களை நினைவூட்டல், கதைப்பாடல்கள் மக்கள் வாழ்வில் ஏற்படுத்திய தாக்கங்களை ஆய்தல், கதயும், கதைப்பாடல்களும் தற்கால வாழ்வில் பெற்றிருக்கும் மாற்றங்களை முன்னவற்றோடு பொருத்திப் பார்த்தல்
			CO 5	நாட்டுப்புறவியலோடு பிணைந்திருக்கும் சமூகவியல்,மானுடவியல், உளவியல் கருத்துகளை அறியச் செய்தல், நாட்டுப்புறவியலை ஏனைய இயல்களோடு பொருத்திய முன்னோடிகளை நினைவூட்டல், சமுகவியல்

				,மானுடவியல், உளவியல் கூறுகளை நாட்டுப்புறவியலின் வகைகளுடன் பொருத்திப் பார்த்தல்

Sl.No	Course Code	Course Name	CO′s One by One	
30	22UFTAE 2B	தமிழும் கணினியும்	CO 1	கணினியைக் குறித்த அடிப்படைகளை அறிதல், வன்பொருள்,மென்பொருள்களின் அமிப்பை விளக்குதல், கணினியின் தோற்றம்,வளர்ச்சியை நினைவூட்டல்
			CO 2	கணினிப் பயன்பாட்டு மொழிகளை அறிதல், இணையவழிச் செயல்பாடுகளைப் புரிந்து கொள்ளுதல், பொது வாழ்வியலில் கணினியின் பங்கினை நினைவூட்டல்
			CO 3	கணினி மொழிக்கும் இயற்கை மொழிக்கும் உள்ள ஒற்றுமை,வேற்றுமைகளை அறிதல், மொழிபெயர்ப்பு, மொழியியல், அகராதியியல் குறித்த செய்திகளைப் புரிந்து கொள்ளுதல், சொல்பிரிப்பு முறைகளை நினைவூட்டல்
			CO 4	xsp top vOj;Jg; gbத்தல் (Optical Character Recognize) Fuy; mwpதல்; (Voice Recognizer) முறைகளைத் தெரிந்து கொள்ளுதல், கணினி நோக்கில் மொழியையும்,மொழி

				நோக்கில் கணினியையும் ஆய்தல், செயற்க அறிவுத்திறன் குறித்த செய்திகளை நினைவூட்டல்
			CO 5	கணினியில் தமிழ்த் தொடர்களைத் திருத்தம் செய்தல், பக்கம்,பத்தி வடிவமைப்பு முறைகளை அறிதல், மொழிப் பயன்பாட்டுக்கு அடிப்படையான செயல் பாடுகளைக் கற்றல்

Sl.No	Course Code	Course Name	CO′s One by One	
31	22UFTAE 2C	ஒப்பிலக்கியம்	CO 1	ஒப்பிலக்கியத் தோற்றத்தை அறிதல், ஒப்பிலக்கியத்துடன் தொடர்புடைய ஆய்வுக் களங்களை வரையறுத்தல், ஒப்பிலக்கியக் கூறுகளை நினைவூட்டல்
			CO 2	இலக்கிய வரலாற்றை அறிவியல் முறையில் அனுகுதல், கால அடிப்படையில் இலக்கியங்களைப் பகுத்தல், இலக்கிய வகைமைகளை நினைவூட்டல்.
			CO 3	ஒப்பிலக்கியம் தொடர்பான ஆய்வு முறைகளை அறிதல், ஒப்பிலக்கியக் கோட்பாடுகளை நினைவூட்டல், அடிப்படையான கோட்பாட்டுமுறை களைப் பகுத்தறிதல்.
			CO 4	இலக்கியங்களின் பொதுவான கூறுகளை

				அறிதல், மொழி ஒப்பீட்டுமுறைகளை ஆய்தல், உலக இலக்கியங்களை நினைவூட்டல்
			CO 5	ஒப்பாய்வுக் களங்களை அறிதல், ஒப்பாய்வுக் கள முன்னோடிகளை நினைவூட்டல், திராவிட, இந்திய , உலகமொழிகளை ஒப்பிடல்,

Sl.No	Course Code	Course Name	CO′s One by One	
32	**22UFTAE3A**	**இதழியல்**	CO 1	இதழியலின் தோற்ற – வளர்ச்சி வரலாற்றினை அறிந்து கொள்ளுதல் வரலாற்றில் இதழியல் ஏற்படுத்திய சமூக மாற்றங்களைத் தெரிந்துகொள்ளுதல். இதழியல் முன்னோடிகளை நினைவூட்டல்
			CO 2	இதழின் வகைகளை அறியச் செய்தல் , செய்தியின் வகைகள், இதழாளர்களின் பணிகள், தகுதிகளை விளக்குதல், தற்கால இதழ்களின்பணிகளை ஒப்பிட்டுப் பார்த்தல்
			CO 3	இதழின் கடமைகளை அறியச் செய்தல், சமூகப் பொறுப்புணர்வு முதலியவற்றை விளக்குதல், .இதழ்களின் வாயிலாக ஏற்பட்ட புரட்சிகளை நினைவூட்டல்
			CO 4	செய்திகளின் நோக்கத்தை அறிய செய்தல், உள்ளடக்கம்,

				தலையங்கங்களின் தன்மை முதலியவற்றைப் பகுத்துப்பார்த்தல், முற்கால இதழ்களின் தலையங்கக் கட்டுரைகளால் ஏற்பட்ட மாற்றங்களை நினைவூட்டல்
			CO 5	இதழியலின் மொழிநடை, திறனாய்வு ஆகியவற்றை அறிந்துகொள்ளுதல், தற்கால இதழ்களின் வளர்ச்சி-வீழ்ச்சியினை ஆரம்பகால இதழ்களோடு ஒப்பிட்டு அறிதல், இதழியலின் பல்வேறு பரிமானங்களை வரிசைப்படுத்துதல்

Sl.No	Course Code	Course Name	CO′s One by One	
33	22UFTAE 3B	அகராதியியல்	CO 1	தமிழ் அகராதியியல் வரலா**ற்றை அறிதல்,** அகராதிகளின் வகைக**ளை நினைவூட்டல்,** அகராதிகளின் **கட்டமைப்பைத் தெரிந்து கொள்ளுதல்**
			CO 2	**தொல்காப்பியத்தில் உள்ள அகராதிக் கூறுகளை அறிதல், தமிழிலுள்ள நிகண்டுகளை நினைவூட்டல்,நிகண்டுகளில் உள்ள அகராதிக் கூறுகளை ஒப்பிட்டறிதல்**
			CO 3	**காலந்தோறும் எழுதப்பெற்ற அகராதிகளை நினைவூட்டல், கலைக் களஞ்சியங்களின் கட்டமைப்பை அறிதல்,**

				தற்கால அகராதிகளின் வளர்ச்சி நிலைகளை ஒப்பாய்வு செய்தல்
			CO 4	**தமிழ் அகராதிகளில் சொல் பதிவு முறைகளை அறிதல், பதிவுகளில் ஏற்படும் சிக்கல்களைத் தெரிந்துகொள்ளுதல், மரபு, உருவக வழக்கு முறைகளை நினவூட்டல்.**
			CO 5	**அகராதிகளின் வளர்ச்சி நிலைகளை அறிதல், துறைசார்ந்த தமிழ்க் கலைச் சொற்களை வகைப்படுத்தல், அகராதி உருவாக்க முறைகளை நினைவூட்டல்**

Sl.No	**Course Code**	**Course Name**	**CO′s One by One**	
34	22UFTAE 3C	மொழி பெயர்ப்பியல்	CO 1	மொழிபெயர்ப்பு குறித்த அறிஞர்களின் கருத்தை நினைவூட்டல், மொழிபெயர்ப்புக் கலையின் தோற்றம் வளர்ச்சி வரலாறு குறித்து அறிதல், மொழிபெயர்ப்பின் தேவையை விளக்குதல்
			CO 2	**மொழிபெயர்ப்பின் வகைகளை அறிதல், தழுவல், மொழியாக்கம் குறித்த ஒற்றுமை, வேற்றுமைகளைத் தெரிந்து கொள்ளுதல், மொழிபெயர்ப்பாளனின் தகுதிகளை வரையறுத்தல்**
			CO	மொழிபெயர்ப்புக் கொள்கைகளை அறிதல்,

			3	மொழிபெயர்ப்பில் எழும் சிக்கல்களை அறிந்து கொள்ளுதல், மொழிபெயர்ப்பு சார்ந்த கலைச் சொற்களை நினைவூட்டல்
			CO 4	மொழி பெயர்ப்புப் பணிகளில் பல்வேறு துறைசார் சொற்களைப் பட்டியலிடல், பேச்சினை மொழி பெயர்க்கும் முறைகளைப் புரிந்து கொள்ளுதல், கவிதை,, உரைநடைகளை மொழிபெயர்க்கும் விதிகளைப் பகுத்தறிதல்
			CO 5	**மொழிபெயர்ப்புப் பணிகளுக்கான் பயிற்சி முறைகளை தெரிந்து கொள்ளுதல், தமிழ்-ஆங்கிலம் மொழி பெயர்ப்புகளுக்கான பயிற்சியினைப் பெறுதல், அலுவலகக் கடித மொழிபெயர்ப்பினைப் பிரித்தறிதல்**

MSW

Department : Social Work
Name: Master of Social Work
Programme code: PMSW

PROGRAMME SPECIFIC OUTCOMES (PSOs):

PSO No.	Program Specific Outcome
PSO1	Apply the social work methods, techniques and tools where ever applicable in the field and capable of working with rural, urban and tribal communities and implement, develop the various aspects of the community.
PSO2	Do research and act as Social change agents and leaders, have good theoretical base on the importance of research in analyzing the problems, needs, and dynamics of the society; become the change agents of the society.
PSO3	Imply Theoretical, Practical and Professional understanding of social work, Develop Leadership, Entrepreneurial and eclectic knowledge base among Social advocacy, lobbying and Policies.
PSO4	Plan, Implement and evaluate the Government Projects and CSR Projects. Administrate, Manage, organize, mobilize utilize the available resources for the community Development and sustainability.
PSO5	Equip the Multifarious skills of students to work among trans-cultural and multicultural fields of social work
PSO6	Analyze Statistical software tools, understand E Governance in the field of social work research and welfare administration, involve in Tele counseling

Sl.No	Course Code	Course Name	CO's – One by one
1	**22PASWC1**	Social Work Profession	CO 1 - Will be remember, describe, understand, infer and articulate about the concepts and ideology of social leaders. Analyze the concepts of social work in international and Indian perspectives. Apply the contributions and approaches in the field
			CO 2- Will be remembering, understanding, making use of the methods of social work in the field, and able to analyze the professional social workers role in the organizations through observations visits, write creative reports based on the field experiences. Able Adapt the curriculum structure. Evaluate the

			importance of Social work Council
			CO3 - Will be relating and understanding the ideologies, theories and approaches of Social Work into current scenario. Make use of the theories and approaches in the field.
			CO4 - Will be understanding and implementing the principles values and code of ethics in professional social work. Able to strike a balance between personal and professional life. Analyzing the importance of social work council and professional associations
			CO 5- Able to understand social work in international perspectives. Will analyze the social problems in global perspectives. Implement various skills in the field.
2	**22PASWC2**	Social Case work	CO 1- Will understand the concept and definition of social case work. Able to apply the principles and develop skills to work with individuals. Can empathize and analyze the problems from an individual perspective. Summarize the components. Relate the relationship between case worker and client and to do transference and counter transference. Analyze the difference among casework , counseling and psychotherapy
			CO 2- Will be able to understand, identify, apply, analyze assessment, evaluate and creatively carry out the case work processes and documenting the processes in their field work, plan a casework design. Able to do a qualitative research
			CO 3 - Will be able to understand, associate and apply, analyze and recommend the various models and approaches related to social Case work. Plan a case work design based on the models
			CO 4- Will be able to identify, apply, assess, evaluate, create an intervention plan
			CO 5- Will be able to understand, apply, document the whole processes of case work through different forms of recording

3.	**22PASWC3**	Social Group Work	CO 1- Will understand, apply and the History concept, definition, purpose, objectives, values, principles, and methods in working with groups.
			CO 2- Will be able to apply understand the definition and characteristics of Various types of Groups, analyze, create and form Groups in different setting based on the needs.
			CO 3- Will be able to understand, identify, apply, analyze, assessment, monitor ,evaluate and creatively carry out the Group work with the different levels of Phases
			CO 4- Will understand the stages and able to perform with Groups at different stages of group development. Analyze and apply leadership roles and skills. Use of sociometry in groups
			CO 5- Will be able to understand, associate and apply, analyze and recommend the various models and approaches related to social Group work. Plan a Group work module in medical, Psychiatric, and community settings and documenting the processes in their field work,
4.	**22PASWC4**	Field Work Practicum – I	CO 1- **SKILL LAB(social skill experimental lab)** Will be able to gain knowledge on the concept of Social Work and getting into the field of social work. Will be able to communicate, get involve in groups. Will able to develop skills such as leadership, personality, and basics of folk arts. Will analyze the society and social issues. Will able to creatively write and present assignment
			CO 2 - **OBSERVATION VISITS** Will able to observe and understand the organizations through orientations from the Government, Non Government, and community based Medical and Psychiatric field work agencies. Will gain knowledge on organizational functions, structure, registration, funding patterns, various projects and the beneficiaries. Will be able to understand and write reports analytically, creatively based on the learning, feeling and reflection.

