APS COLLEGE OF ARTS AND SCIENCE
N.R. COLONY, BENGALRU- 560019

Department of Mathematics

Programme Specific outcomes of B.Sc., Mathematics

PSO1. Distinguish between linear, nonlinear, partial and ordinary differential equations.

PSO2. By knowing the concept of limit of a function, they will use it to prove properties of continuous functions and the derivative of a function

PSO3. Expound upon the concept of Riemann integrability.

PSO4. Demonstrate when a binary algebraic structure forms a group and learn group properties.

PSO5. Treat special types of rings such as Euclidean domain and Principal Ideal domain.

PSO6. Ability to work within vector spaces and vector space properties

PSO7. Ability to compute Eigen values and vectors.

PSO8. Ability to understand the linear transformations and mapping properties

PSO9. Evaluate Line integral, Surface integral and Volume Integrals using Divergence, Green's and Stroke's Theorems

PSO10. Calculate a definite integral using an appropriate numerical method and find roots of functions

PSO11. Knowing the concept of numerical methods they can solve interpolation, differentiation, integration and use it to various mathematical operations.

PSO12. Solve linear and nonlinear equations and differential (numerical methods)

PSO13. Understand the role of computation as a tool in real world problem solving

PSO14. Ability to utilize transform methods to find solutions of problems (heat equation and wave equation).

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Course Outcomes for B.Sc., Mathematics

B.Sc., 1st semester

❖ **ALGEBRA – I, Differential Calculus, Integral Calculus and Analytical Geometry Of Three Dimensions**

After the completion of the course, Students will be able to

CO1. Finding the Row reduced ecolon and Normal form of a square matrix.

CO2. Solve the matrix equation $Ax = b$ using row operations and matrix operations.

CO3. Finding consistency of a linear equations by using matrix method.

CO4. Find the characteristic equation, eigenvalues and vectors for matrix.

CO5. Solving Differentiation of Nth term of the functions

CO6. Solving Leibnitz problems and its applications

CO7. Solving Partial differentiation.

CO8. Solving Total derivative, Jacobians and properties of Jacobians

CO9. Solve Reduction formulae for $\int sin^n(x)dx$,

$\int cos^n(x)dx, \int cosec^n(x)dx, \int sec^n(x)dx, \int tan^n(x)dx, cot^n(x)d$

CO10. Solve the problems of lines in three dimension, planes, spheres, and cylinders and how geometry is related to algebra by using their algebraic equations.

B.Sc., 2nd Semester

❖ **Group Theory, Differential Calculus, Integral Calculus and Differential equations – I**

After the completion of the course, Students will be able to

CO1. Understanding the importance of group propertiesworking with number systems.

CO2. Generate groups given specific conditions.

CO3. Investigate symmetry using group theory.

CO4. Identify the various algebraic structures with their corresponding binary operations.

CO5. Generalize the groups on the basis of their orders, elements, order of elements and group relations

CO6. Compute the possible subgroups of given group of specific orders and will recognize them.

CO7. Determine Polar coordinates, Angle of intersection of curves.

CO8. Analysing Polar sub tangent and polar subnormal perpendicular from pole to the tangent, Pedal equations in various forms.

CO9. Trace the Curves.

CO10. Finding Area, Volume of revolution invarious forms.

CO11. Find Solutions to ODE of first order and degree, Linear equations, Bernoulli equations and exact equations.

CO12. Analyse orthogonal trajectories in Cartesian and Polar forms.

B.Sc., 3rd Semester

❖ **Groups, Sequences and series of Real Numbers and Differential Calculus:**
On successful completion of the course students will be able to

CO1. Demonstrate when a binary algebraic structure forms a group.

CO2. Determine possible subgroups of a group and identify normal subgroups of a group

CO3. Explain group and subgroup orders using Lagrange's theorem.

CO4. Identify cyclic subgroups and their generators.

CO5. Determine if an infinite sequence is bounded.

CO6. Determine if an infinite sequence is monotonic.

CO7. Determine if an infinite sequence is convergent or divergent.

CO8. Find the sequence of partial sums of an infinite series.

CO9. Determine if a geometric series is convergent or divergent.

CO10. Find the sum of a convergent geometric series.

CO11. Determine if an infinite series is convergent or divergent by selecting the appropriate test from the following: (a) test for divergence; (b) integral test; (c) p-series test; (d) the comparison tests; (e) alternating series test; (f) absolute convergence test; (g) ratio test; and (h) root test.

CO12. Determine if an infinite series converges absolutely or conditionally.

CO13. Find the Maclaurin and Taylor series expansions of given functions

CO14. Calculate the limit of a function at a point numerically and algebraically using appropriate techniques including L'Hospital's

B.Sc., 4th Semester

❖ **Algebra –IV, Fourier Series, Laplace Transforms and Differential equations–II**

CO1. Analyse Normal subgroups, Quotient group, Homomorphism and Isomorphism of groups properties related to isomorphism-Permutation group (Cayley's theorem).

After the completion of the course students will be in a position to solve

CO1. Initial and Boundary value problems

CO2. Solutions to applications in Fourier Transforms and Finite Fourier transforms

CO3. Find solutions of differential equations by applying Laplace Transform

CO4. Recognize the different methods of finding Laplace transforms and Fourier transforms of different functions.

CO5. Apply the knowledge of Laplace Transforms, Fourier. Transforms, and Finite Fourier transforms in finding the solutions of differential equations

CO6. Find solutions of Initial value problems and boundary value problems.

CO7. Distinguish between linear, nonlinear, partial and ordinary differential equations.

CO8. Recognize and solve a homogeneous differential equation.

CO9. Recognize and solve a linear differential equation by use of an integrating factor

CO10. Make a change of variables to reduce a differential equation to a known form.

CO11. Find particular solutions to initial value problems.

CO12. Solve basic application problems described by first order differential equations.

CO13. Identify ordinary and singular points.

CO14. Solve few types' differential equations that arise in several branches of science.

B.Sc., 5th Semester

❖ **Rings, Integral domains, Fields, Numerical methods, Differential Calculus of Scalar -Vector fields and Line , Multiple integrals and Integral theorems**

After completing the course, students will able to

CO1. Analyze and demonstrate examples of ideals and quotient rings

CO2. Use the concept of isomorphism and homomorphism for rings

CO3. Assess properties implied by the definitions of rings and modules

CO4. Confidently apply algebraic concept.

CO5. Approximate a function using an appropriate numerical method.

CO6. Solve a linear system of equations using an appropriate numerical.

CO7. Calculate a definite integral using an appropriate numerical method.

CO8. Memorize definition of directional derivative and gradient and illustrate geometric meanings with the aid of sketches.

CO9. Memorize theorem relating directional derivative to gradient and reproduce proof.

CO10. Calculate directional derivatives and gradients.

CO11. Apply gradient to solve problems involving normal vectors to level surfaces

CO12. Compute double integrals, applications to area and volume, Green"sthm in the plane and the change of variables in double integrals.

CO13. Calculate line integrals along piecewise smooth.

CO14. Calculate the fundamental theorem of line integrals.

CO15. Using Green's theorem they can analyse the line integrals along simple closed contours on the plane.

CO16. By Applying Stokes' theorem they can compute line integrals along the boundary of a surface.

CO17. Using Stokes' theorem they can analyse physical interpretation of the curl of a vector field.

CO18. Using the divergence theorem they can analyse physical interpretation of the divergence of a vector field.

B.Sc., 6th Semester

Linear Algebra, Partial Differential Equations and Complex Analysis

After completing this course student will be able to

CO1. Use the concept of basis and dimension of vector spaces linear dependence and linear independence, to solve problems.

CO2. Use the concept of inner product spaces to find norm of vectors, distance between vectors, and check the orthogonality of vectors, to find the orthogonal and orthonormal basis.

CO3. Apply the properties of linear transformations to linearity of transformations, kernel and rank of linear transformations, inverse transformations to solve the problems of matrix transformations, change of basis.

CO4. Solve examples on Charpit"s method

CO5. Solve wave equations, heat equations, boundary value problems, Laplace equations, Cauchy problem for different regions.

CO6. Classify the various second order partial differential equations.

CO7. Complex numbers will provide a satisfying extension of the real numbers, learn techniques of Complex Analysis that make practical problems easy(Eg.Graphical rotation and scaling as an example of Complex multiplication).

CO8. To convert from polar coordinates to rectangular coordinates and vice-versa

CO9. Easily describe domains and compute limits in the complex plane.

