Vivekanand Arts, Sardar Dalipsingh Commerce & Science College

Aurangabad

Faculty: Science

B. Sc.: General

Programme Outcomes

At the time of graduation, the students will be able to-

PO1: Understand basic principles of science

PO2: Analyse and predict conclusion from data/information

PO3: Perform necessary arithmetic calculations

PO4: Understand various units and its conversions

PO5: Correlate various principles in science to generate new approaches

PO6: Understand steps in the operations of various equipments and instruments

PO7: Perform qualitative, quantitative analyses in science specific areas

PO8: Understand mechanism of various scientific processes

B.Sc. Biotechnology

Programme Specific Outcomes

At the time of graduation, the students will be able to-

PSO1: Understand fundamental principles involved in Biotechnology

PSO2: Acquire detail knowledge of structures of nucleic acids

PSO3: Understand metabolic and structural significance of bio-molecules

PSO4: Gain knowledge of various aspects of fermentation technology

PSO5: Understand handling and applications of DNA and RNA modifying enzymes

PSO6: Acquaint with proteomics, protein structures and structure visualization

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Course Outcomes

F.Y. B. Sc.

Semester I

Paper I - MBO Microbiology

At the end of the course, the students will be able to-

CO1: Identify distribution of microorganism in nature

CO2: Determine evolution of microbiology and its role in various biological processes

CO3: Classify Microorganisms into different categories according to taxonomic ranks

CO4: Determine Biochemical properties of microorganisms

CO5: Describe design of Microscope and its Handling

CO6: Calculate magnification, resolving power, depth of focus, numerical aperture of Microscope

Paper II- BCB Biomolecules and cell biology

At the end of the course, the students will be able to-

CO1: Describe structures, functions and classification of bio-molecules

CO2: Rationalize membrane models and the mechanism about transport in membranes

CO3: Describe cell organelles, their structure and associated functions

CO4: Explain mechanism of cell cycle and cell division

CO5: Perform bio-molecules isolation and estimation

Semester II

Paper IV- GTS Genetics

At the end of the course, the students will be able to-

CO1: Describe structures of nucleic acids

CO2: State Mendel's law of inheritance

CO3: Describe structural arrangement of chromosome

C04: Explain crossing over mechanism in drosophila

CO5: Explain tetrad analysis in neurospora

CO6: Rationalize the construction of genetic maps in drosophila & maize

Paper V- BMT Biomathematics & Biostatistics

At the end of the course, the students will be able to-

CO1: Solve problem based on limits, derivatives and integration

CO2: Solve problems based on derivatives of standard trigonometric and logarithmic functions

CO3: Explain probability and types of data sampling

CO4: Solve statistical data by measures of central tendency viz. Mean, median and mode.

CO5: Explain standard deviation for grouped and ungrouped data

S.Y. B. Sc.

Semester III

Paper VII-MTB Metabolism

At the end of the course, the students will be able to-

CO1: Describe structure, functions and classification of bio-molecules

CO2: Rationalize energy gain and loss during metabolic process

CO3: Describe metabolic pathways and their regulations

C04: Differentiate between photo-phosphorylation, oxidative and substrate level phosphorylation

CO5: Prepare solutions of different morality/ normality as well as stocks solutions and working solutions

Paper VIII-MOG Molecular Genetics

At the end of the course, the students will be able to-

CO1: Describe process of packing of DNA into chromosomes

CO2: Explain Operon system in prokaryotes

CO3: Describe regulation of replication, transcription & translation

CO4: Isolate and bacterial genomic DNA

CO5: Isolate plant and plasmid DNA

Semester IV

Paper XI-EBT Environmental Biotechnology

At the end of the course, the students will be able to-

C01: Explain ecology and ecosystem

CO2: Elaborate the issues related to pollution (air, water, soil)

CO3: Explain mechanism regarding solid waste management

CO4: Describe biodegradation of xenobiotic compounds

CO5: Describe the process of microbial leaching and mining

CO6: Isolate microorganism from soil and water

Paper XII-EZY Enzymology

At the end of the course, the students will be able to-

C01: Explain enzyme as biocatalyst, its classification and mechanism of action

CO2: Describe metabolic role of coenzyme

CO3: Give industrial applications of free and immobilized enzymes

CO4: Design experiments for screening, production and purification enzyme

CO5: Determine factor affecting enzyme activity and factors related to enzyme kinetics

C06: Prepare immobilized enzyme

T.Y. B. Sc.

Semester V

Paper XV-BPE Bioprocess Engineering

At the end of the course, the students will be able to-

CO1: Describe fermentation technology

CO2: Elaborate working of fermentation industry

CO3: Give various types of fermenter and its design

CO4: Give methods of screening of desired microorganism

CO5: Give methods of preservation of microorganism

CO6: Describe the ways of downstream processing

CO7: Describe methods of sterilization of media and fermenter

Paper XVI-RDT Recombinant DNA Technology

At the end of the course, the students will be able to-

CO1: Describe handling and applications of different DNA and RNA modifying enzymes

CO2: Discuss techniques for DNA transformation in host cells

CO3: Describe design of various vectors used for plants, animals and microorganisms and their modification strategies

CO4: Design cloning strategies for various applications

CO5: Differentiate transformed and non-transformed colonies

CO6: Screen desired clone for presence of desired gene/ m-RNA/ protein

CO7: Describe technique of DNA sequencing and latest up gradations

Semester VI

Paper XIX-MBT Microbial Biotechnology

At the end of the course, the students will be able to-

CO1: Describe role of microorganisms in fermentation and discuss Biochemical pathway associated with it

CO2: Describe biosynthesis of polysaccharides

CO3: Describe α-amylase production and its applications

CO4: Describe production and role of Bio-fertilizers

CO5: Discuss penicillin fermentation

CO6: Explain Organic acid fermentation and its characterization

Paper XX-BIN Bioinformatics

At the end of the course, the students will be able to-

CO1: Describe concept of data bases and their structure

CO2: Access various biological databases for retrieval of information related to DNA, RNA and Proteins

CO3: Perform sequence alignment and its analysis using various softwares like BLAST, FASTA, Clustal W

CO4: Describe concept of proteomics, protein structures and structure visualization

CO5: Describe concept of microarray tools and their application in diagnosis of genetic disorders

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B.Sc.: Chemistry

Programme Specific Outcomes

At the time of graduation, the students will be able to-

PSO1: Understand the fundamental principles of Chemistry

PSO2: Develop skills in evaluation and interpretation of chemical information and data

PSO3: Identify and estimate organic and inorganic compounds using classical and modern laboratory methods

PSO4: Analyze various organic mixtures and individual compounds

PSO5: Develop skills in the safe-handling of chemical materials, taking into account of their physical and chemical properties including any specific hazards associated with their use

PSO6: Gain comprehensive knowledge about fundamental properties of elements

PSO7: Acquire knowledge regarding importance of various elements present in the periodic table, coordination chemistry, structure of molecules, properties of compounds and structural determination of complexes using theoretical and instrumental methods

PSO8: Perform accurate quantitative measurements with an understanding of the theory and use of contemporary chemical instrumentation, interpret experimental results, perform calculations on these results and draw reasonable accurate conclusion

PSO9: Synthesize, separate and characterize compounds using published reactions, protocols, standard laboratory equipment and modern instrumentation

PSO10: Acquire problem solving skills in three basic areas of Chemistry, i.e., Inorganic, Organic and Physical Chemistry

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Course Outcomes

F.Y. B.Sc.

Semester I

Paper No. I (Inorganic Chemistry)

Upon completion of the course, the students will be able to-

CO1: Predict atomic structure and explain various quantum numbers

CO2: Explain standardized names and symbols to represent atoms, molecules, ions and chemical reactions

CO3: Explain trends of periodic properties of elements in periodic table

CO4: Predict biological role of Alkali and Alkaline earth metals

Paper No. II (Organic Chemistry)

Upon completion of the course, the students will be able to-

CO1: Explain various effects, and properties of organic compounds, nature of bond

CO2: Discuss nature of bond breaking and mechanical phenomenon

CO3: Explain concept of isomerism and types of stereochemical configuration

CO4: Discuss mechanistic pathways of simple organic reaction

Semester II

Paper No. IV (Physical Chemistry)

Upon completion of the course, the students will be able to-

CO1: Differentiate colloids, liquid crystals and properties of solid, liquid and gas

CO2: Derive differential equations related to order of reactions

CO3: Explain and correlate various laws with respect to gaseous state

CO4: Categorize catalysis on the basis of phases

CO5: Identify areas of applications of colloids, enzyme catalysts in day to day life

Paper No. V (Inorganic Chemistry)

Upon completion of the course, the students will be able to-

CO1: Demonstrate preparation, physical and chemical properties, structural properties, applications of various elements

CO2: Discuss chemical bonding, hybridization and molecular geometry on the basis of VBT

CO3: Differentiate types of indicators and correlate with appropriate titration method

CO4: Explain various aspects of radioactivity

Practicals (Lab course)

Upon completion of the course, the students will be able to-

CO1: Prepare and standardize various solutions

CO2: Determine basicity of given organic acid

CO3: Determine viscosity of given liquid

CO4: Identify acidic and basic radicals in given mixture

CO5: Identify types of organic compounds by chemical analysis method

S.Y. B.Sc.

Semester III

Paper No. VII (Organic Chemistry)

Upon completion of the course, the students will be able to-

CO1: Give types of alcohol and its identification in simple organic compounds

CO2: Differentiate alcohol and phenols in simple and complex organic molecules

CO3: Explain the structure of carbonyl compounds and type of various name reaction involving carbonyl group

CO4: Analyse effect of substituent on acidity of carboxylic acid

CO5: Analyse effect of basicity in various simple heterocycles

Paper No. VIII (Physical Chemistry)

Upon completion of the course, the students will be able to-

CO1: Distinguish isothermal, adiabatic, isochoric and other thermodynamic processes

CO2: Correlate law of mass action, equilibrium constant with free energy

CO3: Solve numerical problems related to efficiency, work done, heat change

CO4: State and explain postulates of laws of Thermodynamics

CO5: Interpret interrelations between Clapeyron, Clausius and other relevant equations

Semester IV

Paper No. X (Inorganic Chemistry)

Upon completion of the course, the students will be able to-

CO1: Present in depth knowledge of abundance, position, preparation, properties and chemical behaviour of various d and f block elements from the periodic table

CO2: Identify co-ordination compounds and its applications

CO3: Differentiate aqueous and non aqueous solvents

Paper No. XI (Physical Chemistry)

Upon completion of the course, the students will be able to-

CO1: Explain different types of conductomertic titrations

CO2: Solve mathematical problems on electro-chemistry

CO3: Explain phase diagrams of one component systems

CO4: Explain phase diagrams of two component systems

CO5: Classify electrochemical and electrolytic cells

Practicals (Lab course)

Upon completion of the course, the students will be able to-

CO1: Determine concentration values of sample solutions using instrumentation

CO2: Evaluate and interpret heat of neutralization reactions

CO3: Analyse quantitatively, specific elements by volumetric and gravimetric methods

CO4: Determine critical solution temperatures of heterogeneous phases

CO5: Determine the molar refractive index of given sample by refractometer

CO6: Prepare organic derivatives and determine physical constants

CO7: Estimate ester, amide and other organic molecule entities

T.Y. B.Sc.

Semester V

Paper No. XIII (Physical Chemistry)

Upon completion of the course, the students will be able to-

CO1: Explain synthesis of nanomaterials

CO2: Solve mathematical problems on determination of bond length

CO3: Derive Schrodinger wave equation of Hydrogen atom

CO4: Explain basic features of different spectrometers

CO5: Determine structure of molecules applying magnetic property

Paper No. XIV (Organic Chemistry)

Upon completion of the course, the students will be able to-

CO1: Find out types of sets of proton in organic compound

CO2: Solve simple PMR problems with given data

CO3: Classify various organometallic compounds and activity in simple organic transformation

CO4: Identify and classify various active Methylene compounds

Semester VI

Paper No. XVI (Inorganic Chemistry)

Upon completion of the course, the students will be able to-

CO1: Explain nature of metal-ligand bonding and illustrate splitting of d orbitals

CO2: Demonstrate mechanism of sodium potassium cycle

CO3: Describe essential and trace elements and their role in biological system

CO4: Categorize chromatographic techniques with reference to adsorbents and other components

Paper No. XXII (Organic Chemistry)

Upon completion of the course, the students will be able to-

CO1: Explain effect of aromaticity on strength of basicity of heterocyclic compound

CO2: Classify carbohydrates and its utility in day to day life

CO3: Explain synthesis of paracetamol

CO4: Explain properties of good Drugs

Practicals (Lab course)

Upon completion of the course, the students will be able to-

CO1: Identify organic mixtures by chemical analysis method

CO2: Analyse inorganic radicals by chemical analysis method

CO3: Identify and separate given mixtures by gravimetric and volumetric method

CO4: Analyse percent composition of acid mixture by Conductometric method

CO5: Identify empirical formula by potentiometric method

B.Sc.: Zoology

Program Specific Outcomes

At the time of graduation, the students will be able to-

PSO1: Understand concept of cell biology and genetics

PSO2: Study various phylum and their classification

PSO3: Understand mammalian physiology

PSO4: Recognize relationship between structure and function at all levels: molecular, cellular, and organismal

PSO5: Understand the chemistry and structure of all biological macromolecules including proteins and nucleic acids, determine their biological properties

PSO6: Understand ature and basic concepts of physiology, biochemistry, ecology, evolution and biotechnology

PSO7: Study animal diversity, including knowledge of specification, classification and evolutionary relationship of major groups of animals

PSO8: Understand biological, chemical and physical features of environment, e.g. terrestrial, freshwater, marine, host that animals inhabit

PSO9: Gain knowledge in the field of environment conservation, evolution and behaviour of animals

PSO10: Understand functions of organisms at the level of the gene, genome, cell, tissue, organ and organ-system

PSO11: Understand applications of rDNA technology to think critically and solve problems in the fields of biotechnology by applying research strategies

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Course Outcomes

F.Y. B.Sc.

Semester I

Paper I- Protozoa to Annelida

Upon completion of the course, the students will be able to:-

CO1: Identify animals by observation

CO2: Describe unique characters of Protozoa, Porifera, Coelenterate, Helminthes and Annelids

CO3: Explain life functions of Protozoa, Porifera, Coelenterate, Helminthes and Annelids

CO4: Describe ecological role of phylum Protozoa, Porifera, Coelenterata, Helminthes and Annelida

CO5: Identify diversity from Protozoa, Porifera, Coelenterate, Helminthes and Annelids

Paper II- Cell Biology

Upon completion of the course, the students will be able to:-

CO1: Describe in detail the structure of cell

CO2: Describe function and the composition of the plasma membrane

CO3: Explain principles of the cell theory

CO4: Differentiate between prokaryotes and eukaryotes

CO5: Understand importance of the nucleus and its components

CO6: Understand how the endoplasmic reticulum and Golgi apparatus interact with one another and know with which other organelles they are associated

CO7: Identify three primary components of the cell's cytoskeleton and how they affect cell shape, function, and movement

Semester II

Paper IV- Arthropoda to Echinodermata and Hemichordata

Upon completion of the course, the students will be able to:-

CO1: Identify animals by observation

CO2: Describe unique characters of Arthropods, Mollusks, Echinoderms and Hemichordates

CO3: Explain life functions of Arthropods, Mollusks, Echinoderms and Hemichordates

CO4: Explain ecological role of phylum from Arthropoda to Hemichordata

CO5: Explain in detail diversity from Arthropods to Hemichordate

Paper V- Genetics – I

Upon completion of the course, the students will be able to:-

CO1: Describe chemical basis of heredity

CO2: Explain role of genetics in evolution

CO3: Evaluate conclusions that are based on genetic data

CO4: Find the results of genetic experimentation in animals

S.Y. B.Sc.

Semester III

Paper VII- Vertebrate Zoology

Upon completion of the course, the students will be able to:-

CO1: Describe unique characters of urochordates, cephalochordates and fishes

CO2: Recognize life functions of urochordates to fishes

CO3: Explain ecological role of different groups of chordates

CO4: Explain the diversity of chordates and describe unique characters of amphibians, reptiles, aves and mammals

CO5: Describe life functions of amphibians, reptiles, aves and mammals

CO6: Explain ecological role of different classes of vertebrates

Paper VIII- Genetics - II

Upon completion of the course, the students will be able to:-

CO1: Explain in detail gene expression and its behaviour in transformation

CO2: Describe the role of genetics in evolution

CO3: Evaluate conclusions that are based on genetic data in population genetics

CO4: Describe genetic diseases and disorders

CO5: Explain the techniques that are used in genetic engineering

Semester IV

Paper XI- Animal Physiology

Upon completion of the course, the students will be able to:-

CO1: Describe in detail the physiology at cellular and system levels

CO2: Explain the role of different bio-molecules

CO3: Explain how mammalian body get nutrition from different bio-molecules

CO4: Describe the functions of different systems

CO5: Describe the physiology of respiratory, renal, endocrine and reproductive systems to define normal and abnormal functions

Paper XII- Biochemistry and Endocrinology

Upon completion of the course, the students will be able to:-

CO1: Describe in detail the metabolism of carbohydrates, proteins, fats

CO2: Explain the fundamental biochemical principles

CO3: Describe basic laboratory techniques in biochemistry

CO4: Describe the structure and function of endocrine glands

CO5: Explain the role of hormones

T.Y. B.Sc.

Semester V

Paper XV- Ecology

Upon completion of the course, the students will be able to:-

CO1: Describe abiotic and biotic factors that affect, the distribution, dispersal, and behaviour of organisms

CO2: Identify factors that affect biological diversity and the functioning of ecological systems

CO3: Use an ecological vocabulary in arguments and explanations of ecological phenomena

CO4: Apply concepts and theories from biology to ecological examples

CO5: Analyse and interpret ecological information, research and data

Paper XVI-F- Biotechnology-I

Upon completion of the course, the students will be able to:-

CO1: Describe the use of genetically engineered products to solve environmental problems

CO2: Explain principles for the basis of recombinant DNA technology

CO3: Explain steps involved in the production of by-products and methods to improve modern biotechnology and can apply basic biotechnological principles, methods and models to solve biotechnological tasks

Semester VI

Paper XIX- Evolution

Upon completion of the course, the students will be able to:-

CO1: Describe evolutionary history of man

CO2: Describe origin of species on earth

CO3: Have an enhanced knowledge and appreciation of evolutionary biology and behaviour

CO4: Perform, analyse and report on experiments and observations in whole-organism biology

CO5: Gain information regarding animal classification and systematic, animal structure and function relationships, evolution between and within major animal groups, human evolution and animal reproduction and development

Paper XX-F- Biotechnology-II

Upon completion of the course, the students will be able to:-

CO1: Demonstrate ability to apply research strategies like contamination and sterilization of laboratory in cell culture

CO2: Explain technical skills necessary for supporting biotechnology research activity in tissue culture and transgenic animal methods

CO3: Explain applications of biotechnology

CO4: Describe Gene therapy and DNA fingerprinting

CO5: Demonstrate knowledge of biotechnology concepts in ex vivo, in vivo gene therapy to diagnosis human diseases

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B.Sc.: Botany

Programme Specific Outcomes

At the time of graduation, the students will be able to-

PSO1: Understand the basic concepts of taxonomy and ecology

PSO2: Acquire knowledge about economics and medicinal plants in agriculture and medicine

PSO3: Analyse the relationship between plants and microbes

PSO4: Understand the biology of diversity of seed plants or phanerogams

PSO5: Understand behaviours of fossils and gymnosperm plants

PSO6: Understand plant diseases, chemical properties and evolutionary relationship among taxonomic groups

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Course Outcomes

B. Sc. First Year

Paper I- Diversity of Cryptogams-I

Upon completion of the course, the students will be able to-

CO1: Identify various types of plants in kingdom Plantae

CO2: Identify Cryptogams

CO3: Identify various types of Algae

CO4: Describe various types of bacteria

CO5: Describe various types of fungi

CO6: Identify various types of viruses

Paper II- Morphology of Angiosperms

Upon completion of the course, the students will be able to-

CO1: Describe various types of habitat habit and morphological characters

CO2: Identify various types of root, stem and leaves

CO3: Identify various types of inflorescence and flowers

CO4: Identify various types of fruits

CO5: Describe modifications of roots stems and leaves

Paper V- Diversity of Cryptogams-II

Upon completion of the course, the students will be able to-

CO1: Describe Cryptogams

CO2: Describe characteristic feature of Bryophytes

CO3: Describe Characteristic feature of Pteridophytes

CO4: Identify various types of Bryophytes

CO5: Identify various types of Pteridophytes

Paper VI- Histology, Anatomy and Embryology

Upon completion of the course, the students will be able to-

CO1: Describe various types of tissues

CO2: Describe anatomical characters of monocot and dicot plants

CO3: Describe various types of ovules

CO4: Describe vascular elements in tissues

B. Sc. Second Year

Paper IX- Taxonomy of Angiosperms

Upon completion of the course, the students will be able to-

CO1: Describe various Classification Systems of plants

CO2: Describe characteristics of various angiosperm families

CO3: Describe various taxonomic terminologies

CO4: Describe importance of plant studies

CO5: Describe various tools used in taxonomy

Paper X- Plant Ecology

Upon completion of the course, the students will be able to-

CO1: Describe importance of plant studies

CO2: Describe various terminologies used in ecology

CO3: Describe soil structure and soil types

CO4: Describe various methods of conservation

CO5: Describe ecological adaptations in plants

Paper XIII- Gymnosperms and Utilization of plants

Upon completion of the course, the students will be able to-

CO1: Differentiate angiosperm and gymnosperm

CO2: Describe the characteristic feature of gymnosperm plants

CO3: Describe economic importance of cereals pulses

CO4: Describe importance of timber plants

CO5: Describe medicinal values of plants

CO6: Describe uses of plants and their parts in various industries

Paper XIV- Plant Physiology

Upon completion of the course, the students will be able to-

CO1: Describe various physiological processes of plants

CO2: Describe photosynthesis

CO3: Describe transpiration

CO4: Describe respiration

CO5: Describe stomata and functions of stomata

CO6: Describe osmosis

B. Sc. Third Year

Paper XVII- Cell & Molecular Biology

Upon completion of the course, the students will be able to-

CO1: Describe Cell and cell structure

CO2: Describe molecular basis of cell

CO3: Describe various types of cells

CO4: Describe mitosis and meiosis

CO5: Identify various cell organelles

CO6: Describe various stages of cell division

Paper XVIII (A) - Diversity of Angiosperms-I

Upon completion of the course, the students will be able to-

CO1: Describe various Classification Systems of plants

CO2: Describe variations among angiosperm families

CO3: Describe various types of keys used for plant identification

CO4: Describe various floral characters of angiosperm families

CO5: Describe importance of plant studies and uses of plants

Paper XXI- Genetics & Biotechnology

Upon completion of the course, the students will be able to-

CO1: Describe genetics

CO2: Describe the basic information about gene, hybridisation and genetic material

CO3: Describe various genetic abnormalities

CO4: Describe mutation and chromosomal aberrations

CO5: Describe uses and applications of r-DNA technology

Paper XXII (A)- Diversity of Angiosperms – II

Upon completion of the course, the students will be able to-

CO1: Describe characteristic feature of various families of angiosperm plants

CO2: Describe the importance of plants of various families

CO3: Describe various tools used in taxonomy

CO4: Describe botanical gardens, bio-reservoirs and conserved forests

CO5: Describe herbariums and gene banks

B.Sc.: Computer Science (Optional)

Programme Specific Outcomes

At the time of graduation, the students will be able to-

PSO1: Understand basics of Software

PSO2: Analyze Software system

PSO3: Develop software programs in the areas related to system software

PSO4: Develop software programs in the areas related to multimedia

PSO5: Develop software programs in the areas related to web designing

PSO6: Handle application program like databases, graphics

PSO7: Develop networking for efficient design of technology of varying reduce complexity

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Course Outcomes

I Year

Computer Fundamentals

Upon completion of the course, the students will be able to-

CO1: Discuss operating systems

CO2: Describe steps involved in high-level programming languages

CO3: Find solutions of complex problems

CO4: Discuss modern software engineering principles

Digital Electronics

Upon completion of the course, the students will be able to-

CO1: Describe logic gates and realization of OR, AND, NOT AND XOR Functions using universal gates

CO2: Design and implement combinational circuits like half adder/full adder, half subtractor /full subtractor, code converters, comparators, MUX/DEMUX

CO3: Design and implement sequential circuits like flip-flops, counters and shift registers

C-programming

Upon completion of the course, the students will be able to-

CO1: Illustrate the flowchart and design an algorithm for a given problem and to develop IC programs using operators

CO2: Develop conditional and iterative statements to write C programs

CO3: Exercise user defined functions to solve real time problems

CO4: Inscribe C programs that use Pointers toaccess arrays, strings and functions

CO5: Exercise user defined data types including structures and unions to solve problems

Operating Systems

Upon completion of the course, the students will be able to-

CO1: Discuss main components of an OS and their functions

CO2: Explain process management and scheduling

CO3: Discuss various issues in Inter Process Communication (IPC) and role of OS in IPC

CO4: Explain concept and describe implementation Memory management policies and virtual memory

II Year

Data Structure

Upon completion of the course, the students will be able to-

CO1: Explain concept of Dynamic memory management, data types, algorithms, Big O notation

CO2: Elaborate basic data structures such as arrays, linked lists, stacks and queues

CO3: Describe hash function and concepts of collision and its resolution methods

CO4: Solve problem involving graphs, trees and heaps

CO5: Apply Algorithm for solving problems like sorting, searching, insertion and deletion of data.

Programming in CPP

Upon completion of the course, the students will be able to-

CO1: Describe procedural and object oriented paradigm with concepts of streams, classes, functions, data and objects

CO2: Explain dynamic memory management techniques using pointers, constructors, destructors, etc

CO3: Describe concept of function overloading, operator overloading, virtual functions and polymorphism

CO4: Classify inheritance with the understanding of early and late binding, usage of exception handling, generic programming

DBMS

Upon completion of the course, the students will be able to-

CO1: Discuss various issues involved in design and implementation of a database system

CO2: Describe physical and logical database designs, database modeling, relational, hierarchical, and network models

CO3: Use data manipulation language to query, update, and management of database

CO4: Describe DBMS concepts such as: database security, integrity, concurrency

III Year

Software Engineering

Upon completion of the course, the students will be able to-

CO1: Discuss applications of software engineering

CO2: Utilize and exhibit strong communication and interpersonal skills, as well as professional and ethical principles when functioning as members and leaders of multi-disciplinary teams

CO3: Apply skills in software engineering to adapt changing environments using appropriate theory, principles and processes

Data Communication and Networking

Upon completion of the course, the students will be able to-

CO1: Define OSI reference model, TCP- IP reference model, network interface, and

CO2: Discuss design/performance issues in local area networks and wide area networks

CO3: Describe wireless networking

CO4: Discuss contemporary issues in networking technologies, network tools and network programming

Web Designing

Upon completion of the course, the students will be able to-

CO1: Describe history of internet and related internet concepts that are vital in understanding web development

CO2: Discuss insight of internet programming and implement complete application over the web

CO3: Demonstrate the important HTML tags for designing static pages and separate design from content using Cascading Style sheet.

CO4: Utilize concept of JavaScript's

Ethics and Cyber law

Upon completion of the course, the students will be able to-

CO1: Discuss Ethics and Cyber law

CO2: Elaborate insight of cyber rules and regulations

B.Sc.: Dairy Science

Programme Outcomes

At the time of graduation, the students will be able to-

PSO1: Acquire knowledge of livestock management practices

PSO2: Understand knowledge about market milk industry

PSO3: Acquire knowledge of different breeds of cattle Buffalo, Goat and sheep and their diseases

PSO4: Understand knowledge about Classification of feedstuff and their nutritional importance in livestock feeding

PSO5: Acquire knowledge about Indian and western milk products

PSO6: Understand the cultivation practices of different fodder crops

PSO7: Analyse the different analytical techniques for feed evaluation

PSO8: Acquire knowledge of animal reproduction practices in farm animals

PSO9: Acquire knowledge about Genetics, Animal Breeding and selection of breeds

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Course Outcomes

F.Y. B.Sc.

Semester I

Paper-I: Dairy farm Management. Paper-I

Upon completion of the course, the students will be able to-

CO1: Describe the role of livestock in national economy

CO2: Apply the General management practices in Dairy farming

CO3: Describe the cattle and Buffalo management practices

CO4: Describe the sheep and Goat management practices

CO5: Apply the management practices in poultry farming

Paper-II: Market milk industry

Upon completion of the course, the students will be able to-

CO1: Identify the chronology of dairy development in India

CO2: Identify the packaging material used for market milk

CO3: Explain Anatomy and Physiology of mammary gland

CO4: Describe the microbiology of milk

CO5: Classify the Metals and Non-metals used in dairy industry

Practical paper III (based on Paper I & II)

Upon completion of the course, the students will be able to-

CO1: Identify platform test for milk

CO2: Determine chemical & microbiological quality of milk

CO3: Detect adulterants and preservatives in milk

CO4: Describe morphology of cattle, Buffalo and poultry

CO5: Describe the classification of cattle Breeds

CO6: Identity the different Breeds of cattle, Buffalo, Goat & sheep

Semester II

Paper- IV: Livestock Health & Hygiene

Upon completion of the course, the students will be able to-

CO1: Give difference between healthy and sick animal

CO2: Classify the animal diseases

CO3: Identify the major diseases of cattle

CO4: Describe the diseases of calves

CO5: Identity the poultry diseases

CO6: Describe the first aid measures for farm animal

Paper-V: Dairy Processing and Engineering

Upon completion of the course, the students will be able to-

CO1: Describe the processing operations in dairy plant

CO2: Identify the special milks in dairy industry
CO3: Describe the unit operations in dairy engineering
CO4: Describe the boiler and refrigeration systems in dairy plant
CO5: Classify the cold storages in dairy plant

Paper – VI (practical)
Upon completion of the course, the students will be able to-
CO1: Determine the temperature, pulse rate and respiration rate in farm animal
CO2: Preparation of vaccination schedule in farm animal
CO3: Identify the ecto and endo parasites in farm animal
CO4: Describe the role of dairy farm records in dairy farming
CO5: Describe the operations of liquid milk processing equipment
CO6: Describe the working of refrigeration and boiler equipment
CO7: Draw the layout of dairy processing plant

S.Y. B.Sc.
Semester III

Paper VII - Animal Nutrition
Upon completion of the course, the students will be able to-
CO1: Elaborate livestock population and availability of feed & fodder in India
CO2: Describe the role of different nutrients in farm animal
CO3: Classify the different feedstuff used in animal nutrition
CO4: Explain the anatomy of digestive system in ruminants
CO5: Describe the nutritional characters of roughages & concentrates

Paper VIII- Indian Dairy Products
Upon completion of the course, the students will be able to-
CO1: Identify Indian dairy products
CO2: Classify Indian and western dairy products
CO3: Describe desiccated Milk Products
CO4: Describe heat and acid coagulated milk products
CO5: Describe fat rich Indian Dairy Products

Practical (IX)
Upon completion of the course, the students will be able to-
CO1: Identify the different feed & fodder used in animal feeding
CO2: Determine the different analytical techniques for evaluation of feeds
CO3: Calculate the ration for milch animal

Practical Paper X (Practical): Indian Dairy Products
Upon completion of the course, the students will be able to-
CO1: Analyse Indian dairy products
CO2: Prepare desiccated Milk Products

CO3: Prepare heat and acid coagulated milk products
CO4: Prepare fat rich Indian Dairy Products

Semester IV

Paper-XI: Fodder Production & Feed Processing
Upon completion of the course, the students will be able to-
CO1: Classify the different cultivated fodder crops
CO2: Describe conservation of green fodder as silage and hay
CO3: Explain Agro industrial by products and unconventional feeds
CO4: Determine the measures of energy value and protein value of feeding stuff
CO5: Classify the different concentrate feeds

Paper – XII: Cheese & Fermented Milk Products
Upon completion of the course, the students will be able to-
CO1: Identify the starter cultures
CO2: Describe the process of cheddar cheese making
CO3: Describe the process of Gauda cheese making
CO4: Describe the process of processed cheese making
CO5: Describe the manufacture of different fermented milk products

XIII (practical)
Upon completion of the course, the students will be able to-
CO1: Describe the cropping scheme for fodder crops
CO2: Describe the Processing of Feeds & fodder
CO3: Describe preparation of silage & flay
CO4: Determine methods of preparation of concentrate mixture, mineral mixture, calf starter and milk replacer

Paper XIV (Practical): Cheese & Fermented Milk Products
Upon completion of the course, the students will be able to-
CO1: Analyse the starter cultures
CO2: Explain process of cheddar cheese making
CO3: Explain process of Gauda cheese making
CO4: Explain process of processed cheese making
CO5: Prepare different fermented milk products

T.Y. B.Sc.
Semester V

Paper XV:- Animal Reproduction & Artificial Insemination
Upon completion of the course, the students will be able to-
CO1: Describe the animal reproduction practices in farm animals
CO2: Classify the different methods of pregnancy diagnosis

CO3: Give different stages of parturition
CO4: Describe the A.I. techniques in farm animal
CO5: Explain the Bio-techniques used in animal reproduction

Paper-XVI: - Ice-Cream and fat rich dairy products
Upon completion of the course, the students will be able to-
CO1: Describe the process of Ice cream manufacture
CO2: Identify the role of stabilizers and emulsifiers
CO3: Identify physico-chemical properties of ice-cream
CO4: Describe frozen dessert
CO5: Describe Fat rich dairy products

Practical paper-XVII: Ice-cream & fat rich dairy products
Upon completion of the course, the students will be able to-
CO1: Prepare softy Ice cream
CO2: Analyse softy Ice cream
CO3: Analyse frozen desserts
CO4: Prepare cream, butter
CO5: Prepare Butter oil

XVIII (Practical)
Upon completion of the course, the students will be able to-
CO1: Identify the different parts of reproduction system in cattle
CO2: Classify the different methods of collection of sachem
CO3: Describe the insemination techniques by recto-vaginal method
CO4: Detection of heat in farm animal
CO5: Detection of Pregnancy diagnosis by rectal palpation methods

Semester VI

XIX: - Genetics & animal breeding
Upon completion of the course, the students will be able to-
CO1: Describe the knowledge of about Genetics
CO2: Describe the Mendel's laws of inheritance
CO3: Describe methods of animal breeding
CO4: Describe fertility and sterility of farm animals
CO5: Give information about breed selection

Paper-XX- Condensed, dried milk and by-products
Upon completion of the course, the students will be able to-
CO1: Describe condensed and evaporated milk
CO2: Describe dried milks
CO3: Identify different by- products of milks
CO4: Identify food safety parameters

CO5: Identify quality assurance parameters

XXI (Practical)
Upon completion of the course, the students will be able to-
CO1: Describe the judging of dairy cattle
CO2: Determine the gene frequency, genetic frequency
CO3: Determine the breeding efficiency of cow
CO4: Classify the different breeding records in farm animal

Practical Paper-XXII: - Condensed, dried milks and by-products
Upon completion of the course, the students will be able to-
CO1: Prepare condensed and evaporated milk
CO2: Prepare dried milks
CO3: Analyse different by- products of milks
CO4: Prepare food safety programme
CO5: Analyse quality assurance parameters

B.Sc.: Mathematics

Programme Specific Outcomes

At the time of graduation, the students will be able to:

PSO1: Acquire knowledge in basic Mathematics

PSO2: Communicate solutions of mathematical problems effectively

PSO3: Equip knowledge in various concepts involve in Calculus, differential equation, real analysis and algebra

PSO4: Acquire a breadth and depth of understanding in mathematics

PSO5: Understand reasonableness of solutions including sign, size, accuracy and units of measurement

PSO6: Apply mathematical proof techniques in a wide variety of mathematical areas, including algebra and analysis

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Course Outcomes

F.Y. B.Sc.

Semester I

Differential Calculus

At the end of the course, the students will be able to:

CO1: Solve problems on limits continuity and successive differentiation of Functions

CO2: Determine partial derivative of function more than one variable

CO3: Describe Rolle's Theorem, Lagrange's mean value theorem and Cauchy's mean value theorem

CO4: Determine expansion of e^x, sinx, cosx, sinhx, coshx, tanhx, log (ax+b) etc.

CO5: Determine gradient, divergence and curl and directional derivatives

Differential Equations

At the end of the course, the students will be able to:

CO1: Determine solution of first order linear differential equation

CO2: Determine solution of exact differential equation

CO3: Determine solution of linear equation with constant coefficient using general and short method

CO4: Determine solution of linear homogeneous differential equation

CO5: Explain formation of partial differential equation by eliminating the arbitrary constants and functions

Semester II

Integral Calculus

At the end of the course, the students will be able to:

CO1: Apply reduction formula

CO2: Find integration of algebraic rational functions

CO3: Apply fundamental theorem of integral calculus

CO4: Find the area bounded by a curve.

CO5: Calculate the length of arc of a curve.

CO6: Find line integral and surface integrals.