			CO 3- **Rural Camp** Will able to plan, organize, lead, mobilize, and gain experience by living in rural community. Will learn to develop a rapport building skills in the community. Will learn and know about the cultural, religious, social, economic practices of rural community. Will understand the issues related to rural community. Will able to do needs and problem analysis using PRA Techniques in the community and do plan various creative awareness programmes and welfare programmes by using various communication tools like folk arts, puppetry, street play, and mime. Will able to express their views and organize public meetings and will develop public speaking skills, organizing skills, resource mobilizing skills and understand the roles and responsibilities of the Grama Sabha members and PRI.
5.	**22PASWD1**	Sociology and Psychology for Social Work Practice	CO 1- Will be able to understand the basic concepts of society, able to analyze the linkage between sociology and social work
			CO 2- Will be able to understand the processes of social change and social problems which will help them the analyze create and evaluate for social development
			CO 3- Will be able to understand the concept of psychology and psychological processes in behavior which will help to clients and analyze and evaluate the behavioral problems.
			CO 4- Will be able to gain knowledge and understand on various disorders, symptoms, theories on psychology which will help them to analyze, evaluate on various disorders and its symptoms on client in the mental Health field.
			CO - 5 Will gain knowledge and understand on various psychological interventions method which will make them to evaluate and create treatment plan for the patients in the mental health field.
6.	**22PBSWC1**	Community Organization & Social Action	CO 1 - Will gain knowledge and will be able to understand basic foundation of community, community power structure and community Dynamics will help to analyze and evaluate the community in all perspectives and create better community.
			CO 2 - Will be able to community the various

			models of community organization proposed by different authors which help to adopt any of the models while planning a community organization
			CO 3 - Will be able to gain knowledge and understand the processes, methods, and skills of community organizations which will in turn help to analyze and create effective community organization programme in the community.
			CO 4 - Will gain knowledge and understand and apply on Social action as method of social work, principles, skills, of social work, principles skills of social action. Which will in turn makes them to effectively get involved in social action for creating a better community.
			CO 5 - Will gain knowledge and understanding on models and approaches to social action which will help to effectively analyze and create a processed social action for the development of the community.
7.	**22PBSWC2**	Social Work Research & Statistics	CO 1 - Will be able to know and understand the basics of social work research, types of research, planning a research project and will understand and gain knowledge about variable and hypothesis which will help them to apply and carry out research on social problems.
			CO 2 - Will be able to understand and gain knowledge on various research design and various sampling techniques which will help student to apply, analyze and create research methodology in social work research.
			CO 3 - Will be able to gain knowledge and understand on various methods and tools of collecting data and scaling techniques and processing of data. Will help to apply in selecting the scales or able to create self prepared questionnaire and for processing research. It will help in creating a effective tool for the research study
			CO 4 - Will be able to understand and gain knowledge on basis of qualitative research, various types of tools used in qualitative research method. Will be able to know about the processing of eh qualitative research data. Will apply, evaluate, analyze and create a perfect tool for qualitative data and its processing method in research study.
			CO 5 - Will be able to gain knowledge and understanding the basis of Statistics, will able to apply and processes data, levels of measurement,

			Testing hypothesis statistical methods in social work research. Will help them to apply, analyze, Evaluate and create a collected data through statistical output through various statistical methods in the research study.
8.	**22PBSWC3**	Concurrent Field Work Practicum II	**Case Work -** Will be able to do the case work processes with the client by applying the principles, methods, Techniques, and plan interventions and evaluate and follow up. Able to report the whole processes.
			Group Work - Will be able to do the Group work processes with the Task, Treatment and SH Groups. Will able to handle various sessions based the needs analysis or problem analysis. Will plan and implement innovative activities, group therapies and treatments. Will able to plan intervention and gain outcome of the activities. Able to evaluate the outcome and record the sessions and document the whole group work.
			Community Organization - Will able to build rapport with the community, plan, analyze organize, mobilize, raise, document the processes of community organization. Will able to do innovative programmes at the community level. Will able to evaluate.
			Tribal Visit - Will be able to understand and gain experience on tribal life and livelihood will able to analyse the schemes and create awareness among various tribal issues
			Mini Research - Will able to carry out a research.
9.	**22PBSWE1A**	Social Work Environmental Protection	CO 1 - Will be able to know and understand environment issue and consciousness. Will help them to analyze and create a positive and healthy environment.
			CO 2 - Will be able to gain in-depth knowledge and understand on environment consciousness, the various NGOs working for Environment, movements. Will help them to apply and create resourceful and Green Environment
			CO 3 - Will be able to understand and gain knowledge on environment action and management, the various environment related summits, policies and programmes, pertaining to environment. will be knowing about Environment management,. Will help to apply the theoretical knowledge in creating more

			Environment related programmes and will be able to evaluate, apply, and analyze the environment policies and programmes. Will analyze its pros and corns.
			CO 4 - Will be able to gain knowledge and understanding on various environmental laws and agencies. Will help to apply the legal knowledge on creating environmental advocacy, lobbying, for creating a good environment and for protecting the environment
			CO 5 - Will be able to understand and gain knowledge on environment protection and role of social workers. Will help to apply the role in creating a protective environment.
10.	**22PBSWE1B**	Counseling Theory And Practice	CO 1 - Will be able to gain knowledge and understanding the basic concept of counseling, counselor and client relationship how to treat a client. Will able to apply the knowledge on client relationship with client during counseling sessions.
			CO 2 - Will be able to gain knowledge and understanding on various approaches of counseling. Will able to plan, sketch, and design the counseling sessions. Will apply and analyze the therapies relevant to client and will create a positive counseling outcome.
			CO 3 - Will be able to understand and gain knowledge on various types and techniques of counseling. Will able to apply, analyze the appropriate counseling type and technique during counseling processes in the field
			CO 4 - Will be able to gain knowledge and understanding the Eagan Model of Counseling stages
			CO 5 - Will be able to know and understand about Counseling practices in different settings which will help them to apply counseling methods and techniques in correctional, psychiatric, medical, educational institution, and community settings.
11.	**22PBSWE1C**	Social Work For People Living With Hiv/Aids	CO 1 - Will be able to understand gain knowledge on basics of sexually Transmitted Diseases, situation of HIV/AIDS Globally and in India, approaches to prevent HIV/AIDS infected patients. Will be able to help, analyze, apply relevant approaches for the patients and will create positive environment for the HIV/AIDS infected and affected patients.
			CO 2 - Will be able to gain knowledge and understanding on who are highly prone to sexually Transmitted Disease. Will be identify and Target

			high risk groups and able to analyze the mode of transmission and help to prevent.
			CO 3 - Will be able to understand and gain knowledge on assessment, intervention , risk factors & opportunities of other diseases and medical complications of STD. will able to help, apply, analyze and evaluate the patients.
			CO 4 - Will be able to gain knowledge and understand on social work approach to people living with HIV infection and HIV/AIDS preventive methods. Which will help to apply, analyze and create a safety environment pertaining to STD.
			CO 5 - Will be able to understand and gain knowledge on basic introduction of social ethics and values in different settings of social work. Will able to help, apply this knowledge on analysis and evaluating the societal problem and will enable to create a better society.
12.	**22PBSWD2**	Social Ethics And Values	CO 1 - Will be able to understand and gain knowledge on the basics of introduction of Social ethics and values in different settings of social work and implement the social values in day to day life. Will help to apply this knowledge in analyzing, evaluating the societal problems. And will enable to create a better society.
			CO 2 - Will able to understand and know about the values and ethics related to gender and society and Gender equality practices. Will gain knowledge on analyzing and evaluating Gender problems and create a gender inclusive society without any gender discrimination.
			CO 3 - Will be able to gain knowledge and understand on values and good citizenship, the constitutional values, duties, societal problems. Will enable to apply this understand on analyzing evaluating civil rights and make aware of duty as a responsible citizen which will create a good citizen.
			CO 4 - Will be able to understand and gain knowledge on environment and bio ethics, promotion of Green Technology which will help to apply this knowledge towards creating a Green based technology and build an Eco friendly society.
			CO 5 - Will be able to gain knowledge and understanding on education and ethics. Institutional issues with teachers and students. Challenges of ethical practices in higher education institutions

			which will help to apply this knowledge on analyzing and evaluating the educational policies and programs and will create a positive environment for students and teachers in development perspective.
13.	**22PCINT1**	Summer Internship /Block Placement	Will able to work in any organization based on the agency norms, regulations. Will gain knowledge and work experience. Able to apply, analyze, mobilize, organize and implement the planned programmes in the agency and the community. Will able to work with professionals in the day to day basis. Will able to document everyday organization activities, case studies, Group works and community programmes. Able to plan innovative programmes and organize the same. Analyze issues from the individual perspective to Community level using tools. Do research and surveys.
14.	**22PCSWC1A**	Rural Community Development	CO 1 - Will be able to understand and gain knowledge on basics of Rural Community, definition, types, characteristics, power structure ad community issues. Will apply this knowledge on analyze of evaluating the rural issues and will enable to create a better rural community.
			CO 2 - Will be able to understand and gain knowledge on post and pre independent development, probation trail, period, which will enable to apply knowledge on analyzing and evaluating five year plan and rural Development critique of national and state rural programmes and create schemes based on agriculture sector.
			CO 3 - Will be able to understand and know about the Rural Community Development approaches, which will enable to apply the knowledge on analyzing and evaluating and create a processes of identifying leaders, resource mobilization, lobbying etc.
			CO 4 - Will be able to understand and gain knowledge on Rural administration at all levels. Will help to analyze and evaluate the function of rural development at administrative level and enable to create corrective functions in rural administration.
			CO 5 - Will able to know and understand on rural Governance Grama Sabha and its importance, Panchayat Raj system, Local self Government, Panchayat raj act, which will make them to apply this understanding on evaluating and analyzing the rural Governance system and wise help to create a

			effective rural Governance.
15.	**22PCSWC1B**	Medical Social Work	CO 1 - Will be able to gain knowledge and understanding on basics of medical social work, development of medical social work in India, various health care models and alterative system of health. Will understand and apply this knowledge on analyzing and evaluating various health care models and it functions and will come to know the basic role of medical social worker. Will create a better function of medical social worker in health settings.
			CO 2 - Will able to know and understand about the basic concept of health, heath problems in India, communicable diseases & non communicable diseases. Will able to apply the knowledge on analyzing and evaluating various health related actions and create awareness on preventive measures of the diseases.
			CO 3 - Will be able to gain knowledge & understanding on international health agencies at various levels, roles of medical social worker in various heath settings, health problems in different settings. Will able to analyze and evaluate the health related programs and utilize the organizations functioning to prevent health issues. Will create awareness on various health problems and its causative effects with preventions at different settings. Will able to create a healthy occupational environment.
			CO 4 - Will able to understand and know about organization of medical social work, various legislations pertaining to health. Will apply this knowledge on analyzing and evaluating health rights related problems legally. Will enable to create advocacy and lobbying for patients in health care settings.
			CO 5 - Will able to know and understand about medical social work practice in different settings, applications of social work methods in the health field. Will enable to apply the knowledge on creating a positive patient care and understand the role clarity as medical social worker in different settings.
16.	**22PCSWC2A**	Urban Community Development	CO 1 - Will able to understand and gain knowledge on basic concepts of urban community, difference between Urban development and Urban Community Development. Will enable to apply the knowledge on analyzing the Urban Community Structure and