CO10. To verify analyticity of functions.

CO11. To use the Cauchy-Riemann equations to obtainthe derivative of complex functions

CO12. To Use line and contour integration to evaluate integrals.

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Course Outcomes (COs) I SEM, B.Sc
Physics Paper - 101

On the successful completion of the course, students will be able to

CO1	Understand the static and dynamic properties of matter, as well as theories and applications related to matter.
CO2	Understand the fundamentals of Newton's laws of motion, Static and dynamic friction, terminal velocity.
CO3	Understand the knowledge of Non-inertial frames of reference, Rotating coordinate system, pseudo forces, Centrifugal and Coriolis forces.
CO4	Understand the fundaments of Work energy and conservation laws.
CO5	To Study the Concept of potential energy, law of energy conservation, momentum, impulse, collisions, elastic and inelastic collisions, conservation of momentum, ballistic pendulum, rocket motion.
CO6	Understand the knowledge of Motion due to gravitation, Newton's law of gravitation and Kepler's laws.
CO7	Understand the concept of Motion of rigid bodies.
CO8	To study the Periodic motion Amplitude, period, frequency of period of oscillations, Simple and Physical pendulum and forced oscillations.
CO9	To Study the Surface tension Molecular interpretation of surface tension; Surface energy; Angle of contact.
CO10	To Study the Elasticity and plasticity, Stress and strain, elastic moduli, relationship between elastic constants, Poisson's ratio, work done in stretching a wire, bending of beams, bending moment.
CO 11	Concept of Viscosity, Laminar flow, the coefficient of viscosity, Poiseuille's method of measuring viscosity, temperature dependence of viscosity.

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Course Outcomes (COs) III SEM, B.Sc
Physics Paper - 301

CO1	Understand the Basic Concepts and the Concept of Voltage and Current Sources, Kirchhoff's Current Law, Kirchhoff's Voltage Law (statements). Principle of Duality (voltage and current source equivalents).
CO2	Acquisition of complete knowledge of Thevenin's Theorem (statement and proof), Superposition Theorem(statement and proof), Norton's Theorem (Statement and explanation). Reciprocity Theorem. Maximum Power Transfer Theorem (statement and proof).
CO3	To study the concept of **Transient currents :** Self inductance – definition, explanation, expression $L=\mu N2Al$; Magnetic field energy stored in an inductor; Growth and decay of charge in series RC circuit, Growth and decay of current in series LR circuit, Decay of charge in series LCR circuit - Damped, under-damped and over-damped conditions
CO4	Acquisition of complete knowledge of **Magnetic Field and Forces :** Force on a moving charge in a magnetic field, Lorentz force and definition of **B**, force on a current carrying conductor in uniform magnetic field, Force between parallel conductors; Definition of ampere
CO5	To get flavour of Biot – Savart's law, Magnetic field due to a straight current carrying conductor (Derivation for Finite/Infinite Length, Amperes swimming rule, Right hand palm rule), Magnetic field of a circular loop .
CO6	Understanding of Force and torque on a circular current loop in a magnetic field, magnetic dipole moment, Field on the axis of a solenoid (derivation and explanation), Principle and theory of a moving coil BG, Concept of dead beat galvanometer, determination of high resistance by leakage, theory of HTG, Ampere's Circuital law (statement), Application of Ampere's law to straight wire, solenoid and toroid
CO7	A detailed understanding of **Scalar and vector fields :** Gradient of a scalar function (use of del operator), Divergence and Curl product rules (explanation with geometrical representation), Line, surface and volume integrals (explanation with examples), Fundamental theorem for divergence and curl (statements only).
CO8	To study the **Electromagnetic waves,** Equation of Continuity, Displacement Current, Maxwell's equations in differential form (Derivation and physical significance), Derivation of wave equation (for one dimension), Velocity of em waves in free space and isotropic dielectric medium(derivation),
CO9	Concept of **Alternating current** rms and average value of ac – definition and expressions, Representation of sinusoids by complex numbers (brief explanation), response of LR, CR and LCR series circuit to sinusoidal voltage – j operator method
CO10	To Study the Kinetic Theory of Gases Basic assumptions of the kinetic theory; Derivation of $pV = 1/3\ mnC^2$- deduction of perfect gas equation; Maxwell's law of distribution of velocity.

CO 11	Thorough understanding of **Thermoelectricity** Seebeck effect (brief explanation, experiment and temperature dependence), Thermoelectric series, Neutral temperature, Laws of thermoelectricity (qualitative), Peltier effect, Peltier coefficient (qualitative analysis), Thomson effect, Thomson coefficient (qualitative analysis)
CO 12	Understanding of Applications of thermoelectricity - Boys' Radio-micrometer, thermopile and thermoelectric pyrometer (brief explanation with experimental setup).

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Course Outcomes (COs) II SEM, B.Sc
Physics Paper - 201

On the successful completion of the course, students will be able to

CO1	Understand the Basic Concepts and the zeroth law of thermodynamics, Macroscopic and microscopic descriptions of a system; Thermal Equilibrium - Zeroth Law of Thermodynamics; Concept of temperature; Thermodynamic equilibrium; Thermodynamic coordinates.
CO2	Thorough Understanding of First Law of Thermodynamics, Second Law of Thermodynamics Reversible and irreversible processes; Carnot Cycle and its efficiency.
CO3	To study the concept of Entropy, Entropy of an ideal gas; Entropy change in adiabatic and isobaric process; Entropy and disorder.
CO4	Acquisition of complete knowledge of Thermodynamic potentials Internal Energy; Enthalpy; Helmholtz free energy; Gibbs free energy and their significance; Maxwell's thermodynamic relations and their significance.
CO5	To get flavour of Phase transitions of the first order Melting, vaporization and sublimation; Condition of equilibrium of phases in terms of Gibbs potential; Clausius - Clapeyron equation.
CO6	Understanding of Heat transfer, thermal conduction, coefficient of thermal conductivity, conduction along a bar Reynolds's number
CO7	A detailed understanding of Low Temperature Physics Methods of producing low temperatures: (i) Joule Thomson (Joule Kelvin / Throttling / Porous plug) experiment, Joule Thomson Coefficient.
CO8	To study the Liquefaction of gases Cascade process; Regenerative cooling coupled with Joule Thomson cooling.
CO9	Concept of Black body radiation Kirchhoff's law, perfect black body, Stefan-Boltzmann law, spectral energy distribution, Wien's displacement law, Rayleigh-Jeans law Planck's distribution (derivation).
CO10	To Study the Kinetic Theory of Gases Basic assumptions of the kinetic theory; Derivation of $pV = 1/3\ mnC^2$- deduction of perfect gas equation; Maxwell's law of distribution of velocity.
CO 11	Thorough understanding of Transport Phenomena Viscosity and thermal conduction in gases (with derivation); Relation between coefficient of viscosity and coefficient of thermal conductivity of a gas.
CO 12	Understanding of Real Gases Derivation of vander Waal's equation of state; Andrews experiments on Carbon dioxide; Derivation of the critical constants; Comparison of vander Waal's isotherms with Andrew's isotherms

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Course Outcomes (COs) V SEM, B.Sc
Physics Paper - 501

CO1	Understand the Basic Concepts **STATISTICAL PHYSICS** Specification of state of the system, Macro state, Micro State, Phase Space, Basic postulates of Statistical Physics ; Ensemble (Micro – canonical, canonical and grand canonical ensembles)
CO2	Acquisition of complete knowledge Maxwell – Boltzmann Distribution function, **Bose – Einstein Statistics :** B-E distribution function
CO3	To study the concept of Radiation as photon gas, Bose's derivation of Planck's law, Rayleigh-Jeans law, Wein's law
CO4	Acquisition of complete knowledge of Fermi-Dirac distribution function; Fermi sphere and Fermi energy, Fermi gas
CO5	To get flavour of Failure of Classical Physics to explain the phenomena such as stability of atom, atomic spectra, black body radiation, photoelectric effect, Compton effect and specific heat of solids, Planck's quantum theory, Explanation of the above effects on the basis of quantum mechanics
CO6	Understanding of failure of classical theory, quantum mechanical explanation, Photoelectric effect -Einstein's explanation, Compton Effect – mention of expression for wavelength shift (no derivation), Specific heat of solids - Einstein's and Debye's explanation of specific heat
CO7	A detailed understanding de Broglie's hypothesis of matter waves (λ in terms of momentum, energy, temperature for monoatomic gas molecules); Thomson's experiment; Davisson and Germer's experiment – normal incidence method; Concept of wave packet, Group velocity and particle velocity
CO8	To study the Fixed gases and variable gases; Temperature structure of the atmosphere; Hydrostatic balance, Variation of pressure with altitude, scale height; Relative and Absolute humidity
CO9	Concept of Beer's law (derivation); Global energy balance for earth – atmosphere system, Greenhouse effect; Atmosphere dynamics
CO10	To Study the Electron confinement (0D, 1D, 2D- energy levels as a particle in a box); Size effect-Surface to volume ratio; distinction between nanomaterials and bulk materials in terms of energy band
CO 11	Thorough understanding of Fuel cells, catalysis, phosphors for HD TV, next generation computer chips, elimination of pollutants, sensors

