

**PROGRAM OUTCOMES, PROGRAM SPECIFIC OUTCOMES AND COURSE
OUTCOMES FOR ALL PROGRAMS OFFERED BY THE INSTITUTION**

Our institution offers

Undergraduate programs: B.Sc, B.Com, B.A and

Post graduate Programs: Chemistry & English

NCC as an Elective Subject offered by the UGC for NCC Cadets

FOUNDATION COURSES

Environmental Science, Entrepreneurship, Leadership Education, Professional Ethics and Human Values, Communication & Soft Skills, Analytical Skills, Information and Communication Technology (ICT)

ENGLISH

GENERAL ENGLISH FOR B.A/B.Com & B.Sc, at the end students will be able

PROGRAMME OUTCOMES

PO-1 to apply critical and theoretical approaches to the reading

PO-2 analyze literary and cultural texts in multiple genres, analyze, interpret and describe the critical ideas, values, and themes

PO-3 to improve the language skills like L.S.R.W

PO-4 to be good at Communication skills.

PO-5 to get expertise in Letter writing, Note making, paragraph writing and in Resume /CV preparation.

SPECIFIC OUTCOMES

The students will learn to

PSO-1 read, analyze, and interpret works of literature.

PSO-2 acquaint them with the forms, structures and the aesthetics of style and techniques of literary works.

PSO-3 Develop all the skills and speak in English well.

COURSE OUTCOMES

Students have knowledge of

CO-1 intellectual skills, cognitive strategy, verbal information, motor skills, and attitude.

CO-2 appreciate, interprets, and critically evaluates literature.

CO-3 understands various stages in the development of English language.

CO-4 know different varieties of English used all over the world

**SPEIAL
ENGLISH**

An Introduction to English Language and Literature- helps students

CO-1 know the beauty of the coherence of Language and Literature

CO-2 demonstrates the awareness of evolution theory of language by varied culture.

CO-3 studies the formation of new words.

CO-4 apply literary terminology for Narrative, Poetic and Dramatic genres

CO-5 explores literary elements.

CO-6 identify and use the figures of speech

CO-7 appreciate literary form and structure in shaping a text's meaning

An Introduction to English Literature II

CO-1 Delineate major writers and their works in chronological order.

CO-2 Analyze how the religious, social and political history of England influences the English writers from 19th- 21st centuries.

CO-3 Discuss how literature also influences the social and political history of each

	<p>period. CO-4 Classify all major literary genres. CO-5 Compare English Literature of one period with that of another.</p> <p>An Outline of 20th Century Literature CO-1 By the end of course, students would have understood the new techniques i.e. Psycho analysis and stream of consciousness. CO-2 Students would have gained knowledge about the various aspects of women’s movement along with the different causes contributed to the rise of such movement. CO-3. Students would have understood the aftermath of the movement and its impact on society. CO-4 Students would have realize the decay and decadence of morality and human values in the modern ag</p>
ELECTIVES	<p>A Study of Literary Criticism CO-1 The students would have gained perception on the various important developments in the field of criticism. CO-2 New literary terms and concepts would have been learnt. CO-3 The students would have gained knowledge for analyzing critically a work of art.</p> <p>Major Genres of English Literature Students will Understand the Main Literary Genres like Literary Fiction, Mystery. Mystery novels, / detective fiction, follow a detective solving a case from start to finish, Thriller. Horror. ...Historical, Romance, Western, Bildungsroman is essential to enjoy literature. students would have CO-1 gained knowledge about the various aspects of women’s movement along with the different causes contributed to the rise of such movement. CO-2 understood the aftermath of the movement and its impact on society CO-3 realized the decay and decadence of morality and human values in the modern age.</p> <p>American Literature results in CO-1 an understanding of how the great American themes of self-reliance individualism, sin and redemption were shaped through its rich and varied literature. CO-2 gaining knowledge about how multiculturalism was shaped through its rich literature CO-3 learning some aspects of American English usage and diction. CO-4 gaining an understanding of how society, culture and politics affect literature.</p>
Cluster Elective VIII-A-2	<p>American Literature-3 Students will be able to CO-1 Identify and discuss strengths, limitations, and cultural assumptions of various literary forms practiced in America through the mid-nineteenth century. CO-2 Identify and discuss the roles which gender, race, age, class, ethnicity, wealth, poverty, and geography have played in creating American literature. CO-3 Identify and discuss the issues, conflicts, preoccupations, and themes of the various literatures of America. CO-4 Use literary texts to examine the historical, cultural, and rhetorical contexts in which they were written CO-5 Identify and discuss aesthetic aspects of American literature, canonized (such as plot, characterization, and stanza forms), popular (parable structure, call and response, floral and architectural coding systems), and unpublished (mnemonics or</p>

	<p>oral literature, characteristics of military and women's journals and letters). CO-6. Write clear, focused, coherent essays about literature for an academic audience, using standard English conventions of grammar and style.</p>
	<p>Indian Writing in English / Translation-1after completion of the course, students will be able to</p> <p>CO-1 create awareness among the students of the rich and diverse literary cultures of ancient India CO-2 introduce students to the major literary works of Indian classical dramatist. CO-3 enable the students to appreciate the Indian classical literature and to realize its value in practical aspects of life.</p>
	<p>Indian Writing in English / Translation-2Students would have</p> <p>CO-1 learnt the values of spiritual refinement in human life. CO- 2. understood the need of wiping out social evils to dream of a healthy society. CO-3. understood how well the Indian culture is reflected in Literature. CO- 4. Understood the socio cultural aspect would have been reached</p>
	<p>Indian Writing in English / Translation-3</p> <p>CO-1 understand the various features of Indian literature in English. CO-2. get a glimpse of the regional literatures translated in English. CO-3. make the students aware of the superstitious practices prevalent in Indian society. CO4. inculcate the spiritual values and importance of Guru for self realization.</p>
	<p>Commonwealth Literature -1</p> <p>CO-1 The study of New English Literatures is concerned with colonial and postcolonial writing which emerged in former British colonies such as: parts of Africa, Australia, Bangladesh, Canada, Caribbean countries, India, Malaysia, Malta, New Zealand, Pakistan, Singapore, islands in the South Pacific, and Sri Lanka. CO-2 Students will have an idea of the literature of all these countries.</p>
	<p>Commonwealth Literature -2students will be able to</p> <p>CO-1 define Commonwealth Literature CO-2 identify the geography of commonwealth literature CO-3. state the Functions of Commonwealth Literature CO-4. discuss how the Commonwealth Organisation has promoted Commonwealth Literature CO-5. mention major Characteristics of Commonwealth Literature/Issues common to the writers CO-6. list the major themes and literary trends in Commonwealth Literature CO7. discuss the problem of language in creative writing in the Commonwealth Literature.</p>
	<p>Commonwealth Literature -3students will</p> <p>CO-1 Understand the influence of the ideologies of the times on literature. CO-2. Critically appreciate a work of literature given the background of the age and the writer. CO-3. Analyze the form of the genre from their study of prosody. CO-4. Refine their written and spoken language as an outcome of regular seminar presentations.</p>
MPC	<p>MPC PROGRAM After graduation in science faculty a student will PO-1 Acquire the knowledge with facts and figures related to various subjects in pure</p>

	<p>sciences such as Physics, Chemistry, Botany, Zoology, Mathematics, etc</p> <p>PO-2 Understand the basic concepts, fundamental principles, and the scientific theories related to various scientific phenomena and their relevancies in the day-to-day life.</p> <p>PO-3 develop creativity</p> <p>PO-4 brings out the concept of application of the theory in a practical situation.</p> <p>PO-5 develop scientific outlook.</p> <p>PO-6 enhance the students' reasoning, analytical and problem-solving skills.</p> <p>PO-7 Imbibe ethical, moral and social values in personal and social life manipulate the problems related to algebra, calculus, trigonometry etc.</p> <p>PO-8 develop skills in problem solving, critical thinking, and analytical reasoning including necessary numeracy skills.</p>
<p>MATHeMatics</p>	<p>Mathematics Program Outcomes:</p> <p>PO-1 aims at formation of skills of solving applied mathematical problems with the use of complex analytical tools</p> <p>PO-2 Know basic approaches and principles of the theory of algorithms and the organization of the data structures.</p> <p>PO-3 Demonstrate proficiency in writing proofs.</p> <p>PO-4 Be able to utilize methods of mathematical analysis and aspects of linear algebra in applied problems.</p> <p>PO-5 Understand how its various sub-disciplines are related,</p> <p>PO-6 learn and develop the ability to think critically</p> <p>PO-7 use mathematical reasoning to solve issues in everyday life</p> <p>PO-8 Demonstrate the ability to effectively communicate mathematics subject orally and in writing</p> <p>PO-9 Knowledge in mathematics helps one understand related subjects like Economics, Statistics, Accounting, Audit etc</p> <p>PO-10 Demonstrate their knowledge of key theories, concepts, and methods of enquiry</p> <p>PO-11 They can solve problems using appropriate technology and problem solving strategies.</p> <p>SPECIFIC OUTCOMES</p> <p>PSO-1 recognize the importance and value of mathematical and statistical thinking, training, and approach to problem solving, on a diverse variety of disciplines.</p> <p>PSO-2 Understand the fundamental axioms in mathematics and capability of developing ideas based on them,</p> <p>PSO-3 inculcates mathematical reasoning.</p> <p>PSO-4 is familiar with a variety of examples where mathematics or statistics helps accurately explain abstract or physical phenomena.</p> <p>PSO-5 recognizes and appreciates the connections between theory and applications.</p> <p>PSO-6 be able to independently read mathematical and statistical literature of various types, including survey articles, scholarly books, and online sources.</p> <p>Differential Equations & Problem Solving SESSIONS</p> <p>CO-1 Outcomes: After learning the course the students will be equipped with the various tools to solve few types' differential equations that arise in several branches of science.</p> <p>CO-2 After learning the course the students will be equipped with the various tools to solve few types differential equations that arise in several branches of science</p> <p>CO-3 Recognize and classify ordinary differential equations.</p> <p>CO-4 Solve linear first-order ordinary differential equations</p>

	<p>CO-5 Solve constant-coefficient linear second-order differential equations. CO-6 Identify research problems where differential equations can be used to model the system.</p>
	<p>Three dimensional analytical Solid geometry & Three dimensional analytical Solid Geometry Problem Solving Sessions CO-1 Students learn to describe some of the surfaces by using analytical geometry. CO-2 Students understand the beautiful interplay between algebra and geometry.</p>
	<p>Abstract Algebra & Abstract Algebra Problem Solving Session CO-1 The course is aimed at exposing the students to learn some basic algebraic structures like groups, rings etc. CO-2: On successful completion of the course students will be able to recognize algebraic structures that arise in matrix algebra, linear algebra and will be able to apply the skills learnt in understanding various such subjects</p>
	<p>Real Analysis & Real Analysis Problem Solving Sessions CO-1: After the completion of the course students will be in a position to appreciate beauty and applicability of the course.</p>
	<p>Ring Theory & Vector Calculus & Ring Theory & Vector Calculus Problem Solving Sessions CO-1 Write precise and accurate mathematical definitions of objects in ring theory; CO-2 Use mathematical definitions to identify and construct examples and to distinguish examples from non-examples; . CO-3 Write about ring theory in a coherent, grammatically correct and technically accurate manner.</p>
	<p>Linear Algebra & Linear Algebra Problem Solving Sessions CO-1 After completion this course students appreciate its interdisciplinary nature. CO-2 Use computational techniques and algebraic skills essential for the study of systems of linear equations, matrix algebra, vector spaces, eigenvalues and eigenvectors, orthogonality and diagonalization. CO-3 Use visualization, spatial reasoning, as well as geometric properties and strategies to model, solve problems, and view solutions, especially in R^2 and R^3 , as well as conceptually extend these results to higher dimensions. CO-4 Critically analyze and construct mathematical arguments that relate to the study of introductory linear algebra. (Proof and Reasoning). CO-5 Use technology, where appropriate, to enhance and facilitate mathematical understanding, as well as an aid in solving problems and presenting solutions (Technological Skills). CO-6 Communicate and understand mathematical statements, ideas and results, both verbally and in writing, with the correct use of mathematical definitions, terminology and symbolism (Communication Skills). CO-7 Work collaboratively with peers and instructors to acquire mathematical understanding and to formulate and solve problems and present solutions (Collaborative Skills).</p>
	<p>II-(A) Laplace Transforms CO-1 : Students apply their knowledge to solve some problems on switching circuits CO-2 represent periodic functions using Fourier series. CO-3 Get an idea of power series method to solve differential equations Familiar with Legendre equation and Legendre polynomial. CO-4 Learns about analytic function and how to check analyticity based on Cauchy –</p>

	<p>Riemann equation CO-5 Evaluate complex integral by various methods. CO-6 Knows basic difference between real and complex calculus</p> <p>VII-(B) Numerical Analysis CO-1 Students will be made to understand some methods of numerical analysis. CO-2 Students realize the importance of the subject in solving some problems of algebra and calculus. CO-3 Derive numerical methods for various mathematical operations and tasks, such as interpolation, differentiation, integration, the solution of linear and nonlinear equations, and the solution of differential equations. CO-4 Analyze and evaluate the accuracy of common numerical methods.</p>
	<p>VII-(C) Number Theory & Elective Problem Solving Session CO-1 Explain the concepts of divisibility, prime number, congruence and number the. CO-2 Define the concept of divisibility. CO-3 Define the concept of prime number. CO-4 Explain division algorithm. CO-5 Explain Euclid's algorithm. CO-6 Explain the greatest common divisor.</p> <p>Cluster Electives: VIII-A-1: Integral Transforms CO-1 Students will gain a range of techniques employing the Laplace and Fourier Transforms in the solution of ordinary and partial differential equations CO-2 Theory of Fourier and Laplace transforms, inversion, convolution. Inversion of some standard Fourier and Laplace transforms via contour integration</p> <p>VIII-A-2: Advanced Numerical Analysis CO-1 Understand and apply basic numerical methods and the theory behind them, related to interpolation and approximation, numerical integration, and solving first order ordinary differential equations.</p> <p>1: Principles of Mechanics CO-1 Understand the basic principles of Mechanics. CO-2 Analyze the measurement methods and rules. CO-3 Evaluate the properties of matter.</p> <p>2: Fluid Mechanics VIII-B-3: Project work or VIII-C-1: CO-1 Solve hydrostatic problems. CO-2 Describe the physical properties of a fluid. CO-3 Calculate the pressure distribution for incompressible fluids. CO-4 Calculate the hydrostatic pressure and force on plane and curved surfaces. CO-5 Demonstrate the application point of hydrostatic forces on plane and curved surfaces.</p>
	<p>3: Graph Theory CO-1: Exposure to some basic ideas of group theory. CO-2 Appreciate the subject learnt. CO-3 Understand and apply the fundamental concepts in graph theory CO-4 Apply graph theory-based tools in solving practical problems. CO-5 Improve the proof writing skills.</p>