			problems and enable to work Urban development positively.
			CO 2 - Will be able to understand and know about the basics of Urban Poor Habitat, Tamilnadu Urban Habitat Development Board, policies, problems of Urban Poor Habitats, will gain knowledge on various theories of slum. programmes approaches will help to analyze and evaluate the slum related programs and policies at implementation level and post factor and will make them to create a sustainable positive community
			CO 3 - Will be able to understand and know about Urban Community development in India. Will make them to analyze and evaluate various developmental programmes for Urban Development in India and will develop and create effective policies and programmes from the gross root level.
			CO 4 - Will be able to gain knowledge and understand people participation in Urban Community development, Role of Community development worker in Urban Community Development. Will analyze and evaluate the problems and approaches of people's participation in the processes of Urban community Development. Will contribute more in the development of the local community.
			CO 5 - Will able to understand, gain knowledge on conscientization, Rehabilitation and Resettlement policies act on Resettlement. Land Acquisition and will apply this knowledge on analyzing and evaluating the issues and policies effectively
17.	**22PCSWC2B**	Mental Health Social Work	CO 1 - Will be able to understand and gain knowledge on basic concept of mental health and mental illness and also gain knowledge and understanding on misconceptions about mental illness. Will apply this knowledge towards analyzing mental illness among mentally ill patients and create a appropriate assessment in mental health field.
			CO 2 - Will be able to gain knowledge and understanding on various psychiatric assessments. Will apply this knowledge in analyzing and evaluating the patient's mental health and also will create and use appropriate treatment plan.
			CO 3 - Will be able to gain knowledge and understanding on common mental disorders and its treatment modalities. Will help patients by applying the knowledge to analyze, evaluate appropriately and

			will implement the effective treatment plan.
			CO 4 - Will be able to understand and gain knowledge on the practice of psychiatric social work in mental health field. Will make them to apply this knowledge in implementation, analyze, adopt the field and planning interventions practices in various field of psychiatric settings. Will understand the job role of psychiatric social work in different fields of health. Will become an effective psychiatric social worker.
			CO 5 - Will be able to gain knowledge and understanding on legislation with regard to mentally ill. Will apply this knowledge towards advocacy, lobbying and creating legal awareness. Will gain and create right based knowledge among patients.
18.	**22PCSWC3**	Management Of Organization	CO 1 - Will be able to gain understanding and knowledge on basic concept and historical background of social services and welfare organizations, various basic acts of NGOs, Types of NGOs. Will apply this knowledge towards analyzing and evaluating various functions of NGO's and will start or develop or create an NGO in future based on the interest.
			CO 2 - Will able to know and gain understanding on Management of welfare organizations, Management processes, registration, types of legislations. Will apply the knowledge in strengthening and building an Organization and will able to manage, recruit organize, analyze and evaluate the processes through legal concerns.
			CO 3 - Will be able to gain knowledge and understanding on programme development. Will apply this knowledge towards planning a project, proposal writing, analyzing, evaluating a project implemented. will create a effective project and make progressive positive implementation
			CO 4 - Will be able to gain knowledge and understanding on project through logical frame analysis and will create and implement an effective project.
			CO 5 - Will be able to understand and gain knowledge on networking and collaboration. Will enable and apply this knowledge on creating network with various organizations and community towards the development.
19.	**22PCSWC4**	Concurrent Field	**CASE WORK -** Will be able to do the case work

		Work Practicum-III	processes with the client by applying the principles, methods, Techniques, and plan interventions and evaluate and follow up. Able to report the whole processes.
			GROUP WORK - Will be able to do the Group work processes with the Task, Treatment and SH Groups. Will able to handle various sessions based the needs analysis or problem analysis. Will plan and implement innovative activities, group therapies and treatments. Will able to plan intervention and gain outcome of the activities. Able to evaluate the outcome and record the sessions and document the whole group work.
			COMMUNITY ORGANIZATION - Will able to build rapport with the community, plan, analyze organize, mobilize, raise, document the processes of community organization. Will able to do innovative programmes at the community level. Will able to evaluate.
			SOCIAL ACTION - Will get into social action for any social issues through petition filing, RTI Writing, advocacy, lobbying, protesting, and demonstrating by mobilizing the community to solve their own problems. Recording the events of action
			INITIATIVES TAKEN IN THE FIELD - Will take various new, innovative initiatives for the benefit and the betterment of the community.
20.	**22PCSWE2A**	Corporate Social Responsibility	CO 1 - Will be able to understand and gain knowledge on basic Corporate Social Responsibility Significance, evolution of CSR, CSR Issues, and Principles of CSR. Will be applying this knowledge on working in CSR Programmes. Will create effective CSR Plan
			CO 2 - Will be knowing and understand the concept types, organizational life cycle, impact of cultural values and technology in organization. Will learn and gain knowledge about the social responsibility of Business. Will gain better understanding on the Internal and external audit of the organization and analyzing and implement the same.
			CO 3 - Will understand the codes and standards of CSR in corporate companies, and procedure to implement it. Will be gaining knowledge on the safety measure.
			CO 4 - Will be gaining and understanding about the difference and the coordination between the NGO

			and CSR. Will able to do, organize, analyze plan Programs for the neighbourhood based on Health, Education, Employment, Social Entrepreneurship and Environment. Will be able to communicate and prepare and create Annual Reports and Sustainability Reports. Will understand the role s and responsibilities of corporate affairs ministry
			CO 5 - Will be understanding and learning the nuances, hardships, techniques and methods form the successful CSR stories in Indian Context. Will be able to analyze the current CSR trends with the earlier methods.
21.	**22PCSWE2B**	Social Entrepreneurship	CO 1 - Will be able to gain knowledge and understanding on need and importance of third Sector in development. Typologies of third sector – Voluntary, NGO, NPO, CBO, CSO, Growth of third sector in India –Performance and environment of third sector. Third sector relationship to state and civil society which will help them to apply this knowledge on working in CSR Projects.
			CO 2 - Will be able to understand and gain knowledge on Concept, Definition, Importance of social entrepreneurship –Social entrepreneurship Vs business entrepreneurship –social entrepreneurs and social change –qualities and traits of social entrepreneurs. Indian social entrepreneurs –M.S. Swaminathan, VargheseKurien and JockinArputham which will help them to apply this knowledge on evaluate and analyse entrepreneur effective skills which will in hand create effective entrepreneurs.
			CO 3 - Will be able to gain knowledge and understanding on similarities and differences between social enterprises and nonprofits – types of social enterprises. Selected case studies of Indian Social Enterprises which will help them to apply this knowledge on creating a effective social entrepreneur in filed.
			CO 4 - Will be able to understand and gain knowledge on promoting social enterprises and social entrepreneurship. Financial Management of social enterprises –Corporate, Community and government support for social enterprises. Agencies Related to MSME: Directorate of Entrepreneurship, TN Skill Development Corporation, NSDC, Ministry of Skill development and Entrepreneurship, NSQF –

			National Skills Qualification Framework, Schemes under Skill Development – MUDRA Scheme. PM Youth Employment Guarantee Scheme which will help to apply this knowledge on selecting effective trainings and practices from government and non-government trainings and schemes which will in turn create an effective entrepreneur.
			CO 5 - Will be able to gain knowledge and understanding on welfare and development field – Social marketing. Social Entrepreneurship - in the field of Health, Education, Environment protection, Energy consumption and Human rights which will help in analysing and evaluating various entrepreneurship welfare and scope in different fields.
22.	**22PCSWE2C**	Disaster Management	CO 1 - Will be able to gain understanding and knowledge on basic concept and historical background of social services and welfare organizations, various basic acts of NGOs, Types of NGOs. Will apply this knowledge towards analyzing and evaluating various functions of NGO's and will start or develop or create an NGO in future based on the interest.
			CO 2 - Will able to know and gain understanding on Management of welfare organizations, Management processes, registration, types of legislations. Will apply the knowledge in strengthening and building an organization and will able to manage, recruit organize, analyze and evaluate the processes through legal concerns.
			CO 3 - Will be able to gain knowledge and understanding on programme development. Will apply this knowledge towards planning a project, proposal writing, analyzing, evaluating a project implemented. will create a effective project and make progressive positive implementation
			CO 4 - Will be able to gain knowledge and understanding on project through logical frame analysis and will create and implement an effective project.
			CO 5 - Will be able to understand and gain knowledge on networking and collaboration. Will enable and apply this knowledge on creating network with various organizations and community towards the development.

23.	**22PCSWD3**	Disability Empowerment	CO 1 - Will be able to understand and gain knowledge on Concept, definition of Disability. Types of Disability; Historical overview of disability rehabilitation-international and national contexts Disability Rights Movement. will be able to work with people with disability
			CO 2 - Will be able to understand and gain knowledge on Exclusion, Discrimination, Alienation and oppression; The Medical model- pathology and strength/resilience; Central & State Government Schemes for welfare of the Disabled. will be able to analyze and evaluate the impact of the schemes.
			CO 3 - Will be able to understand and gain knowledge on Disablism, sexism, racism, casteism, classism and ageism. Concepts of Role, learned helplessness, stress and coping in crisis, diversity and difference and Human Rights entitlements. Wider Theoretical Perspectives: Human rights perspective Paulo Freire and conscientization
			CO 4 - Will be able to understand and gain knowledge on medical to social model (pathology and strength/resilience as social constructs) Towards client worker partnership (role of power inequality, locus of control and manipulation in the relationship)
			CO 5 - Will be able to understand and gain knowledge on Disable Centric Method, Rights Based Method; Social Inclusion Method, Social Welfare, and Legal Method: National & International organizations working for Disability empowerment
24.	**22PDSWC1A**	Sustainable Development & Social Change	CO 1 - Will be able to understand and gain knowledge on basic concepts of sustainable development, economic growth development. Will able to apply this knowledge on analyzing and evaluating economic development plan and growth. Will create a progressive development of community.
			CO 2 - Will be able to gain knowledge and understanding on social development diversity and social exclusion. Will able to apply the knowledge on analysis and evaluate the societal diversified issues. Will enable to create awareness on issues and proper sustainable development programs and plans.
			CO 3 - Will be able to understand and gain knowledge on development indicators and also on models of development. Will help to apply this knowledge on analyzing and evaluating

			development. Will apply this knowledge on analyzing & evaluating the development programs and also development indicators. Will create the effective development plan.
			CO 4 - Will be able to gain knowledge on social change and development. Will be able create awareness on issues and proper sustainable development programs and plans.
			CO 5 - Will be understanding the concept of development in global perspectives. Will apply this knowledge analyzing and evaluating global social change issues and problems.
25.	**22PDSWC1B**	Mental Disorders	CO 1 - Will be able to gain knowledge and understanding on the concept of Psychiatric Social work to deal with mental disorders, using ICD & DCM of Mental Disorders. Will able to analyse and evaluate the various types of mental disorders. Will be able to create effective assessment.
			CO 2 - Will be able to gain knowledge and understanding of Mental Health & disorders, will able to identify the difference between Mental Retardation and Mental Illness. Will able to analyse and evaluate patients case history and will identify the appropriate illness.
			CO 3 - Will able to gain knowledge and understanding about the types, causes, symptoms, diagnosis and to work with Will able to analyse and evaluate patients case history and will create therapeutic plans.
			CO 4 - Will able to gain knowledge and understanding about Sexual & Gender Identity Issues, Symptoms`1 and Differential Diagnoses. Issues in assessing/treating AODA clients with these co-occurring disorders Culture bound Syndrome will help in identify the different gender identity and will help in creating gender inclusive in positive mental health manner.
			CO 5 - Will able to gain knowledge and understanding about Mental Health Models and Theories Models Behavioural, Biological, Psychodynamic, Cognitive and Humanistic. Theories: Self-determination Theory of motivation (SDT), the Basic Psychological Needs Theory (BPNT),The primary supports for well-being and optimal functioning (SDT), The PERMA Theory of

			well-being which will help to use these theories in treatment process. Will apply this knowledge to create a proper therapeutic approach to the patients in the field of mental health.
26.	**22PDSWC2A**	Indigenous Community and Tribal Development	CO 1 - Will be able to understand and gain knowledge on tribes in India and their socio –cultural profile: Tribal Concept, definition and characteristics of tribe. Meaning and Categorization of tribes: Primitive, Tribe, Adivasi, Varnavasi, Scheduled Tribe, De-notified tribe, Indigenous people. Concept of tribe from various perspectives – British perspective, Indian Perspective, tribals own perspective. Distribution of Scheduled tribe in India: Racial, Linguistic and geographical which will help them to apply this knowledge on knowing about the geographical distribution of indigenous tribal community.
			CO 2 - Will be able to understand and gain knowledge on Constitutional Meaning of tribe. Tribal family, marriage, kinship, Yuvagruh, Religion, and customary practices; Forest Regulation and Policy, Tribal culture and political organization. Tribal policy in India, Forest-tribe interaction, Deforestation and its impact on tribal population, Tribal rights on forest and land, Problems of indebtedness &land alienation among tribals, Role of State and NGOs to protect and promote the tribals which will help them to apply this knowledge on analysing and evaluating various tribal problems, tribal policies and schemes which will make them to create a effective tribal policies and address the tribal problems effectively.
			CO 3 - Will be able to understand and gain knowledge on food gathers and hunters, shifting cultivators, Nomads, peasants and settled agriculture, Artisans, Changing patterns of subsistence and seasonal migrant workers. The so-called mega development and their impact on tribal communities, Sustainable tribal development, Structural constraints to tribal education, (Case of Ashram schools) Tribal India in Transition Acculturation, religious conversions, transition in education, health, economy, polity and gender dimensions which will help them to apply this knowledge on identifying different forms of tribe from different places in terms of occupation also.