CO1	Understand the Basic Concepts Huygen's wave theory of light; Huygen's principle, construction Huygen's wave front, Laws of reflection and refraction using spherical wave for at a plane surface
CO2	Acquisition of complete knowledge Coherent sources and their production; Conditions for observing interference (mention); Conditions for constructive and destructive interference (mention)
CO3	To study the concept of Biprism-theory and working, experiment to determine wavelength; Effect of thin film in the path of one of the beams; Calculation of thickness
CO4	Acquisition of complete knowledge of **Coherent sources by division of amplitude:** Interference at thin films - reflected and transmitted light, Colours of thin films; Theory of air wedge; Theory of Newton's rings (Only reflected System). Determination of Refractive index of a liquid
CO5	To get flavour of **Diffraction - Fresnel diffraction** Concept of Fresnel's half period zones; Theory of rectilinear propagation; Fresnel diffraction, Construction and working of Zone plate
CO6	Understanding of Theory of single slit diffraction; Theory of grating - normal and oblique incidence - Experimental determination of wavelength; Discussion of Dispersive power
CO7	A detailed understanding of **Polarization** Review of plane polarized light and method of production; Double refraction at crystals; Huygens' explanation of double refraction; Theory of retarding plates - Quarter wave plates and Half wave plates; Theory of superposition of two plane polarized waves with perpendicular vibrations.
CO8	To study the **Lasers** Introduction; Spontaneous and stimulated emission; Einstein's coefficients and optical amplification; Population inversion; Main components of a laser; Lasing action; Ruby Laser - construction and working - energy level diagram; He-Ne Laser - construction and working - energy level diagram.
CO9	Concept of **Alternating current** rms and average value of ac – definition and expressions, Representation of sinusoids by complex numbers (brief explanation), response of LR, CR and LCR series circuit to sinusoidal voltage – j operator method.
CO10	To Study the **Fourier Series**: Periodic functions. Orthogonality of sine and cosine functions, Dirichlet Conditions (Statement only). Expansion of periodic functions in a series of sine and cosine functions and determination of Fourier coefficients.

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CO 11	Thorough understanding of Optical fiber-principle, description and classification; Coherent bundle; Numerical aperture of fiber; Attenuation in optical fibers

CO1	Understand the Basic Concepts of **Parallax and distance:** Helio-centric parallax, Definition of parsec (pc), Astronomical unit (AU), light year (ly) and their relations
CO2	Acquisition of complete knowledge of **Luminosity of stars:** Apparent brightness, Apparent magnitude - scale of Hipparchus. Absolute magnitude - distance
CO3	To study the concept of **Stellar classification:** Pickering classification and Yerke's luminosity classification. H-R diagram, Main sequence stars and their general characteristics.
CO4	Acquisition of complete knowledge of **Evolution of stars:** Stages of star formation (GMC – Protostar- T-Tauri) and main sequence evolution, White dwarfs, Pulsars, Neutron stars and Black holes
CO5	To get flavour of **Gravitational potential energy** or self energy of a star based on the linear density model, Statement and explanation of Virial theorem.
CO6	Understanding of **Crystal systems and X-rays:** Crystal systems-Bravais lattice; Miller indices– Spacing between lattice planes of cubic crystals, Continuous and characteristic X-ray spectra
CO7	A detailed understanding of **Free electron theory of metals :** Electrical conductivity- classical theory (Drude-Lorentz model); Thermal conductivity; Wiedemann - Franz's law; Density of states for free electrons
CO8	To study **Superconductivity :** Introduction – Experimental facts – Zero resistivity – The critical field – The critical current density – Meissner effect, Type I and type II superconductors– BCS Theory
CO9	Concept of metals, semiconductors and insulators based on band theory. Intrinsic semiconductors - concept of holes – effective mass - expression for carrier concentration(derivation for both holes and electrons) and electrical conductivity
CO10	To Study the Formation of P-N junction, depletion region, Biased P-N junction, variation of width of the depletion region, drift and diffusion current – expression for diode current.
CO 11	Thorough understanding of **Special Diodes:** Zener diode – characteristics and its use as a voltage regulator. Photo diodes, Solar cells and LED (principle, working and applications).
CO 12	Understanding of Transistors, **Transistor action,** Characteristics (CE mode), DC Biasing , Load line analysis (Operating Point, Fixed Bias – Forward bias of Base – Emitter, collector

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Course Outcomes (COs) VI SEM, B.Sc
Physics Paper - 601

CO1	Understand the Basic Concepts of Vector Model of the Atom Review of Bohr's theory of hydrogen atom, Sommerfeld's modification of the Bohr atomic model (qualitative). Spatial quantization and spinning electron
CO2	Acquisition of complete knowledge of Molecular Physics: Pure rotational motion, Spectrum and selection rules; Vibrational motion, vibrational spectrum and selection rules
CO3	To study the concept of Radioactive detectors and acceletors
CO4	Acquisition of complete knowledge of NUCLEAR REACTIONS : Types of reactions, Conservation laws in nuclear reactions with examples, derivation of Q – value for reactions using the energy – momentum conservation
CO5	To get flavour of ELEMENTARY PARTICLES : Classification of elementary particles
CO6	Understanding of Symmetries and Conservation Laws (momentum, energy, charge, parity, lepton number, baryon number, isospin, strangeness and charm); Concept of Quark Model

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Course Outcomes (COs) VI SEM, B.Sc
Physics Paper - 603

CO1	Understand the Basic Concepts of Block Diagram of an OPAMP, Characteristics of an Ideal and Practical Operational Amplifier (IC 741), Open loop configuration
CO2	Acquisition of complete **of** Feedback concepts, Advantages of feedback, types of feedback, Expression for Gain; OPAMP as a feedback amplifier – Non – Inverting and Inverting amplifier
CO3	To study the concept of **Linear Applications** - frequency response of Low pass, high pass and band pass filters (first order), inverting summing amplifier, ideal Differentiator, Integrator;
CO4	Acquisition of complete knowledge of **Positive Feedback concept** - oscillator operation –Barkhausen Criterion; Types of oscillator circuits
CO5	To get flavour of **Number Systems** : binary, octal, hexadecimal (interconversions); Number codes : BCD, Gray Code
CO6	Understanding of Magnetic intensity, magnetic induction, permeability, magnetic susceptibility, magnetization (M), Classification of Dia – , Para –, and ferro – magnetic materials;
CO7	A detailed understanding of **Dielectrics** : Static dielectric constant, polarizability (electronic, ionic and orientation), calculation of Lorentz field
CO8	To study The concept of wave function, physical significance of wave function. Development of time dependent and time independent Schrodinger's wave equation

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Programme Outcomes (POs) B.Sc Physics

Programme outcome of Physics in programmes like PCM.

Physics is the basic branch of science which explains the entire natural phenomenon occurring in our nature. The laws of physics explain the microscopic and macroscopic particles in our surroundings.

- Learning Physics enhances problem solving ability, critical and analytical thinking.

- Physics students are able to connect basic science and technology in day to day life.

- The knowledge in physics provides various opportunities in the field of science and technology.

- The natural phenomenon occurring in our everyday life can be explained in the basis of Physics.

- The programme encourages the students to pursue higher education and research work in the field of Mechanics, Astrophysics, Nanomaterials, Quantum Mechanics and Materials Science etc.

Department of Sociology

Programme Outcome
Bachelor of Arts

The department adopts both inputs based and outcome-based methodology of teaching learning, that helps to achieve effective communication of the courses.