	<p>4: Applied Graph Theory CO-1: Understand and apply results on connectivity. CO-2 Understand and apply results on flows. CO-3 Understand results about coloring of graphs. CO-4 Understand and apply results on Large Graphs.</p>
<p>PHYSICS</p>	<p>Physics— after the completion, students will be able to PO-1 demonstrate proficiency in mathematics and the mathematical concepts needed for a proper understanding of physics. PO-2 Acquire knowledge of classical mechanics, quantum mechanics, quantum mechanics, electromagnetism, quantum mechanics, and thermal physics, and be able to apply this knowledge to analyze a broad range of physical phenomena. PO-3 Learn laboratory skills, enabling them to take measurements in a physics laboratory and analyze the measurements to draw valid conclusions. PO-4 Explain how physics applies to phenomena in the world around them. PO-5 Students are expected to become confident and versatile problem solvers who use physics intuition together with analytic and quantitative skills to study, model and understand the world around. PO-6 Develop laboratory skills throughout the curriculum with hands on experience with diverse experimental techniques and tools. PO-7 Learn various approaches to data analysis and become comfortable using computational methods to analyse and solve problems. PO-8 Students develop a solid grasp of core concepts and applications of branches of physics like classical mechanics, electricity, sound, light, etc PO-9 Learn the impact of physics on other scientific disciplines. PO-10 Students become effective and clear communicators in written and oral work, capable of explaining complex qualitative and quantitative issues in broadly assessable terms.</p> <p>SPECIFIC OUTCOMES PSO-1 students can solve complex and diverse problems PSO-2 recognize universal physical laws and apply them to the problems PSO-3 apply mathematical and computational techniques,</p> <p>Mechanics& Properties of Matter. ...Students will CO-1 know the elastic behavior and working of torsional pendulum. CO-2 be good at bending behaviour beams and analyze the expression for young's modulus. CO-3 Understand the surface tension and viscosity of fluid. Analyze waves and oscillations. CO-4 Study the basic properties and production of ultrasonics by different methods.</p> <p>Paper II: Waves & Oscillations after finishing the course students will be able to CO-1 recognize and use a mathematical oscillator equation and wave equation, and derive these equations for certain systems, CO-2 point out the limitations and be able to refer to very different solutions of identical oscillator equations due to different initial and boundary conditions</p> <p>Paper III: Wave Optics.After completion students will be CO-1 able to explain simple harmonic motion CO-2 Define period, frequency and force constant. CO-3 Explain energy variables of the simple harmonic oscillator. CO-4 Explains motion of pendulum, physical pendulum and torsional pendulum.</p>

	<p>CO-4 Understand the nature of wave motion & types of Waves CO-5 Define transverse and longitudinal waves, wavelength, frequency and speed of travelling waves. CO-6 Examine standing waves & sound waves. CO-7 Explain the Doppler effect & of light in different mediums. CO-8 Define electromagnetic waves, nature of light, reflections, refraction rules of light, behavior of light in mirrors and lenses.</p> <p>Thermodynamics & Radiation Physics. Helps them CO-1 Gain knowledge in Kinetic theory of gases. CO-2 Understand the process of thermal conductivity, viscosity and diffusion in gases. CO-3 Understand the nature of thermodynamic properties of matter like internal energy, enthalpy, entropy, temperature, pressure and specific volume CO-4. Understand the efficiency of Carnot's engine. & significance of first law and second of thermodynamics CO-5. Understand implications of the second law of thermodynamics and Evaluate entropy changes in a wide range of processes and determine the reversibility or irreversibility of a process from such calculations. CO-6. Understand the interrelationship between thermodynamic functions and ability to use such relationships to solve practical problems.</p> <p>Analog and Digital Electronics Students CO-1 have a thorough understanding of the fundamental concepts and techniques used in digital electronics. CO 2. Will understand and examine the structure of various number systems and its application in digital design.</p>
	<p>Materials Science students will have the CO-1 ability to apply knowledge of mathematics, science and engineering to materials issues. CO-2 ability to design and conduct experiments and critically analyze and interpret data</p> <p>Renewable Energy CO-1 Understand renewable energy systems, CO-2 Understand national and international regulations and framework conditions for renewable energy systems. CO-3 Get knowledge in a special field such as solar energy, storage, smart grid.</p> <p>Fundamentals of Nanoscience Paper VIII- helps them CO-1 Develop a fundamental knowledge of nanomaterials. CO-2 Demonstrate an understanding of the challenges on safe nano-technology. CO-3 Gain experience in applying unique properties of nanomaterials to solve problems and challenges in our life.</p> <p>Synthesis and Characterization of Nanomaterials helps students CO-1 Get fundamental knowledge of nanomaterials. CO-2 Demonstrate an understanding of the properties of materials with strong dependence on size CO-3 Demonstrate an understanding of approaches to nanomaterials characterization.</p> <p>Applications of Nanomaterials and Devices after completion students will CO-1 Understand the types of nanotechnology, molecular technology and the preparation of nano materials.</p>

	<p>CO-2 Explain the fundamental of the devices such as logic devices, field effect devices, and spintronics.</p> <p>CO3 Describe the concepts of silicon MOSFET and Quantum Transport Devices. K2</p> <p>CO4 Summarize the types, synthesis, interconnects and applications of carbon nano tubes.</p> <p>CO-5 Understand the concepts, functions, fabrications and applications of molecular electronics.</p> <p>Solar Thermal and Photovoltaic Aspects After studying this students</p> <p>CO-1. Get Conceptual knowledge of the technology, economics and regulation related issues associated with solar power development and management.</p> <p>CO-2. Ability to analyze the viability of solar power projects</p> <p>CO-3. Capability to integrate various options and assess the business and policy environment regarding solar power projects</p> <p>CO-4. Advocacy of strategic and policy recommendations on usage of solar power.</p> <p>Wind, Hydro and Ocean Energies Students will</p> <p>CO-1 Understand the basic concepts of electrical power generation using hydro, Nuclear, Thermal, Non-conventional energy sources and their economic operation.</p> <p>CO-2 Get the knowledge of various power plants, their economic operation, Tariff structure, and power factor improvement etc.</p> <p>CO-3 Understand the basic components of wind energy conversion system and control the wind power.</p> <p>CO-4 have the knowledge of the design of wind turbine (HAWT & VAWT), Design of fixed and variable speed wind turbine, modelling the grid connected WECS system studies etc.</p>
<p>CHEMISTRY</p>	<p>Chemistry</p> <p>PO-1. Demonstrate, solve and an understanding of major concepts in all disciplines of chemistry.</p> <p>PO-2. Solve the problem and also think methodically, independently and draw a logical conclusion.</p> <p>PO-3. Employ critical thinking and the scientific knowledge to design, carry out, record and analyze the results of chemical reactions.</p> <p>PO-4. Create an awareness of the impact of chemistry on the environment, society, and development outside the scientific community.</p> <p>PO-5. Find out the green route for chemical reaction for sustainable development.</p> <p>PO-6. Inculcate the scientific temperament in the students and outside the scientific community.</p> <p>PO-7. Use modern techniques, equipment.</p> <p>PROGRAM SPECIFIC OUTCOMES</p> <p>PSO-1. Students will appreciate the central role of chemistry in our society and use this as a basis for ethical behaviour in issues facing chemists including an understanding of safe handling of chemicals, environmental issues and key issues facing our society in energy, health and medicine.</p> <p>PSO-2. Explain nomenclature, stereochemistry, structures, reactivity, and mechanism of the chemical reactions.</p> <p>PSO-3. Identify chemical formulae and solve numerical problems.</p> <p>PSO-4. Use modern chemical tools, Models, Chem-draw, Charts and Equipment.</p>

PSO-5. Understand good laboratory practices and safety.
PSO-6. Students will be able to explain why chemistry is an integral activity for addressing social, economic, and environmental problems.
PSO-7 Students will be skilled in problem solving, critical thinking and analytical reasoning as applied to scientific problems.
PSO-8 Students will have a firm foundation in the fundamentals and application of current chemical and scientific theories including those in Analytical, Inorganic, Organic and Physical Chemistries.

1 Inorganic & Organic Chemistry helps students

CO-1. Know the meaning of various terms involved in co-ordination chemistry
CO-2. understand Werner's formulation of complexes and identify the types of valences.
CO-3. Know the limitations of VBT
CO-4. Know the shapes of d-orbital's and degeneracy of d-orbital's
CO-5. Draw the geometrical and optical isomerism of complexes.

ORGANIC CHEMISTRY After this students will be able to

CO-1. Define organic acids and bases.
CO-2. Distinguish between geometrical and optical isomerism.
CO-3. Discuss kinetics, mechanism and stereochemistry of SN1 and SN2 reactions.
CO-4. Compare between E1 and E2 reactions
CO-5. Understand the evidence, reactivity and mechanism of various elimination and substitution reactions.

Paper II PHYSICAL CHEMISTRY- Students will be able to

CO-1. Solve the numerical problems based on Rate constant.
CO-2. Understand the term specific volume, molar volume and molar refraction
CO-3. Know the meaning of phase, component and degree of freedom
CO-4. Derive the expression for rotational spectra for the transition from J to J+1
CO65 Know the meaning of various terms involved in co-ordination chemistry

P-3 Inorganic and organic Chemistry. It gives the

CO-1 Ability to explain the fundamental concepts in coordination with chemistry of transition metals.
CO-2 basic knowledge of the non-aqueous solutions and applications of non-aqueous solvents in analytical chemistry.
CO3 ability of effective solving practical problem of analytical chemistry of non-aqueous solutions.
CO-4 ability to describe different quantitative methods of analysis of organic and inorganic substances.
CO-5 Demonstrate methods of drugs analysis and pharmaceutical calculations

ORGANIC CHEMISTRY

CO-1 Able to recognize structures of acid halides, esters, amides, acid anhydrides.
CO-2. Able to convert given name of alcohol to structure.
CO-3. Able to write the order of reactivity of different carboxylic acid derivatives
CO-4. Able to describe different classes of alcohols. 5. Able to write down structure of phenol and phenoxide ion.

Spectroscopy and Physical Chemistry

CO-1 Understand advanced spectroscopy and concepts in and catalysis.

	<p>CO-2 develop written and verbal communication skills CO-3 Apply the principles to solve unseen. CO-4 Develop new laboratory skills in physical chemistry, including the accurate recording of experimental data. CO-5 Perform data analysis using a range of software. CO-6 Develop skills to effectively report data obtained in a physical chemistry experiment in a written fashion.</p>
	<p>Paper - V INORGANIC, CHEMISTRY CO-1. Understand, communicate and interpret quantitative information and mathematical ideas. CO-2. Develop skills in the recognition of patterns, generalization, abstraction to a formal system and application of the system to specific situations. CO-3. Ability to understand the various uses of lanthanides elements in flash light powders and in dyeing cotton. CO-4. Understand the recent lanthanides of lasers. CO-5. Know about actinides elements are used as nuclear fuels for various purposes.</p>
	<p>Paper - VI (INORGANIC, ORGANIC & PHYSICAL CHEMISTRY) CO-1. Understand Mechanics of system of particles. CO-2. Know the Redox reaction. CO-3 Study the Crystal Field Theory. CO-4. Solve the cell reaction and calculate EMF. CO-5. Calculate interplanar distance. CO-6. Understand De-Broglie hypothesis and Uncertainty principle. CO-7. Derive Schrodinger's time dependent and independent equations.</p>
	<p>Inorganic ,Organic and Physical Chemistry IN CO-1 Ability to explain the fundamental concepts in coordination chemistry of transition metals. CO-2 Students should be familiar with the basic knowledge of the non-aqueous solutions and applications of non-aqueous solvents in analytical chemistry. CO-3 Students will develop the ability of effective solving practical problem of analytical chemistry of non-aqueous solutions. CO-4. Students will be able to describe different quantitative methods of analysis of organic and inorganic substances. CO-5. Students will be able to demonstrate methods of drugs analysis and pharmaceutical calculations.</p>
	<p>ELECTIVE Paper – VII-(A) : ANALYTICAL METHODS IN CHEMISTRY CO-1. Know the different analytical techniques. CO-2. Understand different types of separation techniques. CO-3. Study principle, construction and working of GC and HPLC. CO-4. Give an extended knowledge about chromatographic techniques used for separation of amino acids. CO-5. Discuss the problem based on distribution coefficient and extraction technique.</p>
	<p>ELECTIVE PAPER – VII-(B) : ENVIRONMENTAL CHEMISTRY CO-1 Demonstrate a solid foundation of the literacy as it relates to environmental chemistry. CO-2 Demonstrate knowledge of the design and use of field instrumentation, computer models, data analysis and laboratory procedures for environmental</p>

	<p>chemistry, research and applications. CO-3 Formulate ideas and evaluate results through written, numerical, graphical, spoken, and computer-based forms of communication</p> <p>ELECTIVE PAPER – VII-(C) GREEN CHEMISTRY CO-1 Learn the basic principles of green and sustainable chemistry. CO-2 Understand stoichiometric calculations and relate them to green process metrics. CO-3 Learn alternative solvent media and energy sources for chemical processes.</p> <p>PAPER – VIII-A-1: POLYMER CHEMISTRY CO-1 Isolate the key design features of a product which relate directly to the material(s) used in its construction. CO-2 Indicate how the properties of polymeric materials can be exploited by a product designer. CO-3 Describe the role of rubber-toughening in improving the mechanical properties of polymers. CO-4 Identify the repeat units of particular polymers and specify the isomeric structures which can exist for those repeat units. CO-5 Estimate the number- and weight-average molecular masses of polymer samples given the degree of polymerization and mass fraction of chains present. CO-6 Differentiate between natural and man-made polymers. ∞ Explain polymerization methods. CO-7 Understand polymerization kinetics ∞ Uses of polymers.</p>
	<p>PAPER – VIII-A-2: INSTRUMENTAL METHODS OF ANALYSIS CO-1: Explain the theoretical principles of UV and IR spectroscopy. CO-2: Learn basic principles and instrumentation of UV, IR, fluorimeter, flame photometer. CO-3: Learn basic principles involved in TLC, column chromatography and paper chromatography. CO-4: Understand the separation of compounds by chromatographic techniques. CO-5: Explain Instrumentation, separation and identification of compounds by electrophoresis technique. CO-6: Learn separation and identification of compounds by various chromatographic techniques. CO-7: Explain theory and instrumentation of GC, HPLC, gel chromatography, ion exchange chromatography and affinity chromatography. CO-8: Learn applications of various chromatographic techniques for organic, inorganic and natural products.</p> <p>PAPER – VIII-B-1 : FUEL CHEMISTRY AND BATTERIES CO-1 Know that fuel cell is an electro chemical cell, which converts chemical energy into electricity, via a chemical redox reaction. CO-2 The electrode at which the reduction occurs becomes the cathode, which is positively charged, and the oxidation occurs at the anode, which is negatively charged. Electrons flow from anode to cathode. CO-3 Use of Fuel cell technology for future power</p> <p>PAPER – VIII-B-2: INORGANIC MATERIALS OF INDUSTRIAL IMPORTANCE CO-1 Will know inorganic compounds are used as catalysts, pigments, coatings, surfactants, medicines, fuels, and more. CO-2 They often have high melting points and specific high or low electrical</p>