			CO 4 - Will be able to understand and gain knowledge on component of tribal culture: Dance, Drama, Folklore, dialect, Instruments. Religion, customs & Rituals, Literature and Art, Life philosophy in cultural practices. Tribal Transformation: Tribe-caste Continuum Detribalization, 'Sanskritization' and Religions conversions, 'retribalization' Assertion of tribal identity, revitalisation. Cultural invation and culture of silence Cultural synthesis, Cultural action for tribal freedom, Cultural hegemony which will help them to apply this knowledge on analysing the different form of tribal people in terms of their language , cultural orientation, rituals, religion divisions which will in turn make them to work with different forms of tribes.
			CO 5 - Will be able to understand and gain knowledge on tribal Welfare Policies: Changing approaches to Tribal Development pre- and post-independence, constitutional safe guards, contemporary Tribal development programs. Nehru's perspectives on tribal development, Segregation, assimilation and integration policies, Sub-plan approach for tribal development, Tribal council, customary laws and practices which will help them to apply this knowledge on analysing and evaluating different policies, tribal development programs and legislations which will make them to do advocacy and lobbying for the tribal people in terms of schemes , development programs and legislations which will help them to create tribal community development.
27.	**22PDSWC2B**	Community Health	CO 1 - Will be able to understand and gain knowledge on concept and definition of community Health, community mental health; Public Health – concept and development in India: organization and administration of health care at the center, state, District, Municipality and village level; health planning in India; Health communities which will help them to apply this knowledge on analysing and evaluating the basic plan and structure of health in community, the functional level which will in turn help them to create a positive health in the community.
			CO 2 - Will be able to understand and gain

			knowledge on changing concepts; Primary Health Care for all; Health status and health problems; health care systems; role of professional social worker in community health. Community based Rehabilitation; impact of globalization, liberalization and privatization on health which will help them to apply this knowledge on various health related problems and which will make them to analyse and evaluate on the role of social worker in community health and health care functional system which will in turn help them to create a strong health care system in community health.
			CO 3 - Will be able to understand and gain knowledge on ESI Act, 1948, Amendment, 1975. MTP Act, 1971, Doctors patients and the consumer protection act, 1986; Person with Disability act, 1995; Environment protection Act, National Health Policy, 2017. The population policy, 2000. Trade and Intellectual Property Rights, Medical Tourism. Commercialization of Health care. Right to Health, Right to Health care and essential medicines. Current challenges in attaining health for all; Role of Peoples Health movement; Rehabilitation Council of India Act, National Trust for Welfare of person with Autism, Cerebral palsy, Mental Retardation and Multiple Disabilities Act 1999 which will help in analysing and evaluating the legislative functions and implementation in community health field and which will help them to create legal support by giving advocacy and lobbying for the patients.
			CO 4 - Will be able to understand and gain knowledge on Family welfare, Maternal & Child Health, ICDS, & School health programmes; ***Health Sector Reform*** - NHRM, UIP, NEMP, NLEP, NTP, IPHS, Diarrheal disease control programme: IDD; AIDS Control programme; National programme for control blindness; Health programmes in the planning commission of India. Welfare for the physically challenged; International and national Institutions: Roles, Structure and functions of Ministry of Social justice and empowerment, State Commission for the disabled, Rehabilitation council of India, National institute for mental and Neuro sciences. WHO, UNICEF, Red Cross, which will in turn help them to apply this knowledge on analysing and evaluating various health programmes nationally

			and internationally which will help them to create a developmental positive health in the community.
			CO 5 - Will be able to understand and gain knowledge on Approaches for Promotion of Health at all levels – Pro – Active, Preventive, Developmental and Remedial Approaches National Mental Health Programmes; Research applications in health sources – Epidemiological and vital statistics; Role of ICMR in health research which will help them to apply this knowledge on analysing and evaluating the various health promotional functions and developments which will in turn make them to create a positive environment in developing health in the community.
28.	**22PDSWC3**	Concurrent Field Work Practicum – IV	**CASE WORK -** Will be able to do the case work processes with the client by applying the principles, methods, Techniques, and plan interventions and evaluate and follow up. Able to report the whole processes.
			GROUP WORK - Will be able to do the Group work processes with the Task, Treatment and SH Groups. Will able to handle various sessions based the needs analysis or problem analysis. Will plan and implement innovative activities, group therapies and treatments. Will able to plan intervention and gain outcome of the activities. Able to evaluate the outcome and record the sessions and document the whole group work.
			COMMUNITY ORGANIZATION - Will able to build rapport with the community, plan, analyze organize, mobilize, raise, document the processes of community organization. Will able to do innovative programmes at the community level. Will able to evaluate.
			SOCIAL ACTION - Will get into social action for any social issues through petition filing, RTI Writing, advocacy, lobbying, protesting, and demonstrating by mobilizing the community to solve their own problems. Recording the events of action
			INITIATIVES TAKEN IN THE FIELD - Will take various new, innovative initiatives for the benefit and the betterment of the community.
29.	**22PDSWP1**	Research Project	**Research Process -** Will be able to understand and gain knowledge on entire research process from analysing and evaluating the research problem to creating the result of the particular social problem

			through research.
			Social work research - Will be able to understand and gain knowledge on how the social work research theoretically studies is implemented and help them to analyse evaluate the process of social work research and will come to know why social work research is one of the social work methods.
			Social Work Research & Statistics - Will be able to understand and gain knowledge on various research statistics analysis method manually and through Statistical package for social sciences which will help them to analyse and evaluate the collected data through various statistical methods and will create a output of the collected data through various methods of statistical test, frequency table and diagrammatic representation of the carried research.
			Academic research process - Will be able to understand and gain knowledge on the entire process of academic research which will help them to analyse and evaluate the research at each stage and will help them to create a effective research project.
			Social problems studied through research in their respective specializations - Will be able to understand and gain knowledge on social problems will be studied through research in their respective specializations which will help them to analyse and evaluate the research scope in their respective specializations which will help them to create a research-oriented progression in their respective filed.
30.	**22PDSWE3A**	Social Policy & Social Legislation	CO 1 - Will be able to understand and gain knowledge on social Policy and Constitution; Social policy, social welfare policy, its relation to the constitution, fundamental rights and Directive Principles of State Policy and Human Rights. Definition needs and contents, evolution of social policy in India, social policy and planned social change and development. which will help them to apply this knowledge on analysing and evaluating basic rights, state policy and its functions which will make them to create a effective social change in legal perspective .
			CO 2 - Will be able to understand and gain knowledge on Policy Formulation approaches to social policy, unified, integrated and sectoral; models of social policy and their application to Indian

			situation, process of formulation, social policies, plans and programmes, policies in India – a historical perspective- policies- backward classes, scheduled classes. scheduled tribes, de -notified communities, women, children, youth, handicapped, aged, populations, family welfare, urban & rural development, education, health, poverty alleviation, Review of Five year Plans, Programmes and policies of Twelfth (12) Five Year Plan. NITI Aayag which help them to apply this knowledge on analysing and evaluating the framed policies which will in turn help to create a strong and effective policies for societal change and development.
			CO 3 - Will be able to understand and gain knowledge on Policy and Planning: Concept, Scope, linkages between social policy and planning. Social work and social planning; Planning – historical perspective. Political systems. Co-ordination of center and state, Panchayati Raj, Peoples participation. Political judiciary, social movement and voluntary action, legal aid and public interest litigation. Planning Machinery and Monitoring, process of social planning in India; Implementation at various levels, Monitoring and evaluation; Contemporary Issues: Rights of Children, Women, Dalits, Refugees, and Victims of HIV/AIDS and Capital Punishment. Tools used for Social Defense: Law, Welfare Schemes, Advocacy, Networking, Campaigning and Social Action. NGOs and Human Rights: Amnesty International (AI), People's Union for Civil Liberties and People's Watch which help them to apply this knowledge on analysing and evaluating the policy planning process and contemporary issues which will in turn help to create a corrective and effective policy at planning level.
			CO 4 - Will be able to understand and gain knowledge on Overview of Major Social Legislation in India, Hindu law : legislation pertaining to marriage divorce and succession, Hindu Marriage Act 1955, Hindu Adoption and Maintenance Act, 1956, Hindu Minority and Guardianship Act ,1956, Hindu Succession Act ,1956. Special Marriage Act, 1954, Provision regarding marriage and divorce in Mohammedan law. Legislation pertaining to children: Child Labour (abolition & regulation) Act 1986. Juvenile Justice Act 2001which help them to

			apply this knowledge on analysing and evaluating the major legislations in India which will help them to create legal awareness and right based society.
			CO 5 - Will be able to understand and gain knowledge on Legislations: Protection of Civil Rights Act (1976)., SC/ST. Prevention of Atrocities Act, 1989. Dowry Prohibition Act (1961) Immoral Traffic Prevention Act (1956) Tamil Nadu Slum Areas (Improvement and Clearance) Act (1971) the Mental Health Act, 1987, Medical Termination of Pregnancy Act 1971. Manual Scavenging and Dry Latrines (prohibition) Act 1993, Bonded Labour Abolition Act 1976, Transplant of Human Organs Act 1994, Family Court's Act 1984, Protection of Human Rights Act, 1993 Tamil Nadu Prohibition of Eve teasing Act 1988. Tamil Nadu Prohibition of Ragging Act 1997, Protection of Disability Rights Act 2017which help them to apply this knowledge on analysing and evaluating the legislations of weaker sections and major societal issues laws which will in turn help them to create a lawful and positive functioning society.
31.	**22PDSWE3B**	Human Rights Social Work	CO 1 - Will be able to understand and gain knowledge on Introduction to human rights; categories and foundation of human rights, International Human Rights Law and how to use it; Indian Constitution and human rights protection and enforcement; Writ jurisdiction and Public Interest Litigation which help them to apply this knowledge on analysing and evaluating the functions of legislations pertaining to human rights and which will help them to create awareness and can do advocacy and lobbying for the law unreached people in the society.
			CO 2 - Will be able to understand and gain knowledge on Understanding law and the State; The relationship between human rights, democracy, sustainable development, equality, sovereignty, secularism and non-discrimination; The Indian Legal System, Indian Penal Code, Criminal Procedure Code and Civil Procedure Code; Human rights in relation to custody and detention which help them to apply this knowledge on analysing and evaluating the functions of the law and state which will in turn help them to create a legalized society.
			CO 3 - Will be able to understand and gain

			knowledge on Global Market and Human Rights; Business corporations and human rights standards Science, technology and human rights; Protection and regeneration of natural resources. Intellectual Rights which help them to apply this knowledge on analysing and evaluating the developed marketing networking and human rights which will help them to create a developed and advanced right based society in global perspective.
			CO 4 - Will be able to understand and gain knowledge on Empowering the most exploited and oppressed; Children rights, rights of coastal Communities, women's rights, dalits rights, workers' rights, especially unorganized labour rights of the urban poor, victims of displacement and resettlement. Law and Strategy regarding protecting the environment, consumer protection, local governance empowerment and right to information which help them to apply this knowledge on analysing and evaluating the functions of rights pertaining to the oppressed and weaker section which will in turn help them to create a equality in law and rights based society.
			CO 5 - Will be able to understand and gain knowledge on Human rights struggle and the Human rights movement in India. Statutory Commission and Human Rights Courts for the protection of rights, Procedures for intervening in this process. Strategies and skills for human rights advocacy which help them to apply this knowledge on analysing and evaluating the obstacles in achieving human rights and various movements functions which will in turn help to create a strategic human rights approach and new movements based on rights.