CO7: Apply the theorems of Gauss, Green's and Stoke's theorem

Geometry

At the end of the course, the students will be able to:

CO1: Identify and use different type of equations of plane

CO2: Determine equations of the system of planes and the length of perpendicular to a plane

CO3: Determine equation of right line and the angle between the plane and line

CO4: Determine condition for coplanar lines and short distance between two lines

CO5: Determine equation of sphere and its intersection with the plane

S.Y. B.Sc.

Semester III

Number Theory

At the end of the course, the students will be able to:

CO1: Describe division algorithm and solve the problem on it

CO2: Determine GCD and LCM by using Euclidean algorithm

CO3: Describe method of solving linear Diophantine equation

CO4: Determine solution of linear congruence

CO5: Describe Fermat's and Euler's theorem

Integral Transform

At the end of the course, the students will be able to:

CO1: Define beta and gamma functions and derive their properties and apply them in evaluating integrals

CO2: Determine Laplace transform for various functions, properties of Laplace transforms

CO3: Determine inverse Laplace transform, properties of inverse Laplace Transform, solve the problems using convolution theorem

CO4: Determine Fourier transform, properties of Fourier transform, Fourier sine and cosine transforms

CO5: Apply Laplace transform to find solutions of ordinary and partial differential equations

Mechanics-I

At the end of the course, the students will be able to:

CO1: Describe different types of forces, triangle law of forces, Parallelogram of forces, resultant of forces, sine rule and cosine rule

CO2: Explain resultant of several coplanar forces, equation of the line of action of the resultant, equilibrium of a rigid body under 3 coplanar forces

CO3: Explain Lammi's theorem and polygon of forces

CO4: Explain vector moment of a force and vector moment of couple

CO5: Describe basic concepts of centre of gravity and its applications

Semester IV

Numerical Methods

At the end of the course, the students will be able to:

CO1: Explain Bisection Method, Method of False Position, Newton-Raphson Method

CO2: Describe Finite Differences, Newton's Formula for Interpolation, Lagrange's Interpolation Formula, Divided Differences

CO3: Describe Least Square Curve Fitting Procedures, Fitting a straight line, Chebyshev polynomial, Power series

CO4: Calculate Solution of Linear system of equations, Eigen values and Eigen Vectors

CO5: Calculate solution of ordinary differential equation by Taylor's series Method, Picard's Method, Euler's Method

Partial Differential Equation

At the end of the course, the students will be able to:

CO1: Solve Lagrange's equation

CO2: Find different types of solutions like complete integral, Singular integral and general integral

CO3: Determine the solution of partial differential equations using Charpit's Method

CO4: Classify partial differential equations to special types

CO5: Describe Monge's Method, Method of transformation

Mechanics II

At the end of the course, the students will be able to:

CO1: Find velocity and acceleration in terms of vector derivatives, curvature, Angular speed and angular velocity

CO2: Describe Radial and Transverse components of velocity and acceleration, areal speed and velocity

CO3: Explain Newton's Law of motion, angular momentum, work, energy, vector point function, Field of force

CO4: Describe motion under gravity, projectile, Motion of projectile, Parabola of safety

CO5: Describe motion in resisting medium

CO6: Describe areal velocity of central orbit, Pedal's equation

T.Y. B.Sc.

Semester V

Real Analysis –I

At the end of the course, the students will be able to:

CO1: Describe sets, functions, real valued functions, countable sets, Least upper Bound axiom and greatest lower bound axiom.

CO2: Give different types of sequence such as convergent, Divergent, monotone and its properties

CO3: Describe limit superior, limit inferior and Cauchy sequence

CO4: Explain basic concepts of series such as convergent, divergent, alternating series

CO5: Describe absolute and conditional convergence of the series

Abstract Algebra- I

At the end of the course, the students will be able to:

CO1: Explain elementary concepts of sets, functions and integrals

CO2: Describe group, subgroup, counting principle, Normal subgroup, Quotient groups, Homomorphism

CO3: Define Ring, some special types of ring

CO4: Describe Ideals, Maximal Ideals

CO5: Explain quotient ring, polynomial ring

Mathematical Statistics-I

At the end of the course, the students will be able to:

CO1: Explain frequency distribution, Histogram

CO2: Describe measures of central tendency

CO3: Describe Dispersion and Kurtosis

CO4: Explain concepts of random variables and its characteristics

CO5: Explain concept of the probability with illustration

Semester VI

Real Analysis –II

At the end of the course, the students will be able to:

CO1: Find Limits in Metric spaces

CO2: Explain continuous functions on Metric spaces

CO3: Describe connectedness, completeness and compactness

CO4: Describe set of Measure zero, Riemann integral, Fundamental theorem of calculus.

CO5: Explain Fourier series

Abstract Algebra- II

At the end of the course, the students will be able to:

CO1: Describe elementary basic concepts of vector spaces

CO2: Explain Linear independence and bases

CO3: Describe dual spaces

CO4: Describe inner product spaces

CO5: Explain modules with illustrations

Mathematical Statistics-II

At the end of the course, the students will be able to:

CO1: Find Mathematical Expectation and generating functions

CO2: Explain theoretical discrete probability distribution

CO3: Describe uniform distribution, binomial distribution, Normal Distribution, Gamma distribution

CO4: Describe correlation coefficient

CO5: Describe regression with examples

B.Sc. Microbiology

Programme Specific Outcomes

At the time of graduation, the students will be able to-

PSO1: Understand fundamental principles involved in Microbiology

PSO2: Acquire detail knowledge of microorganisms, their types and significance

PSO3: Understand metabolic and structural significance of bio-molecules

PSO4: Acquaint with concepts of Immunity, Antigen, Antibody and Immune system

PSO5: Understand importance and applications of various enzymes in replication transcription and translations

PSO6: Acquire detail knowledge of industrial production of enzymes, antibiotics and vitamins

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Course Outcomes

F.Y. B. Sc.

Semester I

Paper I – Fundamentals of Microbiology

At the end of the course, the students will be able to-

CO1: Identify distribution of microorganism in nature

CO2: Determine evolution of microbiology and their role in various biological processes

CO3: Classify Microorganisms into different category according to taxonomic ranks

CO4: Determine Biochemical properties of microorganisms

CO5: Calculate magnification, resolving power, depth of focus, numerical aperture of Microscope

Paper II- Microbial Techniques and General Microbiology

At the end of the course, the students will be able to-

CO1: Conceptualize microorganisms and their types, importance and Practical aspects

CO2: Distinguish between beneficial and harmful Microbes

CO3: Cultivate, observe and perform microscopic identification of bacteria, fungi and other microbes

CO4: Describe concept, methods and pattern of Sterilization and its practical applicability

CO5: Discuss role of Microorganisms in spreading diseases, usefulness in agriculture, environment and industrial sector

Semester II

Paper-IV Cytology and general Microbiology

At the end of the course, the students will be able to-

CO1: Describe different structural parts & its arrangement of Microbial cells

CO2: Classify bacteria on nutritional requirements

CO3: Determine Bacterial growth curve

CO4: Calculate mathematics of bacterial growth curve

CO5: Describe mode of nutrient uptake by bacteria

CO6: Describe Bacterial photosynthesis

CO6: Discuss advances in Microbiology

CO7: Determine shape, size and structure of bacteria by various staining procedures

Paper V- Basic Biochemistry

At the end of the course, the students will be able to-

CO1: Describe structures, functions and classification of carbohydrates, proteins, amino acids, lipids, nucleic acids

CO2: Discuss metabolic and structural significance of bio-molecules

C03: Describe functional groups and biochemical interactions present in bio-molecules

C04: Explain concept of pH, buffer, titration curve and pKa value

CO5: Explain concept of enzyme, physicochemical factors contributing to enzyme activity

CO6: Discuss nutrients uptake of microbes, anaerobic respiration and photosynthesis

S.Y. B. Sc.

Semester III

Paper VII- Environmental Microbiology

At the end of the course, the students will be able to-

CO1: Determine sources of Air, Water and Soil pollution and their effects

CO2: Describe processes involved in purification of sewage and portable water

CO3: Determine Air sampling techniques and its effectiveness

CO4: Classify eneterobacter by various Biochemical tests: IMViC, MPN, Elevated temperature test

CO5: Calculate BOD, COD, Chlorine in water

CO6: Discuss relationship between soil microorganisms, Role of bio-fertilizers

CO7: Describe various biogeochemical cycles

Paper VIII-Immunology

At the end of the course, the students will be able to-

CO1: Explain concept of Immunity, Antigen, Antibody, Immune system

CO2: Describe structure, Classes, biological activity and gene Organization of antibodies and their diversity

CO3: Rationalize Expression of Ig genes, Monoclonal antibody (Chimeric Antibody and Humanized Antibody) and its formation and applications

CO4: Describe Lymphocyte (T and B cell) Activation and Regulation, Effecter Mechanism, Complement System: Activation and its Regulation

CO5: Discuss Diagnostic application of immunology: Practical aspects of Antigen-Antibody Interaction: Precipitation and Agglutination

CO6: Perform Blood grouping, isolation of bacterial Antigen and Ag-Ab reactions

Semester IV

Paper XI-Applied Microbiology

At the end of the course, the students will be able to-

CO1: Describe composition of milk, associated microorganism and Milk Sterilization

CO2: Discuss Food and Microorganisms, source of food contamination and food preservation

CO3: Describe Food born disease and Intoxication and Pathogen associated with food poisoning

CO4: Discuss mechanism of preparation of fermented foods and probiotics with the help of microorganisms

Paper XII-Clinical Microbiology

At the end of the course, the students will be able to-

CO1: Determine mode of entry, infection, symptoms, Laboratory diagnosis and treatment for Bacterial, fungal, Protozoan infections

CO2: Describe life cycle, pathogenesis, laboratory diagnosis of HIV, Oncogenic viruses

CO3: Determine nutrients for cultivation of pathogenic bacteria

CO4: Identify epidemiology of general bacterial, fungal, protozoan infections

CO5: Identify normal micro-flora of humans

CO6: Determine antibiotic resistance by Bacteria

T.Y. B. Sc.

Semester V

Paper XV-Microbial Genetics

At the end of the course, the students will be able to-

CO1: Differentiate gene expression pattern between microorganisms and eukaryotes

CO2: Discuss importance and applications of different genes (structural genes, functional genes etc)

CO3: Discuss importance and applications of various enzymes in the processes viz. replication transcription and translations etc

CO4: Describe various types of RNA and their role during translation, tRNA activations etc

CO5: Discuss mutation, its types and related effects like loss of function and gain of functions etc

CO6: Explain re-combinations- transduction, conjugation with types and transformations etc

Paper XVI-Microbial Metabolism

At the end of the course, the students will be able to-

C01: Describe enzyme as biocatalyst, its classification and mechanism of action

CO2: Discuss metabolic role of coenzymes

CO3: Give industrial applications of free and immobilized enzyme

CO4: Explain bacterial anabolic-catabolic pathways and their regulation

CO5: Discuss modes of energy yielding metabolism, microbial fermentation and its significance

C06: Determine factor affecting enzyme activity, overall enzyme kinetics viz. Km, Vmax, Kcat

C07: Prepare buffers, reagents and stock solutions

Semester VI

Paper XIX-Recombinant DNA Technology

At the end of the course, the students will be able to-

CO1: Discuss handling and applications of different DNA and RNA modifying enzymes

CO2: Elaborate techniques used for DNA transformation in host cells

CO3: Describe design of various vectors used for plants, animals and microorganisms and their modification strategies

CO4: Design cloning strategies for various applications

CO5: Differentiate transformed and non-transformed colonies

Paper XX-Industrial Microbiology

At the end of the course, the students will be able to-

CO1: Elaborate various aspects of industrial technology related to Microbiology

CO2: Screen industrially important strains

CO3: State and explain principles of fermenter design and computer assisted fermentation control

C04: Discuss fermentation process and downstream processing

CO5: Formulate media, aspects of raw material used, methods of strain improvement

CO6: Describe industrial production of enzyme, antibiotics, amino acids and vitamins

CO7: Produce, purify and estimate various products, like enzymes, ethanol, acids, and antibiotics with the help of microbes

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B.Sc.: Physics

Programme Specific Outcomes

At the time of graduation, the students will be able to-

PSO1: Understand basic concepts of Mechanics, Optics, Thermodynamics and Mathematical methods of Physics

PSO2: Use effectively various basic measuring Instruments in laboratory

PSO3: Acquire Knowledge of mathematical Physics, Electronics, Statistical Physics and its applications

PSO4: Understand basic Laws of practical Physics

PSO5: Draw appropriate conclusions on outcomes of experiments

PSO6: Acquire ability to understand different types of crystal structures, classical and quantum theory of specific Heat, Electrodynamics with applications and Fibre Optics and its uses

PSO7: Understand and apply simple basics of Quantum mechanics

PSO8: Understand and solve Maxwell's equations

PSO9: Gain comprehensive knowledge of various techniques used in laser and its applications

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Course Outcomes

F.Y. B. Sc.

Semester I

Paper I –Mechanics, Properties of Matter

Upon completion of the course, the students will be able to:

CO1: Describe acceleration due to gravity, Newton's law of gravitation and basics of potential and fields

CO2: Discuss basic properties of matter, Young's modulus, Bulk modulus and Modulus of rigidity

CO3: Discuss properties of matter especially viscosity and surface tension

CO4: Define the general terms in acoustics intensity, loudness, reverberation etc.

Paper II- Heat & Thermodynamics

Upon completion of the course, the students will be able to:

CO1: Define Thermal Conductivity, coefficient of thermal conductivity, Thermal diffusivity, and resistivity; give comparison of conductivities of various metals

CO2: Describe reason for modification of gas equation; derive Vander Waals equation of state; define critical constants

CO3: Explain Transport phenomenon, mean free path with expression, thermal conductivity and viscosity

CO4: Formulate and solve problems in Thermodynamics and Heat; explain adiabatic

Process, isothermal process, reversible process, irreversible process and derive relevant equation, draw indicator diagram

CO5: Derive Thermodynamic parameters, Heat engine and Carnot Heat Engine, Maxwell's equation and their applications

Semester II

Paper-IV Geometrical and Physical Optics

Upon completion of the course, the students will be able to:

CO1: Describe and determine concept of cardinal point and different eye pieces

CO2: Explain interference phenomenon of light and its relevant experiments

CO3: Explain concept of diffraction of light and grating

CO4: Describe polarization of light and its related Experiments

Paper V- Electricity & Magnetism

Upon completion of the course, the students will be able to:

CO1: Describe the concept of Scalar, vector triple product of vector algebra and Solve divergence, gradient and curl

CO2: Explain Coulomb's law, Gauss law and dielectrics with mathematical derivation

CO3: Explain the concept of Biot-Savrat's Law, Ampere's Law and Ballistic Galvanometer

CO4: Elaborate growth and decay of LCR circuit

S.Y. B. Sc.
Semester III

Paper VII- Mathematical Physics and Relativity

Upon completion of the course, the students will be able to:

CO1: Explain partial differentiation, successive differentiation and total differentiation

CO2: Describe ordinary differential equation and solutions of first and second order differentiation equation

CO3: Elaborate theories and methods of statistical Physics and quantum statics

CO4: Explain principle of special theory of relativity and derive relevant equations including Einstein equation

Paper VIII- Modern Physics

Upon completion of the course, the students will be able to:

CO1: Explain Photoelectric Effect and its applications in various processes

CO2: Describe X- Ray radiation and its spectra

CO3: Explain theoretical aspect of Atomic mass, nuclear fission and Energy released in nucleus

CO4: Describe Particle accelerator, Cyclotron and Deuterons

Semester IV

Paper XI- General Electronics

Upon completion of the course, the students will be able to:

CO1: Describe semiconductors, Zener diode, Transistor and give its application

CO2: Explain Amplifier, RC coupling and Transistor biasing and discuss its applications

CO3: Describe theoretical and practical aspects of Oscillator and Multi-vibrator

CO4: Elaborate modulation, FM Modulation and AM wave

Paper XII- Solid State Physics

Upon completion of the course, the students will be able to:

CO1: Explain types of solids, miller indices, inter planner spacing and different types of Crystal structures

CO2: Elaborate concept of inter atomic forces and Kroning Penney Model

CO3: Describe classical theory of lattice heat capacity and Debye model; discuss limitations of Debye model

CO4: Discuss applications of free electron theory of Metals, Hall effect, Hall voltage and Hall coefficient and importance of Hall Effect

CO5: Describe transport properties of electrical conductivity thermal conductivity

T.Y. B. Sc.

Semester V

Paper XV- Classical & Quantum Mechanics

Upon completion of the course, the students will be able to:

CO1- Explain basic concept of Classical Mechanics, mechanics of particle, and mechanics of system of particle by using Newton's laws of motion

CO2- Derive Lagrange's equation and its various applications

CO3- Explain basic concepts of constraints, its types and Virtual work done

CO4- Discuss mathematical basics of quantum mechanics, explain matter wave, Group velocity, particle velocity, operators, wave function and expectation values

CO5- Derive Schrodinger time dependent and independent equation and describe particle in one-dimensional box

Paper XVI- Electrodynamics

Upon completion of the course, the students will be able to:

CO1: Describe and understand diversions, curl, and Gauss Law applications in Electrostatics

CO2: Explain concepts of self-induction, mutual induction and equation of continuity

CO3: Describe origin of Maxwell's equations in magnetic and dielectric media

CO4: Derive electromagnetic wave equation in conduction medium

CO5: Explain transport of energy and poyinting vector, poyinting theorem

CO6: Describe boundary condition for electromagnetic field vectors B, E, D and H

Semester VI

Paper XIX- Atomic, Molecular Physics & LASER

Upon completion of the course, the students will be able to:

CO1: Explain Thomson's atom model, Rutherford's nuclear atom model and Bohr's atom model

CO2: Describe the concepts of Vector atom model, quantum numbers, Coupling Scheme and Pauli's exclusive principle

CO3: Explain Zeeman Effect and Stark effect

CO4: Describe Rotation, Vibration Spectra, Raman Effect and its applications in various fields

CO5: Discuss LASER system and its properties, types of LASER and its medical, biological and industrial applications

Paper XX- Non-conventional Energy Sources and Optical Fiber

Upon completion of the course, the students will be able to:

CO1: Explain the concept of technologies of non-conventional sources of energy

CO2: Describe various renewable energy technology

CO3: Discuss non-conventional energy sources: Biomass, wind energy, tidal energy, ocean energy, geothermal energy and solar energy

CO4: Elaborate the concept of solar energy and its applications in various fields

CO5: Describe structures of optical fibers

CO6: Describe fiber fabrication techniques and testing of optical fiber cables

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B.Sc.: Computer Science

Programme Specific Outcomes

At the time of graduation, the students will be able to-

PSO1: Understand basics of software systems

PSO2: Design, implement and document solutions to significant computational problems

PSO3: Demonstrate understanding of principles and working of hardware and software systems of computer systems

PSO4: Apply fundamental principles and methods of Computer Science to a wide range of applications

PSO5. Design, implement, test, and evaluate computer system, component, or algorithm to meet desired needs and to solve computational problems

PSO6: Develop proficiency in the practice of computing

PSO7: Apply problem-solving skills and knowledge of Computer Science to solve real problems

PSO8: Enhance programming skills and adapt new computing technologies for attaining professional excellence and carrying research

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Course Outcomes

Semester I

Computer Fundamentals

Upon completion of the course, the students will be able to-

CO1: Explain various steps involved in problem solving techniques

CO2: Classify 7-8 high-level programming languages and two operating systems

CO3: Analyze complex problems and the synthesis of solutions to those problems

CO4: Explain software engineering principles

Digital Electronics

Upon completion of the course, the students will be able to-

CO1: Define digital components and devices

CO2: Explain logic gates and realization of OR, AND, NOT AND XOR Functions using universal gates

CO3: Explain combinational circuits like half adder/full adder, half subtractor/full subtractor, code converters, comparators, MUX/DEMUX

CO4: Evaluate sequential circuits like flip-flops, counters and shift registers

Microprocessor- I

Upon completion of the course, the students will be able to-

CO1: Define taxonomy of microprocessors and knowledge of contemporary microprocessors

CO2: Explain architecture, bus structure and memory organization of 8086 as well as higher order microprocessors

CO3: Explore techniques for interfacing I/O devices to the microprocessor 8086 including several specific standard I/O devices such as 8251 and 8255

CO4: Define programming using the various addressing modes and instruction set of 8086 microprocessor

C-programming II

Upon completion of the course, the students will be able to-

CO1: Explain flowchart and design algorithm for a given problem and to develop IC programs using operators

CO2: Define conditional and iterative statements to write C programs

CO3: Classify user defined functions to solve real time problems

CO4: Describe C programs that use Pointers to access arrays, strings and functions

CO5: Explain user defined data types including structures and unions to solve problems

Communications Skill – I

Upon completion of the course, the students will be able to-

CO1: Describe importance of communication in daily life

CO2: Elaborate importance of grammar as an effective tool for accuracy in communication

CO3: Describe listening is the most important aspect of all communication skills

CO4: Develop body language is an important aspect of effective communication

CO5: Discuss how pronunciation of words is essential for better comprehension in communication

Mathematical Foundation

Upon completion of the course, the students will be able to-

CO1: Define set and constructing proofs

CO2: Draw graphs on the basis of available data

CO3: Explain relations and determine their properties

CO4: Classify functions

Semester II

Data Structure

Upon completion of the course, the students will be able to-

CO1: Define concept of Dynamic memory management, data types, algorithms

CO2: Give basic data structures such as arrays, linked lists, stacks and queues

CO3: Describe the hash function and concepts of collision and its resolution methods

CO4: Explain problem involving graphs, trees and heaps

CO5: Solve algorithm for sorting, searching, insertion and deletion of data

Operating Systems

Upon completion of the course, the students will be able to-

CO1: Define the main components of an OS & their functions

CO2: Explain the process management and scheduling

CO3: Elaborate various issues in Inter Process Communication (IPC) and the role of OS in IPC

CO4: Describe the concepts and implementation

Microprocessor- II

Upon completion of the course, the students will be able to-

CO1: Define the taxonomy of microprocessors and knowledge of contemporary microprocessors

CO2: Explain architecture, bus structure and memory organization of 8086 as well as higher order microprocessors

CO3: Explore techniques for interfacing I/O devices to the microprocessor 8086 including several specific standard I/O devices such as 8251 and 8255

CO4: Classify programming using the various addressing modes and instruction set of 8086 microprocessor

C-programming II

Upon completion of the course, the students will be able to-

CO1: Give flowchart and design algorithm for a given problem and to develop IC programs using operators

CO2: Develop conditional and iterative statements to write C programs

CO3: Exercise user defined functions to solve real time problems

CO4: Explain C programs that use Pointers to access arrays, strings and functions

CO5: Classify user defined data types including structures and unions to solve problems

Communications Skill – II

Upon completion of the course, the students will be able to-

CO1: Give importance of communication in daily life

CO2: Describe how grammar is an effective tool for accuracy in communication

CO3: Elaborate importance of all communication skills

CO4: Explain body language as an important aspect of effective communication

CO5: Give importance of pronunciation of words for better comprehension in communication

Numerical Computational Method

Upon completion of the course, the students will be able to-

CO1: Describe error analysis for a given numerical method

CO2: Explain an algebraic or transcendental equation using an appropriate numerical method

CO3: Prove results for numerical root finding methods

CO4: Explain approximate a function using an appropriate numerical method

Semester III

Advance Data Structure

Upon completion of the course, the students will be able to-

CO1: Explain asymptotic notation, its properties and use in measuring algorithm behaviour

CO2: Explain mathematical principles to solve various problems

CO3: Evaluate complexities of various algorithms and select the best

CO4: Describe different strategies that are known to be useful in finding efficient algorithms to solve problems and to be able to apply them

CO5: Use appropriate data structure and algorithms to solve a particular problem

UNIX Operating system

Upon completion of the course, the students will be able to-

CO1: Develop software for Linux/UNIX systems

CO2: Define C language and get experience programming in C

CO3: Explain important Linux/UNIX library functions and system calls

CO4: Verify the inner workings of UNIX-like operating systems

CO5: Define a foundation for an advanced course in operating systems

PC maintenance

Upon completion of the course, the students will be able to-

CO1: Describe electronic circuits with the knowledge of courses related circuits, networks, linear digital circuits and analog electronics

CO2: Explore the scientific theories, ideas, methodologies in operation and maintenance of communication systems to bridge the gap between academics and industries

CO3: describe work profession with new cutting edge Technologies in the fields of electronic design, communication and automation

CO4: Describe operating system and other application software

Programming in CPP

Upon completion of the course, the students will be able to-

CO1: Explain the procedural and object oriented paradigm with concepts of streams, classes, functions, data and objects

CO2: Describe dynamic memory management techniques using pointers, constructors, destructors

CO3: Explain concept of function overloading, operator overloading, virtual functions and polymorphism

CO4: Describe inheritance with the understanding of early and late binding, usage of exception handling, generic programming

DBMS

Upon completion of the course, the students will be able to-

CO1: Describe different issues involved in the design and implementation of a database system

CO2: Explain physical and logical database designs, database modelling, relational, hierarchical, and network models

CO3: Explain data manipulation language to query, update, and manage a database

CO4: Describe DBMS concepts such as: database security, integrity, concurrency

Statistical Method

Upon completion of the course, the students will be able to-

CO1: Explain inferential and descriptive statistics. Differentiate between a quantitative and a qualitative variable, Know the four levels of measurement: - nominal, ordinal, interval, and ratio

CO2: Define frequency distribution, determine the class midpoints, relative frequencies, and cumulative frequencies of a frequency distribution, Construct a Histogram, a Frequency Polygon, and a Pie Char.

CO3: Define mean, mode, and median. Explain the characteristics of the mean, mode, and median.

CO4: Calculate mean, mode and median for both grouped and ungrouped data

Semester IV

Software Engineering

Upon completion of the course, the students will be able to-

CO1: Describe **s**uccessful professionals in the field with solid fundamental knowledge of software engineering

CO2: Utilize and exhibit strong communication and interpersonal skills, as well as professional and ethical principles when functioning as members and leaders of multi-disciplinary teams

CO3: Explain foundations in software engineering to adapt to readily changing environments using the appropriate theory, principles and processes

CO4: Describe the issues affecting the organization, planning and control of software.

Fedora

Upon completion of the course, the students will be able to-

CO1: Describe various contents of Linux

CO2: Give the requirements in Linux system installation

CO3: Describe the concept of handling Linux and performing operations using Linux commands and tools

CO4: Describe the basics of Linux, logical channels, advantages and limitations

Basics of Networking

Upon completion of the course, the students will be able to-

CO1: Describe concepts of OSI reference model and the TCP/IP reference model

CO2: Describe concepts of protocols, network interfaces, and design/performance issues in local area networks and wide area networks

CO3: Explain wireless networking concepts

CO4: Explain contemporary issues in networking technologies

CO5: Explain network tools and network programming

Core Java

Upon completion of the course, the students will be able to-

CO1: Define structure and model of the Java programming language

CO2: Use the Java programming language for various programming technologies

CO3: Describe software in the Java programming language

CO4: Evaluate user requirements for software functionality required to decide whether the Java programming language can meet user requirements

Adv. DBMS

Upon completion of the course, the students will be able to-

CO1: Explain elementary and advanced features of DBMS and RDBMS

CO2: Describe conceptual frameworks and definitions of specific terms that are integral to the Relational Database Management Systems

CO3: Define basic concepts of Concurrency Control and database security

CO4: Prepare various database tables and joins them using SQL commands

Web Fundamental

Upon completion of the course, the students will be able to-

CO1: Describe history of the internet and related internet concepts that are vital in understanding web development

CO2: Discuss insights of internet programming and implement complete application over the web

CO3: Describe important HTML tags for designing static pages and separate design from content using Cascading Style sheet.

CO4: Define the concept of JavaScript's

Semester V

Software Cost Estimation

Upon completion of the course, the students will be able to-

CO1: Prepare SRS document, design document, test cases and software configuration management and risk management related document

CO2: Describe function oriented and object oriented software design using tools like rational rose

CO3: Describe unit testing and integration testing

CO4: Describe various white box and black box testing techniques

Android OS

Upon completion of the course, the students will be able to-

CO1: Explain android platform Architecture and features

CO2: Design User Interface and develop activity for Android Applications

CO3: Define Intent, Broadcast receivers and Internet services in Android Applications

CO4: Design database Application and Content providers

Core Java-II

Upon completion of the course, the students will be able to-

CO1: Describe fundamentals of programming such as variables, conditional and iterative execution, methods

CO2: Explain fundamentals of object-oriented programming in Java, including defining classes, invoking methods, using class libraries

CO3: Give important topics and principles of software development

CO4: Elaborate computer program to solve specified problems

CO5: Discuss Java SDK environment to create, debug and run simple Java programs

Computer Graphics

Upon completion of the course, the students will be able to-

CO1: Elaborate basics of Computer Graphics, different graphics systems and applications of Computer Graphics

CO2: Summarise the working principle of Display devices

CO3: Explain various algorithms for scan conversion and filling of basics objects and their comparative analysis

CO4: Analyse line, Circle and Ellipse and Character generation algorithm

CO5: Describe Geometric transformations including Translation, Scaling, rotation and Shear for 2D objects

CO6: Describe Geometric transformations including Translation, Scaling, rotation and Shear for 3D objects

Beginners Programming with PHP

Upon completion of the course, the students will be able to-

CO1: Describe client server architecture and able to develop a web application using java technologies to create fully functional website/web applications

CO2: Describe role of language PHP and workings of the web and web applications

CO3: Prepare web page and identify its elements and attributes

CO4: Create dynamic web pages

Advanced Networking

Upon completion of the course, the students will be able to-

CO1: Describe state-of-the-art in network protocols, architectures and applications

CO2: Describe existing network protocols and networks

CO3: Define new protocols in networking

CO4: Evaluate research in networking

CO5: Investigate novel ideas in the area of networking via term-long research projects

Semester VI

Software Quality & Testing

Upon completion of the course, the students will be able to-

CO1: Describe reason for bugs and analyze the principles in software testing to prevent and remove bugs

CO2: Classify various test processes for quality improvement

CO3: Define test planning

CO4: Discuss test process

CO5: Explain software testing techniques in commercial environment

Android Application Development

Upon completion of the course, the students will be able to-

CO1: Install and configure Android application development tools

CO2: Design user Interfaces for the Android platform

CO3: Evaluate information across important operating system events

CO4: Explain Java programming concepts to Android application development

Theory of Computation

Upon completion of the course, the students will be able to-

CO1: Explain finite state machines and the equivalent regular expressions

CO2: State and prove the equivalence of languages described by finite state machines and regular expressions

CO3: Classify pushdown automata and the equivalent context free grammars

CO4: Verify equivalence of languages described by pushdown automata and context free grammars

Advanced Computer Graphics

Upon completion of the course, the students will be able to-

CO1: Give importance of viewing and projections

CO2: Explain the fundamentals of animation, virtual reality and its related technologies

CO3: Describe typical graphics pipeline

CO4: Design an application with the principles of virtual reality

Advanced Programming with PHP

Upon completion of the course, the students will be able to-

CO1: Explain general concept of PHP scripting language for the development of Internet websites

CO2: Define basic functions of My SQL database program

CO3: Give relationship between the client side and the server side scripts

CO4: Evaluate final project using the learned techniques

Ethics and Cyber law

Upon completion of the course, the students will be able to-

CO1: Explain ethical way of using computer, computer networks and Internet

CO2: Define the terms such as ethics, morals, character, ethical principles and ethical relativism

CO3: State laws and rules for using computer recourses and making them secure

CO4: State and explain laws concerning Cyber Space

M. Sc. Chemistry

Programme Specific outcomes

At the time of post graduation, the students will be able to-

PO1: Develop critical thinking ability to solve problems in chemistry

PO2: Demonstrate and understand major concepts in all disciplines of chemistry

PO3: Perform accurate quantitative measurements with an understanding of the theory and use of contemporary chemical instrumentation, interpret experimental results, perform calculations on the obtained results and draw reasonable accurate conclusion

PO4: Present Scientific and technical information resulting from laboratory experimentation

PO5: Use technologies/instrumentation to gather and analyze data

PO6: Acquire knowledge about physical aspects of atomic structure, dual behaviour reaction pathways with respect to time, various energy transformations, molecular assembly at nano-scale level, aspects of electrochemistry, molecular segregation using their symmetry

PO7: Learns about the potential uses of analytical, industrial, medicinal and green chemistry

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Course Outcomes

F.Y M.Sc.

Semester I

CHE-101 Analytical Chemistry

Upon completion of the course, the students will be able to-

CO1: Explain different chromatographic techniques

CO2: Discuss basic separation techniques

CO3: Discuss role of analytical chemistry in various fields

CO4: Discuss the effect of pH and reagent concentration on the solvent extraction of metal chelates

CHE-102 Inorganic Chemistry

Upon completion of the course, the students will be able to-

CO1: Discuss the function of essential and trace element in biological system

CO2: Describe classification of point groups

CO3: Discuss in detail the mechanism involved in electron transfer reaction

CO4: Explain factors affecting stability constant

CO5: Describe in details synthesis of anticancer agents

CHE-103 Organic Chemistry

Upon completion of the course, the students will be able to-

CO1: .Explain the effect of conformation on reactivity

CO2: .Discuss various types of substitution reaction

CO3: Explain amabident nucleophile

CO4: Explain elements of symmetry

CHE-104 Physical Chemistry

Upon completion of the course, the students will be able to-

CO1: Describe thermodynamics of biological reaction

CO2: Explain theory of absolute reaction rates

CO3: Calculate ionic strength of solutions

CO4: Calculate solubility and solubility product of silver chloride in water

CO5: Calculate pH values of solutions of various concentration

Semester II

CHE-205 Spectroscopic method of analysis

CO1: Discuss different spectroscopic methods and their applications in the analysis of compound

CO2: Describe electromagnetic radiation

CO3: Explain in details photoelectron spectroscopy

CO4: Discuss the nuclear magnetic resonance spectroscopy

CHE-206 Inorganic Chemistry

CO1: Discuss electronic spectra and magnetic properties of metal complex

CO2: Describe methods of preparation, properties and structure of various compounds

CO3: Explain the construction of tanabe- sugano diagram with suitable example

CO4: Discuss the 18 electron rule

CO5: Describe role of Orgel diagram

CHE-207 Organic Chemistry

CO1: Explain general mechanistic consideration of rearrangement reactions

CO2: Discuss mechanism of elimination reactions

CO3: Explain mechanism of metal hydride reduction of saturated and unsaturated carbonyl compound in ester and nitrile

CO4: Discuss ortho and para ratio

CHE-208 Physical Chemistry

CO1: Discuss the properties of quantum mechanical operators

CO2: Describe classification of solids on the basis of shapes and bonding

CO3: Explain the effect of increase of voids on the crystals

CO4: Explain the selection rule and spin orbital coupling

Laboratory course CHE-209 General and Analytical

CO1: Analyze different components such as oil, coco-cola, bleaching powder

CO2: Analyze COD in water

CHE-210 Inorganic Chemistry

CO1: Separate metal ions from binary mixture

CO2: Identify basic radicals

CHE-211 Organic Chemistry

CO1: Describe single stage preparations of compounds

CO2: Analyze binary mixtures

CO3: Describe method of preparation of P-nitrobromobenzene from bromobenzene

CHE-212 Physical Chemistry

CO1: Explain instrumental techniques such as potentiometer, conductometer, colorimeter

CO2: Discuss Non- instrumental methods

CO3: Determine radius of molecule by viscosity measurement

CO4: Determine velocity constant of hydrolysis of ester

S.Y M.Sc.