COs, POs, PSOs

Course – SOC 101: (Semester I) Fundamentals of Sociology
Objectives of the course
1. To understand the basic concepts of Sociology
2. To study the relationship between sociology and other social sciences
3. To study the different branches of sociology
4. To understand the process of socialization and its importance

Course Outcomes
CO1: Introducing the subject Sociology, its origin, subject matter, importance of sociology.
CO2: Acquaint with different branches of sociology as, Rural Sociology, Urban Sociology.
CO3: Initiate to the basic concepts- social structure, social function, status-role phenomena.
CO4: Explain the system of social control, and informal and formal means of regulating human behaviour.
CO5: Give an understanding of system of stratification, its various forms such as Caste system, Class system
CO6: Means available for achieving social mobility, and types of social mobility identified by sociologists are taught.
CO7: Concept of culture, its meaning as in sociology, its nature, elements are introduced.
CO8: Process of socialization, and how a human infant becomes a social being is explained.
CO9: Comprehensive picture about sociology and its significance emerges.

Course – SOC 151: (Semester II) Social Institutions and Social Change
Objectives of the Course
1. To make students understand basic social institutions.
2. To study the necessity and importance of social institutions.
3. To study the concept of primary institutions.
4. To study the concept of social change and dynamics.
5. To analyse the factors and theories of social change.

Course Outcomes
CO1: Learn to identify and assess the importance of social institutions.
CO2: Distinguish between Primary and Secondary institutions.
CO3: Know the fundamental institutions as marriage, family and their importance.
CO4: Understand the role of religion in guiding human thought and social action.
CO5: Explain the institution of importance of education and the functions it performs.
CO6: Distinguish between Informal and formal educational system.
CO7: Examine the process of social change and its effects on social life.
CO8: Describe the theoretical perspectives of social change.

Course – SoC 201: (Semester III) Study of Indian Society
Objectives of the course
1. To provide sociological understanding of rural and urban society in India.
2. To acquaint students with basic concepts in rural and urban studies.
3. To analyse rural and urban problems in India.
4. To impart skills to reconstruct rural institutions, evaluate rural development.
5. To understand the linkages between rural and urban reality.

Course outcomes
CO1: Inform the students about racial and religious diversity of India.
CO2: To acquaint them of cultural and linguistic differences of India.
CO3: Analyse problems of integration and efforts to achieve unity in diversity.
CO4: Describe social organisation- structures of caste & class.
CO5: Explain about Scheduled Caste, Scheduled Tribes, OBCs.
CO6: Discuss emerging trends in recent times.
CO7: Explain rural community, its nature, problems & solutions.
CO8: Discuss urban community, its history, nature, issues and solutions.
CO9: Study institutions of marriage & family, their features and recent developments.

Course – SoC 251: (Semester IV) Crime and Society
Objectives of the course

Course outcomes
CO1: Introduction to Applied Sociology by initiating to one of the major problems of society, namely crime. How sociology studies it scientifically and suggests remedies.
CO1: Get to introduce concepts of social conformity, deviance and crime.
CO2: Understand types and causes of deviance & crime, and sociological theories of criminal behaviour.
CO3: Learn to differentiate various criminalities, as organised crimes - white collar crimes, terrorism. Modern strategies to combat terrorism.
CO4: Study in some detail about violence against women, and its changing nature and how societies are approaching to control and reduce it.
CO5: Come to know of Juvenile delinquency - its causes and remedies.
CO6: Get to know of the whole system of correction of criminal behaviour, and its changing perspective and methodology.

Course – SOC: (Semester V) Paper 5 Sociology of Women
CO1: Introduce the study of women, interpret the sociological approaches to the understanding of their issues.
CO2: Analyse the concept of feminism, its changing nature and the women's liberation movement.
CO3: Exposure to women's movement in India, various stages of its growth, and differentiate it with the western movement.
CO4: Understand the social construction of gender and its ramifications.
CO5: Learn to analyse cultural images, and negative stereotypes of women in Indian society.
CO6: Issues and challenges of women empowerment in India.
CO7: Examine the policies and programmes of women empowerment in India.
CO8: Exposure to portrayal of women in media, exploitation of them in media and advertisement.

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Course – (Semester V) Sociology Paper 6 Sociology of Health and Medicine

CO1: Introduction to Sociology of health and concepts of health and disease.
CO2: Understand cultural and social meanings of health and disease.
CO3: Explain major social issues related to health and health care.
CO4: Understand India's major diseases, their social reasons
CO5: Get to know of health systems in India- Ayurveda, Homeopathy, & Allopathy.
CO6: Hospitals as social organisations, changing nature of relations in hospital organisation - between doctor and patient, and nurses.
CO7: Describe health care administration in India.
CO8: Demonstrate about health policies of the Central and State Government.
CO9: Discuss Health as a fundamental right.

Course – (SemesterVI) Sociology Paper 7 Methods and Techniques of Social Research

CO1: Imparting knowledge of Research, Social Research, and its nature & importance
CO2:
CO3:
CO4:
CO5:
CO6:
CO7:
CO8:

APS College of Arts and Science
Department of Political Science
Course outcome of Political Science 2019-2020 & 2020-2021

First year BA – 1ˢᵗ Sem
Paper 1 – Core concepts of Political Science:

1. To understand the meaning and importance of Political Science.
2. To understand the scope and approaches of Political Science.
3. To understand the concept of State and elements of State.
4. To evaluate the theories of state.
5. To know about the meaning, features, kinds and theories of Sovereignty.
6. To learn the meaning and kinds of Law, Liberty, Equality, Rights, Duties, Power, Authority etc.

First year BA – 2ⁿᵈSem
Paper 2 – Political Theory:

1. To understand the scope, nature and importance of Political theory.
2. To understand the various Traditional and Modern theories of Political Science.
3. To know about the meaning, features and theories of Liberalism and Socialism.
4. To acquaint with the meaning, kinds and theories of Democracy.
5. To learn the ideologies of Imperialism, Colonialism, Gandhism, Fascism, Feminism.

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Department of Political Science
Course outcome of Political Science 2019-2020 & 2020-2021

Second year BA – 3rd Sem
Paper 3 – Indian Government and Politics:

1. To understand the government of India Acts and philosophy of Indian Constitution.
2. To know the salient features of Indian constitution.
3. To appreciate the fundamental rights and directive principles of state policy.
4. To create value in youth regarding fundamental duties.
5. To understand preamble and constituent assembly.
6. To understand and evaluate the functioning of Legislature, Executive and Judiciary in India.

Second year BA – 4th Sem
Paper 4 – Indian Constitution - Processes:

1. To understand the features of Unitary and Federal government.
2. To know union – state relations and state autonomy.
3. To analyze amendment procedures and important amendments of the Indian Constitution.
4. To understand political parties and pressure groups.
5. To evaluate Electoral System.
6. To understand Secularism, Communalism, Social movements.

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Department of Political Science
Course outcome of Political Science 2019-2020 & 2020-2021

Third year BA – 5th Sem
Paper 5.1 – Indian Constitution – Institutional Framework:

1. To understand the philosophy of Indian Constitution.
2. To create value in youth regarding fundamental duties and DPSP.
3. To know the salient features of Indian Constitution.
4. To understand preamble and constituent assembly.
5. To appreciate the fundamental rights.
6. To evaluate the functioning of Legislature, Executive, and Judiciary in India.

Third year BA – 5th Sem
Paper 5.2 – International Politics:

1. To understand the nature, scope and importance of International Politics.
2. To analyze the theories of International Politics.
3. To understand the concept of National Power and Diplomacy.
4. To appreciate the features and relevance of Foreign Policy.
5. To understand International Law and Human Rights.
6. To analyze Balance of power, Collective security, Arms control and disarmament.

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Department of Political Science
Course outcome of Political Science 2019-2020 & 2020-2021

Third year BA – 6ᵗʰ Sem
Paper 6.1–Major Constitutional System:

1. Exploring the Constitution of UK
    a. Salient Features
    b. Legislature
    c. Executive
    d. Judiciary
    e. Political Parities
2. Exploring the Constitution of USA
    a. Salient Features
    b. Legislature
    c. Executive
    d. Judiciary
    e. Political Parities
3. Exploring the Constitution of Russia
    a. Salient Features
    b. Legislature
    c. Executive
    d. Judiciary
    e. Political Parities
4. Exploring the Constitution of Switzerland
    a. Salient Features
    b. Legislature
    c. Executive
    d. Judiciary
    e. Political Parities

Third year BA – 6ᵗʰSem
Paper 6.2 –International Institutions and Foreign Policies:

1. To analyze the evolution and growth of International organizations.
2. To understand UNO – Achievements and Shortcomings.
3. To appreciate and understand major issues of the World – WTO, SAARC, ASEAN.
4. To appreciate the foreign policies of USA, Russia and China.
5. To learn about Indian foreign policy.