DEFENCE AND STRATEGIC STUDIES

Department: DEFENCE AND STRATEGIC STUDIES
Programme Name: B.A., DEFENCE AND STRATEGIC STUDIES
Programme code: UDSS

PSO1: To understand the depth of subject internally and internationally studies in Under graduatelevel

PSO2: To specialize in higher education which will enhance the knowledge in the field of Defence and strategic studies.

PSO3: To enhance the knowledge in the field study as a statesman and an entrepreneur, to learn the ability to retain the moral social values and ethical values.

PSO4: To adopt self-learning process in Defence and strategic studies which will enable to prepare for lifelong learning process

PSO5: Develop the communication skills to work effectively as an individual and as a squad.

PSO6: When it comes to the national spirit it would take the role of a citizen to do the duties by making responsible citizen with patriotism and nationalism without affecting society and environment.

Sl.No	Course Code	Course Name	CO's – One by one
1	22UADSC1	STRATEGIC STUDY OF INDIA	i. Define the term Bharat, Hindustan and India.Explain the salient features of India and Geo-strategic location.

			ii. Highlight the important survey of physiographic features, Discuss India's ethnic and linguistic composition. iii. Discuss the role of the system of governance and what are the importance of the governance. Outline the salient features of Indian constitution. iv. List out importance of India's resources, To develop the power resources of the nation. v. Explain the role of Defence Industries in India and to demonstrate the part played by the Defence Industries and DRDO.
2	22UADSC2	CONCEPTUAL ASPECTS OF WAR	i. Understand the definition, meaning and distinguish basic concepts of war ii. Analyze the types of warfare, classify the categorization of modern warfare. iii. To understand the causes and principles of Guerrilla warfare. iv. Define the function and limitation of psychological warfare. v. Elaborate the ideas of nuclear warfare and nuclear weapon.
3	22UADSA1	POLITICAL SCIENCE- AN INTRODUCTION – I	i. Define Political science and outline its nature and scope. Explain the methods of political science. ii. Describe the various elements of the state and explain the functions of the state. Distinguish between state and Nation, Nation and Nationality. iii. Analyze and Asses the

			important of Various theories of origin of state. iv. Define and kinds of Sovereignty, Analyze the importance of Sovereignty and Pluralism. v. Describe the role of the state and also explain in the role of individuals with reference to fundamental rights, liberty, and duties.
4	22UBDSC1	HISTORY OF FREEDOM MOVEMENT IN INDIA 1857 – 1947	i. Outline the factors leading the freedom movement in India, discuss the major events ii. List out the various freedom movements in India, discuss the causes and the results iii. To summarize the period of Gandhian era, describe the factors which led to the freedom of India. iv. To compile the ideas of freedom movement which through Gandhi & S.C. Bose, explain the major events. v. To conclude the outline of colonial period and list out the emergence of Independence in India.
5	22UBDSC2	WORLD MILITARY HISTORY	i. Describe the military system of Ancient Greece; Explain the ideas of Alexander's military campaign, Battle plan and Battle tactics. ii. Explain the military system in Ancient Rome, List out and discuss the Carthaginian wars, Rise of Hannibal and Julius Caesar.

			iii. Evaluate the military reforms in Medieval period, describe the list of military system introduced by Gustavus Adolphus, outline the causes of French revolution and Explain the Napoleon's Era. iv. What are the causes and the results of the world war-I and explain the role of naval and Air power.
6	22UBDSA2	POLITICAL SCIENCE-AN INTRODUCTIO N – II	i. To brief the concept of Leacock's classification of Government with its merits and demerits and also distinguish between the parliamentary and presidential form of government. ii. To introduce the concept of meaning and definition of democracy with merits and demerits and the necessary conditions. iii. It deals with the organs of the government and its function. iv. To interpret the role of public opinion and its importance. v. Brief overview of electoral system and it's process.
7	22UCDSC1	FUNDAMENT ALS OF NATIONAL SECURITY	i. To outline the basic knowledge about State, Nation-state, and its Concept of National Security. ii. To brief the concept of threats and its challenges with the analysis of spectrum of security structure and the National Security paradigm.

			iii. To Brief the instruments of National Security: Power in terms of Military and its Components. iv. To analyze the concept of Threat perception and it's assessment of policy formulation. v. To identify and analyze the linkages between the security and Defence policies in India.
8	22UCDSC2	INTERNATIONAL RELATIONS	i. Define the basic compound and outline the functions of theories of the state. ii. Define the national powers and outline the foreign policy and explain the role of state system. iii. List out the various theories in IR and explain the categorize and evaluate the significance of the state system. iv. Define and explain the basics concepts of diplomacy and explain the foreign policy. v. Define the concept of collective security and explain the concept of balance of power and analyze the international law and the deterrence.
9	22UDDSC1	GEO POLITICS AND MILITARY GEOGRAPHY	i. Define and outline the geo strategic location of a country and explain the importance with the components of national power. ii. List out the important theories of Geopolitics and

				outline the importance of geo strategy. Explain the special reference to the theories of Mackinder, Haushofer and AT.Mahan.
			iii.	Name the basics of the GPS,GIS and Remote sensing and explain and analyze the basics of geography in military perspective.
			iv.	Show the importance of the geo-strategic location of India and Explain and evaluate the importance of strategic commands.
			v.	Find the maritime India's borders. Identify the nature and characteristics of land and maritime borders and explain characteristics of Territorial water and EEZ.
10	22UDDSC2	INTERNATIONAL ORGANIZATIONS	i.	Define the evolution of International and regional organization, outline the importance of both the organizations.
			ii.	Define the principles, powers, role and outline the achievements of League of Nations and UNO.
			iii.	Name the salient features, aim role, functions, achievements and outline the importance of SAARC, ASEAN and ARF.
			iv.	List the salient features of the European union, Explain and importance Organization for security and cooperation in Europe.
			v.	Define the aim and explain objectives of OAU, CIS, OIC, OAS, BRICS and APEC.
11	22UEDSC1	NATIONAL	i.	Discuss the concept of

		SECURITY OF INDIA		national value and foreign policy goal of India. Explain the national security objectives.
			ii.	Define the internal security threats in India, analyze, asses and evaluate and explain the consequences of threats.
			iii.	Show the assess and find the different forms of threats and issues with Pakistan.
			iv.	Show the assess and find the different forms of threats and issues with China.
			v.	Define the strategic importance of Indian Ocean region and also to evaluate the India's interest in IOR region.
12	22UEDSC2	TERRORISM	i.	Define the concept of terrorism. Explain the theme of the origin and the tactics of terrorism.
			ii.	List out the types and outline the levels of terrorism. Analyse the causes of terrorism.
			iii.	Show the Categories, evaluate and elaborate the terrorist attacks in India.
			iv.	List out the issues of terrorism in the world and show the conclusion.
			v.	Define the counter terrorism initiatives in and around the world and explain the importance motives of CT forces.
13	22UEDSC3	BASICS OF DEFENCE ECONOMICS	i.	Define the fundamental concepts, explain and to show the economic merits and demerits.
			ii.	Define the concept of public finance, analyze and evaluate public expenditure

				and Defence budget.
			iii.	Show the effects of war by inflation, Identify the impact, evaluate the advantages and disadvantages of mobilization of resources.
			iv.	List out the importance of the salient features and explain the conclusion steps involved in planning.
			v.	Show the role and contribution, function and outline of DPSUs and Private sector in Defence Production and RD.
14	22UEDSC4	DEFENCE MECHANISM OF INDIA	i.	To list out the various functions of Defence organization and its Role during war and peace time, and various defence organization with the Chiefs hierarchy with the Joint Service organization.
			ii.	To distinguish the static Organizations of Military and Paramilitary forces of India and their roles.
			iii.	To bring out the various organizations and its functions of intelligence agencies related to Defence.
			iv.	To understand the concept of Defence mechanism of various major power countries.
			v.	To examine the process of recruiting in the armed forces and its Procedures to be followed.
15	22UEDSE1A	FUNDAMENTALS OF DEFENCE JOURNALISM	i.	Define the meaning relevance and outline the scope of formation, Explain its characteristics.
			ii.	Explain the purpose and meaning of Defence News, explain the source of news

				and identify the various threats of news selections.
			iii.	Define the significance of Defence stories and evaluate the format, language and grammar required. Explain the kinds of reporting the importance of eye witness and interviewing skills.
			iv.	Define the importance of editing. Explain military terms, and examine reading, writing and editing.
			v.	Show the importance of visual media, Identify and outline the hurdles in Defence writing.
16	22UEDSE1B	LIMITED WARS	i.	List out the concept, meaning, definition and scope of limited wars. Explain the causes, course and Identify the consequences of the Korean war.
			ii.	Name the causes and explain the main events and the important lesson learnt during the Vietnam war.
			iii.	Explain the causes, the course and the lessons learnt during the Arab-Israeli wars.
			iv.	Assess and evaluate the significance of Iran-Iraq. Explain the causes, the major highlights, results and the impact of the war.
			v.	Assess and evaluate the causes, course and the consequences of Gulf war-I &II. Examine the role of UNO.
17	22UFDSC1	ELEMENTARY STRATEGIC THOUGHT	i.	Define strategic thought; explain the motives of strategic thought.
			ii.	Find the evolution of strategic theories from

				ancient to modern world and compare the importance.
			iii.	Label the existing strategic theories to contemporary world to construct or develop new strategic ideas.
			iv.	Define strategic thinkers, construct their ideas and explain about their importance views.
			v.	Name the importance take part in discussions on strategic thought and elaborate your opinion.
18	22UFDSC2	INDIA'S MILITARY OPERATIONS (SINCE 1947)	i.	Name the important Outline the challenges of the partition of the British Indian army.
			ii.	Name the causes and demonstrate the course consequences and examine the specific military lessons learnt during Indo-Pak war 1947-48.
			iii.	List out the events and explain the causes of Sino-Indian war of 1962 the important operation of war and the major military lessons learnt.
			iv.	List out the major causes of indo-Pak war of 1965, explain the importance role of Artillery. Explain the origin, causes course and consequences of Indo-Pak war of 1971.
			v.	Define the major internal security operations, evaluate and elaborate reference to Operation Blue star,Operation Rhino and Operation Vijay.
19	22UFDSC3	ARMS CONTROL AND	i.	List out the evolution of the nuclear era since 1945, explain the basics of nuclear