Semester III

CHE-313 Structural elucidation by spectral methods

Upon completion of the course, the students will be able to-

CO1: Explain principles of H1 NMR, C^{13} NMR and Mass Spectroscopy

CO2: Solve Problems on UV, IR spectroscopy

CO3: Explain Principle of Massbauer spectroscopy, Quadrupole splitting

CO4: Explain Principle of ESR Spectroscopy, Hyperfine splitting, Kramer's degeneracy

CO5: Discuss elucidation of structure by spectral methods

CHEO-314 Organic Synthesis

Upon completion of the course, the students will be able to-

CO1: Explain reaction intermediates and preparation and uses of organometallic reagents

CO2: Explain mechanism of different reactions

CO3: Explain concept of oxidation and various oxidative reagents

CO4: Discuss uses organic reagents

CHEO-315 Asymmetric synthesis and Bio-organic chemistry

Upon completion of the course, the students will be able to-

CO1: Explain asymmetric hydroxylation and asymmetric reactions

CO2: Describe aspects of Bio-organic chemistry and enzyme chemistry

CO3: Discuss co-enzyme chemistry

CO4: Describe enzyme models, chiral recognition, cyclodextrins

CO5: Explain chiral pool, chiral auxillary, asymmetric hydrogenation

CHEO-316 Photochemistry, Free radicals And Pericyclic reactions

Upon completion of the course, the students will be able to-

CO1: Explain concept of Free radical reactions

CO2: Discuss Pericyclic and Electrocyclic reactions

CO3: Describe Cyclo-addition reactions

CO4: Describe electro-cyclisation, sigmatropic rearrangements, photofries rearrangement

Semester IV

CHEO-417 Organic Synthesis: Retro-synthetic Approach

Upon completion of the course, the students will be able to-

CO1: Discuss Retro-synthetic analysis of different molecules

CO2: Describe disconnection approach, protecting group, C-C disconnections

CO3: Discuss ring synthesis, rearrangements, photochemistry in synthesis

CO4: Describe synthesis of 3,4,5,6 membered ring

CHEO-418 Advanced Organic and Heterocyclic Chemistry

Upon completion of the course, the students will be able to-

CO1: Discuss five member hetero-cycles and fused hetero-cycles

CO2: Describe mechanism of rearrangements and name reactions

CO3: Explain nomenclature of hetero-cycles

CO4: Describe fused heterocycles

CHEO-419 Chemistry of Natural Products

Upon completion of the course, the students will be able to-

CO1: Describe plant pigments and Biogenesis

CO2:Describe Terpenoids and carotenoids, coniine,nicotine,atropine, quinine and morpholine

CO3: Explain Diel's hydrocarbon, Bile acids, hormones

CO4: Explain Synthesis of Anthocyanins with mechanism

CHEO-420 Medicinal Chemistry

Upon completion of the course, the students will be able to-

CO1: Discuss Synthesis and utilities of different drug molecules

CO2: Describe types of drug, drug activity, drug absorption, distribution and deposition

CO3: Explain mechanism of drug action, classification of drugs

CO4: Discuss antibiotic, antidiabetic, antineoplastic drugs

CHEO-421 Laboratory Course- Qualitative analysis of ternary mixtures

Upon completion of the course, the students will be able to-

CO1: Explain ternary mixtures

CO2: Identify each component in ternary mixtures

CHE-422 Organic multistep preparations

Upon completion of the course, the students will be able to-

CO1: Describe thin layer chromatography

CO2: Explain multistep preparation with mechanism

CO3: Describe single stage preparation with mechanism

CO4: Describe re-crystallization of prepared compounds

CHE-423 Structure elucidation and green protocol

Upon completion of the course, the students will be able to-

CO1: Describe spectral analysis of organic compounds

CO2: Explain Concept of green synthesis and its importance

CO3: Describe principles of spectroscopy

CO4: Describe synthesis of compound by green method with mechanism

CHE-424 Project work

Upon completion of the course, the students will be able to-

CO1: Describe concept of synthesis, knowledge of project writing

CO2: Perform literature survey with experimental details

CO3: Describe step wise mechanism of synthesis of assigned compound

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M.Sc. Mathematics

Programme Specific Outcomes

At the time of post graduation, the students will be able to-

PSO1: Acquire advanced knowledge in Mathematics

PSO2: Able to solve complex mathematical problems effectively

PSO3: Equip knowledge in various concepts involved in Algebra, Real analysis, Complex analysis, discrete Mathematics, Mechanics, Functional analysis and Difference equations

PSO4: Acquire a breadth and depth of understanding of advances in Mathematics

PSO5: Able to solve differential and difference equations

PSO5: Acquire the knowledge of stereographic projections in complex analysis

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Course Outcomes

Semester I

Advanced Abstract Algebra- I

At the time of post graduation, the students will be able to-

CO1: Describe binary relation, binary operation, group, subgroup, cyclic group

CO2: Describe Lagrange's theorem, Fermat's and Euler's Theorem

CO3: Explain in detail Normal subgroup, quotient group, fundamental theorem of group homomorphism, automorphism

CO4: Explain permutation group, centre, Normaliser, derived group, Cayles Theorem

CO5: Describe Normal series, solvable and Nilpotent group, alternating group

CO6: State Fundamental theorem of finitely generated abelian group, Sylow theorems and applications

Real Analysis- I

At the time of post graduation, the students will be able to-

CO1: Explain Riemann Stielties integrals and its properties

CO2: Describe sequence and series of functions and learn their tests for Convergence

CO3: State Weierstrass theorem, Abel's and Taylor's Theorem

CO4: Explain functions of several variables, chain rule

CO5: Describe inverse function theorem, implicit function theorem

Topology-I

At the time of post graduation, the students will be able to-

CO1: Explain countable, uncountable sets, principle of induction, metric spaces, open sets, closed sets

CO2: Describe Closure of a set, interior of a set and their properties

CO3: Describe bases and subbases, product space, weak topology

CO4: Describe evaluation map and related results

CO5: Describe directed sets, net, cluster point, subnet, ultranet, filter

Complex Analysis- I

At the time of post graduation, the students will be able to-

CO1: Describe complex number system

CO2: Describe metric spaces, connectedness, compactness, uniform Convergence

CO3: Explain elementary properties of exponential function, trigonometric and hyperbolic functions, roots of unity, Cauchy-Riemann equations, harmonic functions

CO4: Explain analytic functions as a mapping, Mobius transformations, bilinear transformation

CO5: Define the index of a closed curve, Cauchy's theorem, Gaursat's theorem, singularities

Advanced Discrete Mathematics- I

At the time of post graduation, the students will be able to-

CO1: Explain tautologies, equivalence and implication of statements

CO2: Describe semi groups and monoids and their related theorems

CO3: Find Lattices and sublattices, direct product and homomorphism

CO4: Explain Boolean algebra and various Boolean identities

CO5: Determine sum of products and product of sum, canonical form of given Boolean expressions

Semester II

Advanced Abstract Algebra- II

At the time of post graduation, the students will be able to-

CO1: Describe Ring, Ideals and their properties

CO2: Define Vector spaces, Linear dependence and independence, Basis and Modules

CO3: Explain linear transformation, characteristic roots and triangular form

CO4: Describe Extension field, irreducible polynomial and finite fields

CO5: Describe automorphism of group, Galois Theory, polynomial solvable by radicals

Real Analysis-II

At the time of post graduation, the students will be able to-

CO1: Explain measure, measurable sets, Borel and Lebegue measurability

CO2: Explain integration of functions of real variable and Integration of series

CO3: Describe Riemann and Lebeque integral and functions of bounded variations.

CO4: Describe abstract measure spaces and integration with respective to a Measure

CO5: Explain L^P spaces, convex functions, Jensen's inequality and almost uniform convergence

Topology-II

At the time of post graduation, the students will be able to-

CO1: Describe Separation axioms, T_0, T_1, T_2 spaces, their properties and characterizations

CO2: Define Normal spaces, T_4 spaces, Urysorn's lemma, second countable spaces and Lindelof spaces

CO3: Define compactness, sequentially and countably compact spaces

CO4: Describe Lebesgue covering lemma, Urysohn's metrization theorem and metrizability of T_0 spaces

CO5: Explain connected spaces, components, simple chain, path wise and Locally connected

Complex Analysis- II

At the time of post graduation, the students will be able to-

CO1: Explain compactness and convergence in the space of Analytic functions, Factorization of the sine function, the gamma function

CO2: Describe Harmonic functions, basic properties of harmonic function, Poisson integral formula

CO3: Describe entire functions, Jensen's formulae, the genus and Order of an entire function, Wadamard Factorization theorem

CO4: Describe Univalent function

CO5: Explain Analytic continuation, special functions

Elective course

Advanced Discrete Mathematics- II

At the time of post graduation, the students will be able to-

CO1: Define graphs, subgraphs and fundamental concepts, operations on graph

CO2: Define degree, Paths, Cycles, connectedness of graph

CO3: Describe Eulerian paths and cycles of graphs

CO4: Explain planar graphs and Euler formula for planer graphs

CO5: Describe digraph, directed paths, cycles and Matrix representation of graph

S.Y. M.Sc.

Semester III

Functional Analysis

At the time of post graduation, the students will be able to-

CO1: Explain normed linear space, Banach spaces and Examples

CO2: Describe bounded linear transformations, Hahn- Banach Theorem, Reflexive spaces.

CO3: Explain open mapping theorem, closed graph theorem, inner product Spaces

CO4: Describe Hilbert spaces and its properties, Bessel's inequality, Parseval's Identity

CO5: Explain self Adjoint operator, eigen values and eigen spaces of an operator on a normal space, finite dimensional spectral theorem

Partial differential equation

At the time of post graduation, the students will be able to-

CO1: Give classification of second order partial differential equation, Laplace Equations and Poisson's equation

CO2: Describe harmonic functions, Green's function, Energy method and uniqueness

CO3: Explain fundamental solution of heat equation, Initial value problem, Mean value formula

CO4: Describe non-linear first order complete integral

CO5: Explain transformation method, Fourier transform and Laplace transform, arabolic partial differential equation with quadratic number linearity, Burger's equation with viscosity

Elective course

Numerical Analysis

At the time of post graduation, the students will be able to-

CO1: Determine solution of algebraic and transcendental equation by various methods

CO2: Determine solution of system of linear equation by Gauss Elimination method, iteration method, Gauss Seidal method, SOR method

CO3: Explain finite differences, Lagranges and Newton interpolation, piecewise and spleen interpolation

CO4: Explain differentiation and integration

CO5: Determine solution of ordinary differential equation by Taylor's series, Picard method, Euler method, Runge- Kutta method

Elective course

Lattice Theory

At the time of post graduation, the students will be able to-

CO1: Describe partially order set, lattice as a poset, lattice as a algebra, Hasse Diagram, Meet and join tables

CO2: Describe Isotone maps, sublattites, ideals, complete lattice and their Properties

CO3: Describe distributive and modular lattice, Demorgan's identities, Boolean algebra, Dedikinds modularity criterion

CO4: Describe Stone theorem, distributive lattices with pseudo Complementation.

CO5: Define join infinite distributive identity, distributive Standard and neutral elements

Elective course

Difference Equations-I

At the time of post graduation, the students will be able to-

CO1: Define difference operator, summation generating functions

CO2: Calculate the solution of linear difference equation of first order, general Results for linear equations

CO3: Determine solution of nonlinear equation with variable coefficient, the Z transforms applications

CO4: Explain stability theory, initial value problem for linear system

CO5: Explain Asymptotic methods

Semester IV

Core course

Linear Integral Equations

At the time of post graduation, the students will be able to-

CO1: Describe linear integral equations types of linear integral equations, Symmetrical kernel

CO2: Find solution of linear integral equations, verification of solution of Linear integral equations

CO3: Describe the differential method of finding the solution of Fredholm Integral equation and Volterra integral equations

CO4: Describe symmetric kernel, trace of kernel, Hilbert –schmidth Theorem

CO5: Describe integral transform methods, Fourier transform, applications to Volterra integral equations, Green's function, approach for ordinary Differential equations

Mechanics

At the time of post graduation, the students will be able to-

CO1: Describe D'alemberts principal and Lagrange's equation of motion

CO2: Explain Functional, Euler's equations and Motivating problems of calculus of variations

CO3: Explain the fixed end point problem for n unknown functions and variational problems in parametric form

CO4: Describe Hamilton principle and applications of Hamilton's formulation, Cyclic coordinates, conservation theorem

CO5: Describe two dimensional motion of rigid bodies Cayle- Klein parameters and related quantities

Elective course

Fuzzy Mathematics

At the time of post graduation, the students will be able to-

CO1: Describe theory of Fuzzy sets as measure of uncertainty and ambiguidy Fuzzy logic.

CO2: Describe basic concepts in fuzzy sets, convex fuzzy sets

CO3: Give properties of α-cuts, Decomposition theorem, operations on fuzzy sets

CO4: Describe fuzzy arithmetic, fuzzy numbers, arithmetic operations on fuzzy numbers

CO5: Explain fuzzy relations, fuzzy prepositions and their interpretation in terms of fuzzy sets, fuzzy rules

Elective course

Linear Algebra

At the time of post graduation, the students will be able to-

CO1: Explain vector spaces, subspaces, linear dependence Independence, basis and dimension of a vector space

CO2: Find rank of matrix, rank of linear transformation

CO3: Describe algebra of linear transformation, dual spaces

CO4: Determine Eigen values and Eigen vectors

CO5: State Cayle-Hamilton theorem and explain minimal polynomial

CO6: Describe canonical forms, diagonal form, triangular form, Jordan form

Elective course

Difference Equations-II

At the time of post graduation, the students will be able to-

CO1: Describe self adjoint second order linear equations, Green's function, the Riccati equations, oscillations

CO2: Explain Sturm-liouville problem, finite fourier analysis

CO3: Explain discrete calculation of variations

CO4: Find the solution of BVP for nonlinear equations, Lipschitz condition

CO5: Describe discrimination of partial differential equations

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M.Sc. Biotechnology

Programme Specific Outcomes

At the time of post graduation, the students will be able to-

PSO1: Understand basics of Biotechnology and various techniques involved in it

PSO2: Perform statistical analysis of various data related to biological field

PSO3: Acquire knowledge in fermentation technology, genetic engineering, tissue technology, biochemistry, etc

PSO4: understand various aspects of molecular biology

PSO5: Gain knowledge in structures and functions of bio-molecules

PSO6: Understand concepts of enzymes, coenzymes, their mechanism of action

PSO7: Identify Blood grouping, isolate and detect bacterial Antigen, serum antibodies, etc

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Course Outcomes

F.Y. M.Sc.

Semester I

Biomathematics and Biostatistics

At the end of the course, the students will be able to-

CO1: Apply statistical methods for analysis of biological data

CO2: Discuss data representation by histogram, polygon, ogive curves and pie diagram

CO3: Solve problem based on limits, derivatives and integration; derivatives of standard trigonometric and logarithmic functions

CO4: Solve problems based on statistical data by measures of central tendency viz. Mean, median and mode

CO5: Discuss deviation and standard deviation for grouped and ungrouped data

BT1002 – Bioenergetics and Biomolecules

At the end of the course, the students will be able to-

CO1: Describe structures, functions and classification of biomolecules

CO2: Rationalize the energy gain and loss during metabolic process

CO3: Discuss various metabolic pathways, their regulations and associated metabolic disorders

CO4: Give sources and classification of vitamins and deficiency disease

CO5: Elaborate bio-molecules isolation and estimation techniques

BT1003 – Microbiology

At the end of the course, the students will be able to-

CO1: Discuss microbial world, its diversity, its role and the factors affecting on it

CO2: Describe bacterial stress response and related mechanism involved in it

CO3: Define microbial taxonomy

CO4: Discuss mechanism of bacterial sporulation

CO5: Identify microorganism at molecular level

BT1004 – Inheritance Biology

At the end of the course, the students will be able to-

CO1: Explain concept inheritance, variation and genetic diversity

CO2: Identify and calculate ratios of genotypic and phenotypic probabilities based on observations of parents or offspring

CO3: Define gene mutations, chromosomal alterations and spontaneous and induced mutagenesis

CO4: Genotype organisms using different techniques like linkage mapping, interrupted mating, tetrad analysis, somatic cell hybridization and DNA sequencing

CO5: Discuss recombination concept in microorganisms based on transformation, conjugation and transduction

CO6: Describe maternal and extra chromosomal patterns of inheritance in plants, animals and algae

Semester II

BT2001 – Molecular Biology

At the end of the course, the students will be able to-

CO1: Give importance and applications of different genes viz. structural genes and functional genes etc in both prokaryotes and eukaryotes

CO2: Discuss significance of different enzymes in the processes viz. replication, transcription and translations etc. in both prokaryotes and eukaryotes

CO3: Describe types of RNA and their role during translation, tRNA activations etc. in both prokaryotes and eukaryotes

CO4: Discuss Recombination's- transduction, conjugation with types and transformations etc. in both prokaryotes and eukaryotes

CO5: Give various types of operons and their positive and negative regulations

CO6: Give types of mutations and DNA repair mechanism in both prokaryotes and eukaryotes

BT2002 – Enzyme Technology

At the end of the course, the students will be able to-

CO1: Define enzyme, give its classification and mechanism of action

CO2: Describe metabolic role of coenzymes and reaction catalysed by them

CO3: What are industrial applications of free and immobilized enzymes?

CO4: Elaborate clinical, non clinical enzyme based biosensor

CO5: Determine factor affecting enzyme activity the overall enzyme kinetics viz. Km, Vmax, Kcat

CO6: Prepare immobilized enzyme

CO7: Design experiments for screening, production and purification enzyme

BT2003 – Cell Biology

At the end of the course, the students will be able to-

CO1: Differentiate Prokaryotes, Eukaryotes, plant cell, animal cell, yeast cell, bacterial cell etc

CO2: Specify internal arrangement of cells, cell organelles and their functions

CO3: Describe structure of cell wall in different organisms, structure of plasma membrane and active-passive transportation of molecules across the cell

CO4: Elaborate cell cycle phase, their check points and importance in prevention of cancer

CO5: Give cellular signaling mechanism involved in controlling of overall physiological activities

CO6: Describe role of various cell surface receptors and their involvement in controlling the cellular transportation and activities

BT2004– Basic Immunology

At the end of the course, the students will be able to-

CO1: Define Immunity and Antigen; give its types

CO2: Discuss Cells and Organs of Immune System: Primary and Secondary Lymphoid Organs

CO3: Describe Antibodies, their biological activity, gene Organization, Recombination, Generation of Monoclonal antibody

CO5: Discuss Lymphocytes (T and B cell) activation and regulation, Effecter Mechanism, and Complement System: Activation and its Regulation

CO6: Apply immunology in Diagnostic applications such as Antigen-Antibody Interaction: Precipitation and Agglutination

CO7: Perform and identify Blood grouping, isolation and detection of bacterial Antigen, serum antibodies etc

S.Y. M.Sc.

Semester III

BT3001 – Applied Immunology and Virology

At the end of the course, the students will be able to-

CO1: Describe types of immune Responses like Phagocytosis, Antigen Processing and Antigen Presentation- Endogenous and Exogenous antigen & Non-peptide Bacterial antigen

CO2: Discuss appropriate immune response against bacteria, protozoa and viral infections.
CO3: Give details of Immunization, Vaccines - types and its Designing

CO4: Discuss Cancer and Cell Cycle of cancerous cell, Cancer Cells vs. Normal Cells

CO5: Give general properties, classification, cultivation, purification and enumeration of Viruses. Practical approach: Virus isolation

CO6: Describe genome, particle arrangement, mode of transmission and life cycle of Animal and plant viruses

BT3002 – Gene Expression and Adv. Genetic Engineering

At the end of the course, the students will be able to-

CO1: Discuss expression in prokaryotes and eukaryotes and their differences

CO2: Give applications of different restriction enzymes and different Modifying enzymes

CO4: Describe various vectors and their respective potential applications

CO5: What are the different technologies that are developed in genetic engineering to get the expressions of desired genes?

CO6: Perform experiments on PCR machines, gel electrophoresis of nucleic acids and their documentation

CO7: How DNA sequencing are carried out? Give applications of different identified sequences for the welfare of human beings

BT3003 – Developmental Biology

At the end of the course, the students will be able to-

CO1: Classify stem cells and discuss their potency level, cell specification, germ layers and fate mapping of the embryo

CO2: Differentiate oogenesis and spermatogenesis at chromosomal level, internal and external fertilization in animals and plants, cleavage-blastulation-gastrulation in different model organisms

CO3: Explain role of different genes, m-RNAs and proteins during developmental pathways in animals and plants

CO4: State and explain concept of aging and senescence in plants as well as animals with respect to their affecting parameters like genetic, epigenetic, environmental etc

CO5: Describe effect of environment on normal development, metamorphosis, teratogenesis etc

CO6: Experimentally prove totipotent nature of plant cells

BT3004 – Bioinstrumentation

At the end of the course, the students will be able to-

CO1: Describe working principles of Colorimeter, PH meter, Spectrophotometer, FTIR, HPLC, etc

CO2: Give applications of Colorimeter, PH meter, Spectrophotometer, FTIR, HPLC, etc

CO3: Discuss potential uses of microscope

Semester IV

BT4001 – Industrial Technology

At the end of the course, the students will be able to-

CO1: Elaborate fermentation technology and its working mechanism

CO2: Describe various methods of screening of desired microorganism

CO3: Discuss types of fermenter and its design, role of engineering principles in microbiology

CO4: Give various methods of preservation of microorganism

CO5: Elaborate ways of downstream processing

CO6: Describe methods of sterilization of media and fermenter

BT4002 – Recombinant DNA Technology

At the end of the course, the students will be able to-

CO1: What are of different enzymes and vector systems for construction of genomic and c-DNA libraries of different organisms?

CO2: Design primers and reaction mixture to run PCR for amplification of desired segment from double standard DNA

CO3: Discuss DNA sequencing and chemical synthesis of DNA molecule with desire nucleotide sequence

CO4: Describe techniques behind site directed mutagenesis and genome mapping by RAPD, SNPs, RFLP, AFLP, etc

CO5: Discuss high throughput techniques like DNA and Protein microarray to analyze transcriptome and protein expression

CO6: Analyze protein spots by various sophisticated techniques viz. Mass Spectroscopy, Electro spray ionization Peptide Mass fingerprinting and XRD with NMR for Structural analysis

BT4003 – Tissue Technology

At the end of the course, the students will be able to-

CO1: Elaborate technical aspects of tissue culture laboratory design and required facilities

CO2: Formulate tissue culture media, understand the role of media constituents

CO3: Define totipotency; describe stages of explant procurement, media and explant sterilization

CO4: Describe various techniques and methods of plant tissue culture

CO5: Give various methods of gene transfer and tissue engineering

CO6: Discuss animal cell culture aspect for production of biopharmaceutical products viz, hormone, vaccines, interferons, embryonic stem cells

BT4004 – Bioinformatics

At the end of the course, the students will be able to-

CO1: Discuss basics of nucleotide databases- like EMBL, Gene Bank, DDBJ and protein databases- like SWISSPROT, PROSITE, PDB, etc

CO2: Elaborate proteomics with respect to their structure, functions and analysis

CO3: Proficient in handling of various public domain databases for nucleic acid and protein sequences with different software

CO4: Get acquaint with DNA Microarray preparations and tools required for analysis of same by SAGE, SOFT finder, etc

CO5: Describe 2D and 3D structures of sequence identified proteins with their active site and functionalities

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M.Sc. (Computer Science)

Programme Specific Outcomes

At the time of post graduation, the students will be able to-

PSO1: Understand Fundamentals of programming

PSO2: Gain knowledge of Digital Signal Processing

PSO3: Proficient in advanced operating systems

PSO5: Analyze algorithms using various methods

PSO6: Understand advanced software engineering

Course Outcomes

M.Sc. I

Semester I

Advanced Java

Upon completion of the course, the students will be able to -

CO1: Explain the concept of programming fundamentals

CO2: Explain problem analysis: Explain, formulate, review research literature, and analyze computer Programming problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and Programming sciences

CO3: Describe ethical principles and commit Explain professional ethics and responsibilities and norms of the Programming practice

CO4: Explain Logic and Algorithm principle, Describe model, design and implement software projects meet to' business objectives

CO5: Describe Modern Tool usage: Create, select, and apply appropriate techniques, resources, and modern Programming and IT tools including prediction and modelling tools complex Programming activities with an understanding of the limitations

Neural Network

Upon completion of the course, the students will be able to -

CO1: Explain how the neural networks provided significantly better results than the regression model in terms of variation and prediction of extreme outcomes

CO2: Explain how neural network computation continues Explain gain popularity as an information processing Tool and has been applied Explain several problems in medical decision-making that traditionally have been attacked using statistical methods

CO3: Describe that how the neural networks are also self-training and amenable and explain incremental training after being put in to use. On the negative side, neural networks operate as "black boxes" in that they fail Explain elucidate any "deep" knowledge about the process being modelled

CO4: Explain mathematical preliminaries

CO5: Describe the artificial neurons abstraction field of Computer Science

Digital Signal Processing

Upon completion of the course, the students will be able to -

CO1: Explain the signals and systems (SOA)

CO2: Describe the principles of discrete-time signal analysis Explain perform various signal operations (SO A, E)

CO3: Describe the principles of z-transforms and explain finite difference equations. (SO A, E)

CO4: Describe the principles of Fourier transform analysis Explain the frequency characteristics of discrete-time signals and systems (SO A, E)

CO5: Explain the principles of signal analysis and explain filtering (SO A, C, E)

Advanced Operating System

Upon completion of the course, the students will be able to -

CO1: Explain Linux kernel mode with user mode and differentiate Kernel structuring methods

CO2: Explain file system structure with device drivers and file operations using system calls

CO3: Process management and Thread management strategies

CO4: Construct shell scripts with different programming syntax

CO5: Prepare for various OS case studies

Semester II

Data Structure & Analysis of Algorithms

Upon completion of the course, the students will be able to -

CO1: Explain the asymptotic performance of algorithms

CO2: Describe rigorous correctness proofs for algorithms

CO3: Explain a familiarity with major algorithms and data structures

CO4: Describe important algorithmic design paradigms and methods of analysis

CO5: Describe efficient algorithms in common engineering design situations

Advance Neural Network & Fuzzy Systems

Upon completion of the course, the students will be able to -

CO1: Describe soft computing concepts and techniques and foster their abilities in designing and implementing soft computing based solutions for real-world and engineering problems.

CO2: Explain fuzzy systems, fuzzy logic and its applications

Explain the students about Artificial Neural Networks and various categories of ANN

CO3: Describe fuzzy systems, fuzzy logic and its applications, Artificial Neural Networks and various categories of AFNN

Image Processing

Upon completion of the course, the students will be able to -

CO1: Describe Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline

CO2: Explain In-depth understanding of specialist bodies of knowledge within the engineering discipline

CO3: Describe the knowledge development and research directions within the engineering discipline

CO4: Describe Application of established engineering methods Explain complex engineering problem solving

CO5: Explain fluent application of engineering techniques, Tools and resources.

CO6: Describe Application of systematic engineering synthesis and design processes

Parallel Computing

Upon completion of the course, the students will be able to -

CO1: Describe foundation of mathematics, computer science and problem solving methodology for effective implementation in the area of software development

CO2: Explain knowledge about various sub-domains related Explain the field of computer science and applications

CO3: Describe about principles of system analysis, design, development and project management

CO4: Explain effective communication skills combined with professional & ethical attitude

Semester III

Java Network Programming

Upon completion of the course, the students will be able to -

CO1: Describe the concept of programming with mathematics

CO2: Describe problem analysis: Explain, formulate, review research literature, and analyze computer Programming problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and Programming sciences

CO3: Describe ethical principles and commit Explain professional ethics and responsibilities and norms of the Programming practice

CO4: Describe Logic and Algorithm principles, explain model, design and implement software projects Explain meet customers' business objectives

CO5: Describe Modern Tool usage: Create, select, and apply appropriate techniques, resources, and modern Programming and IT Tools including prediction and modelling Explain complex Programming activities with an understanding of the limitations

Advanced Software Engineering & Technology

Upon completion of the course, the students will be able to -

CO1: Describe ethics, professionalism, and cultural diversity in the work environment.

CO2: Explain basic software quality assurance practices Explain ensure that software designs, development, and maintenance meet or exceed applicable standards

CO3: Describe effective written and oral communication skills. Graduates can prepare and publish the necessary documents required throughout the project lifecycle

CO4: Describe effectively contribute Explain project discussions, presentations, and reviews.

CO5: Explain the need for lifelong learning and can readily adapt and explain new software engineering environments

Computer Vision

Upon completion of the course, the students will be able to -

CO1: Describe theory of computer vision

CO2: Describe the basics of pattern recognition concepts with applications Explain computer vision

CO3: Describe necessary theory and skills for automatic analysis of digital images, and thereby to construct representations of physical objects and scenes, and Explain make useful decisions based on them

CO4: Explain the ability to evaluate the computing systems from view point of quality, security, privacy, cost effectiveness, utility and ethics

CO5: Describe inculcate lifelong learning by introducing principles of group dynamics, public policies, environmental and societal context

CO6: Describe Recite algorithms that employ randomization. Explain the difference between a randomized algorithm and an algorithm with probabilistic inputs

Data Warehousing

Upon completion of the course, the students will be able to -

CO1: Explain Data kernel mode with user mode and differentiate Kernel structuring methods

CO2: Explain internal file data system structure with device drivers and file operations using system calls

CO3: Explain Process of data warehousing and Thread management strategies

CO4: Describe Construct shell warehousing with different programming syntax

CO5: Explain the various Data Ware Housing case studies

Semester IV

Pattern Recognition

Upon completion of the course, the students will be able to -

CO1: Describe learn Restoration Process, Noise Models, and Restoration in Presence of Noise

CO2: Explain learn Periodic Noise Reduction by Frequency Domain Filtering

CO3: Describe study estimating the Degradation Function,

CO4: Explain learn Degradation model Algebraic Approach Explain Restoration

CO5: Describe give basics of pattern recognition concepts with applications Explain computer vision

CO6: Describe necessary theory and skills for automatic analysis of digital images, and thereby to construct representations of physical objects and scenes, and Explain make useful decisions based on them

Cryptography & Network Security

Upon completion of the course, the students will be able to -

CO1: Describe the fundamentals of Cryptography

CO2: Describe knowledge on standard algorithms used Explain provide confidentiality, integrity and authenticity

CO3: Explain key distribution and management schemes

CO4: Describe encryption techniques Explain secure data in transit across data networks

CO5: Explain design security applications in the field of Information technology Graduates use effective communication skills and technical skills and explain assure production of quality software, on time and within budget.

CO6: Describe knowledge of science, mathematics, and engineering and explain take on more expansive tasks that require an increased level of self-reliance, technical expertise, and leadership

CO7: Explain the computing systems from view point of quality, security, privacy, cost effectiveness, utility and ethics

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M.Sc. Microbiology

Programme Specific Outcomes

At the time of post graduation, the students will be able to-

PSO1: Understand basics of Microbiology and various aspects involved in it

PSO2: Understand various fermentation processes and enzymes involved in the production of specific products

PSO3: Acquire knowledge in isolation of microorganisms, their nutritional requirement and their culturing under specific conditions

PSO4: Understand evolution of viruses and various schemes of classification and nomenclature of viruses

PSO5: Gain knowledge related to Photosynthesis, Bacterial photosynthesis: scope, electron carriers and cyclic flow of electrons

PSO6: Understand concept of gene expression in microorganisms and eukaryotes

PSO7: Acquire knowledge of fermentation techniques and its design

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Course Outcomes

F.Y. M.Sc.

Semester I

Th I – Biostatistics Computer applications and Research Methodology

At the end of the course, the students will be able to-

CO1: Discuss methods of data collection, sampling and interpretation of data

CO2: Explain steps involved in data representation by histogram, polygon, ogive curves and pie diagram

CO3: Solve statistical data by measures of central tendency viz. Mean, median and mode

CO4: Describe ideal method to write technical report, project report, project proposal, review paper and research paper

Th II – Bioenergetics and Enzymology

At the end of the course, the students will be able to-

CO1: Describe various pathways of carbohydrate metabolism role of enzymes

CO2: Describe various fermentation processes as well as microorganism and enzymes involved in the production of specific products

CO3: Explain endogenous metabolism of reserve food materials like PHB and Glycogen- their production and its futuristic applications

CO4: Discuss Microbial degradation of aliphatic and aromatic hydrocarbons with respect to microorganisms and enzymes involved

CO5: Describe properties of Enzymes like catalytic power, activation energy, substrate specificity, active site, theories of its mechanisms and its classification

Th III – Bioinstrumentation techniques and Applications

At the end of the course, the students will be able to-

CO1: Validate digital balance, pH meter, micropipette, spectrophotometer

CO2: Analyze qualitatively and quantitatively various bio-molecules

CO3: State and explain principle and generalized operational procedure of sophisticated instruments like HPLC, FTIR, GC-MS, LC-MS, Electron Microscopes

CO4: Analyze various bio-molecules on colorimeter and double beam UV-Visible spectrophotometer

CO5: Separate nucleic acids and proteins by using gel electrophoresis, chromatography and preparative spectroscopy

Th IV – Industrial Food and Dairy Microbiology

At the end of the course, the students will be able to-

CO1: Comprehend role of microorganisms in food fermentations as well as in food spoilage

CO2: Describe mechanism of food fermentation

CO3: Discuss role of food regulatory authorities and its impact on quality food preparation

CO4: Describe role and importance of Biosensors in food industry is understood

CO5: Discuss applications of microorganisms producing colors

CO6: Comprehend methods of food preservation

CO7: Discuss microbial production of surfactants, polysaccharide

Semester II

Th V – Recent Trends in Virology

At the end of the course, the students will be able to-

CO1: Describe evolution of viruses and various schemes of classification and nomenclature of viruses

CO2: Give various methods used for cultivation of viruses in *In Vitro* or *In Vivo* conditions

CO3: Perform purification of viruses from biological samples and their assays using various chemical and physical methods

CO4: Describe genetic makeup and its role in infectivity of various bacterial, plant and animal viruses

CO5: Explain pattern of infection, life cycle and pathogenesis of various enveloped / non enveloped animal, plant and bacterial viruses

CO6: Explain various ways to control the viral disease in animals and plants based on use of antiviral agents

Th VI – Molecular Immunology

At the end of the course, the students will be able to-

CO1: Explain Immune biology, immune systems and types

CO2: Define antibodies and discuss structure, function and their classes

CO3: Give type of immunities and responding cells like B cells, T cells

CO4: Discuss Antigen and antibodies interaction viz. agglutinations, precipitation

CO5: Describe types of pathways for stimulations of antibodies production

CO6: Discuss various techniques used to identify presence of antigens ELISA, RIA etc

Th VII – Microbial Physiology

At the end of the course, the students will be able to-

CO1: Describe process of Photosynthesis, Bacterial photosynthesis: scope, electron carriers, cyclic flow of electrons

CO2: Discuss bacterial Respiration: Aerobic and Anaerobic Respiration, Energy generation in all groups of chemolithotrophs, Biochemistry: methanogenesis and ammonia oxidation

CO3: Describe Structure and organization of membrane: Solute Transport in microorganisms and their mechanisms

CO4: Explain concept of Bacterial Sporulation and spores, Heat resistance and sporulation, describe Stages of sporulation

CO5: State and explain concept bacterial Chemolithotrophy and Nitrogen Metabolism, discuss physiological groups of chemolithotrophs

CO6: Discuss biochemistry of biological nitrogen fixation and ammonia assimilation

Th VIII – Microbial Diversity and Extremophiles

At the end of the course, the students will be able to-

CO1: Describe microbial diversity and their habitate

CO2: Define extremophiles and give their applications

CO3: Give mechanism of survival of microbes under extreme conditions

CO4: Comprehend community ecology and marine ecosystem

CO5: Describe role of mycorrhiza, xtremozymes; give its significance

CO6: Discuss general characteristics of various group of microorganisms

S.Y. M.Sc.

Semester III

Th IX – Enzyme Technology

At the end of the course, the students will be able to-

CO1: Extract and Purify Microbial Enzymes, describe enzyme purification, methods like salts and Solvents, liquid – liquid extraction, chromatographic processes

CO2: Produce enzyme (lab scale) and determine efficiency of enzyme, perform purification by measuring specific activity at various stages viz. salt precipitation, Dialysis

CO3: Describe Enzyme Inhibition and Kinetics, Irreversible and reversible enzyme inhibitions

CO4: Discuss regulation of enzyme activity- Allosteric regulation, feedback regulation and cascade System (Genetic regulation), covalent modification

CO5: Explain Immobilization, methods and practical application, Analytical, therapeutic, environmental and industrial applications of immobilized enzymes

CO6: Describe enzyme therapy – Treatment of genetic deficiency diseases, Enzymes in cancer therapy

Th X – Bioprocess Engineering and Technology

At the end of the course, the students will be able to-

CO1: Discuss various types of fermenter and its design

CO2: Describe immobilization cell/enzyme reactors

CO3:Elaborate commercialization of microbial fermentation

CO4: Discuss role and significance of computers in fermentation industry

CO5: Give importance of mass transfer; explain in detail mechanism of mass transfer

Th XI – Molecular Microbial Genetics

At the end of the course, the students will be able to-

CO1: Describe gene expression in microorganisms and eukaryotes and their differences

CO2: Give applications of various genes like structural genes, functional genes, etc

CO3: Discuss importance and applications of various enzymes in the processes like replication, transcription and translations

CO4: Give various types of RNA and discuss their role during translation, tRNA activations

CO5: What is mutation? Giveits types and effects

CO6: Define Recombinations- transduction, conjugation; give their types

CO7: Discuss various types of operons and their positive and negative regulations

Th XII – Environmental Microbial Technology

At the end of the course, the students will be able to-

CO1: Describe ecosystem with its biotic and abiotic components and their interactions

CO2: Define food chain, food web, biosphere, communities and habitat

CO3: Identify various water pollutants, their role in water pollution and direct or indirect effect on ecosystem

CO4: Explain eutrophication, discuss influencing factors and its impact on quality of water in natural resources

CO5: Give mechanism effluent treatment schemes including multistep processes; give its significance

CO6: Identify xenobiotics, enlight their bad side and influence on global environmental issues

S.Y. M.Sc.