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APS College of Arts and Science
Department of Political Science
Program specific outcome of Political Science 2019-2020 & 2020-2021

- PSO 1 – Understanding the nature and developments of core concepts of Political Science.
- PSO 2 – Analyzing Political theory of medieval and modern period.
- PSO 3 – Analyzing the Indian constitutional provisions, major institutions and reforms.
- PSO 4 – Understanding the working of democratic institutions in India.
- PSO 5 - Analyzing the Indian constitutional provisions, major institutions and reforms.
- PSO 6 – Examining International Politics, National Power, Foreign Policy and International Law.
- PSO 7 – Encouraging a comprehensive, comparative understanding specific world constitutions such as UK, USA, Russia and Switzerland.
- PSO 8 – Analyzing the working of UNO and other regional institutions. Examining the Foreign Policy of India, America, China and Russia.

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PROGRAM OUTCOME – M.A. ECONOMICS – 2019-2020

M.A in Economics program offers various courses which are indispensable for understanding the economy in various facets. Students can become sound economists and able to tackle various problems of the economy and they can become managers, teachers, professors, and also can work for the different sectors of the economy like banking, marketing, production, human resources, data analytical scientists in the changing economy.

➤ Studying economics can make the students to understand the theoretical background of the economy.

➤ They can bridge the gap between the theory and practical related to the real economic situations.

➤ Acquire a sound knowledge related to key sectors of the economy and policy making at the macro level.

➤ The policy frame work including Monetary and Fiscal policies and also other policies can be understood in a better way.

➤ Can work as teachers, Professors, officers at RBI, Banks and Managers at various business houses, IES officers, Insurance officers etc.

➤ They further go through research such as Ph.D. and M. Phil courses.

PROGRAM SPECIFIC OUTCOME – M.A ECONOMICS 2019-2020

The study of economics gives an idea about the proper utilization of resources by the individual and collective manner. It looks into the various contents such as consumption, production, investment, income, money and so on. And it helps the people who learned about behaviour of these elements in the economy.

Economic helps to build models on various economic variables such as demand, supply, money, business, production costs etc. on the grounds of theoretical and practical knowledge. Economists can able to formulate the policies based on the theoretical information which are essential for the smooth functioning of the economy. Now a day there are very much scope for the policies for economic wellbeing of the people and drawing the attention of the economists including all the sectors of the economy.

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income, savings, consumption, investment and employment.

- ✓ Fundamentls of macro economic factors such as static and dymnamics can be assessed.
- ✓ The determination of interest rates can be esalily assessed with the help of classical and neoclassical models and derivation of IS-LM curves.
- ✓ Provides information on the aggregate investments and various theories of investments.
- ✓ Hepls in a better way to understand price fluctuations with various theories of inflation.
- ✓ Can be evaluate the formulations of macroeconomic policies such as Monetary and Fiscal policies in stabilizing the economy.

MATHEMATICAL METHODS IN ECONOMICS

Objectives:

- ➢ To familiarize the basic mathematical methods like linear algebra, geometry, integral calculus and linear programming.
- ➢ To develop the mathematical application in economic theories.
- ➢ To improve the computational skills.

Course outcomes:

- Improve the number crunching skills and helps to understand the basic arithmetic.
- The concept of number system and geometry helps to measure the consumer surplus, producer surplus, profit and loss.
- The application of linear algebra improves the skill of calculation of equilibrium output, market stability and Input-Output model.
- The practical knowledge will be increased with the study of calculus in the calculation of slope of a curve, utility, cost and revenue.
- Helps to find the solution for market stability.
- The application of Game Theory helps to understand the strategic behaviour and profit approaches for the firms in different market types.

- ✓ Understand the Economic Ideas of Austrian School, Hedonist School, Lousane Mathematical School and Swedish school.
- ✓ Familiarize the Economic Ideas of J.B. say, J.S. Mill and Nassau William Senior.
- ✓ Examined Keynesian revolution and the Monetarist counter revolution aspects.
- ✓ Students understand about Heterodoxy Economics, feminist Economics and Ecological economics.

ADVANCED MICROECONOMICS-II

Course Objectives

- ➢ To undersand advanced microeconomic theory comprising of topics in Welfare economics,
- ➢ To give an insight on topics like Walrasian and non-Walrasian general equlibrium, risk and uncernatity and economics on information.
- ➢ To develop the skill on measurement issues by solving numerical problems.

COURSE OUTCOME

- ✓ It helps the students to understand the general equilibrium theories to policy frame work for income distributions in the society.
- ✓ It helps to understand the exact contribution of the factors of production and policy implications to enhance the welfare of the people.
- ✓ It can make the students to understand the contributions of various economists and their approaches towards the theory of risk and uncertainty.
- ✓ It enables the students to examine the equilibrium in the market in terms of Walrasian and non-Walrasian aspect.
- ✓ It helps the students to understand the information structure in microeconomic models along with asymmetric information and moral hazards.

ADVANCED MACROECONOMICS-II

Course Objectives

- ➢ To teach he advance macroeconomic theory comprising the models and theories in open macroeconomics, new classical revolution and models, new Keynesian models and theory of growth.

AGRICULTURAL ECONOMICS

Course objectives:-

1. To familiarized the role and significance of agriculture sectors growth in India.
2. To study various theories of agricultural growth and development.
3. To evaluate the changes in agriculture sector in global economy.

Course Outcomes:-

❖ Understand the nature, scope and growth of agriculture sector in India.
❖ Provides an insight to students on the influential factors of agricultural production in India.
❖ Understand various theories of agricultural growth and development.
❖ Understand the methods for constructing of the Index of agricultural production.
❖ Evaluate the factors determines the prices for agricultural products in India.
❖ Realize the need of proper exploitation of resources and techniques to increase agricultural production.

DEVELOPMENT ECONOMICS

Objectives:

➢ To familiarize the students with the concept, structure and current issues in the economics of development.

➢ To acquaint them with the theories of development and growth, their applications, critics and the 'state of art' understanding.

Course outcomes:

- Provides information about the Structural Diversity and common characteristics of Developing Nations.

- Helps to understand concept of Sustainable development and various determinants measuring development.

- It provides information about theories of economic development and Technical Dualism.

- There is a clear picture about growth models and endogenous growth theory.

- It helps to analyse the role of political institutions and State in economic development and its changing roles.

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ENVIRONMENTAL ECONOMICS

Objectives: -

> ➤ To familiarize the students with the concepts of Environmental Economics.
> ➤ To learn about the principles and theories of optimal use of natural resources.
> ➤ To understand the concepts Global warming, Environmental Valuations methods, property rights, social costs.

Course Outcomes:-

- Realize the nature and importance of Environmental Economics.
- Understand the causes and effects of Environmental pollutions like air, water, noise, soil etc.
- Suggest appropriate policy measures to control Environmental Degradation.
- Understand the concepts of Pigouvian taxes and Subsidies, Coase's bargaining solution and collective bargaining.
- Realize the importance of manpower involvement in Environmental up gradation.
- Analyse the Global Environmental externalities and Global warming.
- Find out the appropriate policy suggestions to improve the quality of Environment.
- Understand about tradable pollution permits and International Carbon Tax.

PUBLIC ECONOMICS

Course Objectives

> ➤ To enable the students to understand regulatory and development responsibility of government and changes in their policies.
>
> ➤ To enumerate the theoritical and empherical diemensions of piblic goods and public choice.
>
> ➤ To understand the fiscal fedralism with special reference to Indian context.
>
> ➤ To understand the fiscial management issues in India.

COURSE OUTCOME

> ✓ It helps the students to understand the role of modern state in economic development.
> ✓ It enables the students to know concept of market failure and rationale for government intervention.
> ✓ Students can understand the various instruments for the stabilization of Fiscal policy.

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PROGRAM OUTCOME – M.A. ECONOMICS – 2018-19

M.A in Economics program offers various courses which are indispensable for understanding the economy in various facets. Students can become sound economists and able to tackle various problems of the economy and they can become managers, teachers, professors, and also can work for the different sectors of the economy like banking, marketing, production, human resources, data analytical scientists in the changing economy.

- Studying economics can make the students to understand the theoretical background of the economy.
- They can bridge the gap between the theory and practical related to the real economic situations.
- Acquire a sound knowledge related to key sectors of the economy and policy making at the macro level.
- The policy frame work including Monetary and Fiscal policies and also other policies can be understood in a better way.
- Can work as teachers, Professors, officers at RBI, Banks and Managers at various business houses, IES officers, Insurance officers etc.
- They further go through research such as Ph.D. and M. Phil courses.