	<p>conductivity properties, which make them useful for specific purposes. CO-3 Water the “universal solvent” is believed that life cannot exist without water essentially all of the body's chemical reactions occur among compounds dissolved in water.</p> <p>PAPER – VIII-C-1 : ORGANIC SPECTROSCOPIC TECHNIQUES CO-1 Use spectroscopic equipment such as MS, IR, NMR spectrometers. CO-2 Identify organic compounds by analysis and interpretation of spectral data. CO-3 Explain common terms in NMR spectroscopy such as chemical shift, coupling constant, and anisotropy and describe how they are affected by molecular structure. CO-4 Analyse and interpret 1D and 2D NMR spectra. CO-5 Investigate and determine the structure of typical organic chemical compounds (molecular weight up to ca. 500 Da) using suitable nuclear magnetic resonance experiments. CO-6 Perform the most commonly used NMR experiments, and to interpret and document their results.</p> <p>PAPER – VIII-C-2 : ADVANCED ORGANIC REACTIONS CO-1 Understand the electrophilic and nucleophilic reactions. CO-2 Understand the addition, substitution, replacement and rearrangement reactions. CO-3 Knowledge of important reagents used in chemical industries. Understand the reaction mechanism of various name reactions.</p> <p>PAPER – VIII-C-3 : PHARMACEUTICAL AND MEDICINAL CHEMISTRY CO-1 Develop a firm foundation in the fundamentals and application of current chemical and scientific theories. CO-2 Understand the central role of chemistry in society CO-3 Learn the physical and chemical properties of common functional groups. CO-4 Demonstrate, solve and understand major concepts in all disciplines of chemistry. CO-5 Solve the problem and also think methodically, independently and draw a logical conclusion.</p> <p>.</p>
<p>COMPUTER SCIENCE</p>	<p>COMPUTER SCIENCE</p> <p>PO-1 Design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs. An ability to function effectively on teams to accomplish a common goal. PO-2 Ability to apply knowledge of computing and mathematics appropriate to the program. PO-3 Ability to analyze a problem and identify and define the computing requirements appropriate to its solution. PO_4 Ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs. PO-5 Understand professional, ethical, legal, security and social issues and responsibilities.</p> <p>PROGRAMME SPECIFIC OUTCOMES PSO-1 Demonstrate understanding of the principles and working of the hardware and software aspects of computer systems. PSO-2 Provide effective and efficient real time solutions using acquired knowledge in various domains.</p>

	<p>PSO-3 Demonstrate mastery of Computer Science in Data Structures and Programming Languages , Databases, Software Engineering and Development Computer Hardware and Architecture.</p> <p>PSO-4 Apply problem-solving skills and the knowledge of computer science to solve real world problems.</p> <p>PSO-5. Develop technical project reports and present them orally among the users.</p>
	<p>Computer Fundamentals and Photoshop</p> <p>CO-1 Explore basic knowledge on computers and Photoshop’s beauty from the practical to the painterly artistic.</p> <p>CO-2 Understand how Photoshop will help you create your own successful images</p>
	<p>Programming in C</p> <p>CO-1 Appreciate and understand the working of a digital computer.</p> <p>CO-2 Analyze a given problem and develop an algorithm to solve the problem.</p> <p>CO-3. Improve upon a solution to a problem.</p> <p>CO-4. Use the 'C' language constructs in the right way.</p> <p>CO-5. Design, develop and test programs written in 'C'</p>
	<p>Object Oriented Programming Using Java</p> <p>CO-1 Understand the concept and underlying principles of Object-Oriented Programming</p> <p>CO-2. Understand how object-oriented concepts are incorporated into the Java programming language.</p> <p>CO-3. Develop problem-solving and programming skills using OOP concept</p> <p>CO-4. Understand the benefits of a well-structured program .</p> <p>CO-5. Develop the ability to solve real-world problems through software development in high-level programming language like Java.</p> <p>CO-6. Develop efficient Java applets and applications using OOP concept.</p> <p>CO 7. Become familiar with the fundamentals and acquire programming skills in the Java language.</p>
	<p>Data Structures</p> <p>CO-1 Describe how arrays, records, linked structures, stacks, queues, trees, and graphs are represented in memory and used by algorithms.</p> <p>CO-2. Describe common applications for arrays, records, linked structures, stacks, queues, trees, and graphs.</p> <p>CO-3. Write programs that use arrays, records, linked structures, stacks, queues, trees, and graphs.</p> <p>CO-4. Demonstrate different methods for traversing trees.</p> <p>CO-5. Compare alternative implementations of data structures with respect to performance.</p> <p>CO-6. Compare and contrast the benefits of dynamic and static data structures implementations.</p> <p>CO-7. Describe the concept of recursion, give examples of its use, describe how it can be implemented using a stack .</p> <p>CO-8. Discuss the computational efficiency of the principal algorithms for sorting, searching, and hashing.</p>
	<p>DBMS</p> <p>CO-1 Database Management Systems I Course Outcomes. Each course outcome is followed in parentheses by the Program Outcome to which it relates.</p> <p>CO-2. Apply the basic concepts of Database Systems and Applications.</p>

	<p>CO-3. Use the basics of SQL and construct queries using SQL in database creation and interaction.</p> <p>CO-4 Design a commercial relational database system (Oracle, MySQL) by writing SQL using the system. 4. Analyze and Select storage and recovery techniques of database system.</p> <p>Software Engineering</p> <p>CO-1 Basic knowledge and understanding of the analysis and design of complex systems.</p> <p>CO-2. Ability to apply software engineering principles and techniques.</p> <p>CO-3 Will have a solid foundation in software engineering.</p> <p>CO-4 will be able to describe and apply computer science, software engineering knowledge, best practices, and standards appropriate for engineering complex software systems.</p> <p>CO-5 Ability to gather and specify requirements of the software projects.</p> <p>CO-6. Ability to analyze software requirements with existing tools</p> <p>CO-7. Able to differentiate different testing methodologies</p> <p>CO-8 Able to understand and apply the basic project management practices in real life projects.</p> <p>CO-9. Ability to work in a team as well as independently on software projects.</p> <p>Electives</p> <p>I A. Operating Systems</p> <p>CO-1 Understands the basic structure and responsibilities of an operating system.</p> <p>CO-2 Tells the difference between a microkernel and a macrokernel.</p> <p>CO-3 Develops low-level operating system code.</p> <p>CO-4 Understands the performance and design trade-offs in complex software systems</p> <p>CO-5 Understands and develops OS code inside a variety of OS environments, including monolithic, microkernels, and virtual machines, including device drivers.</p> <p>CO-6 Develops benchmarks and use of profiling tools to evaluate the performance of operating systems and application stacks.</p> <p>CO-7 Understands and evaluates research published in the field of operating systems at a level commensurate with their experience.</p>
	<p>Computer Networks</p> <p>CO-1. Create a new protocol and test its efficiency.</p> <p>CO-2. Design a new network architecture using protocols and interfaces.</p> <p>CO-3. Create a hybrid topologies using the existing topologies, and check in efficiency.</p> <p>CO-4. Apply different encoding and decoding mechanisms involved in different types of transmission media and to measure the transmission impairments.</p> <p>CO-5. Design a model internet with various categories of networks and test the transmission rate.</p> <p>Web Technologie</p> <p>CO-1 Develop a dynamic webpage using java script and DHTML.</p> <p>CO-2 Able to write a well-formed / valid XML document.</p> <p>CO-3 Connect a java program to a DBMS and perform insert, update and delete operations on DBMS table.</p> <p>CO-4 Able to write Servlet & JSP to catch form data sent from client, process it and store it on database.</p>

Big Data Technology

CO-1 identify the characteristics of datasets and compare the trivial data and big data for various applications.

CO-2 select and implement machine learning techniques and computing environment that are suitable for the applications under consideration.

CO-3 Solve problems associated with batch learning and online learning, and the big data characteristics such as high dimensionality, dynamically growing data and in particular scalability issues. •

CO-4 Understand and apply scaling up machine learning techniques and associated computing techniques and technologies.

CO-5 Recognize and implement various ways of selecting suitable model parameters for different machine learning techniques.

CO-6 Integrate machine learning libraries and mathematical and statistical tools with modern technologies like hadoop and mapreduce

Distributed Systems

CO-1: provide hardware and software issues in modern distributed systems.

CO-2: get knowledge in distributed architecture, naming, synchronization, consistency and replication, fault tolerance, security, and distributed file systems.

Cloud Computing

CO-1 Understand the concepts, characteristics, delivery models and benefits of cloud computing.

CO-2 Understand the key security and compliance challenges of cloud computing

CO-3 Understand the key technical and organizational challenges

CO-4 Understand the different characteristics of public, private and hybrid cloud deployment models

PHP – MySql & Wordpress

CO-1 Understand that WordPress uses the PHP programming language to store and retrieve data from the MySQL database. To retrieve data from the database, WordPress runs SQL queries to dynamically generate content.

CO-2 Come to know PHP is the most popular scripting language for web development. It is free, open source and server-side

CO-3 MySQL is a Relational Database Management System (RDBMS) that uses Structured Query Language (SQL). It is also free and open source.

Advanced JavaScript : JQuery, Ajax, Angular JS & JSON

CO-1 Design and implement Object classes using class diagrams, constructors, encapsulation, inheritance, and polymorphism.

CO-2 Write applications that manipulate the Document Object Model to fetch and display information using jQuery.

CO-3 Create anonymous functions and closures, and use them to store and access local data.

CO-4 Create event listeners and callbacks to respond to user-interface and network events.

CO-5 Apply the jQuery AJAX interfaces and JSON to upload data to a back-end web server, and to asynchronously retrieve and display responses.

CO-6 Test and debug JavaScript web applications.

<p>CBZ</p>	<p>CBZ</p> <p>Develops a deeper understanding of natural laws, inquiring about the reasons and logics which govern them through established methods of observation, modelling, experimentation, and calculations.</p> <p>Open plethora of opportunities for further studies, research as well as lucrative employment opportunities across the globe. It develop scientific temper.</p> <p>PO1 - Gain knowledge and skill in the fundamentals of animal sciences, understands the complex interactions among various living organisms</p> <p>PO2 – Analyze complex interactions among the various animals of different phyla, their distribution and their relationship with the environment</p> <p>PO3 – Apply the knowledge of internal structure of cell, its functions in control of various metabolic functions of organisms.</p> <p>PO4 – Understands the complex evolutionary processes and behaviour of animals.</p> <p>PO5 – Correlates the physiological processes of animals and relationship of organ systems</p> <p>PO6 – Understanding of environmental conservation processes and its importance, pollution control and biodiversity and protection of endangered species.</p> <p>PO7 – Gain knowledge of Agro based Small Scale industries like sericulture, fish farming, butterfly farming and vermicompost preparation.</p> <p>PO8 – Understands about various concepts of genetics and its importance in</p> <p>PSO-1 Understand the nature and basic concepts of cell biology, Biochemistry, Taxonomy and ecology.</p> <p>PSO-2 Analyse the relationships among animals, plants and microbes.</p> <p>PSO-3 Perform procedures as per laboratory standards in the areas of Biochemistry, Bioinformatics, Taxonomy, Economic Zoology and Ecology</p> <p>PSO-4 Understand the applications of biological sciences in Apiculture, Aquaculture, Agriculture and Medicine</p>
<p>BOTANY</p>	<p>BOTANY</p> <p>PO-1 Equip students with the basic skills in identifying and labelling different plants.</p> <p>PO-2 Provide skills needed to recognize and characterize several plant families and higher taxa that are important elements of ecosystem.</p> <p>PO-3 Understand the plant propagation techniques.</p> <p>PO-4 Comprehends the detailed study of plant pathology and plant protection techniques. .</p> <p>PO-4 Students learn to identify major groups of organisms with emphasis on animals and will be able to classify them within a phylogenetic network.</p> <p>PO-5 They will be able to compare and contrast the characteristics of animals that differentiate them from each other and from other forms of life.</p> <p>PO- 6 Students will be able to identify the major groups of plants and will be able to classify them within a phylogenetic framework.</p> <p>PO-7 They will be able to compare and contrast the characteristics of plants, algae and fungi that differentiate them from each other and from other forms of life.</p> <p>PO-8 Students will be able to use evidences to explain the theory of evolution which is the only scientific explanation for the unity and diversity of life on earth.</p> <p>PO-9 They will understand plant morphology, physiology, propagation and life history.</p>

PO-10 They will learn how the plants function at the level of genes, genome, cell, tissue, organ and organ system.
PO-11 They will be able to give specific examples of physiological adaptations, development, reproduction and behavior of plants.
PO-12 Learn the usefulness of plants to the existence and health of other forms of life on earth.
PO-13 Demonstrate the ability to effectively communicate the subject orally and in writing.

SPECIFIC OUTCOMES

PSO-1 Understand plant ecology.
PSO-2 Acquire knowledge on photosynthesis.
PSO-3 Equip students with the basic skills in identifying and labelling different plants.
PSO-4 Learn skills needed to recognize the characteristics of several plant families.

CO-1 Equips with the basic skills in identifying and labelling different plants.
CO-2 Provides skills needed to recognize and characterize several plant families and higher taxa that are important elements of ecosystem.