Semester IV

T XIII – Recombinant DNA Technology

At the end of the course, the students will be able to-

CO1: Explain gene expression in prokaryotes and eukaryotes, differentiate them in detail

CO2: Give applications of different modifying enzymes used in gene manipulations

CO3: Discuss various vectors in plants, animals and for micro-organisms viz. plasmids, cosmids phagemids, PAC, BAC, YAC; give their applications

CO4: Discuss operations of PCR machines, gel electrophoresis of nucleic acids and their documentation

CO5: Describe various technologies developed in genetic engineering to make recombinant DNA and get their expressions in desired cells

CO6: Discuss Gene studies based on PCR as well as independent of PCR viz. RFLP, AFLP, RAPD etc

Th XIV – Fermentation Technology

At the end of the course, the students will be able to-

CO1: Explain enzyme, antibiotic and polysaccharide fermentation

CO2: Discuss IPR with reference to protection of novel design, process in a legal framework

CO3: Discuss mushroom cultivation and single cell protein production

CO4: Comprehend bioterrorism, microorganisms involved and ways to tackle with the problem

CO5: Give types and steps involved in production of biofuel from microbial source

CO6: Describe plant tissue culturing

Th XV – Bioinformatics, Microbial genomics & Proteomics

At the end of the course, the students will be able to-

CO1: Discuss nucleotide databases- like EMBL, Gene Bank, DDBJ and protein databases like SWISSPROT, PROSITE, PDB etc

CO3: Discuss handling of various public domain databases for nucleic acid and protein sequences with different software

CO4: Explain proteomics with respect to their structure, functions and analysis

CO5: Describe 2D and 3D structures of sequence identified proteins with their active sites and functionalities

CO6: Discuss DNA Microarray preparations and tools required for analysis of same by SAGE, SOFT finder etc

CO7: Analysis of different protein spots by various sophisticated techniques viz. Mass Spectroscopy, Electro spray ionization Peptide Mass fingerprinting and XRD with NMR for Structural analysis

Th XVI – Pharmaceutical Microbiology

At the end of the course, the students will be able to-

CO1: Explain concept of antimicrobial assays, therapeutic index, LD_{50}, and cellular transport system of various drug molecules

CO2: Define and classify antimicrobial agents with respect to their mechanism of action, antimicrobial spectrum, and SAR (Structural activity and relationship)

CO3: Give mechanism of action of chemical disinfectants, antiseptics, preservatives

CO4: Describe targeted drug delivery system, gene therapy and drug delivery systems used in it

CO5: Give importance of in-process controlling measures to maintain sterility in production plants

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Faculty: Commerce

B.Com.

Programme Outcomes

At the time of graduation, the students will be able to-

PO1: Work with various fields effectively in broad range of analytic, scientific, government, financial, health, technical and other positions

PO2: Learn to expand mathematical or statistical expertise independently when needed or for interest sake

PO3: Understand the components of written business plan

PO4: Understand elements of feasibility analysis

PO5: Analyze market segmentation, size and trends, buyer behaviour and competitions

PO6: Understand responsibility of accounting and its benefits

PO7: Proficient in technical skills required for preparation of financial statements and disclosures

PO8: Apply procedural knowledge in order to perform concept testing and collect consumer behaviour and feedback data

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Course Outcomes

F.Y. B.Com.

Semester I

Business & Industrial Economics-I

Upon completion of the course, the students will able to-

CO1: Identify the consumer behaviour for their competitive approach

CO2: Calculate the benefits of economics and its theories in setting the objectives of business firm

CO3: Determine the concept of equilibrium to consumer satisfaction & factors price determination

CO4: Identify the limits of economic analysis

CO5: To conduct economic analysis using graphs

CO6: Identify various types of competition in market and determine the strategic approach of firm

CO7: Discuss the application of marginal analysis

Entrepreneurship Development-I

Upon completion of the course, the students will able to-

CO1: Identify Entrepreneurship Development in twenty first century

CO2: Describe role of Entrepreneurs in Economic Development

CO3: Describe trends in Entrepreneurship

CO4: Classify life cycle of Project

Business Mathematics & Statistics I

Upon completion of the course, the students will able to-

CO1: Determine critical outcomes from collected data

CO2: Identify the P-value of current data

CO3: Identify the connection between theory and applications data analysis

CO4: Describe the results of collected data by using mathematical and statistical literacy

Financial Accounting –I

Financial Accounting -II

Upon completion of the course, the students will able to-

CO 1: Write difference between hire purchase system and instalment purchase method

CO 2: Prepare Final Statements of Accounts of sole trader and solicitor

CO 3: Able to prepare Final Accounting of Non-trading

CO 4: Perform calculation and payments concern in case of Royalty Undertakings

Computer Application in Business – I

Computer Application in Business – II

Upon completion of the course, the students will able to-

CO1: Calculate Computers different number system

CO2: Explain and Correlate the Computers High-Level, Low-Level, Assembly-Language

CO3: Describe Word Document and Various Functions of Word

CO4: Calculate numerical examples in Excel and different Functions of Excel Sheet

CO5: Explain different Functions to crate the PPT Presentation, Slide Effects in PowerPoint

Semester II

Business Organization & Management –II

Upon completion of the course, the students will able to-

CO1: Determine basic concepts of management

CO2: Identify the functions of management in business

CO3: Give planning and Decision making in business organization

CO4: Determine importance of motivation & communication

CO5: Determine as an individual a smart and self esteemed

Entrepreneurship Development -II

Upon completion of the course, the students will able to-

CO1: Determine the activities in setting-up enterprise

CO2: Evaluate elements of company structure

CO3: Give procedures to create new ideas which consist of brainstorming activities, focus groups, research

Business Mathematics & Statistics -II

Upon completion of the course, the students will able to-

CO1: Describe the results of collected data by using mathematical and statistical literacy

CO2: Calculate the correlation of Coefficient with various methods

CO3: Calculate the probability of any event

CO4: Identify regression of any event

S.Y. B.Com.

Semester III

Principle of Business Management -I

Upon completion of the course, the students will able to-

CO1: Determine correct action plan for successful execution of task

CO2: Identify qualities of HR and classify HR according to requirement of task skills

CO3: Describe principles of management in application of its functions in daily activity

CO4: Determine periphery of designation and calculate authoritative actions

Business Regulatory Framework – I

Upon completion of the course, the students will able to-

CO1: Determine correct and lawful object for making of contract

CO2: Identify and differentiate various types of valid contract with enforceability

CO3: Calculate risk of absence of any element essential for enforceability of valid contract

CO4: Describe significance of consideration for a promise

CO5: Classify various concepts of in mercantile law

Financial Management -I

Upon completion of the course, the students will able to-

CO1: Identify various investment avenues for the purpose of capital raise

CO2: Identify the requirement of optimum capital in business

CO3: Determine the cost of capital according to their debt

CO4: Identify optimum utilization of available resources

CO5: Give proper planning for budgeting

I.T Application in Business- I

I.T Application in Business -II

Upon completion of the course, the students will able to-

CO1: Elaborate Importance of Tally and Computerised Accounting

CO2: Identify and create voucher entry, Payment voucher, Receipt voucher, Credit and Debit Note

CO3: Explain e-commerce and its applications

CO4: Describe online shopping and E - marketing

CO5: Explain Electronic Business and E- commerce

Semester IV

Principle of Business Management –II

Upon completion of the course, the students will able to-

CO1: Evaluate significance of two way communication in any business

CO2: Describe proper hierarchy of management and identify correct protocol of reporting

CO3: Identify qualities and role of leaders

CO4: Describe the stages in motivation

Business Regulatory Framework - II

Upon completion of the course, the students will able to-

CO1: Describe various concepts in contract of sale

CO2: Determine the various negotiable instruments for performing the contract

CO3: Identify the redresser machinery for consumer protection

CO4: Identify the various rights of human

Corporate Accounting – I

Corporate Accounting - II

Upon completion of the course, the students will able to-

CO1: Differentiate equity share capital and preference share capital

CO2: Explain process of Issue of Debenture and Redemption of Debentures

CO3: Classify expenses and Income as well as Assets and liabilities to Prepare final statement of Accounts

CO4: Explain process of reconstruction and liquidation

CO5: Elaborate process of amalgamation absorption and holding of companies and relationships between them

Financial Management- II

Upon completion of the course, the students will able to-

CO1: Identify sources for capital structure

CO2: Calculate the rate of return on investment with various methods

CO3: Determine optimum utilization of capital structure to increase wealth of going concern

CO4: Identify and calculate the requirement of working capital in business activities

CO5: Describe the significance of leverages in financial Management

CO6: Identify correct dividend policy according to business motive

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Semester V

Cost Accounting - I

Upon completion of the course, the students will able to-

CO1: Determine per cost of units

CO2: Explain quality strategy to reduce the cost of product and increase the level of profit by maintaining quality of goods

CO3: Explain methods of distribution of Overhead

CO4: Identify methods of time keeping and time booking for labour control

Direct & Indirect Taxes- I

Direct & Indirect Taxes - II

Upon completion of the course, the students will able to-

CO1: Calculate taxable amount for tax payment

CO2: Determine tax exemption and increases amount for saving

CO3: Describe and differentiate tax amount under various leads

CO4: Evaluate application of fiscal policy and determine policy for tax planning

CO5: Classify tax amount according to tax slab rates

Management Accounting -I

Upon completion of the course, the students will able to-

CO1: Calculate various methods of ratio analysis

CO2: Differentiate fund flow and Cash flow Statement

CO3: Prepare cash budget, flexible budget and different activities budget

CO4: Explain difference between Management Accounting and Financial Accounting

Advance Financial Accounting- I

Upon completion of the course, the students will able to-

CO1: Determine concept of Social accounting

CO2: Identify allocation of Departmental Expenses

CO3: Identify Purchase and sales of investment before the date of payment of cum-interest and ex-interest

CO4: Classify forms of balance sheet as per scheduled sated Form A and Form B in Bank Final Account

New Auditing Trends- I

Upon completion of the course, the students will able to-

CO1: Explain Duties and Liabilities of Company Auditor

CO2: Describe methods of verification as per audit standards

CO3: Classify vouching process according to the expectation of board of auditors

CO4: Evaluate transparency and calculate interdepartmental malpractices

Information and Communication Technology – I

Information and Communication Technology - II

Upon completion of the course, the students will able to-

CO1: Explain Structure of C programming, data types and C tokens

CO2: Define and declare arrays, single dimensional and multi-dimensional

CO3: Describe Internet banking system in India, types of E- payment cards

CO4: Explain E banking – NEFT, RTGS and security in e banking- SSL and Firewalls

CO5: Describe ERP models or products, BPO and knowledge management IT's life cycle

Semester VI

Cost Accounting -II

Upon completion of the course, the students will able to-

CO1: Calculate process cost to reduce the unnecessary expenditure in process of production

CO2: Describe elements of cost and classify it to apply strategic approach in reduction of cost and improvement in level of productivity

CO3: Calculate work in progress profit on Contract

CO4: Classify Reconciliation of Cost and Financial Accounts

Management Accounting -II

Upon completion of the course, the students will able to-

CO1: Prepare capital budget

CO2: Identify Cash Budget

CO3: Explain pay-back period method

CO4: Describe benefits of Responsibility Accounting

Advance Financial Accounting –II

Upon completion of the course, the students will able to-

CO1: Describe Stock market and procedure of D-mat Accounts

CO2: Determine Insolvency of an Individual and preparation of accounts as per act

CO3: Identify rules regarding application of cash and accrual basis system in Local Government Accounts

CO4: Classify accounts of farm accounting of Dairy and Poultry with special adjustment

New Auditing Trends –II

Upon completion of the course, the students will able to-

CO1: Determine style of presentation of report writing

CO2: Explain importance of Human Resource Audit

CO3: Describe difference between Audit and Investigation

CO4: Explain Auditor's role under Income Tax Act

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Program Specific Outcomes

At the time of post graduation, the students will able to-

PSO1: Analyse business problems in complex contexts using social, ethical, economic, regulatory and global perspectives

PSO2: Acquire advanced theoretical and technical knowledge in selection of issues in accounting, auditing and Business related disciplines

PSO3: Understand topics of wide relevance including banking, mutual fund, corporate tax, and accounting

PSO4: Acquire knowledge of statistics, law and areas that influence the subject

PSO5: Analyse strategic implications of local and global changes/developments in the subject area

PSO6: Acquire key personal and inter-personal globally relevant skills for academic and professional enhancement

Course Outcomes

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Semester I

Modern Management Practices

Upon completion of the course, the students will able to-

CO1: Describe the management evolution and how it will affect future managers

CO2: Interpret how organizations adapt to an uncertain environment and identify technique managers use to influence and control the internal environment

CO3: Describe the process of management's four functions: planning, organizing, leading, and controlling

CO4: Evaluate leadership styles to anticipate the consequences of each leadership style;

CO5: Analyze both qualitative and quantitative information to isolate issues and formulate best control methods

Managerial Economics

Upon completion of the course, the students will able to-

CO 1: Describe the probable outcomes of various approaches of consumer behaviour and derivation of demand accordingly

CO 2: Demonstrate the probable outcomes of concept of Production and Cost their functions and relations

CO 3: Interpret the probable outcomes of various forms of market and their operations with regard to determination of price and output

CO 4: Demonstrate the probable outcomes of goods market equilibrium and asset market equilibrium

CO 5: Describe the probable outcomes of the determinants of aggregate demand and aggregate supply

Corporate Financial Accounting

Upon completion of the course, the students will able to-

CO 1: Prepare and to analyze various Financial Statements

CO 2: Evaluate Goodwill under different methods

CO 3: Evaluate Shares under different methods

CO 4: Describe the Concept of Holding and Subsidiary Company

CO 5: Prepare Consolidated Balance sheet

Statistical Analysis

Upon completion of the course, the students will able to-

CO 1: Develop an understanding of the theory of probability, rules of probability and probability distributions

CO 2: Describe the concepts in sampling, sampling distributions and estimation

CO 3: Interpret the meaning and process of hypothesis testing including one-sample and two-sample tests

CO 4: Describe the importance and application of non-parametric tests in hypothesis testing

CO5: Describe the meaning and importance of correlation and regression analysis including both simple and multiple correlation and regression

Semester II

D-Commerce

Upon completion of the course, the students will able to-

CO 1: Demonstrate an understanding of the foundations and importance of D-commerce

CO 2: Analyze the impact of D-commerce on business models and strategy

CO 3: Describe Internet trading relationships including Business to Consumer, Business-to-Business, Intra-organizational

CO 4: Describe the infrastructure for D-commerce

CO 5: Describe the key features of Internet, Intranets and Extranets and explain how they relate to each other.

Organizational Behaviour & Work Culture

Upon completion of the course, the students will able to-

CO 1: Describe the Concept of Organizational Behaviour

CO 2: Demonstrate the role that individuals play collectively to perform in organizations

CO 3: Develop awareness about Personality and Attitude

CO 4: Describe the Importance of Motivation in work setting

CO 5: Analyze the concept of Stress Management at work

Advance Cost Accounting

Upon completion of the course, the students will able to-

CO 1: Describe the place and role of cost accounting in the modern economic environment

CO 2: Calculate in different costing methods

CO 3: Differentiate methods of schedule costs per unit of production

CO 4: Differentiate methods of calculating stock consumption

CO 5: Interpret the impact of the selected costs method

Tax Planning, GST & Management

Upon completion of the course, the students will able to-

CO 1: Identify the difference between tax evasion and tax planning

CO 2: Describe how the provisions in the corporate tax laws can be used for tax planning

CO 3: Explain different types of incomes and their taxability and expenses and deductions of expenses to reduce the taxable income

CO 4: Demonstrate various concepts of Goods & Service Tax

CO 5: Recording and analyzing the transactions for compliance under GST especially in supply chain and distribution

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Semester III

Research Methodology

Upon completion of the course, the students will able to-

CO 1: Describe the meaning and role of Business Research

CO 2: Formulate the research problem and understanding the major research designs

CO 3: Determine data sources and learn the art of designing a questionnaire

CO 4: Determine various sampling techniques used for data collection

CO 5: Describe the Data collection and Fieldwork

Human Resource Planning & Development

Upon completion of the course, the students will able to-

CO 1: Describe basics of Human Resource Development

CO 2: Interpret HRD process including implementation and evaluation

CO 3: Interpret contemporary HRD trends and practices

CO 4: Develop basic understanding of Strategic Human Resource Management

CO 5: Develop basic understanding of HRD activities and applications

Business Legislation

Upon completion of the course, the students will able to-

CO 1: Describe how the companies are formed; what are the various kinds of Companies; to understand the term "prospectus" and purpose of issuing prospectus

CO 2: Describe the various provisions related to Directors, Managers, Meeting under Companies Act 1956

CO 3: Interpret how Directors and Managers are appointed and how they can be removed

CO 4: Interpret the various provisions related to Consumer Protection Act; what are the rights and obligations of Consumers

CO 5: Describe the various provisions related to SEBI Act, 1992; the purpose for formation of SEBI, its functions; how the Government is able to avoid the issue of insider trading

International Marketing

Upon completion of the course, the students will able to-

CO 1: Describe the concept and nature of international marketing

CO 2: Interpret various decisions required to be made in respect of products to launch in foreign markets and determining price and terms at which these will be offered

CO 3: Interpret decisions related to designing channel as well as physical distribution systems for making available the products in the international markets

CO 4: Explain various methods through which a firm can promote its products in foreign markets

CO 5: Describe emerging trends and issues in international marketing such as international marketing through internet, ecological concerns and marketing ethics

Entrepreneurship Development

(Service Course)

Upon completion of the course, the students will able to-

CO 1: Determine the fundamentals of entrepreneurship and its role in economic development and to motivate them towards entrepreneurial activities

CO 2: Describe the concept of business plan & its importance in business and simultaneously making them aware about various legal issues involved in business

CO 3: Identify and demonstrate the marketing and financial implications for establishing and managing any business venture

CO 4: Determine and develop the skills to rise the funding for the business from different sources for a start-up venture

CO 5: Determine the plans for business growth and sustenance through effective negotiation skills and time management

Semester IV

Quantitative Techniques

Upon completion of the course, the students will able to-

CO 1: Determine the basics of decision making by using transportation models

CO 2: Evaluate Linear Programming

CO 3: Interpret exceptional cases of transportation and assignment problems

CO 4: Describe Inventory models and Queuing systems with the techniques of selective control

CO 5: Describe the concepts of PERT & CPM techniques and their applications

Security Analysis

Upon completion of the course, the students will able to-

CO 1: Identify the various alternatives available for investment

CO 2: Measure risk and return

CO 3: Find the relationship between risk and return

CO 4: Evaluate the equities and bonds

CO 5: Describe the various strategies followed by investment practitioners

International Business

Upon completion of the course, the students will able to-

CO 1: Determine how international factors affect domestic concerns

CO 2: Describe regional economic integration and economic and political integration

CO 3: Identify the main institutions that shape the global marketplace

CO 4: Interpret how businesses expansion abroad

CO 5: Describe the key issues related to businesses operating in other countries

Research Project

Upon completion of the course, the students will able to-

CO 1: Determination and Carrying out a substantial research-based project

CO 2: Describe and Demonstrate capacity to improve student achievement, engagement and retention

CO 3: Describe and Demonstrate capacity to lead and manage change through collaboration with others

CO 4: Describe and demonstrate an understanding of the ethical issues associated with practitioner research

CO 5: Determine and Analysis of data and synthesize research findings

CO 6: Report research findings in written and verbal forms

CO 7: Determine the uses of research findings to advance education theory and practice

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Faculty: Management Science

BBA

Programme Specific Outcomes

At the time of graduation, the students will be able to-

PSO1: Understand scope and areas of management and fundamentals of business administration applications

PSO2: Gain knowledge about various specialized topics associated with business administration

PSO3: Develop skills for the execution of entrepreneurial practices and executive skills for the positioning of the businesses

PSO4: Increase awareness and level of knowledge about legal framework of businesses

PSO5: Develop practical skills of Accounting, Human Resource, Marketing, and Production Management

PSO6: Understand and develop the skills of forecasting the future Carrier opportunities

PSO7: Aware about new business Start-up and tapping of opportunities

PSO8: Develop foundation for higher studies, Personality Development and Skills Capabilities

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Course Outcomes

F.Y. BBA

Semester I

Accountancy I

Upon completion of the course, the student will be able to -

CO1: Describe concept of accounting and preparation of ledger

CO2: Prepare trading and non trading organization

CO3: Classify accounts for the admitted and retired partners

CO4: Explain depreciation on fixed assets and computation of claim under loss of stock

CO5: Describe profit for small traders

Management Prespective-1

Upon completion of the course, the student will be able to -

CO1: Describe process and levels of management in the organization

CO2: Describe planning and decision making activities in organization

CO3: Classify types and structure of organization

CO4: Describe staffing the employees

CO5: Write do's and don'ts in business

Business Organization

Upon completion of the course, the student will be able to -

CO1: Describe working of business organization

CO2: Classify types of business and ownerships

CO3: Define Organization Structure

Business Statistics

Upon completion of the course, the student will be able to -

CO1: Describe presentation and tabulation of data, methods of collecting Data and

Summarizing the data using central tendency

CO2: Describe various measures of dispersion and the method of measuring it

CO3: Explain trend or variation existing in a Time Series data

CO4: Describe measuring fluctuation or changes in Price and quantity of goods and products using various index numbers

CO5: Identify research problem in hand and apply the appropriate test suitable to the research problem

Human Communication in Business

Upon completion of the course, the student will be able to –

CO1: Describe effective communication and to draft the layout for a business letter

CO2: Describe draft of various business letters

CO3: Describe Communication Concept of bank, insurance, agency, shareholders and directors

CO4: Describe preparation of a report, minutes and memorandum of a meeting

CO5: Describe latest technology and Communication trends

I T Fundamentals

Upon completion of the course, the student will be able to –

CO1: Give basic Information about Computer Architecture

CO2: Classify Number systems

CO3: Define Operating System

CO4: Classify Hardware and Software Components

Semester II

Accountancy II

Upon completion of the course, the student will be able to -

CO1: Describe various sources of finance

CO2: Give factors affecting the capital and capital structure formation

CO3: Explain concept of cost of capital

CO4: Describe various dividend policies

CO5: Calculate working capital requirement

Management Perspective II

Upon completion of the course, the student will be able to –

CO1: Explain process and levels of management in the organization

CO2: Describe planning and decision making activities in the organization

CO3: Define types and structure of organization

CO4: Determine staffing Plan for requirement of Workforce

CO5: Give do's and don'ts in business

Business Economics

Upon completion of the course, the student will be able to –

CO1: Explain concepts of economics and managerial economics

CO2: Define demand analysis and consumer behavior

CO3: Describe complete knowledge about cost concepts and production function

CO4: Determine theoretical pricing methods

CO5: Describe concept of Market Structure in detail

Environmental Awareness I

Upon completion of the course, the student will be able to –

CO1: Explain concepts and methods from ecological and physical sciences

CO2: Define core concepts and methods from economic, political, and social analysis.

CO3: Determine ethical, cross-cultural, and historical context of environmental issues and the

Links between human and natural systems

CO4: Describe transnational character of environmental problems and ways of addressing them

Administrative Practices

Upon completion of the course, the student will be able to –

CO1: Describe oral and written forms in a business environment

CO2: Describe other ways that contribute to the organization's goals

CO3: Explain purpose and prioritize spaces, time, and tasks within a business environment.

CO4: Describe effective use of human differences to create positive relationships with co-workers and public

CO5: Describe current and emerging technologies to solve workplace problems through presentation, research, analysis, and synthesis

IT Application in Business –I

Upon completion of the course, the student will be able to –

CO1: Describe MS Word Effectively

CO2: Give uses of MS Excel Effectively

CO3: Describe uses of Power point Presentation

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Semester III

Cost Accountancy

Upon completion of the course, the student will be able to –

CO1: Describe various source of finance

CO2: Give factors affecting the capital and capital structure Formation

CO3: Define concept of cost of capital

CO4: Identify various dividend policies

CO5: Calculate working capital requirement and operating cycle

Management Perspective-III

Upon completion of the course, the student will be able to –

CO1: Explain HRM, its environment, methods of selection, and Interview Techniques

CO2: Differentiate training and career development

CO3: Classify remuneration and welfare measures

CO4: Explain labor relation and Industrial disputes

CO5: Define human resource audit, nature and approaches

Human Factor in Business

Upon completion of the course, the student will be able to –

CO1: Determine need, scope and theories of organization

CO2: Describe various motivational techniques of employees

CO3: Explain work environment and leadership styles

CO4: Describe group dynamics in an organization

CO5: Define climate and culture in an organization

Business Law-I

Upon completion of the course, the student will be able to -

CO1: State company regulations

CO2: Classify different Labor Laws

CO3: Explain welfare Laws properly

Environmental Awareness-II

Upon completion of the course, the student will be able to -

CO1: Determine core concepts and methods from ecological and physical sciences

CO2: Classify Core concepts and methods from economic, political, and social analysis

CO3: Identify ethical, cross-cultural, and historical context of environmental issues and the links between human and natural systems

CO4: Describe transnational character of environmental problems and ways of a addressing them, including interactions across local to global scenario

CO5: Classify system concepts and methodologies to analyze interactions between Social and environmental processes

Entrepreneurship

Upon completion of the course, the student will be able to –

CO1: Identify key risks and most effective processes in bringing different types of products or services to market

CO2: Determine methods that can be used to minimize uncertainties at different stages of the entrepreneurial process

CO3: Explain dynamics of how teams develop and function as well as the various types of Conflicts that can arise during teamwork

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Semester IV

Cost Accountancy-II

Upon completion of the course, the student will be able to -

CO1: Identify basic concept of accounting and preparation of ledger

CO2: Describe preparation of trading and non trading organization

CO3: Describe settlement of accounts for admitted and retired partners

CO4: Calculate depreciation on fixed assets and computation of claim under loss of stock

CO5: Describe knowledge on calculation of profit for small traders

Management Perspective-IV

Upon completion of the course, the student will be able to -

CO1: Describe organisational structure and management control in organisations

CO2: Determine how to analyse an organisation

CO3: Define organisation's characteristics and decide how they might impact on management practices

Organizational effectiveness & change

Upon completion of the course, the student will be able to –

CO1: Give skill required for today's HR professionals

CO2: Classify appropriate staffing Techniques includes recruitment and selection

CO3: Determine Organization design and evaluate training programmes

CO4: Describe HR compensation subjects including employee benefits, incentives and regulations governing

CO5: Describe policies and practices governing the undertaking

Business Law-II

Upon completion of the course, the student will be able to -

CO1: Determine legal constraints faced by business professional as well as finding legal options

available to the business professional in responding to and resolving legal issues

CO2: Identify laws that affect contemporary businesses, agency, employment, securities regulation, and the organization of a business

CO3: Describe how governmental regulations affect contemporary business practices

CO4: Evaluate ethical problems integrally connected to the legal issues

CO5: Explain concepts of ethics and law with financial reality in implementing business decision

Operation research

Upon completion of the course, the student will be able to –

CO1: Describe Scope, Characteristics of OR models and their formulations

CO2: Classify Transportation and assignment problem

CO3: Classify network analysis and critical path

CO4: Evaluate queuing models

CO5: Describe decision theory using decision tree

Information technology application in business II

Upon completion of the course, the student will be able to –

CO1: Describe DBMS Concept

CO2: Describe MS Access Functions efficiently

CO3: Define Relational data concept

CO4: Classify data with MS Access

CO5: Describe features of Tally Application

T.Y. BBA

Semester V

Management Accounting

Upon completion of the course, the student will be able to –

CO1: Give scope and applications of management accounting

CO2: Define financial statement

CO3: Describe techniques of fund flow statement

CO4: Write applications and uses of various ratios

Management Perspective-V

Upon completion of the course, the student will be able to -

CO1: Explain concept of decision making and its practical application for business

CO2: Determine stress busters and relief practices

CO3: Define stress management at workplace

CO4: Describe negotiation and its applications

Capital Market-I

Upon completion of the course, the student will be able to -

CO1: Classify concept of capital market and money market

CO2: Identify investment alternatives

CO3: Identify ways to deal with grievances of investors

CO4: Classify applications of new issue market

Taxation and Law-I

Upon completion of the course, the student will be able to -

CO1: Describe taxation practices in India

CO2: Explain allowances and taxability in India

CO3: Identify income sources

CO4: Calculate payment of various taxes

Institutional Assistance to Business

Upon completion of the course, the student will be able to -

CO1: Describe concept of SSI in India

CO2: Classify various schemes for SSI entrepreneurship in India

CO3: Describe requirements of entrepreneurs

CO4: Define applications and scope various institutions for business support

E Business and Internet

Upon completion of the course, the student will be able to -

CO1: Define concept of E business

CO2: Classify various methods of e-business

CO3: Describe need and application of e-payment system

CO4: Give applications and scope of security in e-commerce

T.Y. BBA

Semester: VI

Auditing

Upon completion of the course, the student will be able to -

CO1: Describe concept and principles of auditing

CO2: Classify various methods of audit sampling

CO3: Identify need and applications in auditing standards

CO4: Describe applications of internal control and audit evidence

Management Perspective-VI

Upon completion of the course, the student will be able to -

CO1: Describe concept of Cost, quality and TQM

CO2: Discuss need of inventory and types of inventory

CO3: Determine strategies and SWOT analysis

CO4: Give applications of wage and salary management

Taxation and law-II

Upon completion of the course, the student will be able to -

CO1: Calculate taxes under various heads

CO2: Describe nature and scope of excise duty

CO3: Describe concept and nature of VAT

CO4: Define TDS

Management Support System

Upon completion of the course, the student will be able to –

CO1: Describe applications of MSS

CO2: Describe nature and role of DSS in business

CO3: Give uses of DSS in professional area

CO4: Discuss application of artificial intelligence

Project

Upon completion of the course, the student will be able to -

CO1 Describe various actual management techniques

CO2: Classify areas of managerial application in business

CO3: Identify technical aspiration in industry

CO4: Discuss scope for BBA students in different sectors

DBM

Programme Specific Outcomes

At the completion of the Diploma course, the students will be able to-

PSO1: Learn depreciation calculation on the fixed assets and computation of claim under loss of stock

PSO2: Gain knowledge of calculation of profit for small traders

PSO3: Acquire knowledge of measurement of fluctuation or changes in price and quantity of goods and products using various index numbers

PSO4: Understand research problems in the subject area

PSO5: Acquire knowledge of process and levels of management in the organization

PSO6: Gain knowledge of planning and decision making activities in the organization

PSO7: Understand concept of Information system

PSO8: Understands applications and scope of information system in organizations management

PSO9: Acquire knowledge of role of electronic commerce in banking

PSO10: Understand role of HR in banking and corporate areas

Course Outcomes

Semester I

Management Accounting & Applied Statistics

Upon completion of the course, the students will be able to -

CO1: Describe basic concept of accounting and preparation of ledger

CO2: Describe preparation of trading and non trading organization

CO3.Describe settlement of accounts for the admitted and retired partners

CO4: Describe presentation and tabulation of data, the methods of collecting

CO5: Explain summarization of data using central tendency

CO6: Describe various measures of dispersion and the method of measuring it.

CO7: Describe measurement of trend or variation existing in a Time Series data

Principles of Management

Upon completion of the course, the students will be able to -

CO1: Describe process and levels of management in the organization

CO2: Describe planning and decision making activities in the organization

CO3: Explain types and structure of organization

CO4: Describe staffing the employees

CO5: Describe the do's and don'ts in business

Management Information System

Upon completion of the course, the students will be able to -

CO1: Describe application and uses of MSS

CO2: Explain role of DSS in business

CO3: Describe use of DSS in professional area

CO4: Describe application of artificial intelligence

E-Business

Upon completion of the course, the students will be able to -

CO1: Describe concept of E business

CO2: Explain various methods of e business

CO3: Describe need of e payment system and application for it

CO4: Describe applications and scope of security in e commerce

Semester II

Human Resource Management

Upon completion of the course, the students will be able to -

CO1: Explain concept of Human Resource Management

CO2: Describe various methods of e business

CO3: Describe need and application of e payment system

CO4: Explain scope of Human Resource Management

Financial Management

Upon completion of the course, the students will be able to -

CO1: Describe concept of Financial Management

CO2: Explain various methods of financial management

CO3: Explain role of e payment in financial management.

CO4: Understand applications and scope of Financial Management

Marketing management

Upon completion of the course, the students will be able to -

CO1: Explain concept of Marketing Management

CO2: Describe various methods of marketing management

CO3: Explain concept of consumer behaviour

CO4: Describe marketing mix and market segmentation

Production & Operation Management

Upon completion of the course, the students will be able to -

CO1: Describe Production and operation management

CO2: Explain process of plant infrastructure management

CO3: Explain need and application of inventory management

CO4: Describe applications and scope of Financial Management Scheme

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M.M.S.

Programme specific outcomes

At the completion of the post graduation, the students will be able to-

PSO1: Explore in depth business problems to provide managerial solutions and recommendations to tackle them

PSO2: Learn skills and competencies necessary for business excellence to manage people and enterprise successfully

PSO: Gain proficiency in the use of latest technology and computer softwares

PSO4: understand basics of computer hardware and how software interacts with computer hardware

PSO5: Analyze and evaluate computer performance

PSO6: Understand concept of Accounting

PSO7: Acquire knowledge of Functions

PSO8: Understand concept of marketing mix

PSO9: Learn Finance function (concept, scope, and its relationship with other functions) and tools of financial analysis

PSO10: Understand management of supply chain, material management, materials management, system and procedures for inventory management

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Course Outcomes

Semester I

Computer Organization

Upon completion of the course, the students will be able to -

CO1: Describe basics of computer hardware and how software interacts with computer hardware

CO2: Describe how computer represent and manipulate data

CO3: Calculate computer arithmetic and conversion between different number systems

CO4: Describe basics of Instruction Set Architecture (ISA) – MIPS

CO5: Assemble a simple computer with hardware design including data format, instruction format, instruction set, addressing modes, bus structure, input/output, memory, Arithmetic/Logic unit, control unit, and data, instruction and address flow

CO6: Calculate Boolean algebra as related to designing computer logic, through simple combinational and sequential logic circuits

Operating System

Upon completion of the course, the students will be able to -

CO1: Explain process control, threads, concurrency, memory management scheduling, I/O and files, distributed systems, security, networking

CO2: Describe important trends affecting performance issue, why performance monitoring and evaluation are needed, and performance measures

CO3: Describe process concept, systems programmer's view of processes; the operating system services for process management, scheduling algorithms

CO4: Explain I/O devices, devices controllers direct memory access

CO5: Describe principles of I/O Software: Goals interrupt handlers, device drivers, device independent I/O software, and User space I/O software

Information Technology Concepts

Upon completion of the course, the students will be able to -

CO1: Describe machine code, assembly language, higher lever languages, fourth generation languages

CO2: Define Single user, multi-user, work station, client server systems, Computer networks, network protocols, LAN, WAN, Internet facilities through WWW

CO3: Explain Scientific, business, education, industrial, national level weather forecasting, remote sensing, planning, multilingual applications

CO4: Describe the Hardware – CPU, storage devices and media VDU, input-output devices, and data communication equipment, Software –system software and application software

Financial Accounting

Upon completion of the course, the students will be able to -

CO1: Describe concept of Accounting

CO2: Describe concept of Functions

CO3: Explain concept of Financial Management

CO4: Explain concept of Marginal Costing

CO5: Describe concept of permutations and combinations, concept of computation and analysis of variance

Programming in C

Upon completion of the course, the students will be able to -

CO1: Explain language of C: Phases of developing a running computer program in C

CO2: Explain Data concepts in C: Constants, Variables, Expressions, Operators, and operator precedence in C

CO3: Describe Statements: Declarations, Input-Output Statements, Compound statements, Selection Statements. Conditions, Logical operators, Precedence's. Repetitive statements, while construct, Do-while-Construct

CO4: Describe Data types, size and values, Char, Unsigned and Signed data types, Number systems and representations, Constants and Overflow

CO5: Explain Arrays. Strings. Multidimensional arrays and matrices

Semester II

Programming in C++

Upon completion of the course, the students will be able to -

CO1: Explain language C++: Phases of developing a running computer program in C++

CO2: Describe Data concepts in C++: Constants, Variables, Expressions, Operators, and operator precedence in C++

CO3: Explain Statements: Declarations, Input-Output Statements, Compound statements, Selection Statements. Conditions, Logical operators, Precedence's. Repetitive statements, while construct, Do-while-Construct

CO4: Describe Data types, size and values, Char, Unsigned and Signed data types, Number systems and representations, Constants and Overflow

CO5: Describe Arrays, Strings. Multidimensional arrays and matrices

Management Concepts

Upon completion of the course, the students will be able to -

CO1: Explain concept of marketing mix with product policy and design

CO2: Explain Finance function (concept, scope, and its relationship with other functions), tools of financial analysis

CO3: Explain concept of management of supply chain, material management, system and procedures for inventory management

CO4: Describe implementation of Firm and its Environment: strategies and resources; industry structure and analysis; evaluation of corporate strategy

Data Structure & Pascal

Upon completion of the course, the students will be able to -

CO1: Describe basic concept of data structures and algorithms

CO2: Describe concept of searching and sorting techniques

CO3: Describe basic concept about stacks, queues, lists, trees and graphs

CO4: Explain algorithms and step by step approach in solving problems with the help of fundamental data structures

MIS (IX)

Upon completion of the course, the students will be able to -

CO1: Discuss information for planning, organizing and controlling purposes

CO2: Explain process of Storing and managing data efficiency from all the functional areas of business

CO3: Describe process of data collection

CO4: Explain risk and uncertainties in the managerial decision-making

CO5: Explain data collection method for internal research

CO6: Explain managerial problems and their solution

CO8: Discuss information regarding work force planning

CO9: Describe financial health of business organization

CO10: Describe information regarding production and inventory

Statistical Methods

Upon completion of the course, the students will be able to -

CO1: Calculate measures of location and measures of dispersion -- grouped and ungrouped data cases

CO2: Calculate discrete and continuous probability distributions to various business problems

CO3: Describe Test of Hypothesis as well as calculate confidence interval for a population parameter for single sample and two sample cases, understand the concept of p-values

CO4: Describe non-parametric test such as the Chi-Square test for Independence as well as Goodness of Fit

CO5: Describe results of Vicariate and Multivariate Regression and Correlation forecasting and also perform ANOVA and F-test

Semester III

Software Engineering

Upon completion of the course, the students will be able to -

CO1: Discuss various aspects of software engineering

CO2: Describe Utilization and exhibition of strong communication and interpersonal skills, as well as professional and ethical principles when functioning as members and leaders of multi-disciplinary teams

CO3: Describe foundations in software engineering to adapt to readily changing environments using the appropriate theory, principles and processes

Data Communication Network

Upon completion of the course, the students will be able to -

CO1: Describe fundamental concept of data communications and networking

CO2: Describe different components and their respective roles in a computer communication system

CO3: Explain various concepts and terms related to data communication and networking

CO4: Solve problems in networking by referring to problems solving steps through relevant information by choosing suitable techniques

CO5: Describe networking software simulation tools, configuring of networking devices and their functionality

CO6: Explain strategies for securing network applications

CO7: Give usefulness and importance of computer communication in day today life and society

DBMS & ORACLE

Upon completion of the course, the students will be able to -

CO1: Describe Database systems, concepts and architecture, Date Models

CO2: Explain important trends affecting performance issue; why performance monitoring and evaluations are needed

CO3: Describe Data base languages, Interfaces, Data modeling using entity-relationship approach

CO4: Describe Date Definition in SQL View and queries in SQL Specifying constraints and indexes in SQL Specifying constraints and indexes in SQL Study of relational database management system ORACLE

CO5: Explain Function Dependencies Normal forms based on primary key (1NF, 2NF, 3NF and BCNF) Lossless join and dependency preserving decomposition

Functional Management I

Upon completion of the course, the students will be able to -

CO1: Describe Human Resources: Personal health and safety - occupational health problems - personal management and occupational safety quality of work life

CO2: Describe concept of Labour welfare

CO3: Describe Industrial Relations: Meaning and causes of disputes methods of preventing and settling

CO4: Explain different disputes regarding workers participation in management

System Analysis

Upon completion of the course, the students will be able to -

CO1: Explain System Project Selection

CO2: Describe Feasibility Study

CO3: State Definition Phase

CO4: Describe Requirement Analysis

CO5: Explain Input-output and processing.