PROGRAM SPECIFIC OUTCOME – M.A ECONOMICS 2018-19

The study of economics gives an idea about the proper utilization of resources by the individual and collective manner. It looks into the various contents such as consumption, production, investment, income, money and so on. And it helps the people who learned about behaviour of these elements in the economy.

Economic helps to build models on various economic variables such as demand, supply, money, business, production costs etc. on the grounds of theoretical and practical knowledge. Economists can able to formulate the policies based on the theoretical information which are essential for the smooth functioning of the economy. Now a day there are very much scope for the policies for economic wellbeing of the people and drawing the attention of the economists including all the sectors of the economy.

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assessed.

- ✓ The determination of interest rates can be esaily assessed with the help of classical and neoclassical models and derivation of IS-LM curves.
- ✓ Provides information on the aggregate investments and various theories of investments.
- ✓ Hepls in a better way to understand price fluctuations with various theories of inflation.
- ✓ Can be evaluate the formulations of macroeconomic policies such as Monetary and Fiscal policies in stabilizing the economy.

RESEARCHMETHODOLOGY

Course Objectives

➢ To provide greater ability to the students to do the research in the future such as Projects and Ph.D.

COURSE OUTCOME

- ✓ It enables the students to understand the characteristics of social science research.
- ✓ It provides knowledge about various methods of research.
- ✓ It can make the students to review of literature to identify the research gap.
- ✓ Provides insights on drawing sample from the population to conduct the research.
- ✓ Can be useful to write the report on the research conducted.
- ✓ Students can conduct the research in the field after completing this course.

WELFAREECONOMICS

Course Objectives

➢ To provide enhanced knowledge on the policy frame work based on the theoretical perspectives of the welfare economics.

➢ Policy prescripetion can be made based on the micro economic theories at the macro level by completing this course.

COURSE OUTCOME

- ✓ It helps the students to understand the general equilibrium theories to policy frame work for income distributions in the society.

- ✓ It can provide insights towards understanding the concepts and principles of management functions.
- ✓ It enables the students to know the structure of the organisations.
- ✓ The students can also come up with understanding the leadership styles, quality of a good leader and manager in the organisation.
- ✓ Motivation theories can be understood to motivate the workers and sub ordinates of the organisation.
- ✓ Able to understand the management tools such as brain storming and SOWT analysis.
- ✓ Finally make the students to get managerial skills and can become a good manager in the organisations in the modern era by understanding the team work and group discussions.

Title of the paper: Mathematical Methods for Economics

Objectives:

- ➢ To familiarize the basic mathematical methods like linear algebra, geometry, integral calculus and linear programming.
- ➢ To develop the mathematical application in economic theories.
- ➢ To improve the computational skills.

Course outcomes:

- • Improve the number crunching skills and helps to understand the basic arithmetic.
- • The concept of number system and geometry helps to measure the consumer surplus, producer surplus, profit and loss.
- • The application of linear algebra improves the skill of calculation of equilibrium output, market stability and Input-Output model.
- • The practical knowledge will be increased with the study of calculus in the calculation of slope of a curve, utility, cost and revenue.
- • Helps to find the solution for market stability.
- • The application of Game Theory helps to understand the strategic behaviour and profit approaches for the firms in different market types.

Title of paper: Computer Application in Economic Analysis

Objectives:

- To study the basic components of computer.
- To understand the application of computer in economic analysis.
- To know the use of computer in data analysis.

Course Outcomes:

- Able to understand the components in types of computer.
- Helps in connecting the computers by using networking.
- Increase the skills of data record, sharing, cascading and attribute control.
- Understand the concepts of data base DBMS and RDBMS.
- Able to know the Series, Arithmetic, Progression, Geometric progression, Divergent and Convergent series.
- Application of time and frequency series in economics through computer.
- Increases the skill of application of Regression, Correlation and Trend analysis.

Title of the paper: Econometrics

Objectives:

- To know the basic models of Econometrics.
- To understand the Dynamic Econometric model.
- To study the Regression Analysis and its applications.

Course outcomes:

- Able to understand the simple and General Regression models.
- Improve the research skills and its application.
- Helps to understand properties and estimation of variables by using OLS Method.
- The application of Heteroscedasticity increases the understand capacity of distribution of the sample.
- Application of dummy variable improves the skill of data analysis.
- Helps to find the error in the result.
- Helps to draw the inference based on the results.

CO6 : Understand the role and significance of MSMEs, SSIs and cottage industries in the economic development.

CO7 : Understand the importance of MNCs and FDI in India economic development.

CO8: Evaluate the promotional strategies towards investment in infrastructure development in India.

CO9 : Understand India's achievements and failures in global economy.

CO10: Explored India's position in attainment of sustainable development and millennium development goals.

Economic Thought

Course objectives:-

1. To understand the historical background of economic analysis and its applications for current discussions in economics.
2. To describe the proper chronological and systematic progression of economic thought.
3. To understand economic ideas of different schools.

Course Outcomes:-

CO1 : Understand the nature, scope and origin of Economic Thought.

CO2 : Provides an insight to students on the growth of early economic thought and modern Economic Thoughts.

CO3 : Evaluate the Growth of socialists and Marxist Economic Ideas.

CO4 : Understand the interlink between subjectivism and Marginalize.

CO5: Understand the Economic Ideas of Austrian School, Hedonist School, Lousane Mathematical School and Swedish school.

CO 6 : Familiarize the Economic Ideas of J.B. say, J.S. Mill and Nassau William Senior.

CO7 : Examined Keynesian revolution and the Monetarist counter revolution aspects.

CO8 : Students understand about Heterodoxy Economics, feminist Economics and Ecological economics.

Agricultural Economics:

Course objectives:-

1. To familiarized the role and significance of agriculture sectors growth in India.
2. To study various theories of agricultural growth and development.
3. To evaluate the changes in agriculture sector in global economy.

Course Outcomes:-

CO1 : Understand the nature, scope and growth of agriculture sector in India.

CO5 : Understand the concept of market failure and welfare judgments.

CO6 : Understand two sector model of Walras and its impact on welfare.

CO7 : Understand the concept of Paretian welfare Economics/ Criteria.

CO8: Realized the contributions A.K. Sen's to the development of welfare economics.

Environmental Economics

Objectives : -

1. To familiarize the students with the concepts of Environmental Economics.
2. To learn about the principles and theories of optimal use of natural resources.
3. To Understand the concepts Global warming, Environmental Valuations methods, property rights, social costs.

Course Outcomes:-

CO1 : Realize the nature and importance of Environmental Economics.

CO2 : Understand the causes and effects of Environmental pollutions like air, water, noise, soil etc.

CO3 : Suggest appropriate policy measures to control Environmental Degradation.

CO4: Understand the concepts of Pigouvian taxes and Subsidies, Coase's bargaining solution and collective bargaining.

CO5 : Realize the importance of manpower involvement in Environmental upgradation.

CO6: Analyse the Global Environmental externalities and Global warming.

CO7: Find out the appropriate policy suggestions to improve the quality of Environment.

CO8: Understand about tradable pollution permits and International Carbon Tax.

DEMOGRAPHY

Course Objectives:-

1. To familiarize the students with concepts of Economic Demography.
2. To acquaint the students with various aspects and features of Demography.
3. To understand the changes of Migration and Urbanization.

Course Outcomes:-

CO1: Understand the nature and scope of Demographic features of India.

CO2: Understand the components and the dependence of population Growth.

CO3: Examine the importance of various theories of population.

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Department of Economics (UG)

Course Outcome – B.A. 2020 – 21

1st sem – Micro Economics

- To acquaint the students with the basic concepts of microeconomics and its applications
- To acquaint theories that help students to understand economics of consumer and producer behaviour.
- To help students grasp theoretical nuances of theory of production, cost and distribution
- To help students learn the skills of plotting the numerical into a graphical representation of many concepts in the Micro Economic Theory
- To analyse the behavioural patterns of different economic agents regarding profit, price, cost etc.
- Understand how utility, preferences, and income influence demand.
- The decision making process in different market situations such as perfect competition, monopolistic competition, monopoly and oligopoly markets.
- Comprehend demand and supply interact in various market structures to determine the price and quantity of a good produced, Further, how input costs and substitution among factors influence supply.
- Apply with ease economic reasoning to individual and firm behaviour.
- Plotting numerical into a graphical representation of many concepts in the Micro Economic Theory.