Microbial Diversity , Algae and Fungi

CO-1 Learn about the structure, pigmentation, food reserves and methods of reproduction of Algae \ Learn about the structure, pigmentation, food reserves and methods of reproduction of Fungi \ Know about the Economic importance of algae, Fungi and lichen \ Studied some plant diseases with special reference to the causative agents, symptoms, etiology and control measures

Diversity Of Archaeogoniatates & Anatomy

Indepth information of Bryophytes, Pteridophytes, and Knowledge about structure, function, reproduction and economic importance of bacteria, viruses, algae, fungi
CO-1 Know the importance of morphological structure, classification, reproduction and economic importance of Algae.
CO-2. Understand the general Characteristics, structure, reproduction, life history and economic importance of fungi
CO-3 . Understand the features of Lichens.
CO-4 . Know the control measures of plant diseases.
CO-5 Students will be able to explain about structure, classification, reproduction, life cycle and economic importance of Bryophytes.
CO-6. Get grip over the Structure, reproduction, life cycle, fossil, fossilization and geological time scale.
CO-7 Students able to explain about structure, classification, reproduction, life cycle and economic importance of Gymnosperm

Plant taxonomy & Embryology

CO-1 Understand the internal structures & function of reproductive organs in plants.
CO-2. Learn the basic aspects of anatomy of plant tissues such as meristems, epidermis, permanent tissues, complex tissue systems and structure of plant organs; reproductive developmental aspects of male reproductive system - Pollen grains, female reproductive system - embryo sac.
CO-3 It enables students to identify fragmentary plant materials, wood, forensic investigation, and applied aspects of meristems cultures.
CO-4 Students will be able to utilize embryological studies in various aspects like

	<p>analysis of evolutionary trends, circumscription and delimitation of taxa and making a decision on systematic positions.</p> <p>CO-5 After successful completion of this course students are expected to:</p> <p>CO-6 Study the comparative account among the families of Angiosperms.</p> <p>CO-7 study the economic important of the Angio spermic plant Also</p> <p>CO-8 Understand the distinguishing features of the angiosperms families. Student will be able to understand the basic knowledge of botanical gardens.</p>
	<p>Plant physiology & Metabolism</p> <p>CO-1 Get knowledge on structure and development plant embryo.</p> <p>CO-2 Acquire knowledge on the physiological functions of plant</p>
	<p>Cell Biology, Genetics & Plant breeding</p> <p>CO-1 understand the behavior, structure and evolution of animals</p> <p>CO-2 Apply the knowledge and understanding of Zoology to one's own life and work.</p> <p>CO-3 Understanding the morphology and functional characteristics at cellular and sub-cellular (molecular) level.</p>
	<p>PLANT ECOLOGY & PHYTOGEOGRAPHY</p> <p>CO-1 Become aware of Ecology, ecological factors, ecosystem, plant communities and phytogeography, Pollution and the Environmental Protection</p> <p>CO-2 Learn about the interaction between biotic and abiotic components of the environment.</p> <p>CO-3 Know about the concept of energy flow in the ecosystem.</p> <p>CO-4 Acquire knowledge regarding vegetation and its analysis</p> <p>CO-5 Know about different pollutions, consequences in the environment and its mitigation.</p> <p>CO-6 Know about the floristic regions and plant formation of the planet</p>
	<p>ORGANIC FARMING & SUSTAINABLE AGRICULTURE</p> <p>CO-1 Provides Reliable Environmental Benefits</p> <p>CO-2 Increases Variability in Crop Yields</p> <p>CO-3 promotes food security and sustainability,</p> <p>CO-4 produces adequate yields of high-quality food,</p> <p>CO-5 improves soil fertility, biodiversity and sustainability of agricultural production;</p> <p>CO-6 Conserves natural resources</p> <p>CO-7 improves agronomic and economic performance; to make yields more stable, especially in risk-prone tropical ecosystems; to achieve better food quality and food security.</p> <p>CO-8 provides access to attractive markets through certified products.</p> <p>CO-9 to creates new partnerships within the whole value chain as well as to strengthen self-confidence and autonomy of the farmers.</p>
	<p>Plant tissue culture and its biotechnological application</p> <p>CO-1 Plant tissue culture as an important tool for the continuous production of active compounds including secondary metabolites and engineered</p> <p>CO-2 Plant transformation also allows the further use of plants for the production of engineered compounds, such as vaccines and multiple pharmaceuticals.</p>
	<p>PLANT DIVERSITY AND HUMAN WELFARE</p> <p>CO-1 Human welfare is linked with the preservation of biodiversity.</p> <p>CO-2 Biodiversity forms the basis of a global-life support system.</p> <p>CO-3 Human beings have fulfilled many of their needs by taking advantage of the</p>

existence of many genes, species, as well as a “balanced” ecosystem.
CO-4 Understand the aspects of human welfare are affected by biodiversity degradation and by conservation.

CO-5 Know the role of plants in relation to Human Welfare;

ETHNOBOTANY AND MEDICINAL BOTANY

CO-1 Understand the basic concepts about ethnobotany.

CO-2 Express working methods of ethnobotany.

CO-3 Recognize the ethnobotanically important plants species.

CO-4 Know and/or identify important plant species.

CO-5 Get information about their natural habitats and cultivated lands.

CO-6 Understand different systems of traditional medicines

CO-7 Acquire knowledge on collection and processing of herbal drugs

CO-8 . Get knowledge on pharmacological importance of medicinal plants and its bioactive compounds

CO-9 Acquire knowledge on different adulterants.

Pharmacognosy and Phytochemistry

CO-1 Recognize the importance of modern instruments in the pharmaceutical analysis.

CO-2 Discuss the fundamental principles and applications of UV-visible, IR, flame emission, atomic absorption, NMR and Mass spectroscopy

CO-3 Document the principles and applications of chromatographic, and electrophoretic separation techniques.

CO-4 Appraise X-ray crystallographic methods and radioimmunological assays

CO-5 Summarize the instrumentation of the modern analytical techniques

CO-6 Assess appropriate techniques for the analysis of various drugs and formulations.

CO-7: Describe utilization of radioactive isotopes in the investigation of biosynthetic pathways.

CO-8: Explain source, chemistry, therapeutic uses of various secondary metabolites containing drugs.

CO-9: Describe methods of extraction, analysis and commercial application of various secondary metabolites containing drugs.

CO-10: Describe methods for industrial production, estimation and utilization of some therapeutically important phytoconstituents.

Mushroom Culture and Technology

CO-1 provides an adequate knowledge about importance and habitation of mushroom.

CO-2 Get knowledge nutritional value, cultivation unit and storage methods.

CO-3. Acquire knowledge about spawn and spawning techniques.

CO-4 Understand the factors influencing the mushroom cultivation and post harvesting methods.

CO-5. Students get detailed knowledge about cost economics, importance and preparation of value-added products.

CO-6 After successful completion of this course, students explain various aspects of mushroom cultivation.

CO-7 Understand the nutrition and medicinal value of edible mushrooms. and their importance.

CO-8 Understand the cultivation technology, about the storage, marketing and

	<p>various food preparation of mushroom. CO-9 develop the their preservative quality</p>
ZOOLOGY	<p>ZOOLOGY</p> <p>PO-1 Understand how organisms function at the level of the gene, genome, cell, tissue, organ and organ-system.</p> <p>PO-2 Drawing upon this knowledge, they are able to give specific examples of the physiological adaptations, development, reproduction and behavior of different forms of life.</p> <p>PO-3 Students will be able to use evidences to explain the theory of evolution which is the only scientific explanation for the unity and diversity of life on earth.</p> <p>PO-4 They will understand animal morphology, physiology, propagation and life history.</p> <p>PO-5 They will learn how the animals function at the level of genes, genome, cell, tissue, organ and organ system.</p> <p>PO-6 They will be able to give specific examples of physiological adaptations, development, reproduction and behavior of animals.</p> <p>PO-7 Learn the usefulness of animals to the existence and health of other forms of life on earth.</p> <p>PO-8 Demonstrate the ability to effectively communicate the subject orally and in writing.</p> <p>PSO-1 Demonstrated a broad understood of animal diversity, including knowledge of the scientific classification and evolutionary relationships of major groups of animals.</p> <p>PSO-2 Recognized the relationships between structure and functions at different levels of biological organization (e.g., molecules, cells, organs, organisms, populations, and species) for the major groups of animals.</p> <p>PSO-3 Characterized the biological, chemical, and physical features of environments (e.g., terrestrial, freshwater, marine, host) that animals inhabit. Explained how animals' function and interact with respect to biological, chemical and physical processes in natural and impacted environments.</p> <p>PSO-4 Explained how organisms' function at the level of the gene, genome, cell, tissue, organ and organ-system. Drawing upon this knowledge, they are able to give specific examples of the physiological adaptations, development, reproduction and behavior of different forms of life.</p> <p>PSO-5 Understood the applied biological sciences or economic Zoology such as sericulture, Apiculture, aquaculture, Industrial microbiology, rDNA technology and medicine for their career opportunities.</p> <p>ANIMAL DIVERSITY – NONCHORDATES</p> <p>CO-1 Organize the myriad organisms into three branches of Kingdom Animalia and forecast the classification category of given organism</p> <p>CO-2 Describe and classify branch parazoa, with examples and salient features</p> <p>CO-3 Describe and classify phylum Coelentrata and Ctenophora along with their ecological and morphological significance</p> <p>CO-4 Classify Coelomates and interpret general evolutionary relationships among and between these animal groups</p> <p>CO-5 Understand the anatomical features of non-chordates through type study of Phylum Arthropoda.</p> <p>ANIMAL DIVERSITY Chordates</p> <p>CO-1 Analyze the significant adaptive features in fishes.</p>

<p>CO-2 Understand physiological and anatomical peculiarities through type study. CO-3 Appreciate transitional stages and their significance in evolution. CO-4 Create a positive attitude towards conservation of biodiversity.</p>
<p>CYTOLOGY, GENETICS AND EVOLUTION Time: CO-1 Understand Electron microscopic structure of cell. CO-2 Structure and functions of Endoplasmic reticulum, Golgi body, Ribosome's, Lysosomes, Mitochondria. Chromosomes – CO-3 Mendel's Laws of Inheritance, Lethal alleles, Epistasis CO-4 Sex determination, Sex linked inheritance. CO-5 Origin of life. Lamarckism, Darwinism, Neo – Darwinism etc.</p>
<p>Embryology, Physiology and Ecology CO-1 Develop insight and improve their analytical communication and professional skills. CO-2 enhancing the technical skills for experimental purposes CO-3 Understanding the morphology and functional characteristics at cellular and sub-cellular (molecular) level</p>
<p>Animal Biotechnology CO-1 Be able to describe the structure of animal genes and genomes. CO2 Be able to describe how genes are expressed and what regulatory mechanisms contribute to control of gene expression. CO-3 Be able to describe basic principles and techniques in genetic manipulation and genetic engineering.</p>
<p>Animal Husbandry CO-1 Students will able to apply concepts of breeding, physiology, nutrition, herd-health, economics and management into practical and profitable animal production programs. CO-2 Students will understand the role of nutrition in animal production. CO-3 Students will be able to explain the mechanisms and role of reproductive physiology in livestock production. CO-4 Students will be able develop feeding systems for farm animal production and companion animals. CO-5 Students will be able to demonstrate critical thinking and problem solving skills as they apply scientific principles to a variety of animal production systems. CO-6 Students will understand how the application of modern animal production technologies and management practices impact their production facilities, their communities and the world.</p>
<p>Immunology CO-1 Compare and contrast innate and adaptive immunity. CO-2 Describe which cell types and organs present in the immune response. CO-3 Illustrate various mechanisms that regulate immune responses and maintain tolerance. CO-4 Exemplify the adverse effect of immune system including Allergy, hypersensitivity, and autoimmunity. CO-5 Explain the stages of transplantation responses. CO-6 Elucidate the reasons for immunization and aware of different vaccination</p>
<p>Cellular Metabolism and Molecular Biology CO-1 Understands the relationship between the properties of macromolecules and cellular activities,</p>

CO-2 Cell metabolism, chemical composition, physiochemical and functional organization of organelles,
CO-3 Gene replication, expression, regulation and mutation,
CO-4 Cell signaling, trafficking and differentiation, and
CO-5 Contemporary approaches and techniques used in modern cell and molecular biology.
CO-6 Biomolecular Sciences majors will be able to evaluate, summarize and critique papers from the scientific literature.
CO-7 Biomolecular Sciences majors will be able to develop a research question and discuss and evaluate approaches to address that question.
CO-8 Biomolecular Sciences majors will be able to design and conduct a research project under the guidance of a faculty member, including data collection, evaluation, and presentation in an oral or written format.

Bioinformatics

CO-1 knowledge and awareness of the basic principles and concepts of biology, computer science and mathematics
CO-2 Existing software effectively to extract information from large databases and to use this information in computer modeling.
CO-3 problem-solving skills, including the ability to develop new algorithms and analysis methods.
CO-4 an understanding of the intersection of life and information sciences, the core of shared concepts, language and skills the ability to speak the language of structure-function relationships, information theory, gene expression, and database queries.

Clinical Biochemistry

CO1: Discuss the fundamental biochemistry knowledge related to health.
CO2: Explain the clinical significance of the laboratory tests.
CO3: Diagnosis of clinical disorders by estimating biomarkers.
CO4: Determine various substances including substrates, enzymes, hormones, etc and their use in diagnosis and monitoring of disease are applied.
CO5: Evaluate the abnormalities which commonly occur in the clinical field
CO6: Review the information from each category of tests and develop a protocol for disease diagnosis.
CO7: Create awareness of different lifestyle diseases increasingly found in present day.

Haematology

CO-1 highlights the necessity of individualized assessment regarding patient suitability for admission to a critical care facility, incorporating the perspective of both the hematologist and the intensivist.
CO-2 critically ill hematology patients can benefit from ICU admission, allowing progression to potentially curative therapies.

Clinical Microbiology

CO-1 Gain knowledge in microbiology and learn the practical skills.
CO-2 Become competitive microbiologist and play a significant role, if the microbes cause diseases.
CO-3 Develop critical thinking and problem solving as related to the microbiology.
CO-4 Ability to apply their knowledge and training of microbiology to solve the problems of microbiology.

	<p>Medical Diagnostics CO-1 Percentage diagnostic agreement & sensitivity. CO-2 Specificity. CO-3 Positive predictive values and negative predictive values (NPVs) (percentage of negative test results that are truly negative) (and associated 95% CI), and CO-5 Area under receiver operating characteristic (ROC) curve (area under the curve, AUC) (the probability that two patients – one diseased and one not diseased – would be both correctly classified by the test) (and associated 95% CI).</p> <p>Aquaculture CO.1. Basics of animal biology and fish taxonomy. CO.2. Types of food and feeding strategies in finfishes and shellfishes. CO.3. Types of fins in fishes and their role in swimming. CO.4. Structure and role of sense organs in fishes, crustaceans and mollusks. CO.5. Gut content analysis either by volumetric or gravimetric method for feed related studies. CO.6. Determination of age of fish using either scales or otolith. CO.7. Exposure on reproductive biology including anatomical supplementation CO.8. Physiology of digestion, excretion and osmoregulation. CO.9. Physiology of circulation, respiration and endocrine system. CO 10. Migration, biological clock and different types of rhythms in fishes</p>
	<p>Principles of Aquaculture CO-1 The Principles of Aquaculture gives outline about the basics and history of aquaculture. CO-2 A wide range of aspects such as Systems of aquaculture, aquaculture in different types of water bodies, Principles of organic aquaculture, Pond management, study of Monoculture, polyculture and integrated culture systems, Water and soil quality in relation to fish production and estimation of productivity, factors affecting productivity of ponds, Nutrition, health management and economics were portray detailed.</p> <p>Aquaculture Management CO-1 Develop scientific orientation in young minds. CO.2 Critical Thinking and Problem Solving ability. CO.3. Environmental Awareness and sustainability. CO.4 Social commitment and gender equity orientation. CO.5 Human values and friendliness. CO.8 Supplement trained manpower in both aquaculture and fisheries sector. CO.9 Able to impart technical skill necessary in both aquaculture and fisheries industry. CO. 10 Create local and global solutions for the challenges in this sector.</p> <p>Postharvest Technology CO-1 Explain the principles of post-harvest technology. CO-2 Illustrate the physiological and biochemical changes occurring during various stages of fruits and vegetables development and production. CO-3 . Indicate the importance and the significance of proper post-harvest handling to maintain the quality of fruits and vegetables. CO-4 Analyse various aspects of quality control and evaluation</p>