CO6: Explain design phase: Input, output and processing.

CO7: Describe Implementation phase

CO8: Explain Procedure requirements, file conversions, testing

CO9: Describe evaluation phase: System Audit

Semester IV

Artificial Intelligence Application

Upon completion of the course, the students will be able to -

CO1: Describe Heuristics: Hill climbing. Best First Search A*

CO2: Describe Algorithm: Admissibility, AND/OR Graph- AO* Constraint Satisfaction: Cryptoairthmetic, Waltz Line Labeling

CO3: Describe Game Playing: Miming Search, Alpha-Beta Pruning

CO4: Explain Representation: Predicate Logic, Well Formed Formulas, Quantifiers; Premix Normal Form, Solemnization; unification, modus ponies; resolution refashion-various strategies

Functional Management II

Upon completion of the course, the students will be able to -

CO1: Explain Meaning and function of marketing types of marketing

CO2: Explain organization duties and responsibilities of marketing management, types of market

CO3: Explain market planning and budgeting, marketing mix marketing strategy

CO4: Describe applications of various factors in the field of Information technology

CO5: Evaluate computing systems from the point of view of quality, security, privacy, cost effectiveness, utility and ethics

System Programming

Upon completion of the course, the students will be able to -

CO1: Describe System Programming

CO2: Explain System programming in the Development cycle – Linkers / Loaders

CO3: Describe translations, libraries, Linkers as a part of language implementation

CO4: Explain Revocable / Non reloadable / self relocating programmes; design of a linker, object files, searchable libraries. Shared libraries– dynamics linking and overlays

Java Programming

Upon completion of the course, the students will be able to -

CO1: Describe the language Java: Phases of developing a running computer program in C++.

CO2: Describe Data concept in Java: Constants, Variables, Expressions, Operators, and operator precedence in Java

CO3: Describe the Statements- Declarations, Input-Output Statements, Compound statements, Selection Statements, Conditions, Logical operators, Precedence's, Repetitive statements, while construct, Do-while Construct, For construct

CO4: Discuss implementation of Data types, size and values; Char, Unsigned and Signed data types. Number systems and representations; Constants and Overflow

CO5: Describe Arrays. Strings. Multidimensional arrays and matrices

Optimization Techniques

Upon completion of the course, the students will be able to -

CO1: Discuss solutions for Programming problems related to computer Programming and design system components or processes that meet the specified needs with appropriate

consideration for the public health and safety, and the cultural, societal, and environmental considerations

CO2: Describe investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of information to obtain valid conclusions

CO3: Discuss use of Modern tool: Create, select, and apply appropriate techniques, resources, and modern Programming and IT tools including prediction and modelling to complex Programming activities with an understanding of the limitations

CO4: Describe role of Programmer in society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the computer Programming practices

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Faculty: Arts

B. A.

Programme Outcomes

At the time of graduation, the students will be able to -

PO1: Understand basic principles of social sciences

PO2: Analyse and make conclusions from acquired information

PO3: Understand and correlate various social issues

PO4: Do critical thinking on multiple aspects effectively

PO5: Apply various principles of social sciences to solve social, psychological and general administration related issues

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B.A. Marathi

Program Specific Outcomes

अभ्यासक्रमाचे शिक्षण घेत असतांना विद्यार्थ्याला खालील वैशिष्ट्यपूर्ण गोष्टींचे ज्ञान, कौशल्य प्राप्त होते

PSO1: विद्यार्थ्यांना मराठी भाषेच्या प्राथमिक कौशल्य प्राप्त होते

PSO2: अध्ययनर्थ्यांना मराठी भाषेच्या प्राचीन, मध्ययुगीन आणि आधुनिक साहित्याची ओळख होते

PSO3: मराठी भाषेच्या अभ्यासामुळे भाषेवर प्रभूत्व निर्माण होऊन एक उत्तम वक्ता, कवी,

सूत्रसंचालक होण्यासाठीचे ज्ञान प्राप्त होते

PSO5: संतसाहित्याच्या अभ्यासामुळे उत्तम व्याख्याता व लोककलांचे जतन करण्यासाठी चे कौशल्य प्राप्त होते

PSO6: विद्यार्थी भाषिक दृष्ट्या सक्षम बनल्याने शिक्षण क्षेत्रात अध्यापन करण्यासाठी चे कौशल्य प्राप्त होते

PSO7:मराठी भाषेच्या अभ्यासामुळे भाषिक अध्यापनासाठी ज्ञान प्राप्त होते

F.Y. B.A.

बी. ए./ बी.एस्सी./बी.कॉम. **S. L.**

विषय : मराठी प्रथम वर्ष (द्वितीय भाषा) **MAR 01**

सत्र पहिले : अभ्यासपत्रिका गद्य - पद्य व उपयोजित मराठी **MAR 01**

अभ्यासक्रमाचे शिक्षण पूर्ण झाल्यानंतर विद्यार्थ्याला खालील गोष्टींचे, ज्ञान,कौशल्य अवगत होते

CO1: रसिक लक्षण या पाठाची मध्यवर्ती कल्पना स्प्ष्ट करा

CO2: परमेश्वराचे भवितव्य या पाठातून कोणता संदेश देण्यात आला आहे?

CO3: मन करा रे प्रसन्न या कवितेचा आशय तुमच्या शब्दात व्यक्त करा

CO4: धुळी आतील रत्न या कवितेतून मुकुंदराज कोणता उपदेश करतात?

CO5: पाडसदेवा या कवितेच्या शीर्षकाची समर्पकता स्पष्ट करा

सत्र दुसरे : अभ्यासपत्रिका गद्य - पद्य व उपयोजित मराठी **MAR 02**

अभ्यासक्रमाचे शिक्षण पूर्ण झाल्यानंतर विद्यार्थ्याला खालील गोष्टींचे, ज्ञान,कौशल्य अवगत होते

CO1: शेवटचे कीर्तन या पाठात संत गाडगे बाबा कोणता संदेश देतात?

CO2: भूक या कथेची मध्यवर्ती कल्पना स्पष्ट करा

CO3: आई या कवितेचा आशय तुमच्या शब्दात स्पष्ट करा

CO4: बाप या कवितेचा आशय तुमच्या शब्दात स्पष्ट करा

CO5: अहवाल लेखन संज्ञा स्पष्ट करा

F.Y. B.A.

विषय मराठी (ऐच्छिक)

सत्र पहिले

अभ्यास पत्रिका- पहिली

काव्यात्त्मक साहित्य **MAR 101**

अभ्यासक्रमाचे शिक्षण पूर्ण झाल्यानंतर विद्यार्थ्याला खालील गोष्टींचे, ज्ञान,कौशल्य अवगत होते

CO1: संसार या कवितेची मध्यवर्ती कल्पना स्पष्ट करा

CO2: तुतारी या कवितेचा आशय तुमच्या शब्दात स्पष्ट करा

CO3: स्वप्नांची समाप्ती या कवितेचा आशय तुमच्या शब्दात स्पष्ट करा

CO4: पाणी या कवितेच्या आधारे पाण्याचे महत्व स्पष्ट करा

CO5: नामदेव ढसाळ यांची काव्यसंपदा थोडक्यात माहिती लिहा

अभ्यासपत्रिका - दुसरी

नाट्यात्त्म साहित्य **MAR 102**

अभ्यासक्रमाचे शिक्षण पूर्ण झाल्यानंतर विद्यार्थ्याला खालील गोष्टींचे, ज्ञान,कौशल्य अवगत होते

CO1: फाटलेला पतंग या नाटकाच्या शीर्षकाची समर्पकता स्पष्ट करा

CO2: मुलगी झाली हो या नाटकातून कोणता संदेश देण्यात आलेला आहे

CO3: यातना उत्सव या नाटकातील मध्यवर्ती संकल्पना स्पष्ट करा

CO4: उपरे या नाटकाच्या कथानकाची चर्चा करा

सत्र दुसरे

अभ्यास पत्रिका- तीसरी

कथात्त्मक साहित्य **MAR 103**

अभ्यासक्रमाचे शिक्षण पूर्ण झाल्यानंतर विद्यार्थ्याला खालील गोष्टींचे, ज्ञान,कौशल्य अवगत होते

CO1: भोमक्या कथेची मध्यवर्ती कल्पना स्पष्ट करा

CO2: गांधीजी २००१ या कथेची मध्यवर्ती कल्पना स्पष्ट करा

CO3: आपण माणसात जमा नाही या कथेचे कथानक सांगा

CO4: हिशोब या कथेतील पात्र चर्चा करा

CO5: नदीकाठचा प्रकार या कथेचे कथानक सांगा

CO6: चिंगी महिण्याची झाली नाही तोच या नाटकातून कोणता संडे देण्यात आलेला आहे

अभ्यासपत्रिका - **चौथी**

मुद्रित माध्यमांसाठी लेखन कौशल्ये **MAR 104**

अभ्यासक्रमाचे शिक्षण पूर्ण झाल्यानंतर विद्यार्थ्याला खालील गोष्टींचे, ज्ञान,कौशल्य अवगत होते

CO1: वृत्तपत्राचे स्वरूप व महत्व सांगा

CO2: मुलाखत या तंत्राची ओळख करून द्या

CO3: जाहिरात लेखन या तंत्राची ओळख करून द्या

CO4: निविदा लेखन या तंत्राची ओळख करून द्या

CO5: स्तंभलेखन या लेखन तंत्राची ओळख करून द्या

बी. ए./ बी.एस्सी./बी.कॉम. **II**

विषय : मराठी द्वितीय वर्ष (द्वितीय भाषा)

सत्र पहिले

गद्य - पद्य व उपयोजित मराठी **MAR 03**

अभ्यासक्रमाचे शिक्षण पूर्ण झाल्यानंतर विद्यार्थ्याला खालील गोष्टींचे, ज्ञान,कौशल्य अवगत होते

CO1: लोकसंस्कृती म्हणजे काय?

CO2: निष्कर्ष या कवितेचा आशय स्पष्ट करा

CO3: परिभाषा तंत्र , स्वरूप स्पष्ट करा

CO4: वाङ्मयलेखन प्रकारांचा परिचय करून द्या

CO5: जलनियोजन तंत्र व स्वरूप स्पष्ट करा

सत्र दुसरे

गद्य - पद्य व उपयोजित मराठी **MAR 04**

अभ्यासक्रमाचे शिक्षण पूर्ण झाल्यानंतर विद्यार्थ्याला खालील गोष्टींचे, ज्ञान,कौशल्य अवगत होते

CO1: भूक या पाठाची मध्यवर्ती संकल्पना सांगा

CO2: गर्भाशयात असताना या कवितेच्या शीर्षकाची समर्पकता स्पष्ट करा

CO3: कळसूत्री बाहूली या कवितेचा आशय स्पष्ट करा

CO4: संगणकाची वैशिष्ट्ये कोणती?

CO5: इंटरनेट स्वरूप व कार्यप्रणाली सांगा

B.Com. II

द्वितीय भाषा मराठी

सत्र **तिसरे**

वाणिज्य व्यवहार, व्यवसाय आणि मराठी भाषा

अभ्यासक्रमाचे शिक्षण पूर्ण झाल्यानंतर विद्यार्थ्याला खालील गोष्टींचे, ज्ञान,कौशल्य अवगत होते

CO1: भाषा म्हणजे काय?

CO2: व्यापार व्यवहारात वाचन संस्कृतीचे महत्व स्पष्ट करा

CO3: पत्र लेखनाचे तंत्र व स्वरूप सांगा

CO4: जागतिकीकरणात मराठी भाषेचे महत्व स्पष्ट करा

CO5: निबंध अर्थ व स्वरूप स्पष्ट करा

चौथे

वाणिज्य व्यवहार, व्यवसाय आणि मराठी भाषा

अभ्यासक्रमाचे शिक्षण पूर्ण झाल्यानंतर विद्यार्थ्याला खालील गोष्टींचे, ज्ञान,कौशल्य अवगत होते

CO1: कार्यालयीन तंत्रलेखनचे तंत्र व स्वरूप स्पष्ट करा

CO2: अनुवाद म्हणजे काय?

CO3: जनसंपर्क माध्यमांची व्याख्या सांगा

CO4: जाहिरातीची विविध घटक कोणते?

CO5: व्यापाराची व्याख्या व स्वरूप सांगा

CO6: व्यापाराला मदत करणारी साधने कोणती?

S.Y. B.A.

मराठी (ऐच्छिक)

सत्र **तिसरे**

अभ्यासपत्रिका पाचवी

आधुनिक मराठी वाड़मयाचा इतिहास (इ.स. 1800 ते 1920) **MAR 105**

अभ्यासक्रमाचे शिक्षण पूर्ण झाल्यानंतर विद्यार्थ्याला खालील गोष्टींचे, ज्ञान,कौशल्य अवगत होते CO1: संस्कृतीची संकल्पना स्पष्ट करा

CO2: इ.स. १८०० ते इ.स. १८७४ या कालखंडाची सांस्कृतिक पार्शवभूमी स्पष्ट करा.

CO1: निबंध म्हणजे काय?

CO3: शतपत्रे याविषयी माहिती सांगा

CO4: कथा वाड्मयाचे स्वरूप थोडक्यात सांगा

CO5: कादंबरी वाड्मयाचे स्वरूप स्पष्ट करा

अभ्यासपत्रिका सहावी

दृक - श्राव्य माध्यमांसाठी लेखन कौशल्ये **MAR 106**

अभ्यासक्रमाचे शिक्षण पूर्ण झाल्यानंतर विद्यार्थ्याला खालील गोष्टींचे, ज्ञान,कौशल्य अवगत होते

CO1: नभोवाणी म्हणजे काय?

CO2: नभोवाणीच्या जाहिरातीचे स्वरूप स्पष्ट करा

CO3: दूरचित्रवाणीचे स्वरूप थोडक्यात व्यक्त करा

CO4: दूरचित्रवाणी कार्यक्रमाचे प्रकार कोणते?

CO5: नभोवाणीवरील बातमीपत्राचे स्वरूप स्पष्ट करा

सत्रे **चौथे**

अभ्यासपत्रिका सातवी

आधुनिक मराठी वाड़मयाचा इतिहास (इ.स. 1800 ते 1920) **MAR 107**

अभ्यासक्रमाचे शिक्षण पूर्ण झाल्यानंतर विद्यार्थ्याला खालील गोष्टींचे, ज्ञान,कौशल्य अवगत होते

CO1: नाट्यवाङ्मयाचे स्वरूप स्पष्ट करा

CO2: मराठी रंगभूमीचा उद्या यावर थोडक्यात माहिती लिहा

CO3: संगीत नाटकाचे स्वरूप कसे असते ते सांगा

CO4: काव्य वाङ्मयाचे स्वरूपविशेष स्पष्ट करा

CO5: चरित्र व आत्मचरित्र यातील फरक स्प्ष्ट करा

अभ्यासपत्रिका आठवी

साहित्य प्रकारांतर आणि साहित्याचे माध्यमांतर **MAR 108**

अभ्यासक्रमाचे शिक्षण पूर्ण झाल्यानंतर विद्यार्थ्याला खालील गोष्टींचे, ज्ञान,कौशल्य अवगत होते

CO1: साहित्य प्रकारानंतर संकल्पना स्पष्ट करा

CO2: साहित्य प्रकारानंतर चे स्वरूप सांगा

CO3: माध्यम संकल्पना थोडक्यात स्प्ष्ट करा

CO4: चित्रपट, पटकथा लेखनाचे स्वरूपाची चर्चा करा

CO5: लघुपट व लघुपटाचे कथालेखन याविषयी चर्चा करा

T.Y. B.A.

विषय : मराठी (ऐच्छिक)

सत्र – **पाचवे**

अभ्यासपत्रिका 9 वी भारतीय साहित्य विचार

अभ्यासक्रमाचे शिक्षण पूर्ण झाल्यानंतर विद्यार्थ्याला खालील गोष्टींचे, ज्ञान,कौशल्य अवगत होते

CO1: साहित्याची व्याख्या सांगा

CO2: भरतीय साहित्यिकांनी सांगितलेली साहित्याची प्रयोजने कोणती?

CO3: प्रतिभा म्हणजे काय?

CO4: रसविघ्ने म्हणजे काय व कोणती ?

CO5: मराठीतील शब्दशक्ती कोणत्या ते सांगा

अभ्यासपत्रिका 10 वी

भाषा विज्ञान

अभ्यासक्रमाचे शिक्षण पूर्ण झाल्यानंतर विद्यार्थ्याला खालील गोष्टींचे, ज्ञान,कौशल्य अवगत होते

CO1: भाषा म्हणजे काय?

CO2: भाषेची वैशिष्ट्ये कोणती?

CO3: स्वन म्हणजे काय?

CO4: खंडित स्वनिम व खंडाधिष्ठित स्वनिम यातील फरक स्पष्ट करा

CO5: प्रमाण भाषा व बोली भाषा यातील फरक स्पष्ट करा

अभ्यास पत्रिका - 11 वी

विषय : मुख्य मराठी

मध्ययुगीन मराठी वाङमयाचा इतिहास (प्रारंभ ते 1600)

अभ्यासक्रमाचे शिक्षण पूर्ण झाल्यानंतर विद्यार्थ्याला खालील गोष्टींचे, ज्ञान,कौशल्य अवगत होते

CO1: महानुभाव पंथ थोडक्यात माहिती लिहा

CO2: महानुभावांचे गद्य साहित्य चर्चा करा

CO3: वारकरी संप्रदायाचे वाङ्मयीन कार्य माहिती लिहा

CO4: संत एकनाथांची वाङ्मयीन रचना याविषयी चर्चा करा

CO5: संत तुकारामांचे कवित्व याविषयी चर्चा करा

अभ्यास पत्रिका - 12 वी

प्रकल्पकार्य भाग – 1

अभ्यासक्रमाचे शिक्षण पूर्ण झाल्यानंतर विद्यार्थ्याला खालील गोष्टींचे, ज्ञान,कौशल्य अवगत होते

CO1: लेखन कौशल्ये कोणती?

CO2: प्रकल्प म्हणजे काय?

CO3: प्रकल्पाचे स्वरूप वैशिष्ट्ये स्पष्ट करा

CO4: प्रकल्प निवडी मागची भूमिका स्पष्ट करा

CO5: समीक्षणाचे विविध पैलू कोणते?

सत्र – सहावे

अभ्यासपत्रिका 13 वी

पाश्चात्य साहित्य विचार

अभ्यासक्रमाचे शिक्षण पूर्ण झाल्यानंतर विद्यार्थ्याला खालील गोष्टींचे, ज्ञान,कौशल्य अवगत होते

CO1: साहित्याची व्याख्या सांगा

CO2: पाश्चात्य साहित्यिकांनी सांगितलेली साहित्याची प्रयोजने कोणती?

CO3: साहित्याची निर्मिती प्रक्रिया स्पष्ट करा

CO4: मार्क्सवादी साहित्यविचार चर्चा करा

CO5: मार्क्सवादी समीक्षा पद्धती चर्चा करा

अभ्यासपत्रिका 14 वी

व्याकरण व निबंध लेखन

अभ्यासक्रमाचे शिक्षण पूर्ण झाल्यानंतर विद्यार्थ्याला खालील गोष्टींचे, ज्ञान,कौशल्य अवगत होते

CO1: शब्दांच्या जाती किती व कोणत्या?

CO2: संधीचे प्रकार स्पष्ट करा

CO3: समास म्हणजे काय?

CO4: अलंकार म्हणजे काय?

CO5: निबंधाची व्याख्या स्पष्ट करा

अभ्यास पत्रिका - 15 वी

मध्ययुगीन मराठी वाङमयाचा इतिहास (1601 ते 1818)

अभ्यासक्रमाचे शिक्षण पूर्ण झाल्यानंतर विद्यार्थ्याला खालील गोष्टींचे, ज्ञान,कौशल्य अवगत होते

CO1: पंडिती साहित्य म्हणजे काय?

CO2: पंडिती साहित्याची प्रेरणा व वैशीष्ट्ये स्पष्ट करा

CO3: मोरोपंत यांचे ग्रंथ चर्चा करा

CO4: शाहिरी वाङ्मय म्हणजे काय?

CO5: शाहिरी वाङ्मय साहित्याची प्रेरणा व वैशीष्ट्ये स्पष्ट करा

CO6: बखर साहित्याची प्रेरणा व वैशीष्ट्ये स्पष्ट करा

अभ्यास पत्रिका - 16 वी

(मुख्य मराठी)

प्रकल्पकार्य भाग - 02

अभ्यासक्रमाचे शिक्षण पूर्ण झाल्यानंतर विद्यार्थ्याला खालील गोष्टींचे, ज्ञान,कौशल्य अवगत होते

CO1: समीक्षा म्हणजे काय?

CO2: संशोधन दृष्टी चर्चा करा

CO3: बोलीभाषेची वैशिष्ट्ये कोणती?

CO4: लोकसाहित्य म्हणजे काय?

CO5: लोकसाहित्याचे विविध प्रकार स्पष्ट करा

B. A. Hindi

Programme Specific Outcomes

PSO1: हिंदी भाषा के महत्व को समझते हुए हिंदी के विभिन्न रूपों (राष्ट्रभाषा,संपर्क भाषा,संचार भाषा) से परिचित होगे ।

PSO2: हिंदी साहित्य के माध्यम से छात्रों में जीवन मूल्यों के प्रति आस्था निर्माण होगी ।

PSO3: साहित्य एवं समाज के अंतरसंबंध को समझ सकेंगे ।

PSO4: अध्ययन के द्वारा साहित्य के प्रति रुचि निर्माण होगी ।

PSO5: छात्र हिंदी साहित्य की विविध विधाओं तथा साहित्यकारों से परिचित होगे ।

PSO6: हिंदी साहित्य के इतिहास तथा विकास का ज्ञान प्राप्त होगा ।

PSO7: साहित्य के माध्यम से छात्रों में संवेदना का विकास होगा ।

PSO8: **साहित्य एवं भाषा के अध्ययन से छात्र सृजनात्मक लेखन की ओर बढ़ेंगे ।**

PSO9: व्यावसायिक दृष्टि से हिंदी के महत्व को समझेंगे ।

PSO10: वर्तमान परिप्रेक्ष्य में हिंदी के विभिन्न प्रयोगक्षेत्रों की जानकारी प्राप्त होगी ।

PSO11: छात्र हिंदी के प्रयोजनमूलक भाषा के रूप को समझेंगे ।

PSO12: प्रयोजनमूलक हिंदी के अध्ययन द्वारा छात्रों में भाषायी कौशल

(श्रवण,भाषण,वाचन,लेखन) विकसित होगे ।

PSO13: वैश्वीकरण के दौर में अनुवाद की आवश्यकता एवं अनिवार्यता से परिचित होगे ।

Course Outcomes

F.Y. B.A.

Semester I

प्रश्नपत्र क्र. – I **द्वितीय भाषा** (S.L.) **हिन्दी**

CO1: कहानी की परिभाषा देते हुए हिन्दी कहानी के विकासक्रम पर प्रकाश डालिए

CO2: कहानी के तत्वों पर सविस्तार चर्चा कीजिए

CO3: 'हार की जीत'कहानी का सार लिखिए

CO4: हिन्दी भाषा के उद्भव एवं विकास को स्पष्ट कीजिए

CO5: देवनागरी लिपि की वैज्ञानिकता पर प्रकाश डालिए

ऐच्छिक प्रश्नपत्र (Optional Paper) **हिन्दी**

प्रश्नपत्र क्र. – I **उपन्यास साहित्य**

CO1: 'उपन्यास' विधा का स्वरूप एवं परिभाषा पर टिप्पणी लीखिए

CO2: हिन्दी उपन्यास की विकास यात्रा को स्पष्ट कीजिए

CO3: 'आपका बंटी'उपन्यास में चित्रित बालमानसिकता पर प्रकाश डालिए

CO4: उपन्यासकार यशपाल के व्यक्तित्व एवं कृतित्व पर चर्चा कीजिए

CO5: 'उपन्यास' के कथ्य एवं शिल्प पक्ष से क्या तात्पर्य हैं, समझाइए

प्रश्नपत्र क्र. – II **नाटक साहित्य**

CO1: हिन्दी नाटक के विकासक्रम पर प्रकाश डालिए

CO2: नाटक लेखन के लिए आवश्यक तत्वों पर चर्चा कीजिए

CO3: विजय पर्व नाटक का सार लिखिए

CO4: साहित्य एवं समाज के अंतरसंबंध को स्पष्ट कीजिए

CO5: होरी का चरित्र चित्रण कीजिए

Semester II

प्रश्नपत्र क्र. – II **द्वितीय भाषा** (S.L.)

CO1: दूज का टीका कहानी का सार लिखिए

CO2: **कहानी साहित्य मे चित्रित ग्रामीण जीवन को विशद कीजिए**

CO3: हिन्दी के प्रयोजनमूलक भाषा रूप को स्पष्ट कीजिए

CO4: हिन्दी के व्यावहारिक लेखन पक्ष (संक्षेपण तथा पल्लवन) पर चर्चा कीजिए

CO5: कम्प्युटर में हिन्दी के बढ़ते प्रयोग और उसके महत्व को समझाइए

ऐच्छिक प्रश्नपत्र (Optional Paper)

प्रश्नपत्र क्र. - III **हिन्दी गद्य साहित्य**

CO1: कहानी की परिभाषा देते हुए हिन्दी कहानी के विकासक्रम पर प्रकाश डालिए

CO2: हिन्दी व्यंग्य की विकास यात्रा का परिचय दीजिए

CO3: मानवी जीवन पर हावी होते हुए बाज़ार का चित्रण 'विज्ञापन में बिकती नारी' इस रचना में हुआ हैं, स्पष्ट कीजिए

CO4: 'सपना' कहानी का सार लिखिए

CO5: **सरकारी नौकरियों में होने वाली धाँधलियों का सटीक चित्रण ' इंटरव्यू मोफतलाल का होना डिप्टी कलेक्टर' रचना में हुआ हैं समझाइए**

प्रश्नपत्र क्र. - IV **एकांकी साहित्य**

CO1: हिन्दी गद्य की नवीनतम विधा एकांकी की परिभाषा एवं स्वरूप पर प्रकाश डालिए

CO2: हिन्दी एकांकी की विकासयात्रा पर चर्चा कीजिए

CO3: हिन्दी एकांकी साहित्य में महिला रचनाकारों के योगदान को स्पष्ट कीजिए

CO4: हिन्दी एकांकियों में अभिव्यक्त सामाजिक जीवन पर प्रकाश डालिए

CO5: एकांकी के कथ्य एवं शिल्प पक्ष पर प्रकाश डालिए

S.Y. B.A.

Semester III

प्रश्नपत्र क्र. – III **द्वितीय भाषा** (S.L.)

CO1: हिन्दी साहित्य की विभिन्न गद्य विधाओं परिचय दीजिए

CO2: संस्मरण से तात्पर्य स्पष्ट कीजिए

CO3: प्रयोजनमूलक हिन्दी के स्वरूप को स्पष्ट करते हुए विशेषताओं पर प्रकाश डालिए

CO4: भाषा शिक्षण की प्रक्रिया पर चर्चा कीजिए

CO5: व्यावसायिक दृष्टि से हिंदी के महत्व पर प्रकाश डालिए

ऐच्छिक प्रश्नपत्र (Optional Paper)

प्रश्नपत्र क्र. – V **कथेत्तर गद्य साहित्य**

CO1: कथेत्तर गद्य की विभिन्न विधाओं (जीवनीपरख लेख,व्यंग्य,चिंतनपरख लेख,निबंध) पर चर्चा कीजिए

CO2: 'महात्मा गांधी' इस रचना का सार लिखिए

CO3: 'जीवन का व्यवसाय' इस रचना में अभिव्यक्त नारी विषयक विचारों पर चर्चा कीजिए

CO4: 'नदीया गहरी नाव पुरानी' इस यात्रा वृतांत मे चित्रित प्रकृति सौन्दर्य को स्पष्ट कीजिए

CO5: 'रिहाई' (संस्मरण) का सार अपने शब्दों में लिखिए

प्रश्नपत्र क्र. - VI **प्रयोजनमूलक हिन्दी**

CO1: प्रयोजनमूलक हिन्दी की विशेषताओं पर प्रकाश डालिए

CO2: हिन्दी भाषा के नामकरण एवं क्रमिक विकास को स्पष्ट कीजिए

CO3: हिन्दी के अन्तराष्ट्रिय परिदृश्य पर चर्चा कीजिए

CO4: भाषा एवं लिपि के बीच के अंतर को स्पष्ट कीजिए

CO5: भाषा मानकीकरण की प्रक्रिया समझाइए

Semester IV

प्रश्नपत्र क्र. – IV **द्वितीय भाषा** (S.L.)

CO1: 'स्त्री घर' इस रचना में अभिव्यक्त नारी जीवन की वास्तविकता पर चर्चा कीजिए

CO2: 'कर कमल हो गए' इस रचना का सार लिखिए

CO3: बैंकिंग अनुवाद का स्वरूप स्पष्ट करते हुए उसमे आनेवाली समस्याओं पर प्रकाश डालिए

CO4: अत्याधुनिक इलेक्ट्रोनिक माध्यमों पर प्रकाश डालिए

CO5: जनसंचार माध्यमों के विविध रूपों का परिचय दीजिए

ऐच्छिक प्रश्नपत्र (Optional Paper)

प्रश्नपत्र क्र. – VII **आधुनिक हिन्दी कविता**

CO1: 'भाषा की रात' कविता का सार लिखिए

CO2: आधुनिक हिन्दी साहित्य के प्रमुख कवियों का परिचय दीजिए

CO3: 'बैरागी आया हैं गाँव' में चित्रित ग्रामीण जीवन पर प्रकाश डालिए

CO4: खंडकाव्य के स्वरूप को स्पष्ट कीजिए

CO5: 'भूमिजा' (खंडकाव्य) का कथासार लिखिए

प्रश्नपत्र क्र. – VIII **प्रयोजनमूलक हिन्दी**

CO1: राजभाषा और राष्ट्रभाषा के बीच के अंतर को स्पष्ट कीजिए

CO2: राजभाषा हिन्दी के संवैधानिक प्रावधान को स्पष्ट कीजिए

CO3: प्रयोजनमूलक हिन्दी के लेखन पक्ष पर प्रकाश डालिए

CO4: कार्यालयीन हिन्दी (राजभाषा) के प्रमुख प्रकार्यों की जानकारी दीजिए

CO5: अनुवाद का स्वरूप एवं प्रक्रिया पर सविस्तार चर्चा कीजिए

T.Y. B.A.
Semester V

ऐच्छिक प्रश्नपत्र (Optional Paper)

प्रश्नपत्र क्र. - IX **प्रादेशिक भाषा साहित्य**

CO1: प्रादेशिक भाषा साहित्य से क्या तात्पर्य है, समझाइए

CO2: मराठी कहानी साहित्य का सामान्य परिचय दीजिए

CO3: 'मराठी दलित आत्मकथा साहित्य' पर चर्चा कीजिए

CO4: 'पराया' में चित्रित कैकाडि जाति के जीवन की वास्तविकता पर प्रकाश डालिए

CO5: 'मूँनगे की फलिया' कहानी का सार लिखिए

प्रश्नपत्र क्र. - X **आदि तथा मध्यकालीन हिन्दी साहित्य का इतिहास**

CO1: हिन्दी साहित्येतिहास लेखन के विभिन्न स्त्रोतों पर प्रकाश डालिए

CO2: हिन्दी साहित्य के इतिहास एवं विकास की परंपरा पर चर्चा कीजिए

CO3: आदिकालीन सामाजिक पृष्टभूमि पर प्रकाश डालिए

CO4: भक्तिकालीन काव्यधाराओं का परिचय दीजिए

CO5: कविवर भूषण की कविताओं में अभिव्यक्त राष्ट्रिय चेतना पर प्रकाश डालिए

प्रश्नपत्र क्र. XI – **साहित्यशास्त्र**

CO1: साहित्य के स्वरूप एवं तत्वों पर प्रकाश डालिए

CO2: साहित्य के प्रयोजन पर चर्चा कीजिए

CO3: भारतीय काव्यशास्त्र में प्रतिपादित रस सिद्धांत के महत्व को समझाइए

CO4: भारतीय काव्यशास्त्र की साहित्य में उपादेयता को स्पष्ट कीजिए

CO5: साहित्य के हेतुओं पर प्रकाश डालिए

Semester VI

ऐच्छिक प्रश्नपत्र (Optional Paper)

प्रश्नपत्र क्र. - XII **मध्यकालीन काव्य**

CO1: भारतीय भक्ति आंदोलन की पृष्ठभूमि को समझाइए

CO2: भक्तिकालीन काव्य का सामान्य परिचय दीजिए

CO3: रीतिकालीन सामाजिक पृष्टभूमि पर प्रकाश डालिए

CO4: कविताओं के माध्यम से मध्यकालीन सामाजिक,सांस्कृतिक,राजनीतिक एवं साहित्यिक पृष्ठभूमि पर चर्चा कीजिए

CO5: मध्यकालीन कवियों की महत्ता को स्पष्ट कीजिए

प्रश्नपत्र क्र. - XIII **आधुनिक हिन्दी साहित्य का इतिहास**

CO1: हिंदी की आधुनिक काल की विभिन्न काव्यधाराओं का परिचय दीजिए

CO2: हिंदी साहित्य के आधुनिक कवियों पर प्रकाश डालिए

CO3: हिंदी गद्य की नवीनतम विधाओं पर चर्चा कीजिए

CO4: प्रगतिवादी काव्यधारा पर प्रकाशा डालिए

CO5: छायावादी कविता की प्रवृत्तियों को स्पष्ट कीजिए

प्रश्नपत्र क्र. - XIV **साहित्यशस्त्र**

CO1: भारतीय काव्यशास्त्र के विकासक्रम का परिचय दीजिए

CO2: 'अलंकार' सिद्धांत के स्वरूप को स्पष्ट कीजिए

CO3: 'छंद' सिद्धांत के स्वरूप एवं उसकी सैद्धांतिक अवधारणा पर प्रकाशा डालिए

CO4: आलोचना के प्रमुख भेदों का परिचय दीजिए

CO5: हिंदी साहित्य की प्रमुख विधाओं पर चर्चा कीजिए

F.Y. B.Sc.