2nd sem – Macro Economics

- Concepts and methods of National income accounting
- To understand the macroeconomic behaviour through national income accounts.
- To learn the analytical framework of macroeconomic concepts used by classical, Keynesian and post-Keynesian approaches
- Theories of aggregate income and employment
- Theories of aggregate income and employment
- To know different types of inflation and their relationship with employment
- Use national income accounts to describe and analyze the macroeconomic issues in quantitative terms.
- Understand the forces behind the employment generation as reflected by different schools of thought and its limitations
- Understand the different views on the supply of money and demand for money.
- Define and explain the process of calculating national income, identify its components, demonstrate circular flow of income,
- Understand Say's law of market, classical theory of
- Rate of interest- Classical, Keynesian and IS-LM Model
- employment and Keynes objection to the classical theory,
- Demonstrate the principle of effective demand and income determination.

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5th sem – Rural Development and Co-operation [P -6]

- To able to describe objective ,importance and various approach to rural development
- To understand rural administration.
- To understand and explain role of rural infrastructure in rural development.
- Problems of RD in India.
- Student will be able to critical assessment of rural development programme as a part of inclusive and sustainable growth.

6th sem – Human Resource and Management [P-7]

- To understand the basic concept of HRM and GTR application in the group as well as organization.
- Theoretical knowledge in allied subjects such as organizational behaviour, business ethics, communication, quantitative techniques in management labour and industrial law etc…
- Practical knowledge and hands on training in various areas of HR such as recruitment and selection performance appraisal, management to change, conflict ,stress, counselling etc..
- Practical exposure to problems and opportunities of HRM through the two project studies on theoretical and the other practical.

6th sem – Karnataka Economics [P-8]

- To able to understand Karnataka economy.
- To able to understand economics of agriculture.
- To able to understand Indian agriculture sector – agriculture prices, marketing etc..
- To understand poverty – poverty line – rural poverty and its problems and solution and government measurements.
- Difference between firm and industry.
- Growth and problem of small scale industries.
- Problem of transport and communication (KSRTS,BMTC,BMRCL)
- To able to understand public finance system – Expenditure, income and investment etc…

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DEPARTMENT OF PSYCHOLOGY

PSYCHOLOGICAL DISORDERS COURSE OUTCOME:

Co1:- Able to differentiate between "Normal" and "Abnormal".

Co2:- Describe the classification of Psychological disorders.

Co3:- Analyse signs and symptoms of different psychological disorders.

Co4:- Evaluate various theoretical perspectives in understanding psychological disorders.

Co5:- Explain the criteria for diagnosing various psychological disorders.

Co6:- Describe anxiety disorders.

Co7:- Investigate the clinical picture of Phobias.

Co8:- Understand the clinical picture of somatic symptom disorder.

Co9:- Identify dissociative disorder.

Co10:- Distinguish between fugue, dissociation, Amnesia and dissociative identify disorder.

Co11:- Describe personality disorders.

Co12:- Categorize mood disorders.

Co13:- Identify the subtypes of schizophrenia.

SOCIAL PSYCHOLOGY COURSE OUTCOMES:

Co1:Understand social perception and social cognition.

Co2:Analyse social behaviour and its causes.

Co3:Understand the formation and change attitudes.

Co4: Analyse the process of social influence.

Co5: Understand the original and prevention stereotypes, prejudices and aggression.

Co6:Applications of social psychology.

DEVELOPMENTAL PSYCHOLOGY COURSE OUTCOMES:

Co1: Describe the process and theories of human development.

Co2: Understand premature life and influence on premature development.

Co3: Explain the major stages in the life span of an individual.

Co4: Assess the various factors that influence development at different stages.

Co5: Analyse the various aspects of development.

BASIC PSYCHOLOGICAL PROCESSES COURSE OUTCOMES:

Co1: Describe behaviour and cognitive process.

Co2: Understand the origin, perspectives and scope of psychology.

Co3: Describe the scientific aspect of psychology.

Co4: Analyse how learning occurs and differentiate the types.

Co5: Describe nature of memory and forgetting.

Co6: Analysing intelligence and its measurement.

Co7: Understand the biological basis of behaviour.

Co8: Describe the different aspects of behaviour like emotions, sensation perception cognition and motivation.

Co9: Understand the theorizing of psychology.

Co10: Analyse different types of personality and it's measurable.

PROGRAMME SPECIFIC OUTCOMES OF BA PSYCHOLOGY:

Psos1:- Understand behaviour and mental process.

Psos2:- Analyse growth and development of an individual from conception till death.

Psos3:- Identify different Psychological disorders, explain the causes and treatment.

Psos4:- Understand the behaviour of an individual title context of his society.

Psos5:- To interpret behaviour statistically.

Psos6:- Understand individual differences.

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DEPARTMENT OF CHEMISTRY

I-Semester BSc- Chemistry COURSE OUTCOME -2019-2020

CO	COURSE OUTCOME
	Enables the students to :- **Atomic structure**
CO1	Explains the structure of an atom
CO2	Details of Quantum mechanics
	Chemical Bonding and Molecular Structure
CO1	Nature of Bonding and General characteristics
CO2	Study of Covalent bonds
	Fundamentals of Organic Chemistry
CO1	Basic concepts of bond cleavage
CO2	Information of different types of Reactions
	Isomerism
CO1	Explains about different types of isomerism
CO2	Conformations of Alkanes
	Aliphatic hydrocarbons
CO1	Knowledge of Preparation and reactions of Alkanes, Alkenes and Alkynes.
CO2	Study of acidic nature of aliphatic hydrocarbons.
	Aromatic hydrocarbons
CO1	Detail study of aromatic hydrocarbons
CO2	Information about Electrophillic substitution reactions.

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DEPARTMENT OF CHEMISTRY

III-Sem BSc- Chemistry COURSE OUTCOME-2019-2020

CO	Chemistry COURSE OUTCOME
	Atomic structure
CO1	Explains the structure of an atom
CO2	Details of Quantum mechanics
	Chemical Bonding and Molecular Structure
CO1	Nature of Bonding and General characteristics
CO2	Study of Covalent bonds

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DEPARTMENT OF CHEMISTRY
COURSE OUT COMES (COS) V SEM BSc CHEMISTRY-2021
BIOCHEMISTRY-PAPER-VIII

I	Introduction to Biochemistry
CO1	Information about Contributions of scientist, Elemental and biochemical composition of living organism & About the Role of water in biochemical system
II	**Carbohydrates**
CO1	Structural and biological importance of monosaccharide's.
CO2	Amines containing sugars and its derivatives
CO3	Structural and biological importance of Sugar acids , sugar phosphates and Oligosaccharides
CO4	Source, comparison and functions of Polysaccharides
III	LIPIDS
CO1	Definition, Classification, and Structure of Fatty Acids
CO2	Biological importance of Triglycerides, signification of iodine number and saponification
CO3	General structural information and biological importance of Phosphoglycerides, definition and different types of cholesterol
IV	**PROTEINS**
CO1	Information of proteins Its classification and structure
CO2	Process of denaturation
V	**Nucleic Acids**
CO1	Different types of nucleic acids
CO2	Biological roles of DNA and RNA
VI	**HORMONES**
CO1	Definition, Classifications of Hormones.
CO2	Biological importance of Insulin and Glucagon
VII	Enzymes
CO1	Information of enzymes, its classification
CO2	Definition of Allosteric enzymes, details of Inhibitor
VIII	**Biological Oxidation**
CO1	Information and different stages of energy transformation of Bioenergetics
CO2	Structural features ATP
C03	About biological reactions of Energy coupling
CO4	Gives information about Comparison of oxidation.
IX	Biochemical techniques
CO1	Principle and Applications of different types of chromatography technics
X	**Metabolism**
CO1	Detailed explaination of catabolism, anabolism and Fatty acid metabolism
CO2	Explaination of TCA cycle Urea cycle and Protein metabolism.
XI	**Molecular biology**
CO1	About replication, mechanism of DNA,General features of genetic code
CO2	Definition and application of Finger printing.