	<p>Sericulture CO-1 Imparting training in mulberry cultivation, silkworm rearing and silk reeling. CO-2 Assist in procurement of improved rearing equipment and construction of separate rearing house. CO-3 Ensure supply of disease-free silkworm seeds. Enhance skill of farmers for increased cocoon productivity and to prevent silkworm diseases</p>
	<p>Gen. Sericulture, Mulberry cultivation and Management CO-1 introduce the concepts of origin, growth and study of Sericulture as science. CO-2 To acquaint the general aspects of Sericulture industry. CO-3 To understand the scientific approach of mulberry.</p> <p>Biology of Mulberry Silkworm and Silkworm rearing Technology CO-1 Students will understand the biology of silkworm. CO-2 They know different types of silkworm and how to rear them.</p> <p>Silk Technology, Silk Marketing and Extension CO-1 To analyze and review the growth of silk industry in India CO-2 To evaluate the role of government in the development of silk CO-3. To study the socio-economic conditions of silk reelers. CO-4. To examine production process or organization of production, cost structure, net returns, productivity of labor, capital and optimum size in silk reeling industry. CO-5 To evaluate the impact of cocoon and raw silk price fluctuations on the economic condition of the reelers.</p>
<p>B Com</p>	<p>BCom GENERAL <i>B. Com</i> graduates are expected to achieve academic excellence, become active global citizens, leaders in communities. They have umpteen employment opportunities as IT and systems professional, economists, financial planners, human resources managers, social and economic policy developers, and marketing assistant/manager. PO-1 enables the students to learn principles and concepts of Accountancy, accounting. PO-2 Enables them to understand the basic concepts of Partnership Accounting, and allied aspects of accounting. PO-3 Acquires wide range of managerial skills and understanding of finance, accounting, taxation and management. PO-4 Opens innumerable career options and opportunities to the aspiring managers. PO-5 prepares one to start a business. PO-6 Acquires wide range of managerial skills and understanding of finance, accounting, taxation and management. PO-7 Opens innumerable career options and opportunities to the aspiring managers.</p> <p>PSO-1 Students can independently start up their own Business. PSO-2 Students can get thorough knowledge of finance and commerce. PSO-3 Enables learners to prove themselves in different Professional examinations like CA, CS, CAT, GRE, CMA, MPSC, UPSC etc. PSO-4 -Students can venture into Managerial positions, Accounting areas, Banking Sectors, Auditing, Company Secretaryship, Teaching, Professor, Stock Agents, Government Employment etc</p>

Accounting-1

CO-1 Appreciate, interpret and critically evaluate literature

CO-2 Understand various stages in the development of English language

CO-3 Know different varieties of English used all over the world

CO-4 Acquire conceptual knowledge of basics of accounting.

CO-5 Develop the skill of recording financial transactions and preparation of reports in accordance with GAAP.

CO6: Understand the concepts and conventions of Accounting and Basic Accounting framework.

CO7: Understand and prepare the Financial Statements.

CO8: Apply the concepts of accounting to make effective financial decisions.

CO9: Gain working knowledge of principles and procedure of accounting and their application in different business situations.

Business Organization

CO-1 To be able to understand the various strategic decisions taken by the organization and have an ability to engage in strategic planning.

CO-2 To be able to apply the basic concepts, principles and practices associated with strategy formulation and implementation

Business Economics -I

CO-1 Familiarizes the students with the basic concepts of micro economics and its applications to business situations.

CO-2 Guides the students towards understanding the real world market situations & business applications.

CO-3 Enables understanding of the relationship between different market structures and how they compare and contrast with one another.

CO-4 Enables understanding of how a firm sets price for its products by using different method

Fundamentals of Accounting-2

CO-1 Inculcates knowledge of various accounting concepts and policies.

CO-2 Introduces the students to working knowledge of Accounting Standards issued by the ICAI.

CO-3 Understand the techniques of consignment, Branch and Accounting methods.

CO-4 Acquaints learners with knowledge regarding accounting procedures related fire Ins. claims and the process of claims.

Business Environment

CO-1 Familiarize with the nature of business environment and its components. CO-2 The students will be able to demonstrate and develop conceptual framework of business environment and generate interest in international business.

Business Economics -II

CO-1 Creates awareness among students about various economic conditions of macro - economics such as inflation, unemployment etc.

CO-2 Examines the economy as a whole and inspires a consistent way of thinking about key macroeconomic phenomena.

CO-3 Assess the performance of commercial banks in agricultural credit.

CO-4 Identifies and explains economic concepts and theories related to the behavior of economic agents, markets, industry legal institutions, social norms and government policies.

3rd Sem Corporate Accounting

	<p>CO-1 Enable the students to gain understanding of statistical techniques as are applicable to business.</p> <p>CO-2. Enable the students to apply statistical techniques for quantification of data in business.</p> <p>CO-3. Develop the skill for applying appropriate statistical tools and techniques in different business situations.</p> <p>CO-4 To impart the knowledge of concept of Corporate accounting process</p> <p>CO-5 To know about the types of shares and issue of share capital and issue, redemption process of Debentures.</p> <p>CO-6 Apply the New Companies Act provisions regarding Company accounts</p> <p>CO-7. Evaluate the different ways for a company to raise finances from public.</p> <p>CO-8. Understand Profits prior to incorporation of a Company.</p> <p>Business Statistics</p> <p>CO-1 Understand basic statistical concepts such as statistical collection, statistical series, tabular.</p> <p>CO-2. Predict values of strategic variables using regression and correlation analysis.</p> <p>CO-3. Calculate measures of central tendency, dispersion and asymmetry</p> <p>CO-4. Interpret the meaning of the calculated statistical indicators. CO5 5. Choose a statistical method for solving practical problems.</p> <p>Banking Theory Practice</p> <p>CO-1 Provide basic knowledge of the theory and practices of banking.</p> <p>CO-2. Familiarize the students with the changing scenario of Indian Banking.</p> <p>CO-3. Expose the students to the changing scenario of Indian banking.</p>
	<p>IV Sem Accounting for Service Organization</p> <p>CO-1 Preparation of financial accounts with profits before incorporation accordingly.</p> <p>CO-2 A student will be able to: acquire the complete knowledge of basic concepts of income tax.</p> <p>CO-3 Understand the concept of exempted incomes</p> <p>Business Law</p> <p>CO-1 Acquaints students with laws related to Indian Companies' Act 2013, IPR, Partnership Act 2008, and Consumer Protection Act</p> <p>CO-2 Provides a brief idea about the framework of Indian business laws.</p> <p>Income Tax</p> <p>CO-1 Familiarize the students about the fundamental concepts of Income Tax</p> <p>CO-2. Enable the students to acquire the skills required to compute Gross Total Income with more emphasis on income from salary and income from house property.</p> <p>CO-3. Impart the basic knowledge and understanding of the concepts and practices of Income Tax Law in India.</p> <p>Sem-V Cost Accounting</p> <p>CO-1 Familiarize the students with cost concepts.</p> <p>CO-2. To make the students learn cost accounting as a separate system of accounting.</p> <p>CO-3. Impart knowledge of cost accounting system and acquaint the students with the measures of cost control.</p> <p>Goods Service tax Fundamentals</p> <p>CO-1 Students will be able to compute the taxable income and tax for a partnership firm.</p> <p>CO-2 To make the students understand the basic concepts, definitions and terms</p>

	<p>related to Goods and Service tax (GST). CO-3 Students should be able to understand various terms related to Goods and Service tax (GST).</p>
	<p>Commercial Geography CO-1 Understand the scope and content of Commercial Geography in relation to spatial distribution of agriculture, forest resources and industrial production CO-2 Acquaint the students about dynamic aspects of Commercial Geography CO-3 Acquaint the students about dynamic nature of Industrial field in India CO-4 Become aware about the relationship between the geographical factors and economic activities.</p>
	<p>Central Banking CO-1 Know the functioning of central banking; CO-2 Get details behind the function: banker and advisor to government; CO-3 : management of the money and banking system; CO-4 Elucidate money creation and the framework of monetary policy;</p>
	<p>Rural & Farm Credit CO-1 After completing the course, a student will have the ability to conduct Research on Rural Development. CO-2 Students get a deeper and broader understanding of Rural Development as a subject. CO-3 It attempts to enhance their research ability to add new • thinking and concept into its body of knowledge.</p>
	<p>Project work on Bankng Services CO-1 Provides learning experience to students. CO-2 Provides opportunity to students to synthesize knowledge from various areas of learning</p>
	<p>Sem-V1 Marketing CO-1 Critically evaluate the key analytical frameworks and tools used in marketing. CO-2 Apply key marketing theories, frameworks and tools to solve marketing problems. CO-3 Utilise information of a firm's external and internal marketing environment to identify and prioritize appropriate marketing strategies.</p>
	<p>Auditing CO-1 Understand the principles and practice of auditing. CO-2. Familiarize the students with the principles and procedure of auditing. CO-3. Enable the students to understand the duties and responsibilities of auditors. CO-4 Creates understanding of the need & benefits of having audit of financial statements. CO-5 Analyses an organization's operations and maintenance of systems of internal controls that can help detect and prevent various forms of fraud and other accounting irregularities.</p>
	<p>Management Accounting CO-1 Develop professional competence and skill in applying accounting information for decision making. CO-2. Equip the students to interpret financial statements with specific tools of management accounting. CO-3. Enable the students to have a thorough knowledge on the management accounting techniques in business decision making.</p>

	<p>CO-4 Enable them to know the concept of capital budgeting with reference to time value of money.</p> <p>CO-5 Enables understanding of the functions, advantages, limitations of management accounting.</p>
	<p>Financial Services</p> <p>CO-1 The learners will be able to apply necessary skills in managing a financial service company.</p> <p>CO-2 They will be able to apply financial concepts, theories and tools and will be in a position to evaluate the legal, ethical and economic environment related to financial services.</p>
	<p>Marketing of Financial Services</p> <p>CO-1 Familiarize the students with the conceptual framework of financial management.</p> <p>CO-2 Enable the students to understand the practical application of financial management.</p> <p>CO-3. Provide conceptual and analytical insights to make financial decisions skillfully.</p> <p>CO-4 Define, explain and illustrate some of the frameworks and approaches that are helpful in marketing financial services;</p>
	<p>Project work on Marketing of Financial Services</p> <p>CO-1 Provides learning experience to students.</p> <p>CO-2 Provides opportunity to students to synthesize knowledge from various areas of learning.</p>
	<p>B.Com COMPUTER APPLICATIONS</p>
	<p>Accounting-I</p> <p>CO-1 Appreciate, interpret and critically evaluate literature</p> <p>CO-2 Understand various stages in the development of English language</p> <p>CO-3 Know different varieties of English used all over the world</p> <p>CO-4 Acquire conceptual knowledge of basics of accounting.</p> <p>CO-5 Develop the skill of recording financial transactions and preparation of reports in accordance with GAAP.</p>
	<p>Business Organization & Management</p> <p>CO-1 To be able to understand the various strategic decisions taken by the organization and have an ability to engage in strategic planning.</p> <p>CO-2 To be able to apply the basic concepts, principles and practices associated with strategy formulation and implementation</p>
	<p>Computer Fundamentals & Photoshop</p> <p>CO-1 Explore basic knowledge on computers and Photoshop's beauty from the practical to the painterly artistic.</p> <p>CO-2 Understand how Photoshop will help you create your own successful images.</p>
	<p>ACCOUNTING-11</p> <p>CO-1 Inculcates knowledge of various accounting concepts and policies.</p> <p>CO-2 Introduces the students to working knowledge of Accounting Standards issued by the ICAI.</p> <p>CO-3 Understand the techniques of consignment, Branch and Accounting methods.</p> <p>CO-4 Acquaints learners with knowledge regarding accounting procedures related fire Ins. claims and the process of claims.</p>

	<p>Business Economics CO-1 Familiarizes the students with the basic concepts of micro economics and its applications to business situations. CO-2 Guides the students towards understanding the real world market situations & business applications. CO-3 Enables understanding of the relationship between different market structures and how they compare and contrast with one another. CO-4 Enables understanding of how a firm sets price for its products by using different method.</p> <p>Enterprise Resource Planning CO-1 Make basic use of Enterprise software, and its role in integrating business functions CO-2 Analyze the strategic options for ERP identification and adoption. CO-3. Design the ERP implementation strategies. CO-4. Create reengineered business processes for successful ERP implementation.</p> <p>Business Statistics CO-1 Understand basic statistical concepts such as statistical collection, statistical series, tabular. CO-2. Predict values of strategic variables using regression and correlation analysis. CO-3. Calculate measures of central tendency, dispersion and asymmetry CO-4. Interpret the meaning of the calculated statistical indicators. CO-5. Choose a statistical method for solving practical problems.</p>
	<p>OFFICE ATOMATION TOOLS CO-1 Computer Literacy. CO-2 Microsoft Office, including Word, PowerPoint, Excel, Access, and Outlook. CO-3 Improve Keyboarding & 10-Key techniques. CO-4 Efficient Internet Research. CO-5 Spelling, Punctuation, and Grammar. General Office Skills; File Management, Record Filing, Telephone & Email Etiquette.</p> <p>Banking Theory & Practice CO-1 Provide basic knowledge of the theory and practices of banking. CO- 2. Familiarize the students with the changing scenario of Indian Banking. CO- 3. Expose the students to the changing scenario of Indian banking.</p> <p>Business Laws CO-1 Acquaints students with laws related to Indian Companies' Act 2013, IPR, Partnership Act 2008, and Consumer Protection Act CO-2 Provides a brief idea about the framework of Indian business laws.</p> <p>Business Analytics CO-1 Enable all participants to recognise, understand and apply the language, theory and models of the field of business analytics. CO-2 Foster an ability to critically analyze, synthesize and solve complex unstructured business problems. CO-3 Encourage an aptitude for business improvement, innovation and entrepreneurial action.</p>
	<p>Cost Accounting CO1: Express the place and role of cost accounting in the modern economic environment and select the costs according to their impact on business. CO2: Differentiate methods of schedule costs per unit of production and differentiate</p>