Semester I

प्रश्नपत्र क्र. - I **द्वितीय भाषा** (SL) **हिन्दी**

CO1: कहानी की परिभाषा देते हुए हिन्दी कहानी के विकासक्रम पर प्रकाश डालिए

CO2: कहानी के तत्वों पर सविस्तार चर्चा कीजिए

CO3: 'हार की जीत'कहानी का सार लिखिए

CO4: हिन्दी भाषा के उद्भव एवं विकास को स्पष्ट कीजिए

CO5: देवनागरी लिपि की वैज्ञानिकता पर प्रकाश डालिए

Semester II

प्रश्नपत्र क्र. - II **द्वितीय भाषा** (SL) **हिन्दी**

CO1: दूज का टीका कहानी का सार लिखिए

CO2: कहानी साहित्य मे चित्रित ग्रामीण जीवन को विशद कीजिए

CO3: हिन्दी के प्रयोजनमूलक भाषा रूप को स्पष्ट कीजिए

CO4: हिन्दी के व्यावहारिक लेखन पक्ष (संक्षेपण तथा पल्लवन) पर चर्चा कीजिए

CO5: कम्प्युटर में हिन्दी के बढ़ते प्रयोग और उसके महत्व को समझाइए

Semester III

S.Y. B.Sc.

प्रश्नपत्र क्र. - III **द्वितीय भाषा** (SL) **हिंदी**

CO1: हिन्दी साहित्य की विभिन्न गद्य विधाओं परिचय दीजिए

CO2: संस्मरण से तात्पर्य स्पष्ट कीजिए

CO3: प्रयोजनमूलक हिन्दी के स्वरूप को स्पष्ट करते हुए विशेषताओं पर प्रकाश डालिए

CO4: भाषा शिक्षण की प्रक्रिया पर चर्चा कीजिए

CO5: व्यावसायिक दृष्टि से हिंदी के महत्व पर प्रकाश डालिए

Semester IV

प्रश्नपत्र क्र. - IV **द्वितीय भाषा** (SL) **हिंदी**

CO1: 'स्त्री घर' इस रचना में अभिव्यक्त नारी जीवन की वास्तविकता पर चर्चा कीजिए

CO2: 'कर कमल हो गए' इस रचना का सार लिखिए

CO3: बैंकिंग अनुवाद का स्वरूप स्पष्ट करते हुए उसमे आनेवाली समस्याओं पर प्रकाश डालिए

CO4: अत्याधुनिक इलेक्ट्रोनिक माध्यमों पर प्रकाश डालिए

CO5: जनसंचार माध्यमों के विविध रूपों का परिचय दीजिए

F.Y.B. COM.

Semester I

प्रश्नपत्र क्र. - I **द्वितीय भाषा** (SL) **हिन्दी**

CO1: कहानी की परिभाषा देते हुए हिन्दी कहानी के विकासक्रम पर प्रकाश डालिए

CO2: कहानी के तत्वों पर सविस्तार चर्चा कीजिए

CO3: 'हार की जीत'कहानी का सार लिखिए

CO4: हिन्दी भाषा के उद्भव एवं विकास को स्पष्ट कीजिए

CO5: देवनागरी लिपि की वैज्ञानिकता पर प्रकाश डालिए

Semester II

प्रश्नपत्र क्र. - II **द्वितीय भाषा** (SL) **हिन्दी**

CO1: दूज का टीका कहानी का सार लिखिए

CO2: कहानी साहित्य मे चित्रित ग्रामीण जीवन को विशद कीजिए

CO3: हिन्दी के प्रयोजनमूलक भाषा रूप को स्पष्ट कीजिए

CO4: हिन्दी के व्यावहारिक लेखन पक्ष (संक्षेपण तथा पल्लवन) पर चर्चा कीजिए

CO5: कम्प्युटर में हिन्दी के बढ़ते प्रयोग और उसके महत्व को समझाइए

S.Y. B. COM.

Semester III

द्वितीय भाषा (SL) **हिन्दी**

प्रश्नपत्र क्र. - III **संप्रेषनमूलक व्यावहारिक हिंदी**

CO1: प्रयोजनमूलक भाषा का स्वरूप स्पष्ट करते हुए विशेषताओं पर प्रकाश डालिए

CO2: वैश्वीकरण के परिप्रेक्ष्य में हिन्दी भाषा के महत्व को समझाइए

CO3: वाणिज्य व्यापार में हिन्दी के भाषिक प्रकार्य पर चर्चा कीजिए

CO4: वाणिज्य एवं व्यापार के क्षेत्र में हिन्दी के महत्व को स्पष्ट कीजिए

CO5: निबंध (व्यावसायिक और आर्थिक) लेखन का परिचय दीजिए

Semester IV

द्वितीय भाषा (SL) **हिन्दी**

प्रश्नपत्र क्र. - IV **संप्रेषनमूलक व्यावहारिक हिंदी**

CO1: वाणिज्य व्यापार लेखन पक्ष पर प्रकाश डालिए

CO2: बैंकिंग क्षेत्र में हिन्दी के प्रयोग पर चर्चा कीजिए

CO3: वाणिज्य व्यापार के क्षेत्र में मीडिया की भूमिका पर प्रकाश डालिए

CO4: जनसंचार माध्यमों के विविध रूपों पर चर्चा कीजिए

CO5: व्यावसायिक (बैंकिंग और मीडिया) अनुवाद के स्वरूप,प्रक्रिया और महत्व पर प्रकाश डालिए

B.A. English

Program Specific Outcomes

At the time of graduation, the students will be able to-

PSO1: Have a good understanding of Basic English Grammar

PSO2: Use Received Pronunciation to make their English more intelligible

PSO3: Understand the structure of drama and novel

PSO4: Get acquainted with the history of English literature passing through different ages

PSO5: Understand various poetic types such as sonnet, ode, elegy, lyric and so on

PSO6: Achieve the skill of reading a literary text critically

PSO7: Gain knowledge of applying theories of literary criticism for the sound understanding of a literary artefact

PSO8: Know how literature is the product of the time in which it is penned

PSO9: Incorporate values in their own life which are reflected in literary texts

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Course Outcomes

F.Y. B. A.

Semester I & II

Paper I & II–English Compulsory

Upon completion of the course, the students will be able to-

CO1: Differentiate various types of genres

CO2: Explain nature and structure of sonnet

CO3: Identify parts of speech appearing in sentences

CO4: Distinguish between open and close class items is clear to students

CO5: Have a good knowledge of tenses

Paper I & III– Optional English: The Structure of English

Upon completion of the course, the students will be able to-

CO1: Have thoroughly understood the Received Pronunciation

CO2: Reproduce all forty-four speech sounds

CO3: A sound knowledge of syllable, phone, intonation, tone group, etc

CO4: Be well versed in sentence types, elements of clause structure, various phrases, etc

CO5: Comprehend the process of word formation

Paper II & IV– Optional English: Reading Literature

Upon completion of the course, the students will be able to-

CO1: Know poetical types especially lyric, sonnet and ode

CO2: Read and interpret novel

CO3: Have knowledge of drama, especially of tragedy and comedy

CO4: Read and interpret Shakespearean sonnets

CO5: Read and interpret Keats' odes

Paper I & II– Additional English

Upon completion of the course, the students will be able to-

CO1: Distinguish between various genres of English Literature

CO2: Understand author's purpose and tone

CO3: Distinguish between main ideas from specific details depicted in literary pieces

CO4: Expand and comprehend the text

CO5: Improved their language skills

S.Y. B. A.

Semester III & IV

Paper III & IV–English Compulsory

Upon completion of the course, the students will be able to-

CO 1: Distinguish between spoken language and the written

CO 2: Understand and acquire English language skills through creative writing

CO 3: Use English language appropriately, creatively and imaginatively

CO 4: Identify the main ideas and themes depicted in a text

CO5: Have competence in various concepts in grammar and writing skills

Paper V & VII– Optional English: Literature in English 1550 - 1750

Upon completion of the course, the students will be able to-

CO1: Have developed and applied the literary knowledge

CO2: Know the nature and structure of epic and mock epic

CO3: Differentiate between various types of literary genres

CO4: Distinguish between good and evil, moral & immoral depicted in literature

CO5: Study literature critically

Paper VI & VIII– Optional English: Literature in English 1750 - 1900

Upon completion of the course, the students will be able to-

CO1: Have obtained sufficient knowledge of poetical types like ballad and dramatic monologue

CO2: Understand the socio-economical and cultural situation of English society in the 19^{th}century by reading the novel of Thomas Hardy

CO3: Be acquainted with the dramatic techniques of Oscar Wilde by studying his play The Importance of Being Earnest

CO4: Understand Coleridge's ballad The Rime of the Ancient Mariner

CO5: Have the ability of reading and interpreting Robert Browning's dramatic monologue The Last Ride Together

Paper III & IV–Additional English

Upon completion of the course, the students will be able to-

CO1: Distinguish the difference between speech and writing

CO2: Understand and acquire English language skills through creative writing

CO3: Use English language appropriately, creatively and imaginatively

CO4: Identify the main ideas and themes portrayed in a text

CO5: Be proficient in various concepts in grammar and writing skills

T.Y. B. A.

Semester V & VI

Paper IX & XIII– Optional English: Twentieth Century Literature in English

Upon completion of the course, the students will be able to-

CO1: Acquaint themselves with twentieth century literary and social background

CO2: Understand all the strands of the play Pygmalion

CO3: Know the features of prescribed poems by Eliot and Yeats

CO4: Comprehend all the features of the novels Sons and Lovers and Lucky Jim

CO5: Have a sound knowledge of the contemporary world as depicted in the play Look Back in Anger

Paper X & XIV– Optional English: An Introduction to Literary Criticism & Terms

Upon completion of the course, the students will be able to-

CO1: Understand various forms of literature and the literary terms

CO2: Know importance of literary criticism to understand literature

CO3: Understand classicism in literature

CO4: Come across perspectives of a critic while analysing and interpreting a text

CO5: Apply criticism while understanding a text

Paper XI & XV– Optional English: Indian Writing in English

Upon completion of the course, the students will be able to-

CO1: Acquainted them with the history of Indian English literature.

CO2: Distinguish between various genres of English literature.

CO3: Have a good knowledge of major authors and their literary contribution in Indian English Literature.

CO4: Understand characterization in literary pieces.

F.Y. B. Sc.

Semester I & II

Paper I &II– English Compulsory

Upon completion of the course, the students will be able to-

CO 1: Recognize all characters from the prose

CO 2: Understand and classify various themes of poetry

CO 3: Understand figures of speech deployed in a literary piece

CO 4: Use various tenses in speech and writing

CO 5: Write précis.

Paper I &II–Additional English

Upon completion of the course, the students will be able to-

CO1: Distinguish between various genres of English literature

CO2: Understand author's purpose and tone

CO3: Come across main ideas reflected in a literary piece

CO4: Expand and comprehend the text

CO5: Improve their language skills.

CO6: They have improved their language skills

S.Y. B. Sc.

Semester III & IV

Paper III &IV– English Compulsory

Upon completion of the course, the students will be able to-

CO1: Distinguish the difference between speech and writing

CO2: Understand language skills through creative writing

CO3: Use English language appropriately, creatively and imaginatively

CO4: Identify the main ideas and themes reflected in a text

CO5: Understand various concepts in grammar

Paper III &IV– Additional English

Upon completion of the course, the students will be able to-

CO1: Understand themes of the prescribed short stories

CO2: Write job application letter

CO3: Come across the structure of short story

CO4: Be familiar with the nature and structure of drama

CO5: Write situational conversation

F.Y. B. Com.

Semester I & II

Paper I &II–Compulsory English

Upon completion of the course, the students will be able to-

CO1: Understand the importance of English Grammar and its use

CO2: Use different kinds of sentences

CO3: Use speech sounds in speech and writing

CO4: Frame sentences in different tenses

CO5: Differentiate between varied parts of speech

Paper I &II–Additional English

Upon completion of the course, the students will be able to-

CO1: Distinguish between various genres of English literature

CO2: Understand author's purpose and tone

CO3: Read and understand a text critically

CO4: Improve their linguistic skills by studying literature

CO5: Know how figures of speech enhance the impact of literature

S.Y. B. Com.

Semester III & IV

Paper III & IV–Compulsory English

Upon completion of the course, the students will be able to-

CO1: Draft official letter

CO2: Prepare agenda and minutes of a meeting

CO3: Face interviews

CO4: Write a resume

CO5: Be proficient in report writing

Paper III &IV–Additional English

Upon completion of the course, the students will be able to-

CO1: Understand themes of short stories

CO2: Write job application letters

CO3: Understand the nature and structure of one-act play

CO4: Frame dialogues in speech and writing

CO5: Undertake situational conversation

B.A. Economics

Program specific outcomes

At the time of graduation, the students will be to -

PSO1: know broad characteristics of Indian Economy and World Economy

PSO2: Analyze nature and behaviour of market, demand and supply in market

PSO3: Acquaint with Government policy and Industrial policy

PSO4: Know about new Economic reforms like globalization

PSO5: Acquire knowledge of various aspects of Economics, like human development, human welfare

PSO6: Familiar with aspects of Economic planning, strategy of planning and achievements of planning

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Course Outcomes

F.Y. B.A.

Semester – I

Micro Economics

Upon completion of the course, the students will be able to-

CO1: Discuss basic concepts of Economics

CO2: Discuss basic aspects of Demand and Supply Theories

CO3: Analyze consumer's behaviour

CO4: Discuss basic aspects of consumer's equilibrium

CO5: Analyze and explain market equilibrium

Indian Economy

Upon completion of the course, the students will be able to-

CO1: Discuss broad features of the Indian Economy

CO2: Indentify major issues related to population and population policy

CO3: Define natural resources in India

CO4: Describe nature and types of unemployment and concept of poverty

CO5: Explain new economic reforms and concept of globalization

Semester - II

Price Theory

Upon completion of the course, the students will be able to-

CO1: Discuss concept of Production function

CO2: Analyze cost and Revenue

CO3: Classify market in various types

CO4: Evaluate theories of distribution

CO5: Understand meaning and related concepts of factor pricing

Money, Banking and Finance

Upon completion of the course, the students will be able to-

CO1: Explain basic aspect about money

CO2: Evaluate principle of Commercial Banks and Banking Structure in India

CO3: Discuss New Concepts in banking sector

CO4: Discuss functions of Reserve Bank of India

CO5: Define the term money market and capital market

S.Y. B.A.

Semester - III

Macro Economic

Upon completion of the course, the students will be able to-

CO1: Discuss basic aspects of macro Economics

CO2: Describe concept of National Income

CO3: Explain theory of money and identify the index number

CO4: Explain theories of employment

CO5: Explain Keynesian theory of employment and Nature of trade cycle

Economics of Development

Upon completion of the course, the students will be able to-

CO1: Discuss concept of economic development and growth

CO2: Analyze theories of Adam Smith and Malthus

CO3: Give factors in development process

CO4: Get aware about Models of Economic Growth

CO5: Explain role of sector approach in Economical Development

Semester - IV

Public Finance

Upon completion of the course, the students will be able to-

CO1: Discuss nature, scope and importance of public finance

CO2: Explain Public Revenue

CO3: Comprehend public expenditure

CO4: Describe concept, source, causes and effects and importance of public debt

CO5: Explain meaning, objective and components of Union Budget

Statistical Methods

Upon completion of the course, the students will be able to-

CO1: Analyze collection of data – Primary and Secondary data

CO2: Describe types of series – simple, Discrete and continuous series

CO3: Discuss Arithmetic mean – its merits and demerits, mode and median

CO4: Evaluate Range, mean deviation and standard deviation

CO5: Explain variance and Co-efficient of variation

T.Y. B.A.

Semester - V

International Economics

Upon completion of the course, the students will be able to-

CO1: Explain basic concept of international economics

CO2: Describe Gains from trade

CO3: Discuss types of tariffs and quotas

CO4: Evaluate concept and components of balance of payment

CO5: Discuss Demerits and limitations of devaluation

Agriculture Economics

Upon completion of the course, the students will be able to-

CO1: Discuss the role and importance of Agriculture

CO2: Describe various technologies used in Agriculture

CO3: Explain Government Agriculture Policies

CO4: Acquire knowledge of Indian agricultural development from last 50 years

History of Economic Thought

Upon completion of the course, the students will be able to-

CO1: Explain concept of Mercantilism

CO2: Sketch out Adam Smith division of labour and theory of value

CO3: Comprehend Tomas R. Malthus – theory of population

CO4: Describe Karl Marks theory of dynamics of social change, theory of surplus value

CO5: Explain concept of aggregate economy and the role of fiscal policy

Semester – VI

Research Methodology

Upon completion of the course, the students will be able to-

CO1: Discuss meaning, nature, scope and objectives of social science research

CO2: Describe Facts – features Primary data collection

CO3: Discuss motivating factors of social research

CO4: Comprehend meaning and need of research design

Industrial Economics

Upon completion of the course, the students will be able to-

CO1: Discuss importance and role of Industries in Economic and social development

CO2: Know industrial organization, ownership structure

CO3: Analyze location and dispersion of industries

CO4: Explain composition of industrial sector

B.A. History

Programme specific outcomes

At the time of graduation, the students will be to -

PSO1: Understand the background of ancient, medieval, and modern Indian history as well as world history

PSO2: Understand past and present existing social, political, religious and economic background of people

PSO3: Develop practical skills helpful in the study and understanding of historical events, like- drawing of historical maps, charts, diagrams; preparation of historical models tools

PSO4: Develop interests in the study of history and activities relating to history, like- reading of historical documents maps, charts

PSO5: Write articles on historical topics

Course Outcomes

F.Y. B.A.

Semester I

Shivaji and His Times (1630 to 1707 A.D.)

Upon completion of the course, the students will be able to-

CO1: Explain formation of welfare state during the Maratha rule

CO2: Discuss industrial agricultural aspects of Chhatrapati Shivaji 'regime

CO3: Explain administrative aspects of the Swarajya

CO4: Elaborate inspiration behind the establishment of Swarajya

CO5: Explain reasons behind Chhatrapati Shivaji's early conflicts with the regional lords and the outsiders

CO6: Discuss Maratha war of independence.(1689 to 1707A.D.)

History of Modern Maharashtra (1818 to 1905 A.D.)

Upon completion of the course, the students will be able to-

CO1: Discuss history of modern Maharashtra

CO2: Evaluate renaissance and social reform movement in Maharashtra

CO3: Explain early political awakening of freedom struggle in Maharashtra

CO4: Discuss British administration in Bombay presidency

CO5: Identify social institutions of 19^{th} Century

Semester – II

History of Marathas (1707 TO 1818 A.D.)

Upon completion of the course, the students will be able to-

CO1: Discuss importance of the Maratha history in 18^{th} century

CO2: Asses circumstances under which rise of the Peshwa took place

CO3: Explain political scenario of the Maratha power in the 18^{th} century

CO4: Evaluate policies adopted by early Peshwas

CO5: Explain circumstances of the Maratha power at battle of Panipat

CO6: Explain reasons of political disintegration of the Maratha

CO7: Discuss nature of Anglo-Maratha relations

CO8: Discuss central and provincial administration of Marathas under the Peshwas

20^{th} Century Maharashtra (1905 – 1960 A.D.)

Upon completion of the course, the students will be able to-

CO1: Explain salient features of 20 the century Maharashtra

CO2: Evaluate consolidation of British power in Maharashtra

CO3: Analyse social religious, consciousness in Maharashtra

CO4: Discuss freedom struggle in Hyderabad state specially in Marathwada region

CO6: Differentiate the Dalit movement and non Brahmin movement

S.Y. B.A.

Semester III

History of early India (UPTO 300 B.C.)

Upon completion of the course, the students will be able to-

CO1: Describe Prehistory and Proto-history

CO2: Classify urbanization in the Gangetic Basin

CO3: Classification of Buddhism and Jainism

CO4: Acquire knowledge about Sanskrit, Pali literature

CO5: Identify Early Indian Maps

CO6: Acquire knowledge of Vedic, Jain, Buddhist culture and their literature

CO7: Discuss ancient Republic and Mahajanpadas

British Rule in India (1757 to 1857 A.D.)

Upon completion of the course, the students will be able to-

CO1: Explain modern Indian history

CO2: Identify expansion of British Rule in India

CO3: Distinguish detail account of British Raj as well as its overall impacts on The Indian Society

CO4: Evaluate renaissance and social reform movement in India

CO5: Explain early resistance to British rule

CO6: Discuss reasons behind the revolt 1857

Semester IV

B.A. T.Y.

Historiography

Upon completion of the course, the students will be able to-

CO1: Write articles on historical topics, Writings History and Techniques of historical Writing

CO2: Developed their ability to access critically historical analysis and argument past and present

CO3: Gained an understanding of the development of the academic study of history Throughout the world since the later eighteenth century

CO4: Explain recent and contemporary debates in the theory and practices of historical writings

CO5: Gained insight into current methodologies,t heories, and concepts, currently in use within the historical discipline

CO6: Discuss Historiographical traditions outside the west

CO7: Identify history as scientific discipline

History of National Movement (A.D. 1885-1947)

Upon completion of the course, the students will be able to-

CO1: Explain early political awakening in Indian freedom struggle

CO2: Discuss origin and development of Indian national congress

CO3: Explain various phases of the national movement

CO4: Identify difference between moderates, extremists and revolutionaries

CO5: Comprehend socio-religious scenario and the social reformation

CO6: Discuss freedom movement under the Mahatma Gandhi's leadership

CO7: Explain Revolutionary movement in India

CO8: Discuss evolutionary process of constitutional developments

Women Struggle in Modern India

Upon completion of the course, the students will be able to-

CO1: Discuss women contribution in Indian freedom struggle

CO2: Explain actual condition of women in Colonial period

CO3: Discuss past and present existing social, political, religious and economic condition of women in modern India

CO4: Explain various superstitions, wrong traditions related to women in modern Indian history

Semester VI

Fields of History

Upon completion of the course, the students will be able to-

CO1: Explain advance and assist Archaeological research

CO2: Discuss participation in archaeology throughout society, identifying and addressing barriers to inclusivity

CO3: Explain various career opportunities in the field of Museology, and tourism

CO4: Identify various types of career opportunities in the field of Tourism, Archaeology Museology etc

Landmarks in the History of Modern World

Upon completion of the course, the students will be able to-

CO1: Discuss rise of Modern World

CO2: Classify growth of capitalism

CO3: Identify world maps –Oceanic Explorations, Europe in 1815, important stages of World War, and important centres of International trade

CO4: Explain rise and development of Democracy in modern world

CO5: Discuss freedom struggle in America, French, Russia, China, India and other part of the world

CO6: Explain new ethics of politics, philosophy, political, economical, and military trends in modern world

Glimpses of the history of Marathwada

Upon completion of the course, the students will be able to-

CO1: Discuss salient features of history of Marathwada

CO2: Analyse contribution of Marathwada in Hyderabad Freedom Struggle

CO3: Discuss Marathwada freedom struggle with Indian freedom Struggle

CO4: Explain women contribution of Marathwada in freedom struggle

CO5: Identify socio- religious movements in Marathwada

CO6: Explain work of Swami Ramanand Teerth, and Police Action by Indian Government

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B.A. Political Science

Programme Specific Outcomes

At the time of graduation, the students will be able to-

PSO1: Understand basic concepts of Political Science

PSO2: Describe origin and politics of Maharashtra state

PSO3: Explain Indian Government and Politics

PSO4: Identifyideology of political parties

PSO5: Discuss concept and approaches of international relations

PSO6: Understand western political thoughts

PSO7: Explain major political ideologies

PSO8: Understand Indian political thoughts

Course Outcomes

F.Y. B.A.

Semester – I

Basic Concepts of Political Science

Upon completion of the course, the students will be able to-

CO1: Describe Fundamental concepts of Political science

CO2: Explain origin of state

CO3: Write meaning and theory of Sovereignty.

CO4: Explain concept of Citizenship

Government and Politics of Maharashtra

Upon completion of the course, the students will be able to-

CO1: Describe origin of Maharashtra state

CO2: Classify organs of the state government

CO3: Explain cooperative movement and movements of Peasants

CO4: Explain Dalit and Feminist movements in Maharashtra

Semester – II

Basic Concepts of Political Science

Upon completion of the course, the students will be able to-

CO1: Explain concept of Rights

CO2: Identify importance of liberty, equality and justice

CO3: Write down meaning, types and merits-demerits of Democracy

CO4: Write meaning and functions of Welfare state

Government and Politics of Maharashtra

Upon completion of the course, the students will be able to-

CO1: Write down structure and functions of Panchayati Raj in Maharashtra

CO2: Write down importance of Panchayati Raj in Maharashtra

CO3: Explain ideology and programmes of main National political parties in Maharashtra

CO4: Explain ideology and programmes of main domestic political parties in Maharashtra

S.Y. B.A.

Semester – III

Indian Government and Politics

Upon completion of the course, the students will be able to-

CO1: Write down sources and features of Indian Constitution

CO2: Explain fundamental rights and directive principles of state policy given in Indian Constitution

CO3: Classify structure of the Union government of India

CO4: Write down budgetary process and functions of important parliamentary committees

CO5: Explain structure and functions of Attorney General and CAG of India

International Relations

Upon completion of the course, the students will be able to-

CO1: Discuss meaning, nature, scope and significance of International relations

CO2: Explain main approaches to the study of International relations

CO3: Describe India's foreign policy in regards of its principles and objectives

CO4: Explain concepts of National Interest, National Power and Deterrence

CO5: Describe Balance of Power and NAM

Semester – IV

Indian Government and Politics

Upon completion of the course, the students will be able to-

CO1: Write down structure and functions of Supreme court of India and recognise its importance

CO2: Discuss about relations between Centre and States. Explain the division of powers between them

CO3: Describe composition, power and function of Election commission of India and explain the electoral reforms in India

CO4: Identify challenges before Indian democracy

International Relations

Upon completion of the course, the students will be able to-

CO1: Identify relevance of Collective security and UNO in international environment

CO2: Identify major issues like terrorism and environmentalism in internationalism

CO3: Outline structure and functions of international organisations such as IMF, WB, WTO

CO4: Explain organisation of SAARC and ASEAN.

T.Y. B.A.

Semester – V

Indian Political Thinkers

Upon completion of the course, the students will be able to-

CO1: Write down views of Raja Ram Mohan Roy on Religion and Social and Political system of India.

CO2: Describe religious, political and social thoughts of Dayanand Saraswati

CO3: Explain liberal and political thoughts of Gopal Krishna Gokhale

CO4: Recall views of Lokmanya Tilak on Nationalism and Social reform

CO5: Write Mahatma Gandhi's views on religion and explain his concept of "Ram Rajya"

Western Political Thinkers

Upon completion of the course, the students will be able to-

CO1: Recall Aristotle's views on state, citizenship and revolution

CO2: Describe Machiavelli's advice to Prince, views on religion, morality and human nature

CO3: Classify theory of Social Contract of Hobbes, Locke

CO4: Explain concept of Utilitarianism of J. S. Mill and write down his views on liberty and representative government

Political Ideologies

Upon completion of the course, the students will be able to-

CO1: Classify major political ideologies

CO2: Describe Nationalism

CO3: Describe Feminism

CO4: Discuss on Liberal ideology

Semester – VI

Indian Political Thinkers

Upon completion of the course, the students will be able to-

CO1: Write views of Maulana Azad on religion and politics and Hindu-Muslim Unity. Explain his ideas of nationalism and synthesis nationalism

CO2: Explain Views of J. Nehru on democracy and socialism, nationalism and internationalism

CO3: Recall critique of Marxism by M. N. Roy and explain his radical thoughts

CO4: Recall relevance of thoughts of Dr. Ambedkar and his views on religion, society, democracy and economy

CO5: Explain idea of total revolution by Jaya Prakash Narayan

Western Political Thinkers

Upon completion of the course, the students will be able to-

CO1: Classify theory of Social Contract of Rousseau

CO2: Describe views of Jeremy Bentham on State, Government and Rights and Utilitarianism

CO3: Explain Marxism and its importance

CO4: Write down Laski's views on Liberty

Political Ideologies

Upon completion of the course, the students will be able to-

CO1: Describe socialism and communism

CO2: Understand Anarchism

CO3: Indicate the need of Environmentalism in politic

CO4: Criticize ideology of fascism

B.A. Psychology

Programme Specific Outcomes

At the time of graduation, the students will be to-

PSO1: Understand, analyze and apply various principles to solve the problems of human behaviour

PSO2: Enhance adjustment skills to tackle different problems of life

PSO3: Measure personality, intelligence, aptitude, interest, adjustment and different psychological problems

PSO4: Enhance knowledge of mental disorders, their types, causes treatment and prognosis how to take care of mental health

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Course Outcomes

F.Y. B.A.

Semester I

General Psychology

Upon completion of the course, the students will be able to-

CO1: Discuss basic concepts related to foundation of psychological various branches methods

CO2: Acquaintance physiological basis of behaviour brains its functions and association with behaviour glands and hormonal impact

CO3: Explain personality, intelligence motivation and leaning process

Social Psychology

Upon completion of the course, the students will be able to-

CO1: Discuss behaviour in social context

CO2: Describe people think interact and influence each other

CO3: Explain process of attitude, conformity and group influence

CO4: Describe aggression process, prejudice, and helping behaviour; how to promote altruism in society and reduce the aggression

Semester – II

General Psychology

Upon completion of the course, the students will be able to-

CO1: Explain the use and purpose of common personality tests

CO2: Explain learning and the process of classical conditioning

CO3: Discuss process of memory

CO4: Describe language acquisition and the role language plays in communication and thought

Social Psychology

Upon completion of the course, the students will be able to-

CO1: Describe individual behaviour is influenced by social and cultural contexts

CO2: Explain unique features of the Indian socio-cultural context

CO3: Discuss social problems that can be analyzed in terms of various social psychological theories

S.Y. B.A.

Semester III

Psychology of Adjustment

Upon completion of the course, the students will be able to-

CO1: Discuss relation between psychology and its application to daily life

CO2: Describe process of communication, components, problems, interpersonal conflicts, verbal and non-verbal communication

CO3: Elaborate friendship perspectives and its development

CO4: Explain process of choosing career and various psychological models

CO5: Discuss challenges in traditional models of marriage, marital adjustment, divorce and domestic violence, etc

CO6: Discuss nature of stress, effects, types, coping with stress, psychology and its relations with physical health

Psychological Testing

Upon completion of the course, the students will be able to-

CO1: Discuss psychological assessment techniques

CO2: Explain various statistical methods their applications and interpretation

CO3: Describe nature of personality, intelligence, aptitude, interest test and their scoring and interpretation for assessment work

CO4: Enhance skills necessary for selecting and applying different tests for different purpose such as evaluation and training and rehabilitation

Semester IV

Psychology for Living

Upon completion of the course, the students will be able to-

CO1: Describe connection between psychology and its practical applications in everyday life

CO2: Discuss stress, its impact on the body, and identify common stressors

CO3: Elaborate process of choosing career and various psychological models

CO4: Describe coping with stress

CO5: Explain stress, effects, types, coping with stress, psychology and its relations with physical health

Psychological Statistics

Upon completion of the course, the students will be able to-

CO1: Explain various psychological assessment techniques

CO2: Discuss statistical methods with their uses and interpretations

CO3: Describe the strengths and weaknesses of descriptive, experimental, and correlation research

CO4: Define basic elements of statistical investigation

T.Y. B.A.

Semester - V

Abnormal Psychology

Upon completion of the course, the students will be able to-

CO1: Explain various types of disorders, their causes, treatments and prognosis

CO2: Describe responsible factors for creating abnormal behaviour on the basis of various models in psychopathology

CO3: Discuss clinical picture of various disorders

Organisation Behaviour (O.B.)

Upon completion of the course, the students will be able to-

CO1: Discuss behaviour of individual in organisational setup

CO2: Explain theoretical aspects of organisational behaviour and familiarise themselves with skills, techniques and their applications

CO3: Discuss importance of values, types, attitude and job satisfaction

CO4: Explain major personality factors affecting on organisation

Counselling

Upon completion of the course, the students will be able to-

CO1: Describe goals, importance and scope of counselling

CO2: Discuss counselling process, counselling relation, factors affecting on counselling process

CO3: Discuss Comprehending counsellors' skills, counselling relationship

Psychology Practicum's

Upon completion of the course, the students will be able to-

CO1: Discuss method of testing and interpretation of the various tests

CO2: Identify critically analyze an individual's personality and behaviour patterns

CO3: Explain ethics in psychological assessment

CO4: Give importance of psychological assessment in the field of psychology

Semester - VI

Psychopathology

Upon completion of the course, the students will be able to-

CO1: Define psychological disorders and explain how they are classified

CO2: Describe the features and characteristic symptoms of anxiety disorders (generalized anxiety disorder, panic disorder and phobias), obsessive-compulsive disorder and posttraumatic stress disorder; differentiate these anxiety disorders from each other

CO3: Describe the characteristic symptoms and risk factors of mood disorders, including major depressive disorder and bipolar disorder

CO4: Explain symptoms and potential causes of schizophrenic and dissociative disorders

Organizational Behaviour

Upon completion of the course, the students will be able to-

CO1: Explain purpose of industrial-organizational psychology and examine its application to the workforce

CO2: Describe how industrial-organizational psychologists assess leadership and organization

CO3: Explain Human Relations perspective, Socio-technical approach in organizational behaviour

Counselling in Action

Upon completion of the course, the students will be able to-

CO1: Discuss importance, goals, scope of counselling

CO2: Explain factors influencing the counselling process

CO3: Describe Counsellor Skills in the understanding and action phases

CO4: Explain the types and initial interview of counselling

Psychology Practicum's

Upon completion of the course, the students will be able to-

CO1: Discuss knowledge on the significance of Psychological tests

CO2: Elaborate method of testing and interpretation of the various tests

CO3: Explain ethics in psychological assessment

CO4: Explain importance of psychological assessment in the field of psychology

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B.A. Public Administration

Programme specific outcomes

At the time of graduation, the students will be to -

PSO1: Demonstrate broad understanding of public affairs, policy development, policy analysis, economic analysis, management skills, and organization theory and their applications to public service

PSO2: Understand the form and substance of Local Self Governments in Indian scenario

PSO3: Understand and analyze social policies, their structures in India like health, education

PSO4: Gain knowledge about contribution of major thinkers in the areas of management, motivation, leadership, development

PSO5: To develop to communicate effectively, both in writing and oral, using the important terminology, facts, concepts, and theories used in the subject Public Administration

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Course Outcomes

F.Y. B.A.

Semester I

Principles and Concepts of Public Administration

Upon completion of the course, the students will be able to-

CO1: Explain meaning, nature and scope of Public Administration

CO2: Differentiate between Public and Private Administration

CO3: Explain meaning and forms of Organisation

CO4: Describe different Principles of Organisation

CO5: Identify concepts of Public Administration

Public Administration in India

Upon completion of the course, the students will be able to-

CO1: Explain historical evolution and current global scenario of Indian Administration

CO2: Describe the constitutional framework in which an individual and the state works

CO3: Discern and analyse the connects / disconnects between structure, procedure and functions of government institutions

CO4: Explain form and substance of Indian Administration

CO5: Acquaint with the changing as well transformative role of Indian Administration

Semester II

Maharashtra Administration

Upon completion of the course, the students will be able to-

CO1: Discuss formation of Maharashtra State and its administrative features

CO2: Describe structure and functions of the state Executive

CO3: Discuss structure and functions of the state legislature

CO4: Analyze structure and functions of the state judiciary

CO5: Identify relevance of Constitutional and Statutory bodies at the state level such as MPSC, MEC, MFC etc

District Administration

Upon completion of the course, the students will be able to-

CO1: Explain evolution and importance of District Administration

CO2: Discuss changing role of district collector

CO3: Identify various aspects of the concept Law and Order

CO4: Comprehend functioning of revenue administration

CO5: Comprehend functioning and issues of police administration

S.Y. B.A.

Semester III

Personnel Administration

Upon completion of the course, the students will be able to-

CO1: Explain personnel administration i.e. public service in India

CO2: Identify the role of personnel training institutions such as YASHDA, MPA and LBSNAA

CO3: Discuss personnel grievance redressal mechanism in India

CO4: Comprehend with the problems of personnel administration in India

CO5: Explain relevance of administrative tribunal mechanism in India

Panchayati Raj and Rural Development

Upon completion of the course, the students will be able to-

CO1: Discuss basic concept of Local Self Government in India

CO2: Discuss Panchayat Raj system in Maharashtra

CO3: Explain composition and function of state Rural Development Ministry

CO4: Acquaint concept and Programme of Rural Development

CO5: Describe Problems of Rural area

Semester IV

Financial Administration

Upon completion of the course, the students will be able to-

CO1: Explain basics of financial administration as well as importance of the finance ministry

CO2: Comprehend process and importance of budget

CO3: **D**escribe major accounts and audit mechanism in India

CO4: Explain methods and importance of parliamentary control over financial administration in a democratic country

CO5: Discuss concept of Liberalization, Privatization and Globalization

Urban Local Self Government and Urban Development

Upon completion of the course, the students will be able to-

CO1: Discuss basic concept of urban local self Government in India

CO2: Explain urban local self Government system in Maharashtra

CO3: Acquaint Urban Development Agencies in Maharashtra

CO4: Describe the problems of urban area

CO5: Identify major Urban Development Programmes

T.Y. B.A.