		DISARMAMENT	technology, nuclear energy and evaluate its uses and abuses. ii. Define the development of missiles, examine its classifications, Explain the characteristics and evolution of nuclear theories. iii. Define the salient features of different treaties like PTBT,CTBT,ABM,SALT-I,SALT-II,INF,START,NPT. iv. Name the significance of chemical and biological weapon conventions. v. Evaluate and explain India's contribution towards disarmament and arms control.
20	22UFDSE2A	WORLD CONFLICTS SINCE WORLD WAR -II	i. Explain the list of causes, events and results of Czechoslovakian crisis and outline the East European Revolution. ii. Explain the list of causes, events and results of Arab-Israeli wars. iii. Explain the list of causes, events and results of Gulf war. iv. Evaluate the list of causes, events and results of Latin American war. v. Outline of the causes, events and evaluate the results of African war.
21	22UFDSE2B	LEGAL ASPECTS OF INTERNATIONAL SECURITY	i. Define International Law, Explain Its history and development of the Nature. Identify the source and codification, Relationship between International Law and Municipal Law. ii. List out the Wars and its legal characters and explain the effect of Pacific and take

				part in coercive means to settle international disputes.
			iii.	Explain the models of Laws of Land warfare, Maritime warfare and Aerial Warfare.
			iv.	List show that the understanding of laws of model neutrality, Contraband and assume the doctrine of continuous voyage.
			v.	Define the Blockade, Concept establishments Kinds and Penalties for breach Identify the role and importance and explain the important role and functions of the International Court of Justice.
22	22UFDSE3A	PRINCIPLES OF DEFENCE MANAGEMENT	i.	To brief the idea of administration and management in Defence perspective.
			ii.	List out the steps in planning process in order to develop the skill of better decision Making.
			iii.	To examine the process of organizing in Defence sector.
			iv.	To identify the process of staffing and the selection procedure behind it.
			v.	Defining the leadership in military, morale and motivation in the management of Defence sectors.
23	22UFDSE3B	NON-TRADITIONAL SECURITY THREATS	i.	Define Human Security, explain and identify the causes and the results.
			ii.	Define environment Security, Outline and analyse the causes and the results.
			iii.	Define energy Security, develop and evaluate the

				causes and the results.
			iv.	Define illegal migration, explain and identify the causes and the results.
			v.	Define organized crimes, identify and evaluate the causes and the results.
Non-Major Elective				
24	22UADSN1A	HUMAN RIGHTS	i.	Explain basic concepts of History of Human Rights, Meaning and Principles of Human rights.
			ii.	List of Human Rights and Abuses.
			iii.	Explain International Human Rights Norms-Humanitarian Law, Universal Declaration of Human Rights
			iv.	Explain Human Rights and International Organizations—UNO, Human Rights Council, Security Council
			v.	Explain National Human Rights Commission of India-Composition and Functions
25	**22UADSN1B**	**India Since Independence**	i.	Explain the Location and Physical Environment
			ii.	Cultural Patterns, Population Dimension, Rural and Urban India
			iii.	Basics of Indian Economy-Resources and Life Lines of Economy
			iv.	Constitution of India-Its Features, Preamble, Fundamental Rights-DirectivePrinciplesof State Policy.
			v.	Causes of India's Social Disharmony-Poverty, Illiteracy and SocialBackwardness.
26	**22UBDSN2A**	**INTERNATIONAL LAW**	i.	Define International Law and municipal law. Explain the nature and source

			codification of International law. ii. Outline the important source of international law iii. Evaluate the trace history and development of international law. Explain the nature and source of international law iv. Analyze the relations between International and municipal law. v. Asses the effects its legal character and the settlement of disputes.
27	**22UBDSN2B**	**CRIMINOLOGY—AN INTRODUCTION**	i. Concept of Crime, Classification of Crimes and Characteristics of Crime. ii. Nature and scope of Criminology, and Fundamentals of Criminal law iii. Introduction, Definition and Different types of Crime Organizations. iv. Explain theWhite-Collar Crimes in India, White Collar Crime in certain professions. v. Explain the terms of Alcoholism, Drug Addiction and Crime.

COMPUTER SCIENCE

Department : PG & RESEARCH DEPARTMENT OF COMPUTER SCIENCE
Programme Name: B.Sc. Computer Science
Programme Code : UCSC

PSO1: Gain in-depth knowledge in Computer Science and apply theoretical and practical knowledge in practice for solving real world problems in Computer Science.

PSO2: Develop the knowledge gained in undergraduate Computer Science to pursue higher education.

PSO3: Evolve as leaders and entrepreneurs with sound moral and professional ethical values and apply the knowledge gained in discipline of Computer Science

PSO4: Show interest for lifelong learning and self-learning and adopt to technological advancements in Computer Science.

PSO5: Communicate ideas and information effectively to the audience and contribute in a positive and collaborative manner

PSO6: Understand the concept of environment and the issues in environmental context and manage the e-waste.

Sl.No	Course Code	Course Name	CO′s One by One	
			Code	**Course Outcomes**
1.	**22UACSC1**	**Programming In Python**	**CO1**	Learn the basics of python Do simple programs in python Learn the concept of arrays.
			CO2	Develop program using control and looping statements.
			CO3	Learn the Concept of function, function arguments. Implementing the concept strings in various application.
			CO4	Compare List, tuples and dictionary based on its usage and Write program using list, tuples and dictionary.
			CO5	Learn the concept of File handlings in python , Concept of reading and writing files and develop programs using files.
2.	**22UACSC2**	**Python Programming Lab**	**CO1**	Be able to design and program Python applications.
			CO2	Be able to create loops and decision statements in Python. Be able to work with functions and pass arguments in Python.
			CO3	Be able to build and package Python modules for reusability. Be able to read and write files in Python.
3.	**22UBCSC1**	**Digital Logic Fundamentals**	**CO1**	What are the foundation codes of Binary Systems, why to study about the concepts of Logic Gates, illustrate the working of logic gates.
			CO2	Show and illustrate the concepts of Boolean Functions,

				construct K-Maps and building blocks of Arithmetic Circuits.
			CO3	Demonstrating the conversion circuits and developing the nature of Combinational Logic Circuits.
			CO4	Classify the types of Registers and their applications and Experiment with Flip-flops.
			CO5	List the categories of Counters and analyze their working. Examination of Memory and its types.
4.	**22UBCSC2**	**Digital Lab**	**CO1**	Recall the basic digital circuits and summarize their operations
			CO2	Apply the logic of basic combinational circuits and experiment their functionalities.
			CO3	Analyze the design procedures to design basic sequential circuits.
5.	**22UCCSC1**	**Programming In Java And Data Structures**	**CO1**	Should be able to Define and Tell the syntax and semantics of java programming language and Explain the basic concepts of OOPs.
			CO2	Distinguish the basic concepts of OOPs and Develop reusable programs using the concepts of polymorphism, inheritance. Make use of Garbage Collection.
			CO3	Develop reusable programs using the concepts of interfaces and packages. Apply the concepts of Multithreading and Exception handling to develop efficient and error free codes.
			CO4	Demonstrate and implement abstract data types using arrays and linked list. Apply the different linear data structures like stack and queue to various computing problems.
			CO5	Demonstrate and implement different types of trees and apply them to problem solutions. Discuss graph structure and understand various operations on graphs and their applicability. Analyze the various sorting and searching algorithms.
6.	**22UCCSC2**	**Data Structure Using Java Lab**	**CO1**	Develop and Evaluate the functions to implement linear and data structure operations.
			CO2	Develop and Evaluate the functions to implement non-linear data structure operations.
			CO3	Apply and analyze linear and non-linear data structure and construct and determine the results on various trees and graphs.
7.	**22UDCSC1**	**Web Technology**	**CO1**	**Understand** the basic knowledge of JavaScript to **apply** client side coding. **Analyze** the problem to conclude solution.
			CO2	**Demonstrate** the JavaScript DOM and **choose** the right events. **Analyze** the problem to **develop** client side validation program using JavaScript.
			CO3	**Compare** the HTML and Web Server control and select best one to **develop** web applications.

			CO4	**Summarize** the advantages of the data bound controls and data navigation object. **Analyze** the controls among which are suitable to **apply** to design web applications.
			CO5	**Justify** the **importance** of database connectivity to develop real-time user interactive web application and website using ADO.NET with SQL Server.
8.	**22UDCSC2**	**Web Technology Lab**	**CO1**	Recollect the basics of JavaScript and apply to implement programs.
			CO2	Apply the syntax of HTML and Web server controls with coding techniques and experiment their functionalities.
			CO3	Analyze the domain and develop web applications using SQL Server database.
9.	**22UDSBE5**	**Introduction To Shell Programming**	**CO1**	Define the architecture and features of Linux Operating System and contrast it from other Operating Systems.
			CO2	Define and illustrate different variable types related with shell.
			CO3	Show the basic operators of bash Shell.
			CO4	Demonstrate the different decision making and looping construction.
			CO5	Solve a given problem and apply requisite facets of SHELL programming in order to develop a SHELL script to solve the problem.
10.	**22UECSC1**	**Operating Systems**	**CO1**	Define an Operating system and compare the different types of operating systems and explain their functions and services. Understand Process management and choose the best scheduling algorithm
			CO2	Identify the need for Synchronization, describe the different problems of synchronization and illustrate the different methods for handling deadlocks
			CO3	Learn the memory management concepts and explain the different memory management schemes and choose the best one
			CO4	Acquire knowledge on concept of virtual memory, distinguish between different page replacement algorithms, select the best algorithm and analyze file allocation methods
			CO5	Gain knowledge about I/O system, explain and illustrate operations on Access matrix
11.	**22UECSC2**	**Relational Database Management Systems**	**CO1**	**List** and **explain** the various data models and architecture of the DBMS, **Compare** the flat file system with DBMS.
			CO2	**Illustrate** the various operators of relational algebra and **analyze** the redundancy in database design, **Identify** the level of normalization.
			CO3	**Define** any table using SQL, **explain** various types of SQL statements **Categorize** the type of SQL statement, **Build** any database table with constraints.

			CO4	**Define** the various primitives of PL/SQL, **experiment** with PL/SQL programs and functions.
			CO5	**Define** exception and cursors, **explain** the Implicit and Explicit Cursors, able to manage SQL exception and cursors, study the **relationship** among the Implicit and Explicit Cursors.
12.	**22UECSC3**	**Computer Graphics**	**CO1**	Describes Graphics systems and its applications.
			CO2	Analyses the working of the CRT. Evaluates DDA Line drawing and Bresenham's Circle drawing algorithm
			CO3	Understands basics of 2D Transformations. Analyze Clipping operations.
			CO4	Understands basics of 3D Transformations, Describes Parallel and Perspective projection.
			CO5	Describes different Visible Surface Detection Methods and analyze its algorithm.
13.	**22UECSC4**	**Mobile Application Development**	**CO1**	Define Android applications, how to download, install and work in Android Studio development environment, and to show the execution of First Android Application. Illustrate the use of activities and fragments and build intents in Android to invoke Built-in Applications and develop notifications in Android
			CO2	Explain and illustrate the user interfaces using basic widgets, views, view groups and layouts of Android.
			CO3	Outline the working with user interface to handle pictures and menus and explain and apply data storage options using the internal and external storage using Shared Preferences, files, SQLite database and Content Providers.
			CO4	Build the formation of SMS and E-mail in the mobile phones and examine the Location Based Services (LBS) and consumption of Web Services in Android using JSON and Sockets.
			CO5	Analyze the development of Android Services by establishing communication between a service and an activity and identify the steps for publishing Android applications.
14.	**22UECSC5**	**SQL And PL/SQL Lab**	**CO1**	**Define** a table using SQL, **explain** various types of SQL statements **Categorize** the type of SQL statement
			CO2	**Illustrate** cursors using PL/SQL code, and **apply** the concept to implement any type of small applications
			CO3	**recall** system defined exception, and **apply** this concept to catch any type of system defined exceptions
15.	**22UECSC6**	**Mobile Application Development Lab**	**CO1**	Outline simple programs using activities and fragments.
			CO2	Make use of persistent data storage concepts to write programs
			CO3	Construct/discover applications for SMS, Maps and Media.
16.	**22UECSE1A**	**SOFTWARE**	**CO1**	Familiarization with the concept of software

		ENGINEERING		engineering and its relevance
			CO2	Understanding of various methods or models for developing a software product
			CO3	Understand tools and techniques of software engineering
			CO4	Skill to design and code a software
			CO5	Verify and validate the problem of software programming
17.	**22UECSE1B**	**System Software**	**CO1**	**Define** the term with system software and **Explain** the uses of the **various** software tools
			CO2	**Define** a assembler and **explain** its working, and **analyze** its types
			CO3	**Define** a Macro Processors and **Design** a macro processor
			CO4	**Define** a interpreter and **examine** its working
			CO5	Study about linked and loader and explain their working
18.	**22UECSE1C**	**AI and Expert System**	**CO1**	Definition, AI Problem, AI Applications, AI Techniques and criteria for success. Defining the problem as a state space search
			CO2	Heuristic search techniques –Generate and test, simple hill climbing. Best first search –OR graph, A* Algorithm. Problem Reduction- AND OR graph, AO* Algorithm.
			CO3	Knowledge representations and Mapping, Properties for Knowledge representation system, Frame Problem Characteristics of Expert System, Architecture of Expert Systems, Benefits and Limitations of Expert systems, Development States ,Applications and Expert
			CO4	Representing simple facts in logic, Representing Instance and ISA relationship, Computable function and Predicate, Resolution and Natural Deduction.
			CO5	Characteristics of Expert System, Architecture of Expert Systems, Benefits and Limitations of Expert systems, Development States ,Applications and Expert
19.	**22UFCSC1**	**Data Communication Networks**	**CO1**	Identify the need for Data communication and network, explain transmission modes and network topology and illustrate the OSI layers
			CO2	Recall and illustrate guided and unguided media and describe error detection and correction process.
			CO3	Define Multiplexing and explain its types, illustrate different circuit switching techniques and choose the best one
			CO4	Define analog and digital networks and describe ATM
			CO5	Recall and explain networking and internetworking devices, analyze and evaluate routing algorithms and describe functions of transport and application layer
20.	**22UFCSC2**	**DATA SCIENCE**	**CO1**	Learn the basics of data science, data repositories and big data eco system