	<p>methods of calculating stock consumption. CO3: Describe the various incentive scheme, overhead apportionment and reapportionment techniques that are applied to manufacturing and service business.</p> <p>CO4: Determine the cost of each process where product passes from different stages of manufacturing to get its finished form</p> <p>CO5: Understand the tools and techniques used in transport and contract costing.</p> <p>Taxation</p> <p>CO-1 Applies substantive and procedural tax law from state, federal or international jurisdictions.</p> <p>CO-2 Research and resolve tax law problems using legal sources.</p> <p>CO-3 Analyze and assess tax law problems using the IRAC method.</p> <p>CO-4 Effectively communicate advanced tax law topics to appropriate audiences in written form.</p> <p>CO-5 Applies principles of professional responsibility and ethics to resolution of tax problems.</p>
	<p>Commercial Geography</p> <p>CO-1 Understand the scope and content of Commercial Geography in relation to spatial distribution of agriculture, forest resources and industrial production.</p> <p>CO-2 Acquaint the students about dynamic aspects of Commercial Geography.</p> <p>CO-3 Acquaint the students about dynamic nature of Industrial field in India.</p> <p>CO-4 Become aware about the relationship between the geographical factors and economic activities.</p> <p>ELECTIVES Programming in C</p> <p>CO-1 Appreciate and understand the working of a digital computer.</p> <p>CO-2 Analyze a given problem and develop an algorithm to solve the problem.</p> <p>CO-3. Improve upon a solution to a problem.</p> <p>CO-4. Use the 'C' language constructs in the right way.</p> <p>CO-5. Design, develop and test programs written in 'C'</p>
	<p>Data Base Management System</p> <p>CO-1 Database Management Systems I Course Outcomes. Each course outcome is followed in parentheses by the Program Outcome to which it relates.</p> <p>CO-2. Apply the basic concepts of Database Systems and Applications.</p> <p>CO-3. Use the basics of SQL and construct queries using SQL in database creation and interaction.</p> <p>CO-4. Design a commercial relational database system (Oracle, MySQL) by writing SQL using the system.</p> <p>CO-5. Analyze and Select storage and recovery techniques of database system.</p> <p>Web Technology</p> <p>CO-1 Develop a dynamic webpage using java script and DHTML.</p> <p>CO-2 Able to write a well-formed / valid XML document.</p> <p>CO-3 Connect a java program to a DBMS and perform insert, update and delete operations on DBMS table.</p> <p>CO-4 Able to write Servlet & JSP to catch form data sent from client, process it and store it on database.</p> <p>Marketing</p> <p>CO-1 Critically evaluate the key analytical frameworks and tools used in marketing.</p> <p>CO-2 Apply key marketing theories, frameworks and tools to solve Marketing problems.</p>

	<p>CO-3 Utilise information of a firm's external and internal marketing environment to identify and priorities appropriate marketing strategies.</p> <p>Auditing CO-1 Understand the principles and practice of auditing. CO-2 Familiarize the students with the principles and procedure of auditing. CO-3 Enable the students to understand the duties and responsibilities of auditors. CO-4 Creates understanding of the need & benefits of having audit of financial statements. CO-5 Analyses an organization's operations and maintenance of systems of internal controls that can help detect and prevent various forms of fraud and other accounting irregularities.</p> <p>Management Accounting CO-1. Develop professional competence and skill in applying accounting information for decision making. CO-2. Equip the students to interpret financial statements with specific tools of management accounting. CO-3. Enable the students to have a thorough knowledge on the management accounting techniques in business decision making. CO-4 Enable them to know the concept of capital budgeting with reference to time value of money. CO-5 Enables understanding of the functions, advantages, limitations of management accounting.</p>
	<p>Tally CO1: Understand the applications of accounting with Tally. CO2: Prepare accounting vouchers, ledger and various reports. CO3: Get exposed in maintenance of inventory features.</p> <p>e-Commerce CO-1 Profit Earning: ... CO-2 Creation of customers: ... CO-3 Regular innovations: ... CO-4 Best possible use of resources: ... CO-5 Production and Supply of Quality Goods and Services: ... CO-6 Adoption of Fair Trade Practices.</p> <p>6.7 PHP and My SQL CO-1 Understand that Word Press uses the PHP programming language to store and retrieve data from the MySQL database. To retrieve data from the database, Word Press runs SQL queries to dynamically generate content. CO-2 Come to know PHP is the most popular scripting language for web development. It is free, open source and server-side CO-3 MySQL is a Relational Database Management System (RDBMS) that uses Structured Query Language (SQL). It is also free and open source.</p> <p>Corporate Accounting CO-1 Enable the students to gain understanding of statistical techniques as are applicable to business. CO-2. Enable the students to apply statistical techniques for quantification of data in business. CO-3 . Develop the skill for applying appropriate statistical tools and techniques in different business situations.</p>

	<p>CO-4 To impart the knowledge of concept of Corporate accounting process .</p> <p>CO-5 To know about the types of shares and issue of share capital and issue , redemption process of Debentures.</p> <p>CO-6 Apply the New Companies Act provisions regarding Company accounts</p> <p>CO-7. Evaluate the different ways for a company to raise finances from public.</p> <p>CO-8 . Understand Profits prior to incorporation of a Company.</p>
	<p>Enterprise Resource Planning</p> <p>CO-1 Make basic use of Enterprise software, and its role in integrating business functions .</p> <p>CO-2. Analyze the strategic options for ERP identification and adoption.</p> <p>CO-3. Design the ERP implementation strategies.</p> <p>CO-4. Create reengineered business processes for successful ERP implementation.</p> <p>Management Accounting</p> <p>CO-1 Critically analyze and provide recommendations to improve the operations of organizations through the application of management accounting techniques.</p> <p>CO-2 Demonstrate mastery of costing systems, cost management systems, budgeting systems and performance measurement systems.</p> <p>CO-3 Acquire conceptual knowledge of basics of accounting.</p> <p>CO-4 Identify events that need to be recorded in the accounting records.</p> <p>CO-5 Develop the skill of recording financial transactions and preparation of reports in accordance with GAAP .</p> <p>CO-6 Describe the role of accounting information and its limitations.</p> <p>CO-7 Equip with the knowledge of accounting process and preparation of final accounts of sole trader.</p> <p>CO-8 Identify and analyze the reasons for the difference between cash book and passbook balances.</p> <p>CO-9 Recognize circumstances providing for increased exposure to errors and frauds.</p> <p>CO-10 Determine the useful life and value of the depreciable asset</p>
HEP	<p>PO-1 Students acquire knowledge concerning the histories, economies and societies of the wider European region.</p> <p>PO-2 Develops historical outlook in all aspects</p> <p>PO-3 Learns to participate in economical surveys</p> <p>PO-4 Understands the value of Economics</p> <p>PO-5 Develops cross-disciplinary perspective of global issues.</p> <p>PO-6 Understands Political process and critically examines the society.</p> <p>PSO-1 History makes the students know all the mistakes done in the past and do not repeat them in future, historically, politically and economically.</p> <p>PSO-2 The curriculum of the B.A programme mainly focuses on social interaction, especially History and Political Science.</p> <p>PSO-3 It helps the students know history, culture, traditions of India as well as other countries in the world throws light on effective citizenship and enables the students develop an ideal society with social concern and equity centered nation.</p> <p>PSO-4 emphasizes on values and ethics so that it results in – harmony in human relationship, understanding the harmony in the family – the basic unit of human interaction.</p> <p>PSO-5 participate as a good citizen of the society; analyze political and policy problems and participate in formulating policy options;</p>

HISTORY	<p>HISTORY Students will</p> <p>PO-1 acquire mastery of historical knowledge, historical thinking, and historical skills.</p> <p><i>PO-2 Develop skills in critical thinking and reading.</i></p> <p>PO-3 Employ multiple forms of evidence in this historical argument.</p> <p>PO-4 demonstrate knowledge of the chronology, narrative, major events, personalities and turning points of the history.</p> <p>PSO-1 offer multi-causal explanations of major historical developments based on interrelated political, social, economic, cultural, and intellectual processes.</p> <p>PSO-2 extract evidence from primary sources by analyzing and evaluating them in relation to their cultural and historical context .</p> <p>PSO-3 evaluate secondary historical sources by analyzing them in relation to the evidence that supports them,</p> <hr/> <p>Early Medieval Indian History & Culture (600 A.D to 1526 A. D.)</p> <p>CO1. The student is able to identify the different styles of architecture from Pallavas and Chalukyas.</p> <p>CO2. Will be aware of the administrative structure of Cholas.</p> <p>CO3. Will know about the composition and functions of Sultanate Administrative structure of Delhi Sultanas period.</p> <p>CO4. Comparative study for Indo Islamic Culture.</p> <hr/> <p>Late Medieval & Colonial History of India (1526 to 1857 A. D.)</p> <p>CO1. The student understands She shah Administration.</p> <p>CO2. Gains knowledge about the Marathas and their administration.</p> <p>CO3. Understands the Administration, Economy, Society and Cultural Development under the Mughal Period.</p> <p>CO4. Remember the policy of East India Company</p> <hr/> <p>Social Reform Movement & Freedom Struggle (1820s to 1947 A.D.)</p> <p>CO1. Understand the cause of the revolts of Peasants, Tribes and Sipoy in 19th Century</p> <p>CO2. Learn about Socio, Religious movement in India. With special reference to Brahma Samaj, Arya Samaj, Ramakrishna Mission.</p> <p>CO3. Can acquire the knowledge of different stages of Freedom Movement.</p> <p>CO4. Can identify the nature of Gandhi Movements.</p> <p>CO5. Observe the unification of India under the Leadership of Sardhar Vallabhai Patel after Independence</p> <hr/> <p>Age of Rationalism And Humanism The World Between 15th& 18th Centuries</p> <p>Students understand</p> <p>CO-1 Feudalism</p> <p>CO-2 he Renaissance Movement:</p> <p>CO-3 TReformation & Counter Reformation Movements: T</p> <p>CO-4 Emergence of Nation States:</p> <p>CO-5 The American Revolution (1776) – Opening of New World – Causes – Course – Declaration of Independence, 1776 – Bill of Rights, 1791 – Significance.</p> <p>CO-6 The French Revolution (1789) – Causes - Teachings of Philosophers - Course of the Revolution – Results.</p> <hr/> <p>History & Culture of Andhra Desa (from 12th to 19th Century A.D.)</p> <p>CO1. The student understands the Socio, Economic,. Cultural conditions of 12th &</p>
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	<p>18th Centuries Special reference to Kakatiyas and Reddy Kingdom. CO2. Understands the unification movement of Germany and Italy in Europe. CO3. The student analysis the unification movement in Europe. CO4. Student is aware of causes and results of World wars.</p>
	<p>History of Modern Europe (from 19th Century to 1945 A. D.) CO1. The student compare the conditions of Industrial Revolution before and after in Europe. CO2. To understand the Unification movement of Germany & Italy in Europe. CO3. Student can analyze the Unification movement in Europe. CO4. Will be aware of the causes and results of world wars. CO5. Acquire Knowledge of UNO and its functions</p>
	<p>History of East Asia (from 19th Century A.D.to 1950 A.D) CO-1 Pre colonial China - traditional Chinese Society, Polity, Economy CO-2 Colonial Penetration in China -Tribute system, Canton system and their collapse - Wars and Treaties CO-3 Taiping Revolt - Cause, Nature & Legacy; - Boxer Rebellion and its consequences – Republican Revolution of 1911 CO-4 Nationalism and Communism in China - Emergence of the Republic and Yuan Shi Kai - New Intellectual ideas and May Fourth Movement- Political crisis in the 1920's- The first United Front- Kuomintang-Communist Conflict- Ten years of Nanking Government - The Communist Party under Mao Tse Tung- Red Army- Long March- The Chinese Revolution (1949)- ideology, causes and significance - the Establishment of the Peoples' Republic of China.</p>
	<p>Basics of Journalism CO-1the ability to think critically, creatively and independently CO-2the ability to express oneself clearly, both in writing and orally CO-3the ability to carry out journalistic research and interviews CO-4the ability to prepare content for news media outlets CO-5 the ability to meet deadlines CO-6the ability to competently use technology appropriate to the medium</p>
	<p>Historical Application in Tourism CO-1 Appreciate the relevance and role of history in tourism, CO-2 Understand why history is termed as a tourism product, CO-3 know the subtleties of difference between history and myths and fables along with their importance in tourism, CO-4 Realise the implications of distorting history for our own times as well asfor the posterity, and CO-5 learn to handle history, a potent weapon in the hands of a public man like you.</p>
	<p>Modern Techniques in Archaeology CO-1 The archaeologist uses a range of techniques to actively discover and locate archaeological sites within the landscape; these methods are non-invasive and non-destructive and fall into four broad categories: CO-2 Desk Top Surveys • Surface Surveys. Geophysical and Geochemical surveys Aerial Survey CO-3 Today's archaeologists use soil analysis, lidar scanning, and the Internet of Things to answer questions without damaging artifacts.09-Nov-2017 CO-4 Modern technology improves preservation techniques and also allows researchers to return to a site to answer additional questions. This is actually</p>

	<p>expanding the role of archaeologists in society.</p> <p>Cultural Tourism in Andhra Pradesh</p> <p>CO-1 To make AP a globally recognized tourist destination. CO-2 To become the most preferred choice for tourism investments in the country. CO-3 To enable sector to become a significant income generator. CO-4 To offer unique and diverse Tourism infrastructure Projects and services. CO-5 to nurture and sustain the rich culture, heritage, And environment of the state.</p> <p>Contemporary History of Andhra Pradesh the rich culture, heritage, and history (1956-2014)</p> <p>PO-1 acquire mastery of historical knowledge, historical thinking, and historical skills. <i>PO-2 Develop skills in critical thinking and reading</i> PO-3 Employ multiple forms of evidence in this historical argument. PO-4 demonstrate knowledge of the chronology, narrative, major events, personalities and turning points of the history</p> <p>PSO-1 offer multi-causal explanations of major historical developments based on interrelated political, social, economic, cultural, and intellectual processes. PSO-2 extract evidence from primary sources by analyzing and evaluating them in relation to their cultural and historical context. PSO-3 evaluates secondary historical sources by analyzing them in relation to the evidence that supports them.</p>
ECONOMICS	<p>Economics Students will</p> <p>PO-1 understand and demonstrate core micro-economic terms, concepts, and theories. PO-2 be able to analyze data to solve complex economic problems. PO-3 understands general economic concepts. PO-4 understands and demonstrates core macro-economic terms, concepts, and theories. PO-5 will understand general economic concepts. PO-6 will be able to demonstrate an ability to conceptualize problems analytically.</p> <p>SPECIFIC OUTCOMES</p> <p>PSO-1 Understand the basic concept of microeconomics. PSO-2: Acquaint with some basic statistical methods to be applied in economics. PSO-3: Acquaint with some basic mathematical methods to be applied in economics. PSO-4 Acquaint with some basic theoretical concept of public finance. PSO-5: Acquaint with the measurement of development with the help of theories along with the conceptual issues of poverty and inequalities with Indian perspectives. PSO-6: Delineate the fiscal policies designed for developed and developing economics. PSO-7 Facilitate the historical developments in the economic thoughts propounded by different schools. PSO-8 Learn the basic concept of monetary analysis and financial marketing in Indian financial markets.</p>
	<p>Title: Micro Economics -1 (Consumer Behavior)</p> <p>CO-1 Understand the behaviour of an individual consumer. CO-2 Able to analyze the behavior of consumer. CO-3 develops skills to analyze consumer theory using calculus. CO-4 Basic concepts of microeconomics such as laws of demand and supply and elasticity etc.</p>