Semester V

Human Resource Development

Upon completion of the course, the students will be able to-

CO1: Explain nature, scope, structure and processes of human resource development

CO2: Discuss changing paradigms of human Resources development

CO3: Explain varying methods of performance assessment of public institutions

CO4: Explain changing paradigms of human resource development

CO5: Identify systems and processes of financial and material resource development

Educational Administration in India

Upon completion of the course, the students will be able to-

CO1: Discuss objectives and importance of Education

CO2: Describe historical background of Education in the light of various Committee's recommendations and government policies

CO3: Identify role of Quality Control Institutions, such as NAAC and AICTE, in Higher Education

CO4: Describe structure, relevance and the present Scenario of Higher Education in India

CO5: Analyse impact of Globalization on Higher Education in India

Administrative Thinkers

Upon completion of the course, the students will be able to-

CO1: Discuss concept of Scientific Management by F. W. Taylor

CO2: Describe Max Weber's Ideal Model of Bureaucracy

CO3: Explain elements and Principles of Management

CO4: Explain Mary Follet's ideas of Authority, Conflict and Integration

CO5: Describe Elton Mayo's Hawthorn Experiment

CO6: Examine behavioural approach and Decision-Making approach by H. Simon

CO7: Explain Ecological approach and concept of Prismatic Society by F. W. Riggs

Semester VI

Public Policy and Development

Upon completion of the course, the students will be able to-

CO1: Explain concept of Public Policy

CO2: Discuss role of internal determinants in the formulation of Public Policy

CO3: Discuss role of Executive and Bureaucracy in the implementation of Public Policy

CO4: Explain concept of Development

CO5: Describe challenges before Development

Health Administration in India

Upon completion of the course, the students will be able to-

CO1: Explain organizational elements, structure, performance, and terminology and delivery modalities for India healthcare systems

CO2: Elaborate structure and interdependence of healthcare system elements and issues using critical thinking to formulate innovative system designs that improve healthcare delivery

CO3: Integrate concepts of ethics, privacy, and administration to achieve optimal organizational effectiveness while adhering to personal and professional values in all elements of health delivery

CO4: Explain basic concept, nature, importance and objective of Human Resource Management

CO5: Discuss concept, need, significance and process of Human Resource Planning

Recent Trends in Public Administration and Important Laws

Upon completion of the course, the students will be able to-

CO1: Discuss concept of New Public Administration and New Public Management

CO2: Explain Public Choice Approach and the relevance of the Civil Society

CO3: Explain meaning and importance of the Citizen Charter

CO4: Discuss concept of Good Governance, E-Governance and Disaster Management

CO5: Discuss important Laws such as Civil Rights Protection, Consumer Protection, Environment Protection, and Right to Public Services

Project Work

Upon completion of the course, the students will be able to-

CO1: Develop problem solving abilities and communications skill

CO2: Demonstrate an understanding of the social, political, economic, and cultural factors that influence public administration

CO3: Develop ability to effectively communicate, both in writing and orally, using the important terminology, facts, concepts, and theories used in the field of public administration

CO4: Acquaint social, administrative issues and policies

B. A. Sociology

Program Specific Outcomes

At the time of graduation, the students will be able to-

PSO1: Understand nature, scope and basic concepts of Sociology

PSO2: Learn critical evaluation of theories in sociology

PSO3: Understand concepts of social relations, social control, values and culture

PSO4: Acquire significance of social institution, caste system, religion, nationalism, integrity, equality and justice

PSO5: Follow new stream of thoughts and theories of social thinkers

PSO6: Gain knowledge about various social groups like tribal community, women community, etc

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Course Outcomes

B. A. Sociology

SEMISTER I

Introduction to sociology

At the completion of the course, the students will be able to:

CO1: Explain concepts of theoretical perspectives in sociology and how they are used in sociological explanations of social behaviour

CO2: Describe how social interactions are influenced by local, regional, national, and global cultures

CO3: Describe origin and the development of sociology in general and development in India in particular

CO4: Elaborate various approaches and principles of sociology

CO5: Give importance and uses of sociology in present society

Individual and Society

At the completion of the course, the students will be able to:

CO1: Give Importance of Indian culture and Socialization

CO2: Describe concept of social Structure

CO3: Elaborate origin of caste system

CO4: Explain factor of social change and social control

CO5: Write concept of conformity and deviance

SEMISTER II

Introduction to subfield of sociology

At the completion of the course, the students will be able to:

CO1: Give Importance of Scope

CO2: Describe concept of social psychology

CO3: Elaborate origin of the political sociology

CO4: Explain factor of anthropology

CO5: Write concept of applied sociology

Indian Social Composition

At the completion of the course, the students will be able to-

At the completion of the course, the students will be able to-

CO1: Explain features of Indian society

CO2: Describe population factor & Impact

CO3: Write importance of Secularism in Indian society

CO4: Elaborate structure of rural society in India

CO5: Give importance of Democracy in India

SEMISTER III

Problems of rural India

At the completion of the course, the students will be able to:

CO1: Explain Problem's of rural women

CO2: Describe Domestic violence law

CO3: Explain education Dropout in rural area

CO4: Give India rural area Economy

CO5: Elaborate major issue in Development

Contemporary Urban issues

At the completion of the course, the students will be able to:

CO1: Explain concept of Urbanization

CO2: Elaborate cause and impact of Indian Migration

CO3: Explain various types of urban planning

CO4: Give importance of Globalization

CO5: Evaluate urban change

SEMISTER IV

Population in India

At the completion of the course, the students will be able to:

CO1: Explain basic concepts of Indian population

CO2: Describe density of population in India

CO3: Write on human population dynamics

CO4: Elaborate population growth and environment

CO5: Give importance of population policy in India

Sociology of development

At the completion of the course, the students will be able to:

CO1: Describe conceptual perspectives on development

CO2: Explain concept of sustainable development

CO3: Write on problems of Poverty & Unemployment,

CO4: Elaborate view of capitalist socialist and mixed approaches

CO5: Give importance Impact of Government schemes in India

SEMISTER V

Sociological Tradition

At the completion of the course, the students will be able to:

CO1: Give Scope industrial revolution

CO2: Describe French revolution

CO3: Explain theory low of three stages

CO4: Elaborate Durkheim theory of suicide

CO5: Describe theory of Karl Marx's Class struggle

Introduction to research methodology

At the completion of the course, the students will be able to:

CO1: Give Scope and Importance of Social Research

CO2: Describe Types of Research

CO3: Explain Scientific Research Process

CO4: Elaborate difference between Theory and Research

CO5: Describe problem of objectivity in Research

Social Problem in India

At the completion of the course, the students will be able to:

CO1: Explain Problems of corruption in India

CO2: Elaborate causes & Effects of Suicide in India

CO3: Give importance of industrial Project in India

CO4: Explain deference between rural and urban society in India

CO5: Describe educational equality in India

SEMISTER VI

Sociological Theories

At the completion of the course, the students will be able to:

CO1: Explain theory of social action

CO2: Elaborate Robert matrons theory of role set

CO3: Describe Lewis Coser theory of violence

CO4: Explain symbolic interaction theory

CO5: Write on theory of power and authority

Social Research Methods

At the completion of the course, the students will be able to:

CO1: Explain techniques of Sociological Investigation

CO2: Describe use of computer in social research

CO3: describe introduction of SPSS

CO4: Elaborate utility of social research

CO5: Give use of internet in social research

Social Disorganisation in contemporary in India

At the completion of the course, the students will be able to:

CO1: Explain concept and cause of social disorganisation

CO2: Elaborate women violence in India

CO3: Describe terrorism and nakshalism in India

CO4: Explain Regional imbalance in India

CO5: Write changing values and culture

Project Work

At the completion of the course, the students will be able to:

CO1: Write Importance of research culture

CO2: How collects data in field work

CO3: Describe impact of problems on society

CO4: Elaborate importance of research methodology

M.A. Marathi

Program Specific Outcomes

अभ्यासक्रमाचे शिक्षण घेत असतांना विद्यार्थ्याला खालील वैशिष्ट्यपूर्ण गोष्टींचे ज्ञान, कौशल्य प्राप्त होते.

PSO1: विद्यार्थी भाषिक दृष्ट्या सक्षम बनल्याने शिक्षण क्षेत्रात अध्यापन करण्यासाठी चे कौशल्य प्राप्त होते

PSO2: विद्यार्थी पत्रकारिता क्षेत्रात मुद्रितशोधक म्हणून सक्षम होतो

PSO3: पटकथा लेखक, गीतकार म्हणून आवश्यक ज्ञान प्राप्त होते

PSO4: समीक्षेच्या अभ्यासामुळे साहित्य आणि मनोरंजन क्षेत्रात परिक्षण करण्यासाठी समीक्षादृष्टी विकसित होते

PSO5: एक उत्तम वक्ता, सूत्रसंचालक, कवी, लेखक बनण्यासाठी अपेक्षित कौशल्य प्राप्त होते

PSO6: भाषा शिक्षणाची श्रवण, भाषण, वाचन, लेखन, अभिरुची व अभिव्यक्ती ही कौशल्ये आत्मसात होतील

Course Outcomes

M. A. I

सत्र पहिले

आधुनिक मराठी वाड़मयाचा इतिहास (इ.स.1920 ते 1960) **c-01**

अभ्यासक्रमाचे शिक्षण पूर्ण झाल्यानंतर विद्यार्थ्याला खालील गोष्टींचे,ज्ञान, कौशल्य अवगत होते

CO1: भा. रा. तांबे यांच्या कवितेची वैशिष्ट्ये सांगा

CO2: रवी किरण मंडळाच्या काव्यातील कर्तृत्व सांगा

CO3: विडंबनात्मक कविता म्हणजे काय?

CO4: नवकथेचे जनक याविषयी चर्चा करा

CO5: स्वातंत्रोत्तर मराठी कादंबरीचा विकास सांगा

साहित्य समीक्षेची मूलतत्त्वे c-02

अभ्यासक्रमाचे शिक्षण पूर्ण झाल्यानंतर विद्यार्थ्याला खालील गोष्टींचे,ज्ञान, कौशल्य अवगत होते

CO1: साहित्य म्हणजे काय?

CO2: समीक्षेची व्याख्या सांगा

CO3: शैली म्हणजे काय?

CO4: साहित्य समीक्षेची प्रयोजने कोणती?

CO5: वाङ्मयीन मूल्यांची संकल्पना स्पष्ट करा

भाषिक कौशल्ये, प्रसार माध्यमे व सृजनशील लेखन c-03

अभ्यासक्रमाचे शिक्षण पूर्ण झाल्यानंतर विद्यार्थ्याला खालील गोष्टींचे,ज्ञान, कौशल्य अवगत होते

CO1: वाचनाचे महत्व सांगा

CO2: श्रवण परंपरेचे स्वरूप सांगा

CO3: वृत्तपत्राचे स्वरूप आणि महत्व सांगा

CO4: बातमीची व्याख्या सांगा

CO5: मुलाखत म्हणजे काय?

एका लेखकाचा विशेष अभ्यास - मध्ययुगीन - संत ज्ञानेश्वर c-04

अभ्यासक्रमाचे शिक्षण पूर्ण झाल्यानंतर विद्यार्थ्याला खालील गोष्टींचे,ज्ञान, कौशल्य अवगत होते

CO1: संत काव्याची संकल्पना स्पष्ट करा

CO2: संत काव्याची वैशिष्ट्ये सांगा

CO3: संतांच्या रचनांचा स्थूल परिचय द्या

CO4: यादव कालीन महत्वाचे संत कवी कोणते?

CO5: संत आणि ग्रंथ चर्चा करा

सत्र दुसरे

आधुनिक मराठी वाड़मयाचा इतिहास (इ.स.1961 ते 2000) **c-09**

अभ्यासक्रमाचे शिक्षण पूर्ण झाल्यानंतर विद्यार्थ्याला खालील गोष्टींचे,ज्ञान, कौशल्य अवगत होते

CO1: साठोत्तरी मराठी कवितेचा विकास कसा झाला

CO2: दलित कवितेचे स्वरूप सांगा

CO3: साठोत्तरी ग्रामीण कवितेचे स्वरूप सांगा

CO4: स्त्रीवाद म्हणजे काय?

CO5: आत्मचरित्र म्हणजे काय?

समीक्षेच्या विविध अभ्यास पद्धती आणि उपयोजित समीक्षा c-10

अभ्यासक्रमाचे शिक्षण पूर्ण झाल्यानंतर विद्यार्थ्याला खालील गोष्टींचे,ज्ञान, कौशल्य अवगत होते

CO1: समाजशास्त्रीय समीक्षेचे स्वरूप स्पष्ट करा

CO2: आस्वादक समीक्षेचे स्वरूप स्पष्ट करा

CO3: मानसशास्त्रीय समीक्षेचे स्वरूप स्पष्ट करा

CO4: उपयोजित समीक्षेची संकल्पना सांगा

CO5: ग्रंथ परीक्षण म्हणजे काय?

भाषिक कौशल्ये, प्रसार माध्यमे व सृजनशील लेखन c-11

अभ्यासक्रमाचे शिक्षण पूर्ण झाल्यानंतर विद्यार्थ्याला खालील गोष्टींचे,ज्ञान, कौशल्य अवगत होते

CO1: नभोवाणीचे स्वरूप आणि कार्ये सांगा

CO2: नभोनाट्य म्हणजे काय?

CO3: मुद्रितशोधन म्हणजे काय?

CO4: दूरचित्रवाणीचे स्वरूप सांगा

CO5: इंटरनेट संकल्पना स्पष्ट करा

एका लेखकाचा विशेष अभ्यास - मध्ययुगीन - संत ज्ञानेश्वर c-12

अभ्यासक्रमाचे शिक्षण पूर्ण झाल्यानंतर विद्यार्थ्याला खालील गोष्टींचे,ज्ञान, कौशल्य अवगत होते

CO1: संत ज्ञानेश्वर जीवन कर्तृत्व सांगा

CO2: हरिपाठाचे अभंगाचे स्वरूप सांगा

CO3: संत परंपरेतील संत ज्ञानेश्वरांचे स्थान स्पष्ट करा

CO4: संत ज्ञानेश्वरांच्या काव्यरचनेचे मूल्यमापन करा

CO5: संत ज्ञानेश्वरांच्या वांड्मय संपदेचे स्वरूप सांगा

M.A. II

सत्र तिसरे

वर्णनात्मक भाषाविज्ञान c-17

अभ्यासक्रमाचे शिक्षण पूर्ण झाल्यानंतर विद्यार्थ्याला खालील गोष्टींचे,ज्ञान, कौशल्य अवगत होते

CO1: भाषेची लक्षणे सांगा

CO2: भाषा व संदेशांचे स्वरूप सांगा

CO3: स्वान विज्ञानाचे स्वरूप सांगा

CO4: मानस्वर म्हणजे काय?

CO5: पद-पदिम-पदांतर म्हणजे काय?

आधुनिक मराठी वाङ्मयातील प्रवाह : दलित व आदिवासी साहित्य c-18

अभ्यासक्रमाचे शिक्षण पूर्ण झाल्यानंतर विद्यार्थ्याला खालील गोष्टींचे,ज्ञान, कौशल्य अवगत होते

CO1: दलित जाणिवेचे स्वरूप विशेष सांगा

CO2: दलित साहित्याचे स्वरूप सांगा

CO3: आत्मकथन म्हणजे काय

CO4: आयदान या आत्मकथनाचे स्वरूप सांगा

CO5: आदिवासी साहित्याचे स्वरूप सांगा

लोकसाहित्य c-19

अभ्यासक्रमाचे शिक्षण पूर्ण झाल्यानंतर विद्यार्थ्याला खालील गोष्टींचे,ज्ञान, कौशल्य अवगत होते

CO1: लोकसाहित्य म्हणजे काय?

CO2: लोकसाहित्याचे परंपरा स्पष्ट करा

CO3: लोकसाहित्याची प्रयोजने सांगा

CO4: लोकसाहित्यातील विनोद स्पष्ट करा

CO5: लोकसाहित्याची उत्पत्ती स्पष्ट करा

मराठवाड्यातील आधुनिक साहित्य c-21

अभ्यासक्रमाचे शिक्षण पूर्ण झाल्यानंतर विद्यार्थ्याला खालील गोष्टींचे,ज्ञान, कौशल्य अवगत होते

CO1: मराठवाड्यातील आधुनिक साहित्याचे स्वरूप सांगा

CO2: मराठवाड्यातील कथेचे मूल्यमापन करा

CO3: मराठवाड्यातील कादंबरीचे मूल्यमापन करा

CO4: मराठवाड्यातील रंगभूमीचे मूल्यमापन करा

CO5: मराठवाड्यातील नाटकाची परंपरा स्पष्ट करा

सत्र चौथे

मराठी भाषेचा इतिहास व समाजभाषा विज्ञान c-25

अभ्यासक्रमाचे शिक्षण पूर्ण झाल्यानंतर विद्यार्थ्याला खालील गोष्टींचे,ज्ञान, कौशल्य अवगत होते

CO1: मराठी भाषेच्या उत्पत्तीची साधने सांगा

CO2: कालिक भेदाचे स्वरूप सांगा

CO3: यादवकालीन मराठी भाषेचे स्वरूप स्पष्ट करा

CO4: शिवकालीन मराठी भाषेचे स्वरूप स्पष्ट करा

CO5: भाषाभेद म्हणजे काय?

आधुनिक वाङ्मयीन प्रवाह : ग्रामीण व स्त्रीवादी साहित्य c-26

अभ्यासक्रमाचे शिक्षण पूर्ण झाल्यानंतर विद्यार्थ्याला खालील गोष्टींचे,ज्ञान, कौशल्य अवगत होते

CO1: ग्रामीण साहित्य म्हणजे काय?

CO2: स्त्रीवादी साहित्य म्हणजे काय?

CO3: ग्रामीण संस्कृतीचे स्वरूप सांगा

CO4: ग्रामीण साहित्याचे स्वरूप सांगा

CO5: स्त्रीवादी साहित्याचे स्वरूप सांगा

लोकवाङ्मय : प्रकार व स्वरूप विशेष c-27

अभ्यासक्रमाचे शिक्षण पूर्ण झाल्यानंतर विद्यार्थ्याला खालील गोष्टींचे,ज्ञान, कौशल्य अवगत होते

CO1: लोकगीताचे स्वरूप स्पष्ट करा

CO2: लोककथा म्हणजे काय?

CO3: म्हणी-उखाणे याविषयी माहिती सांगा

CO4: आदिवासी गीतांचे स्वरूप सांगा

CO5: तमाशाचे स्वरूप सांगा

मराठवाड्यातील आधुनिक साहित्य c-29

अभ्यासक्रमाचे शिक्षण पूर्ण झाल्यानंतर विद्यार्थ्याला खालील गोष्टींचे,ज्ञान, कौशल्य अवगत होते

CO1: परवड या साहित्यकृतीचे मूल्यमापन करा

CO2: एकनाथ आव्हाड यांच्या लेखनाचे स्वरूप सांगा

CO3: सुधाकर डोईफोडे यांच्या लेखनाचे स्वरूप सांगा

CO4: राधा अरगडे यांच्या लेखनाचे स्वरूप सांगा

CO5: जग बदल घालून घाव या ग्रंथाचे स्वरूप सांगा

M.A. Hindi

Programme Specific Outcomes

PSO1: हिन्दी साहित्य के इतिहास और विकास की परंपरा से छात्र परिचित होंगे

PSO2: छात्र हिन्दी भाषा एवं साहित्य की विभिन्न शैलियों से परिचित होंगे

PSO3: छात्रों को साहित्यिक सिद्धांतों, साहित्य रूपों और आंदोलनों का ज्ञान प्राप्त होंगा

PSO4: छात्र साहित्य के माध्यम से अपने देश की प्राचीन संस्कृति एवं तत्कालीन राजनीतिक, धार्मिक, सामाजिक, सांस्कृतिक आदि परिस्थितियों से परिचित होंगे

PSO5: छात्र आदिकाल, भक्तिकाल,रीतिकाल और आधुनिक काल की विभिन्न शाखाओं, उपशाखाओं तथा साहित्यिक परंपरा और तत्कालीन परिवेश से अवगत होंगे

PSO6: भाषा-विज्ञान के माध्यम से छात्र भाषिक संचरना से परिचित होंगे तथा व्याकरणिक दृष्टि से परिपक्व बनेंगे

PSO7: छात्रों को हिन्दी-भाषा के विविध रूपों का ज्ञान होंगा

PSO8: जनसंचार माध्यमों में हिन्दी के विविध रूपों को समझ सकेंगे

PSO9: प्रयोजनमूलक हिन्दी के द्वारा हिन्दी में रोजगार की संभावनाओं से अवगत होंगे

PSO10: अनुवाद के माध्यम से अन्य भाषाओं के साहित्य और संस्कृति आदि का ज्ञान छात्रों को मिलेंगा

Course Outcomes

F.Y. M.A.
Semester I

आदि तथा मध्यकालीन हिंदी साहित्य का इतिहास

CO1: इतिहास दर्शन और साहित्येतिहास परंपरा के बारे में जानकारी दीजिये।

CO2: हिंदी साहित्य के कालविभाजन पर चर्चा कीजिये।

CO3: आदि तथा मध्यकालीन काव्य प्रवृत्तियों के बारें में बताइये।

CO4: भक्तिकालीन विविध काव्यधाराओं का परिचय दीजिये।

CO5: मध्यकालीन कृति एवं कृतिकारों की जानकारी दीजिये।

भारतीय साहित्यशास्त्र

CO1: भारतीय साहित्यशास्त्र के विकासक्रम को स्पष्ट कीजिये।

CO2: भारतीय साहित्यशास्त्र के स्वरूप को स्पष्ट कीजिये।

CO4: समीक्षा की गुण-दोषों की चर्चा कीजिये।

CO5: भारतीय साहित्य चिंतन को समझाइए।

भक्तिकालीन काव्य

CO1: भक्तिकालीन पृष्ठभूमि को विशद कीजिये।

CO2: भक्तिकालीन काव्य विशेषताओं को स्पष्ट कीजिये।

CO3: भक्तिकालीन कवियों के साहित्यिक योगदान की जानकारी दीजिये।

CO4: कबीर पर अन्य विचारधारा के प्रभाव को स्पष्ट कीजिये।

CO5: वर्तमान संदर्भ में आलोच्य भक्त-कवियों की प्रासंगिकता स्पष्ट कीजिये।

उपन्यास साहित्य

CO1: उपन्यास के तत्त्वों को स्पष्ट कीजिये।

CO2: हिंदी उपन्यास के विकासक्रम को समझाइए।

CO3: हिंदी उपन्यासों की प्रवृत्तियों को बताइये।

CO4: हिंदी उपन्यास के अर्थ, परिभाषा एवं स्वरुप को स्पष्ट कीजिये।

CO5: गोदान, मैला आंचल, बाणभट्ट की आत्मकथा में चित्रित युगबोध को स्पष्ट कीजिये।

Semester II

हिंदी साहित्य का इतिहास

CO1: आधुनिककालीन परिस्थितिओं का विवेचन कीजिए।

CO2: आधुनिककालीन पृष्ठभूमि के परिप्रेक्ष्य में प्रतिनिधि रचनाकारों का परिचय दीजिये।

CO3: स्वछंदतावादी कविता की विशेषताओं को स्पष्ट कीजिये।

CO4: आधुनिक गद्य विधाओं की संक्षेप मे जानकारी दीजिये।

CO5: गद्येत्तर विधाओं के बारे में चर्चा कीजिये।

पाश्चात्य साहित्यशास्त्र

CO1: पाश्चात्य साहित्यशास्त्र के विकासक्रम को समझाइए।

CO2: पाश्चात्य साहित्यशास्त्र के सिद्धांतों की चर्चा कीजिये।

CO3: आलोचना के अर्थ, परिभाषा, भेद एवं प्रकारों की जानकारी दीजिये।

CO4: पाश्चात्य साहित्यशास्त्र के प्रमुख वादों के बारे में बताइये।

CO5: पाश्चात्य साहित्यशास्त्र के चिंतन पक्ष को समझाइए।

रीतिकालीन काव्य

CO1: रीतिकालीन परिस्थितियों की विस्तृत जानकारी दीजिये।

CO2: रीतिकालीन प्रवृत्तियों को स्पष्ट कीजिये।

CO3: बिहारी, भूषण और घनानंद के व्यक्तित्व एवं कृतित्व पर प्रकाश डालिए।

CO4: रीतिकालीन शृंगारिकता के बारें में चर्चा कीजिये।

CO5: घनानंद की काव्य विशेषताओं को स्पष्ट कीजिये।

कहानी साहित्य

CO1: कहानी विधा के विकासक्रम को स्पष्ट कीजिये।

CO2: विभिन्न कहानी आंदोलनों की चर्चा कीजिये।

CO3: कहानी के तत्त्वों को समझाइए।

CO4: आलोच्य कहानीकारों का परिचय दीजिये।

CO5: समकालीन दलित, स्त्री, आदिवासी विमर्श के स्वरूप को स्पष्ट कीजिये।

S.Y. M.A.
Semester III

भारतीय साहित्य

CO1: भारतीय साहित्य की अवधारणा को स्पष्ट कीजिये।

CO2: हिंदीत्तर भाषाओं के साहित्य का परिचय दीजिये।

CO3: युगीन पृष्ठभूमि के परिप्रेक्ष्य में पांगिरा उपन्यास की चर्चा कीजिये।

CO4: गिरीश करनाड के तुगलग नाटक की समीक्षा कीजिये।

CO5: हिन्दी और भारत की अन्य भाषाओं के सहसंबंध को स्पष्ट कीजिये।

भाषा विज्ञान

CO1: भाषा-विज्ञान के स्वरूप को स्पष्ट कीजिये।

CO2: भाषा विज्ञान की उपयोगिता बताइये।

CO3: स्वर और व्यंजनों के स्वरूप को स्पष्ट कीजिये।

CO4: **ध्वनियों के उच्चारण में सहायक वाक् अवयवों का परिचय दीजिये।**

CO5: **भाषा-विज्ञान के अध्ययन क्षेत्रों को स्पष्ट कीजिये।**

स्वतंत्रपूर्व हिंदी कविता

CO1: स्वतंत्रपूर्व हिंदी कविता के विकासक्रम का परिचय दीजिये।

CO2: कवि सुर्यकांत त्रिपाठी निराला के जीवन और काव्य के बारें में बताइये।

CO3: सुमित्रानंदन पंत के काव्य में चित्रित प्रकृति का स्वरूप स्पष्ट कीजिये।

CO4: युगीन पृष्ठभूमि के परिप्रेक्ष्य में जयशंकर प्रसाद की काव्य-प्रवृत्तियों पर चर्चा कीजिये।

CO5: कवि के रुप में निराला, प्रसाद और पंत के योगदान को स्पष्ट कीजिये।

प्रयोजनमूलक हिंदी

CO1: प्रयोजनमूलक हिंदी की संकल्पना को स्पष्ट कीजिये।

CO2: प्रयोजनमूलक हिंदी के विविध रूपों की जानकारी दीजिये।

CO3: कार्यालयों में प्रयुक्त हिंदी का स्वरूप स्पष्ट कीजिये।

CO4: राजभाषा हिंदी के स्वरूप की जानकारी दीजिये।

CO5: वाणिज्य-व्यवसाय में प्रयुक्त हिंदी का स्वरूप स्पष्ट कीजिये।

Semester IV

भारतीय साहित्य

CO1: तुलनात्मक साहित्य के अवधारणा को स्पष्ट कीजिये।

CO2: हिंदीत्तर अनुवादित साहित्य की चर्चा कीजिये।

CO3: उपन्यासकार के रुप में महाश्वेता देवी के योगदान को स्पष्ट कीजिये।

CO4: सीताकांत महापात्र के वर्षा की सुबह काव्य में चित्रित जीवन बोध का परिचय दीजिये।

CO5: मास्टर साब उपन्यास के माध्यम से तत्कालीन समाज और परिवेश के विसंगतियों पर प्रकाश डालिए।

हिंदी भाषा का इतिहास

CO1: संसार के भाषा परिवार की जानकारी दीजिये।

CO2: हिंदी भाषा के उद्भव और विकास को स्पष्ट कीजिये।

CO3: हिंदी की विविध बोलियों का परिचय दीजिये।

CO4: हिंदी भाषा के शब्द संपदा की जानकारी दीजिये।

CO5: देवनागरी लिपि के स्वरूप और व्याप्ति को स्पष्ट कीजिये।

स्वातंत्र्योत्तर हिंदी कविता

CO1: स्वातंत्र्योत्तर हिंदी कविता के विकासक्रम को स्पष्ट कीजिये।

CO2: युगीन पृष्ठभूमि के परिप्रेक्ष्य में कवि कुवंरनारायण के आत्मजयी काव्य की चर्चा कीजिये।

CO3: कवि धूमिल का साहित्यिक परिचय दीजिये।

CO4: मुक्तिबोध के काव्य में चित्रित फैंटसी एवं सामाजिक विषमता के स्वरूप को स्पष्ट कीजिये।

CO5: अरुण कमल के काव्य में चित्रित जनसंवेदना की चर्चा कीजिये।

मीडिया लेखन

CO1: जनसंचार के स्वरूप एवं प्रक्रिया की जानकारी दीजिये।

CO2: जनसंचार माध्यमों के विविध रूपों का परिचय दीजिये।

CO3: माध्यमों के लिए लेखन कौशल की जानकारी दीजिये।

CO4: माध्यम लेखन प्रक्रिया के स्वरूप को स्पष्ट कीजिये।

CO5: दृक-श्रव्य माध्यम लेखन प्रक्रिया का स्वरूप विशद कीजिये।

M A English

Program Specific Outcomes

At the time of post graduation, the students will be able to-

PSO1: Appreciate literary texts aesthetically

PSO2: Teach English language

PSO3: Acquire literary and linguistic competence

PSO4: Acquaint themselves with the history of English literature

PSO5: Understand how contemporary historical political, social and other realities influence the literary output

PSO6: Proficient enough to distinguish between the features of various genres

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Course Outcomes

M A English

Part I

Semester I & II

Paper I– Literature in English- 1550-1798

Upon completion of the course, the students will be able to-

CO1: Know the social, political and literary history of the period

CO2: Acquaint themselves with Metaphysical Poetry

CO3: Learn peculiarities of Shakespearean Plays

CO4: Know the implication of literature in human life

CO5: Understand the basics of criticism

Paper II– Literature in English- 1798-2000

Upon completion of the course, the students will be able to-

CO1: Know the characteristics of Romanticism

CO2: Understand the Romantic poetry

CO3: Have a sound understanding of contemporary world as reflected in Romantic poetry

CO4: Learn the notion of problem plays

Paper III– Structure of Modern English

Upon completion of the course, the students will be able to-

CO1: Pronounce and write speech sounds

CO2: Acquaint themselves with three fold pronunciation

CO3: Deal with phonemes and syllabus

CO4: Understand the notion of dialect

CO5: Have a command on various phrase types, word formation, clauses, etc

Paper IV– Colonial Post Colonial Literature

Upon completion of the course, the students will be able to-

CO1: Understand the idea of Colonization

CO2: Know the impact of colonization on the colonised countries

CO3: Unravel the complexities of India during the British Raj

CO4: Come across exploitation Africa by the colonial powers

CO5: Know the concept of Magic Realism

M A English

Part II

Semester III & IV

Paper V– Critical Theory

Upon completion of the course, the students will be able to-

CO1: Acquaint themselves with major modern critical schools

CO2: Understand multi-faceted critical and intellectual position of theorists

CO3: Trace socio-political and cultural situation deployed in literary text

CO4: Properly understand structuralism

CO5: Have a sound understanding of various critical theories

Paper VI–Indian Writing in English

Upon completion of the course, the students will be able to-

CO1: Get introduced to Indian English literature

CO2: Understand undercurrents depicted in the prescribed poems

CO3: Know Indian literary theory

CO4: Come across the socio-political and other strands depicted in literary piece

CO5: Aesthetically enjoy short stories of Sadat Hassan Manto

Paper VII–English Language Teaching

Upon completion of the course, the students will be able to-

CO1: Acquire new methodologies of teaching English language

CO2: Know a brief history of language teaching

CO3: Have skills of planning lessons and handling material

CO4: Acquire and teach communication skills

CO5: Make the process of teaching and learning more interesting

Paper VIII Major Form: Fiction

Upon completion of the course, the students will be able to-

CO1: Be familiarized with various trends and movements concerning fiction

CO2: Understand novel as a genre, literary history and important shifts in styles and themes

CO3: Learn the experiences and world view as reflected in the novels they have studied

CO4: Be familiarized with socio, cultural, political aspects of novels

CO5: Know issues of the colonised world as dealt with in the prescribed texts

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M.A. Public Administration

Program Specific Outcomes

At the time of post graduation, the students will be able to-

PSO1: Know about the research and development opportunities in the field of administration / policy/ governance studies

PSO2: Analyze the effectiveness of governmental policies and programmes

PSO3: Familiar with the issues of human rights, disaster management, governance reforms, information communication technology and public administration etc

PSO4: Gain confidence while dealing with administrative officials and political leaders

PSO5: Develop their research aptitude and orientation

PSO6: Learn about the research papers writing and presenting in seminars/conferences

PSO7: Acquaint with the statistics tools involved in the research

Methodology like SPSS, ANOVA etc

Course Outcomes

F.Y. M.A.

Semester I

Modern Administrative Theory

Upon completion of the course, the students will be able to-

CO1: Explain meaning, nature and scope of Public Administration

CO2: Discuss various approaches of Public Administration

CO3: Explain concepts of Administrative theory

CO4: Describe Good Governance and Citizen's Charter

CO5: Discuss concepts New Public Administration and new Public Management

Administrative Thinkers

Upon completion of the course, the students will be able to-

CO1: Discuss view on Administration and Politics

CO2: Explain POSDCORB theory by Luther Gullick

CO3: Describe Elton Mayo's Hawthorn Experiment

CO4: Explain theory Hierarchy of Needs by Abraham Maslow

CO5: Discuss views on Motivation and Job-enrichment by Frederick Herzberg

Social Welfare Administration

Upon completion of the course, the students will be able to-

CO1: Explain basic concept of Social Welfare Administration

CO2: Discuss Social problems and the laws implemented to solve them

CO3: Describe concept of social welfare planning and role of voluntary organizations at The Centre, State and Local levels

CO4: Discuss Administrative Structures in Social Welfare Administration

CO5: Explain different personnel roles in the welfare of Social Welfare administration

Human Resource Management

Upon completion of the course, the students will be able to-

CO1: Explain nature, scope, importance of human resource management.

CO2: Discuss process of Recruitment

CO3: Discuss Meaning and Significance of Training

CO4: Explain Nature and Significance of Performance Appraisal

CO5: Explain Meaning and Significance of Work force Adjustment

Semester II

Recent issues in Indian Administration

Upon completion of the course, the students will be able to-

CO1: Explain concept of Indian Administration

CO2: Describe Reforming Public Services in India

CO3: Discuss Impact of Information Technology on Indian Administration

CO4: Explain New Devices in Indian Administration

CO5: Discuss Future Challenges before Indian Administration

Management Thinkers

Upon completion of the course, the students will be able to-

CO1: Discuss Contribution of Robert Owen

CO2: Explain concept of Scientific Management by F. W. Taylor

CO3: Discuss Gantt Chart by Henry Gantt

CO4: Describe Frank Gilbreth's Motion Study

CO5: Discuss Views on Management by Objectives (MBO) by Harrington Emerson

Disaster Management in India

Upon completion of the course, the students will be able to-

CO1: Explain Meaning, nature, scope of Disaster Management

CO2: Discuss Disaster management in India

CO3: Discuss Organizational Set up of Disaster management in India

CO4: Explain concepts, and principles, skills pertaining to Planning, Organizing, Decision-making and Problem solving methods for Disaster Management

CO5: Discuss Role of NGOs in Disaster Management

Office Management

Upon completion of the course, the students will be able to-

CO1: Explain concepts of Office Management

CO2: Discuss Meaning and types of Office Organization

CO3: Describe Office Accommodation and Environment

CO4: Discuss Office System and Process

CO5: Explain Office Communication and Office Management Improvement

S.Y. M.A.