			CO2	Understand the life cycle of data analyst
			CO3	Introduce the students to python programming for statistical methods and do simple programs using control structures
			CO4	Compare List, tuples and dictionary based on its usage and Write program using list, tuples and dictionary
			CO5	Learn the concept of File handlings in python ,Concept of reading and writing files and develop programs using data visualization
21.	**22UFCSC3**	**Network Security**	**CO1**	One should be able to Tell about the OSI architecture and able to classify the various attacks and compare various cryptographic techniques
			CO2	Illustrate the principles of the Number theory and finite fields.
			CO3	Demonstrate how Block Ciphers such as DES, AES are implemented.
			CO4	Demonstrate how public key crypto-systems such as RSA, Diffie-Hellman, Elgamal are implemented.
			CO5	Apply hash function and digital signatures to implement authentication protocols.
22.	**22UFCSC4**	**Data Science Lab**	**CO1**	Be able to design and program Python applications. Be able to create loops and decision statements in Python. Be able to work with functions and pass arguments in Python.
			CO2	Be able to work with functions and packages in python.
			CO3	Be able to build and package Python modules for regression and decision trees and be able to visualize the data using python
23.	**22UFCSP1**	**MINI PROJECT**	**CO1**	Acquire knowledge in identifying the problem, perform the literature survey and analyze the feasibility of the problem
			CO2	Identify the software requirements, define and illustrate various modules of the system
			CO3	Analyze the flow and develop Data flow diagram and design of the system
			CO4	Write the code in programming language, analyze and evaluate the system using a testing process
			CO5	Document the system by preparing the report and presentation
24.	**22UFCSE2A**	**PHP Programming**	**CO1**	Define and Explain the basic concepts of PHP, Creating basic scripts, Implement data types, variables and operators
			CO2	Illustrate the conditional statements, Implementing String and numeric functions
			CO3	Create and processing array functions, Express the date

				and time functions
			CO4	Creating User-Defined Functions and classes, Implement files and directories
			CO5	Demonstrate database connectivity, Examine the user input through Database layer and Application layer, Construct query output with Character, Numeric, Date and time.
25.	**22UFCSE2B**	**Software Testing**	**CO1**	Discuss about the concept of bugs and analyses the principles in software testing to prevent and remove bugs.
			CO2	Discuss about domains and path. Analyze Linguistic and Structural Metric
			CO3	Discuss about Verification and Validation. Analyse various levels of Testing, Testing Approaches, and Types of Testing & Test Plan.
			CO4	Analyze Defect Management. Discuss about Acceptance testing and special test.
			CO5	Analyze various automation testing tools.
26.	**22UFCSE2C**	**Micro Processor and Its Applications**	**CO1**	**What** are the foundation of Microprocessor and Assembly language. **Show** the architecture of Microprocessor.
			CO2	**List** and **apply** the different types of instructions to build Assembly level program. **Outline** dynamic debugging methods.
			CO3	List the categories of Counters and **analyze** their working. **Examination** of stack memory.
			CO4	**Understand, analyze** and **apply** the knowledge of different number systems and their conversion.
			CO5	**Analyze** the working principles of Interrupts and DMA
27.	**22UACSN1A**	**Fundamentals Of Computers**	**CO1**	Illustrate and define the computer basic hardware and software components
			CO2	Illustrate and define the input and output devices
			CO3	Discover the capabilities of the operating system
			CO4	Demonstrate the capabilities of the operating system
			CO5	Illustrate and define the computer networks, internet. Examine the functionality of the web browsers
28.	**22UACSN1B**	**Fundamentals Of Internet**	**CO1**	Understand the fundamental concepts of internet and types of networking .study about computer viruses and types of browser.
			CO2	Study about internet applications and Social networking.
			CO3	Define and explain the concept of Email,Domain names,Mail management
			CO4	Learn about WWW,Search engines and examples

			CO5	Understand and Create about HTML basic,Structure of a HTML document
29.	**22UBCSN2A**	**HTML Programming**	**CO1**	Learn the history of Internet.
			CO2	Introducing the basic tags for documents and using it in programs
			CO3	Concept of formatting documents
			CO4	Linking web pages and inserting images to web pages
			CO5	Creating tables in web pages and illustrations using simple programs.
30.	**22UBCSN2B**	**Flash Animation**	**CO1**	Should be able to **p**rovide an overview of the evolution of animation, and develop basic animation using shapes.
			CO2	Discover the incorporation of audio in animation.
			CO3	Illustrate the procedure to control movie clips
			CO4	Define and Apply cartoon animation
			CO5	Deploy flash applications using HTML.
31.	**2UDSBE4**	**Computer basics and Office Automation**	**CO1**	Demonstrate the knowledge of basic hardware CPU and its peripherals
			CO2	Extend the skills for handling software, operating system and basics of programming
			CO3	Develop interests in using computers for professional work
			CO4	Make use of basic information systems using MS Office products appropriate for the communication
			CO5	Build the technical knowledge and scientific skills in business and society

Department : PG & RESEARCH DEPARTMENT OF COMPUTER SCIENCE
Programme Name: M.Sc. Computer Science
Programme Code : PCSC

PSO1: Apply the knowledge and technical expertise gained in computer science practical and project to provide solutions to complex problems in real life situations and in their careers.
PSO2: Exhibit a thirst for advanced learning and research in Computer Science
PSO3: Develop competent skills in the field of Computer Science and to become successful entrepreneurs
PSO4: Develop unbiased and truthful in all aspects of work and avoiding unethical, irrational behaviour such as fabricating, falsifying or misrepresenting data or committing plagiarism.
PSO5: Evolve as effective leaders who should aware be on Ethics and ethical standards on interpersonal and social levels and to demonstrate integrity on social, cultural and environmental issues
PSO6: Seek latest e-resources and tools to update their knowledge in computer science through ICT tools

Sl.No	Course Code	Course Name	CO′s One by One	
			Code	**Course Outcomes**
32	**22PACSC1**	**Advanced Java Programming**	**CO1**	Define Servlets and classify the different types of Servlets and apply them to understand and Develop programs using servlets and to Create cookies, construct databases and their connectivity using Servlets
			CO2	Study the basics of JDBC, construct databases and their connectivity and apply them to develop programs using JDBC.
			CO3	Understand ,Design and Develop programs using Java Beans and Enterprise Java Bean
			CO4	Study the basic concepts of RMI .Analyze and Apply the concepts of RMI to develop an application
			CO5	Explain the different types of JSP tags. Analyze and Apply them to Develop JSP programs.
33	**22PACSC2**	**Advanced Web Technology**	**CO1**	**Identify** the need for .NET framework and C#. **Explain** the C# program construct to build console application.
			CO2	**Compare** the HTML and Web Server control and select best one to **develop** web applications. **Analyze** the domain to find solution through program.
			CO3	**Identify** runtime error and **classify** them. **Summarize** the advantages of tracing.
			CO4	**Make use of** managing states between different web pages and applications. **Evaluate** the user data using

				validation controls. **Discover** the suitable rich controls to create applications like advertisement.
			CO5	**Judge** the **value** of database connectivity and .NET technology to apply in real-world scenario.
34	**22PACSC3**	**Design And Analysis Of Algorithms**	**CO1**	**Define, What** is an algorithm and **Illustrate** about various elementary data structures, **Analyse** the time complexities of various algorithm **Choose** the best data structure for the real life applications
			CO2	**Define What** is divide and conquer method **apply** the methods to solve simple problems. **Identify** the problem and **choose** the appropriate methodology to solve it
			CO3	**Define** the greedy method and **list** and **explain** some applications**, compare** their performance.
			CO4	**Define** and **Apply** dynamic programming technique to solve some problems, study the **importance** of shortest path problems
			CO5	**Tell what** kind of problems does the back tracking method is suitable by **apply** the method to different problems, able to **choose** the best methods to solve the real time problems
35	**22PACSC4**	**Advanced Java Programming Lab**	**CO1**	Recall the concepts of Servlets and realize them using Generic and Http Servlets and Create cookies, construct databases and their connectivity using Servlets.
			CO2	Recall the concepts of JDBC and realize them by developing JDBC applications, construct databases and their connectivity using JDBC.
			CO3	Understand the basics of EJB,RMI,JSP, Realize and Develop simple and EJB programs, RMI Programs, JSP Programs
36	**22PACSC5**	**Advanced Web Technology Lab**	**CO1**	Recall the basics of C# language and apply to implement programs.
			CO2	Apply the syntax of HTML and Web server controls with coding techniques and experiment their functionalities.
			CO3	Analyze the domain and develop C#.NET web applications using SQL Server database.
37	**22PACSE1A**	**Cloud Computing**	**CO1**	Define the core concepts of the cloud computing paradigm: Evolution, need, and summarize its advantages, limitations and explain the factors that affect cloud computing.
			CO2	Show the differences between grid and cloud architecture and experiment with different service models and deployment models.
			CO3	Construct and examine the ability to understand virtualization technology used in cloud.

			CO4	Infer and evaluate the knowledge of various security techniques used in cloud computing.
			CO5	Justify the importance of cloud in various applications.
38	**22PACSE1B**	**Data Mining**	**CO1**	Define Data mining and identify different types of data and patterns, explain and illustrate the concept of Data warehouse and schemas
			CO2	Acquire the basic knowledge of Data preprocessing and understand its need and apply preprocessing techniques
			CO3	Acquaint knowledge about Association rules and explain frequent item sets, classify different association rules and construct them
			CO4	Gain knowledge about classification and prediction, Compare and evaluate various classification algorithms and apply in real time dataset
			CO5	Learn and explain the need for cluster analysis, categorize and evaluate clustering algorithms
39.	**22PACSE1C**	**Information Security**	**CO1**	Analyze the broad perceptive and need of information security.
			CO2	Explain the various encryption techniques and illustrate the master fundamentals of secret and public cryptography.
			CO3	Compute the Risk control strategies and Risk Management and compare with Hash Algorithms, Signature and network security designs.
			CO4	Describe the policies of Information Security and hence identify network security designs using available secure solutions
			CO5	illustrate the Intrusion Detection and Prevention Systems and discover the layers of application security
40.	**22PBCSC1**	**Machine Learning**	**CO1**	Define and explain the fundamental issues and challenges of machine learning and different learning algorithms and representations. Understand the Knowledge representation issues and concept learning.
			CO2	Define and explain the Decision Tree representation and artificial neural networks. Apply the knowledge gained to develop a system
			CO3	Able to define and explain the BAYES Theorem, Gibbs Algorithm, EM Algorithm. Appreciate the underlying mathematical relationships within and across Machine Learning algorithms and Apply the knowledge gained to develop a system. The

				result can be analyzed and evaluated.
			CO4	The learners shall understand the machine learning techniques like Analytical and Inductive learning to apply the techniques in computing.
			CO5	The learners shall understand the machine learning techniques like Instance based learning and reinforcement to apply the techniques in computing.
41.	**22PBCSC2**	**Principles Of Compiler Design**	**CO1**	**Explain** the different phases of compiler. **Construct** NFA and DFA for given Regular expression.
			CO2	**Apply** different parsing algorithms to **develop** the parsers for a given grammar. **Summarize** behavior of different parser. **List** the different types of parser suffer from conflict.
			CO3	**Apply** translation techniques to type checking and intermediate-code generation. **Inspect** the attributes to find suitable for top-down and bottom-up parser.
			CO4	**Choose** the techniques to generate intermediate-code. **Analyze** the three address code suitable for program construct.
			CO5	**Evaluate** the code optimization techniques and implement a simple code generator.
42.	**22PBCSC3**	**Object Oriented Systems Development**	**CO1**	**Define** the basics of object orientation, and **compare** oo with the traditional system development, learn the OOSDLC method for developing systems.
			CO2	**Learn the** different types of methodologies in object orientation and **Apply** the best practices to work with Unified approach and UML Modeling and **Analyze** them to construct different UML diagrams and performance
			CO3	**Understand** the basics of object oriented analysis process and **Identify** the use cases and actors, **Analyze** and **Classify** the objects using different approaches, **Identify** objects and **Relate** them to **Draw** static Class/Object diagram.
			CO4	**Study** the basics of object oriented design process, axioms, corollaries and **Apply** them to **Refine** Class/Object diagram, **Develop** user interfaces and store objects using databases.
			CO5	**Learn** the basics of software quality assurance, testing strategies, **Apply** them to **Derive** test suite and test plan.
43.	**22PBCSC4**	**Machine Learning Using Python - Lab**	**CO1**	Acquire knowledge on fundamental concepts of machine learning. Apply and implement the Candidate-Elimination algorithm and Back propagation algorithm.