	<p>CO-5 Concepts of consumer behaviour like cardinal utility and ordinal utility analysis.</p> <p>CO-6: Application of Indifference curve analysis in deriving demand curves, price effect, income effect and substitution effect</p> <p>CO-7 understands and demonstrate core micro-economic terms, concepts, and theories.</p> <p>CO-8 ability to analyze data to solve complex economic problems.</p> <p>CO-9 Learns how to maximize the level of national income,</p>
	<p>Micro Economics -2 (Production and price Theory)</p> <p>CO-1: Basic concepts of statistics such as measures of central tendency, dispersion, skewness and kurtosis.</p> <p>CO-2: Elementary probability theory including probability distributions.</p> <p>CO-3: Methods of sampling and census.</p> <p>CO- 4: Correlation and simple regression</p> <p>CO -5: Index numbers.</p> <p>CO-6 Students learn the Outcomes covered by Microeconomics course</p> <p>CO-7 Explain the concept of elasticity- price elasticity of demand and price of producer, consumer surplus, and total surplus.</p> <p>CO-8 Will able to define and explain the basic concepts and hypothesis in Microeconomic Theory and their relations.</p>
	<p>Macro Economics - National Income, Employment and Money</p> <p>Students have knowledge of</p> <p>CO-1 -The Importance of Macro Economics- Difference between Micro and Macro Economics –</p> <p>CO-2 Measurement of National Income- Circular flow of Income</p> <p>CO-3 Classical theory of Employment - Say's Law of Markets</p> <p>CO-4 Keynesian Theory of Employment - Consumption & Investment Function - Marginal Efficiency of Capital (MEC)- Concepts of multiplier and accelerator.</p> <p>CO-5 Classification of money- RBI</p> <p>CO-6 Theories of Money-</p>
	<p>Macro Economics – BankIng and Intemational Trade</p> <p>Students have a clearcut information about</p> <p>CO-1 Trade Cycles ,Phases-Types of Inflation</p> <p>CO-2 Functions of Commercial Banks - Concept of Credit creation-Functions of RBI</p> <p>CO-3 Types and growth of NBFIs</p> <p>CO-4 Defects of Indian money market</p> <p>CO-5 Shares-Debentures - Stock Market - SEBI - - Insurance –</p> <p>CO-6 Macro Economic Policy- Objectives and Significance - Importance of International Trade –</p> <p>CO-7 Balance of Trade and Balance of Payment.</p>
	<p>Economic Development and Indian Economy</p> <p>CO-1 comprehensive understanding of Indian Economy</p> <p>CO-2 Student will be able to understand govt policies and programs • sectoral</p> <p>CO-3 Students understand Theories of economic Growth: Adam Smith, Rostow, Karl Marx and Harrod and Omar Models.</p> <p>CO-4 will have a grip over Labour intensive and capital-intensive methods.</p> <p>CO-5 Students will have comprehensive understanding of Indian Economy</p> <p>CO-6 Student will be able to understand govt policies and programs</p>

	<p>CO-7 Understand Economic reforms – liberalizations, privatization and globalization – concept of inclusive growth.</p> <p>CO-8 World Trade organization impact trade in Agriculture products in India</p>
	<p>Indian and Andhra Pradesh Economy</p> <p>CO-1 Indian Agriculture – Importance of Agriculture in India - Agrarian structure and relations –</p> <p>CO-2 Understand – Industrial policies of 1956 and 1991.</p> <p>CO-3 Problems and Prospects of small-scale Industries in India.</p> <p>CO-4 will understand Disinvestment in India – FE– Services Sector in India – Reforms in Banking and Insurance – IT, Education and Health.</p> <p>CO-5 Objectivities and review of Five year plans– Current Five year plan – NITI Aayog.</p> <p>CO-6 Andhra Pradesh Economy ,Population , GSDP , IT – Small Scale Industry – SEZs.</p>
	<p>AGRICUTURAL ECONOMICS</p> <p>CO-1 Nature and Scope of Agricultural Economics</p> <p>CO-2 Concept of production function</p> <p>CO-3 Growth and productivity, Agrarian reforms and their role in economic development.</p> <p>CO-4 Systems of farming, New agriculture strategy and Green revolution : and its Impact</p> <p>CO-5 Knows the policy controls and regulations relating to industrial sector with specific reference to agro-industries in agri-business enterprises.</p> <p>CO-6 Understands New Agriculture Technology</p>
	<p>Agribusiness Environment in Andhra Pradesh</p> <p>CO-1 Role of agriculture in development process in Andhra Pradesh</p> <p>CO-2 Agricultural finance-importance in modern agriculture</p> <p>CO-3 Dynamics of agriculture-crop, -livestock,</p> <p>CO-4 Agribusiness sector in AP, salient futures, constraints, sub sectors of agribusiness.</p> <p>CO-5 major agricultural commodities in Andhra Pradesh-production and processing trends in exports and imports of major agricultural commodities.</p> <p>CO-6 Marketing policy- structure of agri markets APMC act ,– Role of Farmer Groups in the marketing of Agricultural Produce</p>
	<p>Agricultural Output Marketing</p> <p>CO-1 Structure and Model of Agri-Marketing</p> <p>CO-2 Marketing costs and margins, Marketing Finance. Marketing Structure of Major agricultural commodities</p> <p>CO-3 Problems and Challenges in Agriculture Marketing</p> <p>CO-4 State Intervention in Agricultural Marketing, Role of Various agencies</p> <p>CO-5 Inter-regional and international trade in agriculture.</p>
	<p>A-1 : Agribusiness Environment in Andhra Pradesh</p> <p>CO-1Various linkages of agribusiness in academic, industry and public sector –</p> <p>CO-2 Developing a policy paper - Relationship in different components of agribusiness and predicting trends in the domain</p>
	<p>A2 Agricultural Output marketing</p> <p>CO-1provide information on the productivity of agricultural systems now and under different climate impact scenarios.</p>

	<p>CO-2 Provide innovative and sustainable agricultural monitoring systems, methods and tools integrating geospatial.</p> <p>CO-3 Provide high level training on impact scenarios, dissemination materials, training materials and e-Learning modules.</p> <p>CO-4 to facilitate sharing of best practice and knowledge management.</p>
	<p>A2 Agricultural input marketing</p> <p>CO-1 Agricultural inputs are defined as products permitted for use in organic farming.</p> <p>CO-2 All listed products can be retrieved here. Products can be filtered by country, category, name or company name. It is also possible to generate a confirmation of conformity for each individual product or for all products sold by a particular company.</p> <p>CO-3 Every year a catalogue of all products that have been evaluated is sent to all Austrian organic enterprises. The list is mandatory for Bio Suisse producers. As a general rule, only products contained in the input list (available in German or French) may be used on Bio Suisse holdings.</p>
POLITICS	POLITICAL SCIENCE
	<p>Basic Concepts of Political Science Students will</p> <p>CO1- Analyze and explain the approaches to the Study of Political Science –</p> <p>CO2- Assess the theories of State (Origin, Nature, Functions): Contract, Idealist, Liberal and Neo-Liberal Theories.</p> <p>CO3- Explain the Concept of State Sovereignty: Monistic and Pluralistic Theories. Analyze the changing concept of Sovereignty in the context of Globalization.</p> <p>CO4- Understand Classification of David Held’s Democratic Theories.</p> <p>CO5- Understand basic concepts of Liberty, Equality, Rights, Law and Justice.</p> <p>CO6- Assess empirical Political Theory: System’s Analysis, Structural Functionalism.</p> <p>CO7- Explain Dialectical Materialism and Historical Materialism with special reference to relationship between base and superstructure.</p> <p>CO8- Analyze the theory of class and class struggle.</p> <p>CO9- Describe the Marxist Approach to politics and Marxian theory of Revolution.</p>
	Political Institutions (Concepts, Theories and Institutions)
	<p>Indian Constitution</p> <p>CO-1 Understand the emergence and evolution of Indian Constitution.</p> <p>CO-2 Understand the structure and composition of Indian Constitution</p> <p>CO-3 Understand and analyze federalism in the Indian context.</p> <p>CO-4 Understand and analyze the three organs of the state in the contemporary scenario.</p>
	<p>INDIAN POLITICAL PROCESS</p> <p>CO1- Analysing what is Politics and explaining the approaches to the Study of Political Science – Normative, Behavioral, Post Behavioral, Feminist.</p> <p>CO2- Assessing the theories of State (Origin, Nature, Functions): Contract, Idealist, Liberal and Neo-Liberal Theories.</p> <p>CO3- Explaining the Concept of State Sovereignty: Monistic and Pluralistic Theories. Analyzing the changing concept of Sovereignty in the context of Globalization.</p> <p>CO4- Classification of David Held’s Democratic Theories.</p> <p>CO5- Understanding basic concepts of Liberty, Equality, Rights, Law and Justice.</p>

	<p>CO6-Assessing empirical Political Theory: System's Analysis, Structural Functionalism.</p> <p>CO7- Explaining Dialectical Materialism and Historical Materialism with special reference to relationship between base and superstructure.</p> <p>CO8- Analysing the theory of class and class struggle.</p> <p>CO9- Describing the Marxist Approach to politics.</p> <p>CO10- Analysing Marx's concept of Freedom and Democracy: Nature, Features and Critique.</p> <p>CO11-Discussing Marx's Theory of State with special reference to Relative Autonomy of the State.</p> <p>CO12- Explaining Marxian theory of Revolution.</p> <p>CO13-Evaluating the major debates in Marxism: Lenin- Rosa Luxemburg debate on Political party.</p>
	<p>INDIAN POLITICAL THOUGHT</p> <p>CO 1- Analysing what is Politics and explaining the approaches to the Study of Political Science – Normative, Behavioral, Post Behavioral, Feminist.</p> <p>CO 2- Assessing the theories of State (Origin, Nature, Functions): Contract, Idealist, Liberal and Neo-Liberal Theories.</p> <p>CO 3- Explaining the Concept of State Sovereignty: Monistic and Pluralistic Theories. Analyzing the changing concept of Sovereignty in the context of Globalization.</p> <p>CO 4- Classification of David Held's Democratic Theories.</p> <p>CO 5- Understanding basic concepts of Liberty, Equality, Rights, Law and Justice.</p> <p>CO 6- Assessing empirical Political Theory: System's Analysis, Structural Functionalism.</p> <p>CO 7- Explaining Dialectical Materialism and Historical Materialism with special reference to relationship between base and superstructure.</p> <p>CO 8- Analyzing the theory of class and class struggle.</p> <p>CO 9- Describing the Marxist Approach to politics.</p> <p>CO 10- Analyzing Marx's concept of Freedom and Democracy: Nature, Features and Critique.</p> <p>CO 11-Discussing Marx's Theory of State with special reference to Relative Autonomy of the State.</p> <p>CO 12- Explaining Marxian theory of Revolution. CO 13-Evaluating the major debates in Marxism: Lenin- Rosa Luxemburg debate on Political party.</p>
	<p>Western political thought</p> <p>CO-1 Providing an insight into the dominant features of CCcient Western Political Thought: Ancient Greek political thought with focus on Aristotle and Plato; Roman Political Thought: its contributions with special emphasis on the emergence of Roman law.</p> <p>CO 2- Examining the features of Medieval Political Thought.</p> <p>CO 3- Evaluating the Renaissance; political thought of Reformation; and Machiavelli.</p> <p>CO 4- Critically examining Bodin's contributions to the theory of Sovereignty; Hobbes as the founder of the science of materialist politics; Locke as the founder of Liberalism with focus on his views on natural rights, property and consent; and Rousseau's views on Freedom and Democracy; Bentham's Utilitarianism; and John Stuart Mill's views on liberty and representative government.</p> <p>CO 5- Taking an insight into the following: Hegel's views on Civil Society and State; Utopian and Scientific socialism: basic characteristics.</p> <p>CO 6- Examining the varieties of non-Marxist socialism: Fabianism, Syndicalism,</p>

	Guild Socialism, German Revisionism.
Electives	<p>Major issues in Indian Politics Students will understand</p> <p>CO-1 Law and order. CO-2 Terrorism, CO-3 Naxalism, CO-4 religious violence and caste-related violence are important issues that affect the political environment of the Indian nation and they try to find solution to the problems.</p>
	<p>Principles of Public Administration</p> <p>CO-1 Able to explain basic concepts in the field of public administration. CO-2 explain the concepts of "public", "administration", "governance" and "strategic management". CO-3 explain different definitions of public administration CO-4 explain the similarities and differences between public and private sector. CO-5 explain the principles of administration. CO-6 explain the characteristics of bureaucracy CO-7 explain the critics of bureaucracy CO-8 explain the structure and operation of public organizations. CO-7 explain centralization the tasks, structure and operation of central government and characteristic features of decentralization will explain the means of controlling public administration and question their adequacy.</p>
	<p>Local Self - Government in Andhra Pradesh</p> <p>CO-1 The local self-government is the right and power of the community to resolve on its own responsibility issues of local significance aimed at the welfare of the inhabitants in accordance with the Constitution of the RA and the RA Law “On Local Self-Government”.</p> <p>CO-2 Local self-government means that residents in towns, villages and rural settlements are the hosts in their own home. People elect local councils and their heads authorising them to solve the most important issues.</p> <p>CO-3 Self-government of the village community, called the panchayat, as the basis of Indian democracy.</p> <p>CO-4 The local self-governmental institutions are the best centers for imparting democratic thoughts and education. People prefer democracy because they want to live in an environment of equality and liberty. In local self government, the members have close and intimate contact with the local people.</p>
	<p>Colonialism and Nationalism in India</p> <p>CO-1 Students will understand Colonial Structure: CO-2 Understand Early Nationalism And Agitation Politics CO-3: Gandhian Era - Mass Nationalism CO-4 People movement and freedom</p>
	<p>Political Economy of Development in India</p> <p>CO-1 examines the political economy of development in both developed and developing countries, CO-2 study many possible determinants of economic growth including institutions, human capital, international trade, and financial development CO-3 examine various strategies that governments could employ to promote growth, such as poverty relief programs, public investment in education, intellectual property right protection, and industrial policies. The course is organized into two broad</p>

	<p>segments:</p> <p>CO-4 development in the long run, which focuses on history, political systems, and economic institutions, and 2) development in the short run, which analyzes the impact of poverty relief programs, foreign aid, international trade, and financial crisis. The course will complement a course on political economy or economic development that focuses on micro-level interventions, but a prior expertise in the field is not required.</p>
	<p>Feminism: Theory and Practice</p> <p>CO-1 explain contemporary debates on feminism and the history of feminist struggles.</p> <p>CO-2 discuss on construction of gender and an understanding of complexity of patriarchy and goes on to analyze theoretical debates within feminism.</p> <p>CO-3 On successful completion of the course students will be able to identify key concepts and movements in feminist theory and practice – patriarchy, gender, sex-gender binary, global women’s movements.</p> <p>CO-4 Interrogate the ordinary and everyday in the context of gender; to see gender as a lens for understanding the world.</p> <p>CO-5 Critically engage with ongoing feminist debates and struggles across the world in their complexity and diversity.</p>
	<p>Comparative Constitutionalism; UK, USA</p> <p>CO-1 At the end of this course students will be able to-- interpret and apply constitutional provisions to determine how various legal and social issues may be resolved;</p> <p>CO-2 - understand the range of goals that constitutions can seek to achieve, as well as the different means for achieving them;</p> <p>CO-3 provide advice to clients, US lawyers, and policymakers on the constitutional law and orders of various countries.</p>
	<p>Human Rights in a Comparative Perspective</p> <p>CO-1 Master subject-specific skills and generic skills, including transferable global skills and competencies, the achievement of which students are able to demonstrate for the award of LLM/MA Degree in Human Rights qualification. It is to develop expertise to:</p> <p>CO-2 explore the conditions and dimensions of empowering and transformative learning processes;</p> <p>CO-3 provide an advanced qualification for students wanting to better understand the nature of international human rights in the face of global political, economic, social, legal, ethical and environmental challenges;</p> <p>CO-4 Describe and critique the differing approaches, perspectives, and models of human rights and how they impact the ways in which human rights education is carried out in diverse settings;</p> <p>CO-5 Design, conduct, analyze and present findings using diverse research tools and methods in order to create knowledge and awareness about human rights issues.</p> <p>CO-6 Produce advocacy tools and curricular resources to be used in formal or non-formal educational contexts to address human rights violations.</p> <p>CO-7 Analyze the gap between universal rights and grassroots realities in local, regional and global contexts with attention to issues of power, privilege, and marginalization;</p>
	<p>Political Sociology</p> <p>CO-1 Have a basic understanding of sociological theories of the state;</p> <p>CO-2 Acquire an understanding of recent social and political science explanations of political processes and events;</p>