Semester III

Research Methodology

Upon completion of the course, the students will be able to-

CO1: Explain Meaning, Method of Research Methodology

CO2: Discuss concept of variables and hypotheses, their nature, importance and types

CO3: Discuss sample and describe the steps involved in the process of sampling

CO4: Explain different tools of data collection

CO5: Discuss writing report for Public Administration project

Public Policy

Upon completion of the course, the students will be able to-

CO1: Explain Meaning, nature, scope of Public Policy

CO2: Discuss Role of Executive in public policy making

CO3: Explain Objectives and Goals of Public Policy

CO4: Discuss Policy Making Characteristics

CO5: Discuss Citizens Participation in Policy Implementation

Agricultural Administration in India

Upon completion of the course, the students will be able to-

CO1: Explain Meaning, importance, scope of Agricultural Administration

CO2: Discuss Role of Government agricultural Policy Framework

CO3: Discuss Administration for of Agricultural Development

CO4: Discuss Role of Co-operative Sector in Agricultural Development

CO5: Explain Issues in Agricultural Development

Economic Administration in India

Upon completion of the course, the students will be able to-

CO1: Explain concepts in Economic administration

CO2: Discuss Natural Resources and Economic Development

CO3: Describe Structure of Economic administration

CO4: Discuss Agriculture status and Indian Economy

CO5: Explain Industrial Administration and Economy

Indian Administrative System in India

Upon completion of the course, the students will be able to-

CO1: Explain concept of Bureaucracy.

CO2: Discuss Indian Administrative System

CO3: Explain development administration process and Administrative Development in India.

CO4: Explain relationship between Bureaucracy and Development

CO5: Discuss Role of Government Policy Framework

Semester IV

Globalization and Public Administration: Indian Context

Upon completion of the course, the students will be able to-

CO1: Explain concept and Nature of globalization

CO2: Describe globalization and social Economics and Political Context

CO3: Explain globalization- Indian Perspective

CO4: Discuss LPG and Bureaucracy

CO5: Explain Impact of Globalization on Public Administration in India

Post Modern Public Administration

Upon completion of the course, the students will be able to-

CO1: Explain concept of Post Modern Public Administration.

CO2: Discuss postmodern public administration andconstitutionalism

CO3: Describe ideas of the basic characteristics of post Modern Public Administration

CO4: Explain Social Contraction of Government

CO5: Explain Post Modern and Indian Society

Rural Development Administration in India

Upon completion of the course, the students will be able to-

CO1: Describe basic concept of rural development and rural development Administration

CO2: Explain Organization and Functions of Rural Development Administration in India

CO3: Discuss Rural Development Programmes and Schemes in India

CO4: Discuss Role of Panchayatiraj Institutions in rural development

CO5: Explain the problems related to rural areas and rural Communities

Indian Planning and Development

Upon completion of the course, the students will be able to-

CO1: Explain Evaluation and importance of Planning in India

CO2: Explain Planning Commission Structure in India

CO3: Discuss Functions of National Development Council

CO4: Explain Organization and Functions State Planning Commission

CO5: Discuss District Level Planning Machinery

M.A. Economics

Program Specific Outcomes

At the time of post graduation, the students will be able to-

PSO1: Understand nature and function of Micro and Macro Economics

PSO2: Understand impact of international trade on Indian economy

PSO3: Acquire the knowledge of importance of public finance in the well being of people

PSO4: Knows the importance of banking in the shaping of the future of a country

PSO5: Understand the role of agricultural sector in boosting of economy

PSO6: Apply theories of development and growth for the welfare of people

PSO7: Know the basic ideas of economic thinkers for propagating ideal economic behaviour

PSO8: Acquaint with the structure of financial market

Course Outcomes

F.Y. M.A.

Semester I

Micro Economics – I

Upon completion of the course, the students will be able to-

CO1: Explain basic concepts of Economics

CO2: Discuss concepts of Production function

CO3: Analyze cost and Revenue

CO4: Analyze consumer's behaviour

CO5**:** Discuss basic aspects of consumer's equilibrium

Macro Economics – I

Upon completion of the course, the students will be able to-

CO1: Discuss macro economic analysis

CO2: Command various theories of demand for money

CO3: Elaborate concept national income

CO4: Explain nature of classical and Keynesian theories of employment

CO5: Elaborate nature consumption and Investment function

International Economic

Upon completion of the course, the students will be able to-

CO1: Explain basic concept of International Economics

CO2: Describe gain from International Trade

CO3: Acquaint with types of tariffs and Quotas

CO4: Evaluate the concept and components balance payment

CO5: Acquaint with the concept of devaluation

Agriculture Economics

Upon completion of the course, the students will be able to-

CO1: Discuss role & importance of Agriculture

CO2: Describe technology used in Agriculture

CO3: Discuss Government Agriculture Policies

CO4: Find the Indian agricultural development from last 50 years

CO5: Get acquainted with agricultural prices, marketing and subsidies in India

Semester II

Micro Economics – II

Upon completion of the course, the students will be able to-

CO1: Explain concepts of Production function

CO2: Analyze and explain the market equilibrium

CO3: Classify market in various types

CO4: Evaluate the theories of distribution

CO5: Know the nature of general equilibrium, economic efficiency & welfare

Macro Economics – II

Upon completion of the course, the students will be able to-

CO1: Acquainted with IS-LM model

CO2: Explain nature of supply side in economics

CO3: Command various macroeconomic policies

CO4: Explain fiscal policy

CO5: Interpret macroeconomic problems

Economics of Firms

Upon completion of the course, the students will be able to-

CO1: Discuss various forms of market

CO2: Explain Patent Act

CO3: Discuss Baumol's theory of contestable market

CO4: Explain investment decision techniques

CO5: Discuss concept of government financing

History of Economic Thought

Upon completion of the course, the students will be able to-

CO1: Discuss Economic ideas of Dr. B.R. Ambedkar

CO2: Explain Women Empowerment

CO3: Explain Mahatma Phule's thoughts

CO4: Discuss thoughts of ancient Indian Economic Thinkers

CO5: Explain Mahatma Gandhi view on Sarvodaya, Trust ship, Gram Swaraj

M.A. II Year

Semester III

Indian Economic Policies I

Upon completion of the course, the students will be able to-

CO1: Calculate National Income and understand the factors for Human Development according to HDI

CO2: Explain segregate the population according to demographic features

CO3: Identify the factors for disparities in Indian Economy

CO4: Identify the structural reforms according to New Economic Policy

CO5: Discuss social approaches of Indian Economy

Public Economics I

Upon completion of the course, the students will be able to-

CO1: Explain significance of fiscal policy

CO2: Discuss Public and Private Goods

CO3: Discuss causes of market failure and theory of externalities

CO4: Find out influential factors for Inflation and Unemployment

CO5: Evaluate public expenditure and debt

Banking

Upon completion of the course, the students will be able to-

CO1: Discuss functions of Financial System in Indian Economy

CO2: Recognize role and functions of RBI

CO3: Identify role of commercial banks in Indian Economic Development

CO4: Find operations of various development banks and financial institutions

CO5: Discuss operations of NBFI's

Growth Economics

Upon completion of the course, the students will be able to-

CO1: Differentiate between Growth and Development

CO2: Explain classical approach for Economic Growth and Development

CO3: Identify neo-classical approach to Economic Growth and Development

CO4: Explain dualistic theories of Development

CO5: Discuss various Growth Models

Semester IV

Indian Economic Policy II

Upon completion of the course, the students will be able to-

CO1: Evaluate objectives and performance of Indian Economic Planning

CO2: Discuss scenario of Indian Agricultural Sector

CO3: Explain New Industrial Policy and Growth pattern in Industrial Development

CO4: Discuss operations in External Sector

CO5: Analyze impact of Financial Sector on Indian Economy

Indian Public Finance II

Upon completion of the course, the students will be able to-

CO1: Discuss Fiscal Federalism

CO2: Explain functions of Finance Commission

CO3: Discuss Trends and Issues in Tax reforms

CO4: Describe the FRBM Act 2003

CO5: Analyse and evaluate Union Budget

Financial Market

Upon completion of the course, the students will be able to-

CO1: Discuss functions in Indian Money Market

CO2: Explain operations of Indian Capital Market

CO3: Identify role and importance of Indian Insurance Market in Development of Indian Economy

CO4: Elaborate functions and importance of various Financial Services

CO5: Discuss reforms in Financial Sectors in India

Development Economics

Upon completion of the course, the students will be able to-

CO1: Explain measuring factors of Economic Growth and Development

CO2: Discuss sectoral aspects of Economic Development

CO3: Describe importance of Microeconomics of Development

CO4: Identify the contemporary problems of Development

M.A. History

Programme Specific Outcomes

At the time of post graduation, the students will be able to-

PSO1: Understand broad knowledge of historical events, periods and their significance

PSO2: Understand to deploy skills of critical analysis

PSO3: Evaluate evidences and critiquing claims in the literature

PSO4: Interpret a variety of primary sources

PSO5: Formulate persuasive arguments on various subject areas

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Course Outcomes

F.Y. M.A.

Semester I

History of India Up to 300 B.C.

Upon completion of the course, the students will be able to-

CO1: Explain various sources Ancient Indian history

CO2: Discuss Human Evolution in India

CO3: Explain development and achievement of man in Stone Age

CO4: Discuss glory of Indian History in the age of Harappa Civilization

CO5: Explain history of Vedic period

CO6: Evaluate Philosophy of Jainism and Buddhism

Twentieth Century (up to the end of World War II)

Upon completion of the course, the students will be able to-

CO1: Discuss importance of world peace right after the world war Ist

CO2: Evaluate Russian Revolution and the first experiment of the Communist Government

CO3: Explain aftermaths of the World War II on the world politics

CO4: Examine Fascism and the rise of dictatorship in Europe

CO5: Discuss how Russia and America emerged as superpowers on the verge of Cold war

History of Maratha (1600 to 1707)

Upon completion of the course, the students will be able to-

CO1: Explain inspiration behind the establishment of Swarajya

CO2: Discuss about the rise of Maratha Power

CO3: Explain reasons behind Chhatrapati Shivaji Maharaj's early conflicts with the regional lords and the outsiders

CO4: Explain religious policy and judiciary system in Maratha period

CO5: Discuss Maratha War of Independence (during 1689-1707A.D.)

Nineteenth Century India

Upon completion of the course, the students will be able to-

CO1: Evaluate Renaissance and social reform movement India

CO2: Explain early resistance to British Rule

CO3: Discuss detail account of British Raj as well as its overall impacts on the Indian society

CO4: Identify legacy of Freedom Movement

Semester II

State, Society and Culture of India (300 B.C. - 500 A.D.)

Upon completion of the course, the students will be able to-

CO1: Discuss about Mauryan Empire

CO2: Explain socio-economic, religious situation under the Mauryas

CO4: Explain feudal system in Indian society

CO5: Describe history of Satvahanas, Shungas, Kushanas, and Hunas

CO6: Discuss history of Sangam Age, the Cholas , Pallavas and Chalukyas

Polity in Medieval India

Upon completion of the course, the students will be able to-

CO1: Discuss political situation in medieval India

CO2: Explain territorial expansion of Mughal empire

CO3: Evaluate reign of Shershaha Suri

CO4: Explain basic features of Mansabdari and Change in it during 17 th century

CO5: Discuss various aspects of officials and monetary system of Mughals

CO6: Define society, Revenue system, literary sources and Medieval Administration, in medieval India

History of Marathas (1707-1818 A.D.)

Upon completion of the course, the students will be able to-

CO1: Discuss importance of Maratha History in 18 th century

CO2: Explain political scenario of the Maratha power in the early 18 th century

CO3: Define policies adopted by early Peshwas

CO4: Explain Circumstances of the Maratha power after the battle of Panipat

CO5: Discuss reasons of political disintegration of the Marathas in 18^{th} Century

CO6: Evaluate nature of Anglo-Maratha relations

Hyderabad Freedom Struggle (Marathwada Region)

Upon completion of the course, the students will be able to-

CO1: Explain salient features of history of Marathwada

CO2: Analyse contribution of Marathwada in Hyderabad Freedom Struggle

CO3: Discuss Marathwada freedom struggle with Indian freedom Struggle

CO4: Explain women contribution in Marathwada freedom struggle

CO6: Explain work of Swami Ramanand Teerth, and Police Action by Indian Government

S.Y. M.A.

Semester III

Indian Society and Economy under colonialism

Upon completion of the course, the students will be able to-

CO1: Evaluate Indian Society and Economy under Colonialism

CO2: Discuss strategies of imperial control and British administration

CO3: Identify British relations with Princely states in India and Neighbours

CO4: Explain Nature and Extent of stratification within peasantry, social Composition, colonial composition of caste, Tribe, women status and community

CO5: Explain drain wealth from India to England in Colonial period

Historiography: Methods and Practice

Upon completion of the course, the students will be able to-

CO1: Define History Writings and Techniques in historiography

CO2: Discuss contemporary debates in the theory and practices of historical writings

CO3: Explain current methodologies, theories, and concepts, currently in use within the historical discipline

CO4: Explain Historiographical traditions of the East

CO5: Identify history as scientific discipline

Women in History

Upon completion of the course, the students will be able to-

CO1: Discuss various terms about women in Indian History like Liberal, Marxist, psychoanalytical, Socialist, Anti-Caste Feminism

CO2: Explain literary sources of women history in Ancient, Medieval and Modern period

CO3: Evaluate status of Women in Vedic, Jain, and Buddhist religion

CO4: Explain women contribution in Indian freedom struggle

CO5: Identify Status of Women in post independence

History of Maharashtra (1901 to 1960)

Upon completion of the course, the students will be able to-

CO1: Explain salient features of 20^{th} century Maharashtra

CO2: Evaluate consolidation of British power in Maharashtra

CO3: Analyse social religious, consciousness in Maharashtra

CO4: Explain salient features of Indian freedom struggle in Maharashtra

CO5: Explain Hyderabad freedom struggle (special reference to Marathwada)

CO6: Evaluate contribution of Dalit movement and Non Brahmin Movement in Maharashtra

Semester IV

Society and culture in medieval India

Upon completion of the course, the students will be able to-

CO1: Define Structure of Rural and Urban Society.

CO2: Discuss Patriarchy, Gender relation, position of Women , Educational system in medieval India

CO3: Evaluate development of Art and Architecture, Language and literature

CO4: Explain Sufism and other Indian cult

History of India (1901-1947 A.D.)

Upon completion of the course, the students will be able to-

CO1: Explain early political awakening in Indian freedom struggle

CO2: Define origin and development of Indian national congress

CO3: Explain various phases of the national movement

CO4: Explain difference between moderates, extremists and revolutionaries

CO5: Discuss socio-religious scenario and the social reformation modern India

Women in Modern Indian History

Upon completion of the course, the students will be able to-

CO1: Explain contribution of women in Indian freedom struggle

CO2: Define condition of women in Colonial period

CO3: Evaluate social, political, religious and

Economic condition of women in modern India

CO4: Discuss various superstitions, wrong traditions related to women in modern Indian history

India after Independence (1947-1964 A.D.)

Upon completion of the course, the students will be able to-

CO1: Explain role of Sardar Patel in , Integration of India after Independence

CO2: Discuss development of Indian constitution

CO3: Explain the history of Indian Partition

CO4: Evaluate relation between Indo-Pak, Indo-China and neighbours

CO5: Discuss role of India in Non Alignment movement

M.A. Political Science

Programme Specific Outcomes

At the time of post graduation, the students will be able to-

PSO1: Understand western political thoughts and theories

PSO2: Identify relevance of International Relations in domestic politics and Indian foreign policy

PSO3: Differentiate major political systems

PSO4: Analyse structure of state politics in India

PSO5: Understand major political ideologies

PSO6: Understand contemporary world political issues

PSO7: Discuss theories of Public Administration

PSO8: Perform scientific research in Political Science

PSO9: Understand Indian Political Thoughts and their relevance

PSO10: Understand Constitutional Process in India

Course Outcomes

F.Y. M.A. Political Science

Semester – I

Western Political Theory

Upon completion of the course, the students will be able to-

CO1: Distinguish systematic normative inquiry from other kinds of inquiry within the discipline of political science

CO2: Identify the most important contributors to modern Western political thought and explain why their contributions are important

CO3: Explain central concepts in modern Western political thought

CO4: Demonstrate ability to apply abstract theory to concrete problems by using the ideas of political theorists to address contemporary social issues such as affirmative action, pornography and capital punishment

Theories of International Relation

Upon completion of the course, the students will be able to-

CO1: Understand important theories of International Relations

CO2: Explain key historical events which shaped the international system in the 20th century

CO3: Discuss main international relations theories, and the values implicit ineach of these different ways of looking at the world

CO4: Analyse articles of varying complexity on international topics

Comparative Politics

Upon completion of the course, the students will be able to-

CO1: Discuss theory and apply the methodology of comparative analysis within the discipline of political science

CO2: Analyse contemporary problems in the countries under consideration in light of the conceptual frameworks presented in class

CO3: List differences between scholarly and popular publications in Comparative Politics

CO4: Write an analysis of the institutions, political behaviour and political ideas of another country comparing these attributes to the U.S. model

State Politics in India: A Theoretical Perspective

Upon completion of the course, the students will be able to-

CO1: Describe structure of the State Government and explain the duties of each organs of government

CO2: Identify the strengths and the weaknesses of democracy in India

CO3: Explain the demographic composition of India and the relationship between demography and political behaviour

CO4: Discuss the major public policy issues confronting nation today

F.Y. M.A.

Semester – II

Modern Political Ideologies

Upon completion of the course, the students will be able to-

CO1: Describe meaning of Ideologies and its origin and Development

CO2: Identify elements of Liberalism and write it types

CO3: Discuss in detail the concept of Conservatism

CO4: Discuss ideology of Socialism and critically examine the theory of Marx

CO5: Explain other ideological traditions of Political Science

World Politics: Issues and Debates

Upon completion of the course, the students will be able to-

CO1: Identify relevance of Disarmament and Arms Control in World Politics

CO2: Describe important regional organisations such as SAARC, ASEAN, OPEC

CO3: Identify important issues in contemporary World Politics

CO4: Discuss issue of international Terrorism and the New World Order

CO5: Discuss New Economic Policy in World Politics and explain the concepts of Liberalization, Privatization and Globalization

Western Political Thoughts

Upon completion of the course, the students will be able to-

CO1: Describe Plato's views on Communism, Education, Philosopher King and Ideal State

CO2: Discuss on Aristotle's contribution to Political Science

CO3: Write down Machiavelli's thoughts and discuss why he was called as father of Modern Political Science

CO4: Illustrate theory of Social Contract by Thomas Hobbes, Locke and Rousseau

CO5: Discuss John Locke as a founder of Liberalism. Explain his theory of Natural Rights

CO6: Discuss theory of Utilitarianism by J. Bentham

CO7: Discuss views of Hegel and Marx on Dialects and explain Marx's theory of Class Struggle and theory of State and Communism

Public Administration

Upon completion of the course, the students will be able to-

CO1: Write meaning, nature and scope of Public Administration and explain its approaches

CO2: Discuss the concept of Classical and Scientific Management, Bureaucracy, Decision making etc

CO3: Write down the functions of Chief Executives, PMO and Planning Commission (former) and classify Line and Staff agencies

CO4: Identify the role of Globalization, Liberalization and Public Administrative reforms in India on changing public sector

CO5: Discuss the concept of Governance, Transparency, RTI, Ombudsman and Lokpal and Lokayukta

S.Y. M.A.

Semester – III

Research Methodology

Upon completion of the course, the students will be able to-

CO1: Conduct a literature review for a question in political science research

CO2: Design a survey to collect political science data

CO3: Perform content analysis on a document

CO4: Design an elite interview protocol

CO5: Distinguish appropriate data for answering a political science question from inappropriate data

CO6: Analyse quantitative data using statistical software

Indian Political Thought

Upon completion of the course, the students will be able to-

CO1: Discuss British impact on Indian Society

CO2: Explain the tradition of Liberalism in India through the thoughts of Dadabhai Navroji, G K Gokhle and M G Ranade

CO3: Discuss Social, Political and Economic ideas of Mahatma Gandhi, J P Narayan, VinobaBhave

CO4: Explain Democratic Socialism and Communism of Pt. Nehru, R M Lohiya and S ADange

CO5: Discuss the concept of Hindu Nationalism by Aurobindo Ghosh, B G Tilak Savarkar and Golwalkar

India's Foreign Policy

Upon completion of the course, the students will be able to-

CO1: Discuss and evaluate the major approaches to the study of India's foreign policy

CO2: Evaluate the major principles and objectives of Indian foreign policy

CO3: Describe the India's bilateral relations with her neighbouring countries and super powers of the world

CO4: Think critically and write about the role of India in the world politics

PSC 437. Modern Trends in Political Theory

Upon completion of the course, the students will be able to-

CO1: Discuss concept of Social Justice by John Rawls

CO2: Discuss current debates on Theory of Rights

CO3: Illustrate Feminist Political Theory

CO4: Explain concepts of Libertarianism and Communitarianism

CO5: Write down theory of Welfare state

S.Y. M.A.

Semester IV

Constitutional Process in India

Upon completion of the course, the students will be able to-

CO1: Discuss framing of Indian Constitution and its background. Illustrate the features of Indian Constitution

CO2: Identify Federal structure of Indian Constitution and discuss the change in this pattern

CO3: Identify the relation between Executive and Legislature

CO4: Identify the role of Judiciary in India. Explain the concept of Judicial Review, PIL and Judicial Activism

CO5: Indicate the role of Panchayat Raj in developing of rural India

Political Analysis

Upon completion of the course, the students will be able to-

CO1: Discuss on Liberal approach to Politics

CO2: Identify nature of Marxist perspective

CO3: Explain theory of Behaviouralism and discuss post Behavioural revolution

CO4: Write down theory of Institutionalism

CO5: Discuss on Rational Choice Theory

South Asia and the World

Upon completion of the course, the students will be able to-

CO1: Identify relevance of South Asia as a region and a Subsystem

CO2: Discuss strategic environment of South Asia and analyse the impact of Globalisation and Global Politics on South Asia

CO3: Explain process of Cooperation and Confidence Building Measures in South Asia

CO4: Identify security issues in South Asia and discuss on it

CO5: Discuss India's role in South Asia

Dr. Babasaheb Ambedkar on Caste: A Study of his text; Annihilation of Caste

Upon completion of the course, the students will be able to-

CO1: Discuss Dr. Ambedkar's views on Varna system in India and differentiate social and political reforms

CO2: Illustrate Introduction to Annihilation of Caste and debate on Gandhi versus Dr. Ambedkar's opinion about caste in India

CO3: Review Social and Political reforms in India and Discuss on Hindu Social system and Socialism

CO4: Identify concept of unity in Sikh and Muslim religions and criticise Hindu religion

CO5: Discuss Dr. Ambedkar's Vision of an ideal society

M.A. Psychology

Programme Specific Outcomes

At the completion of the post graduation course, student will be able to-

PSO1: Understand concepts of basic psychological principles and laws

PSO2: Acquire need to provide psychological assistance to people by conducting awareness programmes and camps

PSO3: Enhance skills during the course of study at clinical areas

PSO4: Analyze the causes behind the major psychological issues seen with people in the society today

PSO5: Understand innovative and integrative thinking and problem solving

PSO6: Learn to combine acquired knowledge with critical thinking skills

PSO7: Learn to apply psychological content and skills to career goals

PSO8: Learn to adopt values that build community at local, national, and global levels

PSO9: Develop a working knowledge of different domains of psychology

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Course Outcomes

F.Y. M.A.

Semester I

Cognitive Psychology PSY 401

Upon completion of the course, the students will be able to-

CO1: Application of knowledge using critical thinking skills Students should be able to use critical thinking to evaluate and interpret evidence and to apply cognitive science concepts theories and research findings to individual social and cultural issues

CO2: Application of research methods with values and integrity Students should be able to apply basic research methods in cognitive science with sensitivity to ethical principles

CO3: Communication skills Students should be able to demonstrate effective communication skills following professional conventions in cognitive science appropriate to purpose and context

CO4: Awareness of methodological and theoretical diversity Students should be able to understand the complexities of cognition using neural embodied social and or technological approaches

Foundation of Behavioural Research and Statistics PSY 402

Upon completion of the course, the students will be able to-

CO1: Formulate research questions that are suitable for quantitative research

CO2: Evaluate the quality of quantitative studies

CO3: Produce simple univariate and bivariate statistics using standard software

CO4: Interpret results from statistical analyzes of bivariate relationships and group differences

CO5: Communicate results from statistical analyzes in accordance with scientific standards

CO6: Can describe and differentiate main approaches to quantitative data analysis

CO7: Can identify situations in which different forms of quantitative data analysis are relevant

CO8: Know principles of organizing quantitative data

CO9: Know basic statistical concepts such as central tendency spread and association

Personality Psychology PSY 403

Upon completion of the course, the students will be able to-

CO1: Identify research methodologies involved in the science of personality psychology

CO2: describe the purpose of comprehensive clinical theories in the field of personality psychology

CO3: Compare and contrast major classical theories of personality such as humanism psychoanalytic psychodynamic behaviorism cognitive and social-cognitive theories of personality

CO4: Describe the main concerns of trait theorists the influential figures who helped develop this perspective and the sequential development leading up to the current understanding of traits

CO5: Define the main components of the five-factor model of personality

CO6: Identify the theory methodology and main findings of the empirical journal articles assigned

CO7: Describe the important contributions of the biological evolutionary perspective made to personality psychology

CO8: Describe the intrapersonal and interpersonal function of emotion as an expression of personality

Psychology Practicum PSY 451

Upon completion of the course, the students will be able to-

CO1: To obtain knowledge on the significance of Psychological tests

CO2: To understand the method of testing and interpretation of the various tests

CO3: To understand and critically analyze an individuals personality and behavior patterns

CO4: To know the ethics in psychological assessment

CO5: To understand the importance of psychological assessment in the field of psychology

F.Y. M.A.

Semester II

Cognitive Process PSY 404

Upon completion of the course, the students will be able to-

CO1: The student has basic knowledge of cognitive process

CO2: The student has knowledge of how human cognition works from language processes problem solving and thinking to learning and memory

CO3: The student has knowledge of the key methods used in modern cognitive psychology research such as memory model Semantic memory Long term memory

CO4: The student has developed a scientific attitude comprising the ability of reflection and logic reasoning

CO5: The student has developed an ability of critical thinking including respect for scientific data and ethical values

CO6: The student can describe cognitive processes and human thinking as well as how cognitive functioning affects human behavior

CO7: Based on an understanding of how human memory works the student is capable of developing more efficient learning strategies

Research Design and Statistics PSY 405

Upon completion of the course, the students will be able to-

CO1: Students should understand a general definition of research design

CO2: Students should be able to identify the overall process of designing a research study from its inception to its report

CO3: Students should be familiar with ethical issues in educational research, including those

issues that arise in using quantitative and qualitative research

CO4: Students should be familiar with mixed methods research such as within group research design and between group research design and chi square

CO5: Identify each of the steps involved in the development of a research project

CO6: Identify and describe validity issues inherent in different types of designs

Personality Psychology PSY 406

Upon completion of the course, the students will be able to-

CO1: Utilize various personality theories to explain differences among persons such as Dispositional Trait approaches to personality Cognitive Social Learning approaches to personality Humanistic Existential approaches to personality

CO2: Recognize theoretical and research based assumptions which provide a foundation for the study of personality

CO3: Distinguish significant issues in personality theory today Inclusive of various approaches to research in the area of personality theory

CO5: Describe humanistic and trait theories of personality and their applications and relate to real world scenarios

CO6: Examine in detail Behavioral learning theories and cognitive social learning theories of personality and their applications

Psychology Practicums Test Construction PSY 453

Upon completion of the course, the students will be able to-

CO1: To obtain knowledge on the how to standardise and construct of Psychological tests

CO1: Be able to critically evaluate assessment instruments

CO1: Have the basic tools to critically construct and execute assessment instruments

CO1: Have a working understanding of reliability and validity

CO1: Appreciate the ethical and legal issues involved in the assessment process

S.Y. M.A.

Semester III

Counselling Process PSY 407

CO1: Relate counselling theory to issues in counselling

CO2: Develop an ethical approach to counselling

CO3: Identify educational problems of students at different stages

CO4: Help students with learning difficulties and social emotional problems

CO5: Critically examine different approaches to counselling dependant understanding of theoretical understand the link between theory and practice

Psychopathology - I PSY 408

CO1: Enhance personal and social interactions by using the knowledge of the history and major theories of abnormal behavior

CO2: Better understand ones own and others behavior by applying the knowledge of assessment diagnosis classification systems and DSM categories.

CO3: Become a more effective consumer of and advocate for mental health care services through an understanding of the various approaches to the diagnosis and treatment of psychological disorders

CO4: Indicate the criteria currently used to define abnormal behavior

CO5: Discuss the biological psychological behavioral cognitive humanistic-existential and sociocultural models of abnormal behavior

CO6: Describe how abnormal behavior is assessed and diagnosed

CO7: Trace the development of the Diagnostic and Statistical Manual of Mental Disorders DSM

Clinical Assessment PSY 409

CO1: Demonstrate foundational knowledge of the theories as well as the empirical evidence supporting the theories of personality social psychology cognitive aspects of behavior human development biological aspects of behavior and psychopathology

CO2: Understand the history of psychology as it pertains to the development of these theories and their scientific foundations

CO3: Develop effective professional relationships with the persons they serve as well as with professional colleagues and supervisors

CO4: Conduct a diagnostic assessment

CO5: Implement psychological interventions supported by the empirical literature

CO6: Identify how individual differences and diversity impact psychological diagnosis and treatment

Psychology Practicums Case History PSY 455

CO6: The actual work settings for mental health practitioners

CO6: Students are required to search examine and carve their niche in the field

CO6: The basic purpose of this internship is to create awareness for the students as well as the field so that the career progression of the students and the growth of the discipline both can be realized During this period the student is supposed to use the things he/she has learned in program and put it in practice

CO6: It provides an opportunity for the students to gain experience of working in off campus field settings

CO6: Though there is no evaluation for internship a brief internship report and an authorized Internship completion statement from the placement institute is mandatory for the student to successfully complete the program

S.Y. M.A.

Semester IV

Counselling Specialities

CO1: Students will be able to articulate an understanding of their personal responsibility in creating their own academic personal, and professional successes

CO2: Students will be able to utilize the necessary information resources and options available for them to make sound educational and lifelong decisions

CO3: Students will be able to identify specific tactics and strategies used in order to achieve their desired goals

Psychopathology

CO1: To know about abnormal behavior and the historical views of abnormal behavior

CO2: To understand the causal and risk factors of abnormal behavior

CO3: To obtain the clinical picture of anxiety disorders, causal factors of anxiety

CO4: Disorders treatment and outcome

CO5: To have complete understanding about somatoform and dissociative disorders along with its treatment and outcome

CO7: To gain newer insights on prevention and treatment of mental disorders

Clinical Intervention

CO1: Demonstrate clinical knowledge that is culturally sound and relevant to professional and ethical practices in the field of mental health

CO2: Conduct proper psychological assessment

CO3: Diagnose successfully clients clinical problems using DSM/ ICD

CO4: Create suitable treatment plans for diverse psychological disorders

CO5: Apply therapeutic skills to help clients individuals and groups overcome their psychological disorders

CO6: Communicate comprehensive and understandable psychological reports to all parties involved

CO7: Apply appropriate methodology to conduct research in clinical psychology

Psychology Practicum's Practical

CO1: Articulate how psychological principles can be used to explain social issues address pressing societal needs and or inform public policy.

CO2: Exhibit high standards of positive personal values in interpersonal and work-related relationships

CO3: Pursue personal opportunities to promote civic social and global outcomes that benefit the community

CO4: Apply relevant psychology content knowledge to facilitate a more effective workplace

CO5: Expect and adapt to interaction complexity including factors related to diversity of backgrounds in work organizations

CO6: Apply the ethical principles of psychology to professional and workplace settings

CO7: Design deliberate efforts to produced desired self-management outcomes self regulation hardiness resilience

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M.A. Sociology

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Programme Specific Outcomes

At the time of post graduation, the students will be able to-

PSO1: Understand the rural society in India

PSO2: Acquire significance of social conflicts in society

PSO3: Follow new stream of thoughts and theories of social thinkers

PSO4: Learn critical evaluation of theories in sociology

PSO5: Gain knowledge about various social groups like crime and social demography

PSO6: Understand research methodology and related techniques

Course Outcomes

M.A. F.Y.

Semester I

Theoretical perspectives in Sociology-I

Upon completion of the course, the students will be able to-

CO1: Give Importance and nature of sociological theory

CO2: Describe relationship between theory and research

CO3: Elaborate Radcliffe brown ideas of social structure

CO4: Explain reformulation of functional analysis

CO5: Write a note on Louis Althusser structuralism Marxism

Methodology of Sociological Research

Upon completion of the course, the students will be able to-

CO1: Elaborate hermeneutical tradition

CO2: Describe positivistic paradigm contribution of auguste comte

CO3: Give Importance of social research

CO4: Write operationalization and research design

CO5: Explain new philosophy of science in sociological research

Rural Society in India-I

Upon completion of the course, the students will be able to-

CO1: Write concept of peasant society

CO2: Explain rural urban differences

CO3: Elaborate of globalization and changing rural culture

CO4: Describe rural leadership and factionalism

CO5: Give Importance of community development programmes

Contemporary Social Problems in India-I

Upon completion of the course, the students will be able to-

CO1: Elaborate of ecological degradation and environmental pollution

CO2: Describe how regional, ethic and religious disharmony

CO3: Explain inequality of caste and gender

CO4: Write social problem definition and nature

CO5: Explain development induced displacement

Semester II

Theoretical Perspectives in Sociology-II

Upon completion of the course, the students will be able to-

CO1: Give Importance of Historical roots of symbolic interactionism

CO2: Describe ideas of Husserl Edmund

CO3: Elaborate origins of ethno methodology

CO4: Explain Goffman Erving Dramaturgy and everyday life

CO5: Write concept of Self Development

Methods of Social Research and Statistic

Upon completion of the course, the students will be able to-

CO1: Give Importance of survey Technique and Experimental Method

CO2: Describe interview scheduled

CO3: Explain students would like to learn methods of data analysis, including advanced statistics for complex data

CO4: Describe how a way to approach data collection

CO5: Explain importance of internet in sociological research and SPSS

Rural Society in India-II

Upon completion of the course, the students will be able to-

CO1: Describe problems of rural social poverty

CO2: Explain land tenure system

CO3: Describe should be awareness among the people of the rural areas

CO4: Write importance of irrigation in agriculture

CO5: Explain rural nature and causes of change

Contemporary Social Problems in India-II

Upon completion of the course, the students will be able to-

CO1: Describe crime and delinquency

CO2: Explain social welfare service

CO3: Describe how alcoholism and drug addiction social problems

CO4: Write concept of gambling and smoking

CO5: Explain white-collar crime and changing profile of the crime and criminals

M.A. S.Y.

Semester III

Classical Sociological Tradition:

Upon completion of the course, the students will be able to-

CO1: Explain determined at any given time by its material conditions

CO2: Describe sociological theory

CO3: Give Marx's theory of ideology

CO4: Elaborate causes of class struggle

CO5: Explain theory of suicide

Sociology of Development

Upon completion of the course, the students will be able to-

CO1: Explain concepts of social change

CO2: Describe causes of indications

CO3: Give thoughts of development Gandhi & Schumacher

CO4: Elaborate new liberalism

CO5: Explain paths of development

Social Demography

Upon completion of the course, the students will be able to-

CO1: Explain scope of social demography

CO2: Describe Indian population census

CO3: Give concept of mortality and fertility

CO4: Elaborate migration in social demography

CO5: Explain cause of migration

Criminology-I

Upon completion of the course, the students will be able to-

CO1: Explain concept of evidence

CO2: Describe types of crime

CO3: Give detail of IPC

CO4: Elaborate of Juvenile Delinquency

CO5: Explain extent of female criminality in India

Semester IV

Classical Sociological Tradition: Weber, Pareto, Cooley and Mead

Upon completion of the course, the students will be able to-

CO1: Explain Weber theory of social action

CO2: Describe theory of authority

CO3: Write logical and non-logical action theory

CO4: Elaborate various approaches of Charles Cooley

CO5: Give importance mind, self and society of mead

Development and Indian Experience

Upon completion of the course, the students will be able to-

CO1: Describe agencies of development education policy and NGO

CO2: Give importance development of marathwada region

CO3: Explain developmental indicter in India

CO4: Give importance of social justice women, dalit's, tribes, minorities, aged and children

CO5: Describe displacement and rehabilitation

Social Demography-II

Upon completion of the course, the students will be able to-

CO1: Explain theory's of population growth

CO2: Describe Family, Marriage patterns and population growth in social demography

CO3: Give importance method's of population profile

CO4: Explain population and environmental pollution

CO5: Give importance of population policy

Criminology-II

Upon completion of the course, the students will be able to-

CO1: Explain theory of punishment retributive

CO2: Describe correctional programmes in prisons and history of prison reforms in India

CO3: Explain problem of correctional administration, human right and prison management

CO4: Give importance of probation, parole, open prison, and after-care and rehabilitation

CO5: Explain concept to victim, victimlogical perspective, responsibility in crime