			CO2	Read the naïve Bayesian classifier and apply to develop an application.
			CO3	Define the working of the decision tree based ID3 algorithm. Apply and implement the algorithms. Define k-Nearest Neighbor algorithm to classify the iris data set. Apply and implement the algorithm Define the non-parametric Locally Weighted Regression algorithm. Apply and implement the algorithm
44.	**22PBCSD1**	**Advanced Web Design**	**CO1**	**Apply** the knowledge of the HTML concepts in **understanding** the web application development**.**
			CO2	**Demonstrate** the knowledge of HTML, CSS code and HTML editor to **build** personal and/or business websites following current professional and/or industry standards
			CO3	**Understand**, **analyze** and **apply** the role of markup languages like HTML, DHTML, and XML in the working of the web and web applications.
			CO4	**Build** secure dynamic web application using XML.
			CO5	**Analyze** and **assess** the more secure web design.
45.	**22PBCSE2A**	**Optimization Techniques**	**CO1**	**Define** the terms of OR, **Solve** the optimization problem using graphical method, **Interference** the results
			CO2	**What** is duality? **Solve** the optimization problem using dual simplex method, **Compare and contrast** the revised simplex method with simplex method.
			CO3	**Illustrate** the transportation problem, **Solve** the transportation problem using various methods. Solve the assignment problem
			CO4	**Define** the replacement problem, **Explain** the various replacement situations, Study about maintenance cost, **Compare** the Individual Replacement Policy with Group Replacement Policy
			CO5	**Relate** the real time project scheduling problem with mathematical problems, **Summarize** the steps of PERT and CPM computation, **Choose** the best method among PERT and CPM
46.	**22PBCSE2B**	**Scientific Computing**	**CO1**	Learn numerical techniques to compute the roots of non linear equations
			CO2	Learn numerical techniques to solve system of simultaneous linear equations
			CO3	Gain knowledge about Difference operators and to learn how to interpolate given set of values
			CO4	Calculate the definite value of integral using different methods

			CO5	Solve ordinary and partial differential equations
47.	**22PBCSE2C**	**Big Data Analytics**	**CO1**	Finds the reason about the evolution of data science and its development. Explain the basic of big data analytics and to develop the code. Importance of various kinds of data comparing the other language.
			CO2	Outline and model HDFS environment using NoSQL implementing the queries. Aggregate the data using NoSQL.
			CO3	Identify the concept of basic Hadoop, data format and analyzing the data in the HDFS environment. Test for the concept Hadoop mapper and reducer implementations and java/python interfaces. Significance of various methods of streaming, serialization.
			CO4	Analyze Map Reduce applications, unit test, MR Unit, create file using Map Reduce sorting and shuffling process. Determine the creation of input and output format of Map Reduce.
			CO5	Judge the usage of related tools and Definition of MongoDB, Pig, Hive QL. Life Build data manipulation by Hive QL queries.
48.	**22PBCSE3A**	**Wireless Networks**	**CO1**	**Explain** about wireless LAN, Bluetooth and Hyper LAN, **Examine** the IEEE 802.xx family architecture, Study the importance of WiMAX
			CO2	**Define** the various terms of Mobile IP, **interpret** the packet delivery on Mobile IP, **List** and **Choose** the best routing algorithm for Mobile environment,
			CO3	**Summarize** the TCP Enhancements for Wireless Protocols, **Analyze** the Classical TCP Improvements, **compare** TCP with other 3G networks
			CO4	**What** is UTMS? **Outline** the latest LTE architecture, Study the **improvements** on UMTS Core Network Architecture
			CO5	**Define** the 4G technology, and **explain** the various 4G Technologies, **Design** and **develop** Wireless Network Environment for any application using latest Wireless Protocols and Standards
49.	**22PBCSE3B**	**Block Chain Technology**	**CO1**	**Define** the basis of Blockchain, C**ompare** and **contrast** the centralized and decentralized system
			CO2	Knows **how** Blockchain works, **examine** and **analyze** the various cryptography techniques,
			CO3	**Define** the Bitcoin terms, **design** the structure of the genesis block

			CO4	**Discover** a new node in a network, **explain** the Bitcoin transactions, **Compare** Full Nodes vs. SPVs
			CO5	**Illustrate** how Blockchain helps for Government,
50.	**22PBCSE3C**	**Advanced Database Management System**	**CO1**	Gain Knowledge on the basics of Entity type, relation types, ER model . Learn and compare and learn different Normal Forms,.
			CO2	Acquaint knowledge on Architecture, parallelism, inter query, intra query parallelism and Distributed data storage, Distributed transactions, protocols, Query processing, object oriented Vs object relational.
			CO3	Acquire knowledge on Characteristics, Techniques, query in spatial database and logical based database
			CO4	Learn about XML Database, XML Documents, XML Schema for illustrate Experiments.
			CO5	Understand and learn the role of Temporal Database And Multimedia Database.
51.	**22PCCSC1**	**Digital Image Processing**	**CO1**	**Understand** and **apply** the basics and fundamentals of digital image processing, such as digitization, sampling and quantization.
			CO2	**Apply** the techniques of smoothing, sharpening and enhancement on images. **Show** the difference between Spatial and Frequency filtering.
			CO3	**Understand** the restoration concepts and filtering techniques**. Classify** the noise model and **identify** the type of noise occurred in an image.
			CO4	**Analyze** and **apply** color image processing techniques. **Make use of** the basics of segmentation
			CO5	**Justify** the compression techniques to reduce the size of memory needed by an image.
52.	**22PCCSC2**	**Internet Of Things**	**CO1**	Show the vision of IoT from a global context.
			CO2	Explain the fundamentals of IoT and M2M.
			CO3	Classify the role of big data, cloud computing and data analytics in a typical IoT system and experiment with the same.
			CO4	Identify the market perspective of IoT.
			CO5	Analyze the application of IoT in Industry, Home, Grids and Buildings.
53.	**22PCCSC3**	**Software Project Management**	**CO1**	**Gain Knowledge** on the basics of project management framework. **Learn** project management of a project. Apply **the basic knowledge of project basics.**
			CO2	**Acquaint knowledge** on methodologies and technologies to know sound knowledge in agile methods.

			CO3	**Acquire knowledge** on to monitor and control the project work. To **understand** and know the project team management.
			CO4	To **understand** and know the team cost, quality and resource management. **Apply and analyze** Project cost management.
			CO5	**Analyze and understand** identify and control the risk in the projects.
54.	**22PCCSSC4**	**Statistics for Data Science**	**CO1**	Recall the concepts of sample spaces, events, axiomatic approach, conditional probability, Bayes' theorem. Summarize the random variables, expectation and variance. Demonstrate the chebyshev's inequality
			CO2	Distinguish Discrete and continuous distributions. Solve the real time problems involving various distributions like Binomial, Poisson and normal distributions.
			CO3	Explain the concept of Bivariate analysis and point out the importance of correlation analysis, Regression analysis and various curves using method of least squares.
			CO4	Explain the concept of Bivariate analysis and point out the importance of correlation analysis, Regression analysis and various curves using method of least squares.
			CO5	Differentiate large and small samples. Compare the various parametric tests like Z-test, t-test, F test by giving practical examples. Explain the non-parametric chi square test with illustrated examples
55.	**22PCCSC5**	**Digital Image Processing Lab**	**CO1**	**Recall** the basics of Digital Image Processing to **summarize** their functional operation.
			CO2	**Experiment with** images using the techniques of smoothing, sharpening and enhancement.
			CO3	**Discover** the applications of image compression and recognition.
56.	**22PCCSD2**	**Cyber Security**	**CO1**	**Find** out the basic concepts of computer security, **classify** the types of computer attack and i**dentify** the computer criminals.
			CO2	**Find** out how to secure programs, **apply** the process of fixing faults, **classify** the different types of viruses and **analyze** the ways to prevent virus infections and **discuss** on it.
			CO3	**Classify** the different types of organizational security policies, **find** out the method of **apply**ing the physical security and **analyze**

				it**.**
			CO4	**Determine** the security problems faced due to natural disasters
			CO5	**Define** the legal and Ethical issues in computer security and **explain** the various security aspects like copyrights, patents, **identify** the rights of employees and employers and ownership of products and **analyze**
57.	**22PCCSE4A**	**Embedded Systems**	**CO1**	**Find** out the basics of embedded system and **explain** the purpose, characteristics and **identify** its application areas and **analyze** it.
			CO2	**Explain** the general purpose and specific processors of embedded system, and **find** out the sensors, actuators and communication interfaces
			CO3	**Apply** the fundamental knowledge on the applications of embedded systems in various devices, **demonstrate how** to **develop** the hardware and software for embedded systems in specific programming languages, **analyze** and **justify** it.
			CO4	**Explain** RTOS based embedded design, **analyze** the various types of operating systems, **find** out the different RTOS, **choose** an RTOS for embedded systems and **evaluate** it.
			CO5	**Define** the various components of embedded systems, and **explain** the objectives of Embedded product development Life cycle (EDLC), **identify** its phases, through case study and recent trends in embedded industry.
58.	**22PCCSE4B**	**Web Services**	**CO1**	**Introduce** the Web Services. **Identify** the applications that consume web services. support web services.
			CO2	**Recognize** XML web services. **Acquire** knowledge on SOAP, WSDL environment. **Apply and analyze** exchange of information between various distributed
			CO3	**Understand** different aspects of web services. **Apply** and **Analyze** various architecting of systems to meet user requirements. **Evaluate** the method for analyzing the user requirements.
			CO4	**Recognize** the real world applications using web services, necessary steps for deploying web services. **Analyze** and **Evaluate** client
			CO5	**Understand** and **Apply** concepts of Web Services and Applications. **Recognize** free web services. **Analyze** XML based distributed

				computing.
59	22PCCSE4C	Soft Computing	CO1	**Acquire** knowledge on Artificial Neural Network and its Architecture and able to **explain** the basic models of ANN. This helps to **identify** different neural network architectures, algorithms and its applications.
			CO2	**Understand** neural network concept, **identify** and describe soft computing techniques and their roles in building intelligent machines, **analyse** various supervised and unsupervised learning networks, performance **evaluation** of different learning algorithms
			CO3	**Acquaint** with the fundamentals fuzzy logic concepts, fuzzy principles and relations. It helps to **experiment** with how fuzzy logic is widely used for commercial and practical purposes.
			CO4	**Initiate** to learn about the fuzzy arithmetic and fuzzy logic control systems, **apply** fuzzy rules and reasoning, **examine** how fuzzy logic is applied with great success in various control applications.
			CO5	**Recall** artificial neural network, **Understand** the fundamental concept of genetic algorithms, **apply** various genetic operators to **Analyse** the genetic algorithms and **compare** with their applications.
60	22PDCSP1	Project Work	CO1	Identify the problem by applying acquired knowledge. Learn to apply the knowledge gained through various courses in solving a real life problem.
			CO2	Analyze and categorize executable project modules after considering risks. Practice different phases of software/system development life cycle.
			CO3	Choose efficient tools for designing project modules. To introduce the student to a professional environment and/or style typical of a global IT industry.
			CO4	Combine all the modules through effective team work after efficient testing.
			CO5	Able to prepare effective, real-life, technical documentation. To provide an opportunity to practice time, resource and person management.
			CO5	Deploy flash applications using HTML.

Dr. Ambedkar Government Arts College ★ Vysarpadi Chennai 600 039

Principal
Dr. Ambedkar Govt.
Arts College, Vyasarpadi
Chennai - 600 039