	<p>CO-3 Acquire, more generally, a grasp of the competing approaches in the field;</p>
	<p>International Relations</p> <p>CO-1 Learning and understanding core controversies, including the logic behind global challenges;</p> <p>CO-2 Critiquing, analyzing, and synthesizing dominant views, including careful reading of key texts;</p> <p>CO-3 Applying conceptual tools to global predicaments, realizing how policies must shift over time;</p> <p>CO-4 Working collaboratively and constructively together to comprehend problems;</p> <p>CO-5 Writing and speaking persuasively regarding personal opinions on topics covered;</p>
	<p>Indian Foreign Policy</p> <p>CO-1 Feel it is important to preserve India's territorial integrity and independence of foreign policy:</p> <p>CO-2 The territorial integrity and protection of national boundaries from foreign aggression is the core interest of a nation.</p>
	<p>Contemporary Global Issues</p> <p>CO-1 Understand the globalization processes at work.</p> <p>CO-2 Understand the global trading system and its impact on different regions, specially developing countries.</p> <p>CO-3 Identify new social structures of accumulation or modes of regulation that have emerged to promote long-term socioeconomic performance in the global economy during the early years of the 21st century.</p> <p>CO-4 Understand new liberal governance; transnational corporations; global institutions of money, trade and production; international relations of war and terrorism; financial institutions; and the family-community</p> <p>CO-5 Identify different economic system the world, compare between them and evaluate their performance.</p>
	<p>NCC AS AN ELECTIVE SUBJECT</p> <p>CO-1 gives them the knowledge and practice to fetch a job especially in the Indian Navy, Army and Air Force</p> <p>CO-2 It inculcates love for Nation and patriotic fervor.</p>
FOUNDATIONAL COURSES	<p>Environmental Science'</p> <p>CO-1 Understand core concepts and methods from ecological and physical sciences and their application in environmental problem-solving.</p> <p>CO-2 Appreciate the ethical, cross-cultural, and historical context of environmental issues and the links between human and natural systems.</p> <p>CO-3 Create environmental consciousness</p> <p>CO-4 Identify potential environmental hazards and provide solutions.</p> <p>CO-5 Understand the interdisciplinary nature of environmental studies</p> <p>CO-6 Keep focus on sustainability.</p> <p>CO-7 Evaluate the global scale of environmental problems; Realize their responsibilities and try to protect environment from pollution.</p>

	<p>Entrepreneurship, <i>CO-1 To understand the concept of entrepreneurship.</i> <i>CO-2 To know the qualities of entrepreneur.</i> <i>CO-3 To identify the new business opportunities.</i> <i>CO-4 To acquaint with Role of Entrepreneur and Inducement measures.</i> <i>CO-5 To recognize women entrepreneurship.</i> <i>CO-6able to sell themselves and their ideas.</i> <i>CO-7master oral and visual presentation skills</i> <i>CO-8 establish confidence in the skills necessary</i></p>
	<p>Leadership Education' <i>CO-1develop critical thinking skills.</i> <i>CO-2 Develop an understanding of change processes and be able to think critically about obstacles to change.</i> <i>CO-3 Understand and be able to use a process for decision making.</i> <i>CO-4Will be good at critical thinking skills.</i> <i>CO-5Will understand how ethics, morals, and values relate CO-6to their leadership dilemmas</i> <i>CO-7Integrate their experiences into their leadership development process.</i></p>
	<p>professional ethics and Human Values <i>CO-1 create an awareness on professional ethics and Human Values</i> <i>CO-2 appreciate the rights of others</i> <i>CO-3 help understand all dimensions and all levels of human existence provide the clarity for human target and universal human order.</i> <i>CO-4educate them on the importance of human values, without which, we are unfit to be called human beings.</i> <i>CO-5 To enable the students to imbibe and internalize the Values and Ethical Behavior in the personal and Professional lives.</i> <i>CO-6learn moral issues and find solution to those problems.</i> <i>CO-7 learn the need for professional ethics, codes of ethics gain exposure to Environment Ethics & computer ethics. Know their responsibilities and rights.</i> <i>CO-8 will understand the importance of Values and Ethics in their personal lives and professional careers.</i> <i>CO-9 will learn the rights and responsibilities as an employee, team member and a global citizen.</i> <i>CO-10Will appreciates the rights of others.</i></p>
	<p>COMMUNICATION & SOFT SKILLS. <i>CO-1 Communication skills impact our ability to persuade people –</i> <i>CO-2 to enroll people in our ideas, our visions, and our visions Communication without which one cannot become popular Gain emotional maturity and emotional health</i> <i>CO-3 Develop Confidence and enthusiasm for learning – Become a responsible citizen.</i> Soft skills help students' <i>CO-1Develop effective communication skills (spoken and written).</i> <i>CO-2 Develop effective presentation skills.</i> <i>CO-3 Conduct effective business correspondence and prepare business reports which produce results.</i> <i>CO-4 Develop Resilience – Teamwork – and leadership qualities.</i></p>
	<p>ANALYTICAL SKILLS help students <i>CO-1improve problem-solving skills.</i></p>

	<p><i>CO-2 evaluate problems, both simple and complex.</i></p> <p><i>CO-3 Analyze a concept and develop Critical Thinking Skills.</i></p> <p><i>CO-4 Engage the imagination to explore new possibilities. Formulate and articulate ideas.</i></p> <p><i>CO-5 Recognize explicit and tacit assumptions and their consequences.</i></p> <p><i>CO-6 Weigh connections and relationships.</i></p>
	<p><i>Information and Communication Technology (ICT)</i></p> <p><i>CO-1 possess strong fundamental concepts in mathematics and Technology to address technological challenges.</i></p> <p><i>CO-2 Possess knowledge and skills in the field of Computer Science Information Technology for analyzing, designing and implementing complex engineering problems of any domain with innovative approaches.</i></p> <p><i>CO-3 Possess an attitude and aptitude for research, entrepreneurship and higher studies in the field of Computer Science & Engineering and Information Technology.</i></p> <p><i>CO-5 Have commitment to ethical practices, societal contributions through communities and life - long learning.</i></p> <p><i>CO-6 Possess better communication, presentation, time management and team work skills leading to responsible & competent professionals and will be able to address challenges in the field of IT at global level.</i></p>
	<p><i>TALLY</i></p> <p><i>CO-1 imparts knowledge regarding concepts of financial accounting.</i></p> <p><i>CO-2 Tally is an accounting package that is used for learning to maintain accounts.</i></p> <p><i>CO-3 It is very useful for any students to get placements in different offices as well as companies in accounts departments</i></p> <p><i>CO-4 It helps record all types of accounting that include invoicing, receipt notes, inventory management, sale records, credit note, etc.</i></p> <p><i>CO-5 The software helps record the complex bookkeeping in a simple way so that everyone can handle it easily. With an easy interface, its comprehensive accounting software is easily driven by technology.</i></p>
	<p><i>Spoken English</i></p> <p><i>CO-1 Students will improve their awareness of correct usage of English grammar in writing and speaking.</i></p> <p><i>CO-2 Improve their speaking ability in English both in terms of fluency and comprehend.</i></p> <p><i>CO-3 increase their reading speed and comprehension of academic articles</i></p> <p><i>CO-4 Improve their reading fluency skills through extensive reading</i></p> <p><i>CO-5 Enlarge their vocabulary by keeping a vocabulary journal</i></p> <p><i>CO-6 Strengthen their ability to write academic papers, essays and summaries using the process approach.</i></p> <p><i>CO-7 attain and enhance competence in the four modes of literacy: writing, speaking, reading & listening.</i></p> <p><i>CO-8 Acquire necessary listening skills in order to follow and comprehend discourse such as lectures, conversations, interviews, and discussions.</i></p> <p><i>CO-9 Develop adequate speaking skills to communicate effectively to follow academic courses at university level.</i></p>
	<p><i>Yoga & Meditation' are helping the students in</i></p> <p><i>CO-1 Maintaining self-discipline and self-control</i></p> <p><i>CO-2 Developing memory power and concentration.</i></p> <p><i>CO-3 Leading to higher level of consciousness.</i></p> <p><i>CO-4 Practicing physical and mental hygiene.</i></p>

	<p><i>CO-5 Improves mental well-being.</i> <i>CO-6 Creates mental clarity and calmness.</i> <i>CO-7 increases body awareness.</i> <i>CO-8 Relieves chronic stress patterns.</i> <i>CO-9 relaxes the mind.</i> <i>CO-10 Sharpens concentration.</i></p>
	<p><i>TIME MANAGEMENT</i> <i>CO-1 Makes students Prepare Action plan everyday</i> <i>CO-2 Adhere to it in completing the task</i> <i>CO-3 Understand that right thing at the right time is an art and comes with planning and understanding.</i> <i>CO-4 Time Management is nothing but making the best possible use of time.</i> <i>CO-5 Procrastination ends in failure. Introspection and correction lead to success.</i> <i>CO-6 Effective time management helps in completing more work in less time,</i> <i>CO-7 Confident that they have enough time to do any amount of work.</i> <i>CO-8 Believe that they can plan everything diligently & achieve what they want to</i> <i>CO-9 Prioritize objectives and goals.</i> <i>CO-10 Understand that failure to manage time damages effectiveness and causes stress.</i></p>
	<p><i>JOURNALISM Students</i> <i>CO-1 Understand basic concepts of communication, theories of communication</i> <i>CO-2 understand basics of journalism and different types of media.</i> <i>CO3 Classify news paper as a recorder of news and events opinion, instrument of social service, promoter of democracy. The impact of newspaper on society, socioeconomic and cultural development.</i> <i>CO4 Defines News, its elements, news sources and different types of news.</i> <i>CO5 understand the role of the editor-functions and responsibilities and also editorial freedom and the role of the editor in recent perspective.</i> <i>CO6 Understand the role of the news editor and its functions, duties and responsibilities.</i> <i>CO7 Analyzing the duties and qualities of Chief Sub editor and Sub editors</i> <i>CO8 Identify the role of the reporter and his/her duties and responsibilities. Various duties responsibilities & qualities of a chief reporter, foreign correspondent, special correspondent, bureau chief, district correspondent.</i> <i>CO9 Analyze crime and legal reporting, science and financial reporting.</i> <i>CO10 Understand news writing and different structures of news writing (inverted pyramid structure). Intro, lead and language of news writing, objectivity, writing techniques on society, fashion, music and arts, education, employment opportunities, health, environment and financial reporting.</i> <i>CO11 Analyze feature and different types of features as a special kind of reporting.</i> <i>CO12 Understand the importance of editorial and its choice of subjects, arrangement and style of presentation.</i> <i>CO13 Describing the principles of editing, copy testing, processing copies and computer editing</i> <i>CO14 Analyzing headlines of news stories and the different types of headlines. The role of computer application.</i> <i>CO15 Describing page make-up, typography, main type groups with recent changes and development.</i></p>
	<p><i>TOURISM</i> <i>CO-1 Understand fundamentals of tourism from the management, marketing and financial perspectives.</i></p>

	<p><i>CO-2 Understand the concepts of travel and tourism, the framework of the system, types and form of tourism as well as the impacts of tourism.</i></p> <p><i>CO-3 Apply relevant technology for the production and management of tourism experiences.</i></p> <p><i>CO-4 Plan, lead, organize and control resources for effective and efficient tourism operations.</i></p> <p><i>CO-5 Create, apply, and evaluate marketing strategies for tourism destinations and organizations.</i></p> <p><i>CO-6 Develop and evaluate tourism policy and planning initiatives.</i></p>
	<p>SOLAR ENERGY</p> <p><i>CO-1 Understand the concept of energy Conservation. Solar Radiation,</i></p> <p><i>CO-2 Measurements of Solar Radiation,</i></p> <p><i>CO-3 Flat Plate And Concentrating Collectors, Solar Direct Thermal Applications, Solar Thermal Power Generation,</i></p> <p><i>CO-4 Fundamentals of Solar Photo Voltaic conversion, Solar cells, Solar PV Power Generation, Solar PV Applications.</i></p> <p><i>CO-5 Understand the need of energy conversion and the various methods of energy storage.</i></p> <p><i>CO-6 Explain the field applications of solar energy.</i></p> <p><i>CO-7 Identify Winds energy as alternate form of energy and to know how it can be tapped.</i></p> <p><i>CO-8 Explain bio gas generation and its impact on environment</i></p> <p><i>CO-9 Understand the Geothermal & Tidal energy, its mechanism of production and its applications.</i></p> <p><i>CO-10 Illustrate the concepts of Direct Energy Conversion systems & their applications.</i></p>
	<p>e-Commerce</p> <p>CO-1 Profit Earning: ...</p> <p>CO-2 Creation of customers: ...</p> <p>CO-3 Regular innovations: ...</p> <p>CO-4 Best possible use of resources: ...</p> <p>CO-5 Production and Supply of Quality Goods and Services: ...</p> <p>CO-6 Adoption of Fair-Trade Practices.</p>
	<p>MEDICAL LAB TECHNOLOGY</p> <p><i>Student will be able to:</i></p> <p><i>CO-1 Apply knowledge and technical skills associated with medical lab technology.</i></p> <p><i>CO-2 Perform routine clinical laboratory procedures within acceptable quality control parameters in haematology, chemistry, immunohematology, and microbiology.</i></p> <p><i>CO-3 Demonstrate professional responsibility by exhibiting organizational skills, accountability, and ethical behavior.</i></p> <p><i>CO-4 Evaluate clinical laboratory data by interpreting laboratory results and relating the data to various disease states.</i></p> <p><i>CO-5 Develop technology skills by operating laboratory equipment for testing, assessing quality assurance for lab equipment, and adhering to standard safety practices in the laboratory environment.</i></p>
	<p>WEB TECHNOLOGY</p> <p><i>CO-1 Demonstrate technology skills by operating laboratory equipment for testing, assessing quality assurance for lab equipment, and adhering to standard safety practices in the laboratory environment.</i></p> <p><i>CO-2 Develop web-based application using suitable client side and server side web</i></p>

technologies.

CO-3 Develop solution to complex problems using appropriate method, technologies, frameworks, web services and content management.



Principal

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