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V	Aryl halides
CO1	Preparations of Halo benzene from aniline and sand meyer reaction, Aromatic nucleophili substitution reaction
CO2	Dows process of convertion of chlorobenzene to phenol.
CO3	About benzyne mechanism,Elimination –addition
CO4	Relative reactivities of ally,alkyl towards nucleophilic substitution.
VI	**Organometallic Compounds**
CO1	Preparation of Grignard reagents
CO2	Synthetic application of Grignard reagent,conversions
CO3	Preparation ,synthetic applications of organo lithium compounds
VII	Alcohols,Phenols,Etherand Epoxides
CO1	Introduction and classifications of alcohol, Methods of preparation
CO2	Information of differerent reactions ,like esterification,oxidtn,comparisons b/w alcohols.
CO3	Introduction and Preparations of glycols,oxidation reaction,Pinacol-pinacolone rearrangement.
CO4	Preparation of Glycerol ,chemical reaction and uses.
VIII	**Phenols**
CO1	Classification of Phenols with examples
CO2	Acidic nature,effect of electron withdrawing group
C03	Pechmann reaction and uses, Reimer-Tiemann,Kolbe, Baumann reactions
CO4	Industrial applications and synthesis of Asprin,and salol.
IX	**Ethers**
CO1	Preparation of diethylether,synthesis by Williamson's ether synthesis,Zeisel's method
X	**Epoxides**
CO1	About Preparation using per acids and chemical Reactions.

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DEPARTMENT OF CHEMISTRY
COURSE OUT COMES (COS) IV SEM BSc CHEMISTRY-2020-2021

COURSE OUT COMES (COS) VI SEM BSc CHEMISTRY-2020-2021
PAPER—VIII, Inorganic Chemistry

I		**Coordination and Organometallic compounds-I**
	CO1	Introduction ,Difference between double salts and complex salts with examples ,Classification and definition of Ligands
	CO2	Definition with examples of Coordination number and Nomenclature of Coordination compounds
	CO3	EAN rule, Werner's theory, Crystal field splitting and Crystal field stabilization energies
	CO4	Magnetic properties of complexes, Isomerism in complexes, Organometallic compounds
II		**Coordination and Organometallic compounds-II**
	C01	Structures of Metal carbonyls,18 electron rule and its deviations
	CO2	Applications of organometallic compounds,Wilkinson's catalyst
III		**Industral Materials--I**
	CO1	Definition ,Classification ,properties of Refractories.
	CO2	Definition,Classification and applications of Abrasives.manufacturing of carborundumand tungsten carbide
	CO3	Definition, manufacturing and types of Glasses.
	CO4	Definition ,details of raw materials used
	CO5	Raw materials and manufacture of Portland cement Setting of cement
IV		**IndustriSal Materials--II**
	CO1	Constituents of Varnishes and emulsion paints.
	CO2	Definition,Characteristics of Caloric value of Fuels
	CO3	Production of coal gas, composition of LPG, advantages of Gaseous fuels
	CO4	Classification and preparation of Explosives
	CO5	Characteristics ,classification and applification of Propellants
V		**Bioinorganic Chemistry**
	CO1	Essential and Trace elements in Biological systems,Role of cobalamin in living systems.
VI		**Chemistry of Newer materials**
	CO1	Introduction, definition and examples of Conduction polymers
	CO2	Introduction ,definition and types of super conducters,applications of high temperature super conductors.
	CO3	Introduction,definition,preparation and isolation of C60, chemical reactions.
	CO4	Introduction, definition and structure of Nanomaterials,different methods of production.

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DEPARTMENT OF CHEMISTRY

PROGRAMME SPECIFIC OUT COME-BSc Chemistry

Sl.No	Programme Specific Outcome
Psos1	A Basic knowledge about use of Chemicals in Chemistry through theory and Laboratory practices.
Psos2	Information about fundamental concept and principles of various reactions and processes involved in industries and research fields.
Psos3	To Create analyst who can do chemical analysis and research in various chemical and drug industries.
Psos4	Knowledge of polymer chemistry and its applications.
Psos5	Awareness about physico- Chemical properties of Nano-materials.
Psos6	Basic knowledge of Spectroscopy techniques.
Psos7	Awareness and nature of various radioactive elements and its applications.
Psos8	Knowledge of organic , Inorganic compounds and its applications in different fields.
Psos9	A study of biochemistry gives knowledge of life science and chemical science, Biochemistry concepts create an understanding of biological processes in living organism.

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5thsem –ECOLOGY, ETHOLOGY PAPER-5

- Ecology is the study of environment. Today focus is on global warming, ozone depletion, deforestation.
- The burning issues of the world can be studied under ecology and better understanding the environment gives the student the efficiency to reduce environmental pollution
- Animal behaviors study helps the student to understand the surrounding animals and their management.

5thsem- GENETICS AND BIOTECHNOLOGY   PAPER-6

- The propagation of living organisms is based on genetics
- Through the study of genetics students can improve their knowledge about heredity
- A broader avenue is awaited if genetics field is chosen for career building.
- They can be geneticist and can counsel helping the people to promote a healthy society
- The same is applicable to biotechnology which deals with tissue culture G.T Plants and B.T Plants and other aspects like vaccines, vectors, etc.,

6thsem- DEVELOPMENT BIOLOGY AND   ORGANIC EVOLUTION PAPER-7

- Development biology deals with the study of developing embryo.
- With this study students will learn details of embryo development which can be applied in medical laboratories
- Organic evolution study helps in fossil study and also developmental aspects.

6thsem- ANIMAL PHYSIOLOGY AND TECHNIQUES IN BIOLOGY PAPER-8

- Animal Physiology deals with the function of the animal body. Students learn working of organ systems and metabolism.
- This study gives opportunities in the field of veterinary science.
- Techniques in biology helps them to understand several procedures in the biological laboratories.
- Students can get knowledge and procure employment in these fields.

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PROGRAM OUTCOME

By studying Zoology students are able to understand basics of nature. Environment is made of biotic and abiotic factors. All the living organisms are made up of these factors. To understand the functioning of environment one has to deeply study the living organisms and their functions. Zoology deals with many topics which enable the students to understand the clear picture of the environment. The basic pattern of working of this system is very important as all living beings are part of the environment.

Zoology gives wide opportunities for the students to explore into the natural world as a researcher, worker, or entrepreneur. They can take up several jobs related to Zoological field like geneticist, forester, lab technicians and can set up cottage industries like sericulture, prawn culture, diary, poultry, apiculture etc., hence it is recommended to take up this subject as it is beneficial to society

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APS COLLEGE OF ARTS AND SCIENCE

NR COLONY, BANGALORE – 560 019.

Department of English

PROGRAMME SPECIFIC OUTCOME

English Literature & Grammar courses offered by the Department of English expose students to a wide range of literature &writing from European, American, Anglo-Indian and Indian Authors. A study of this literature helps students explore how writers use their creative resources of language-in fiction, poetry, nonfiction prose, and drama to explore the entire range of human experience through their own life experiences.

Students are expected to gain a deeper insight into literature which helps students build knowledge of the language, skills of analytical and interpretive argument, and become careful and critical readers. Again, students' engagement with various strategies of drafting and revising, style of writing diagnosing and developing scholarly methodologies, use of language as a means of creative expression, will make them effective thinkers and communicators which will benefit them in their future professional career as well as in their life.

Specific learning outcomes for English courses include the following:

PS01- Basic Reading techniques

1. Demonstrate understanding of phonemic awareness, word analysis, and high frequency word recognition
2. Demonstrate expanded print vocabulary
3. Demonstrate improved oral fluency
4. Implement Before-During-After reading strategies that build comprehension
5. Discuss materials and organizational features of various text types
6. Produce simple sentences and short paragraphs in response to readings
7. Demonstrate a significant increase in word knowledge
8. Employ pre-reading, skimming, and prewriting techniques
9. Identify main ideas in paragraphs and reading selections
10. Locate important details
11. Decipher paragraph patterns, writer techniques, and conclusions
12. Apply study strategies, including underlining, taking notes, and outlining
13. Complete writing exercises to express an understanding of readings

PS02-Essential Reading Skills

1. Increase confidence in their ability to read, comprehend, organize, and retain written information
2. Increase vocabulary through the study of word parts, use of context clues, and practice with a dictionary
3. Learn how to analyze unfamiliar words by understanding the structure of the English Language
4. Develop an ability to recognize main idea and supporting details in order to improve comprehension and retention of written information
5. Improve reading fluency

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15. Effectively communicate ideas related to the literary works during class and group activities

PS06-Speech and Articulation

1. Practice all vowel and consonant sounds in spoken English
2. Pronounce ed- and -s endings in fluent English
3. Perceive and generate syllable stress within words and word stress within phrases
4. Acknowledge unstressed syllables in multi-syllabic words
5. Calculate stress in words according to parts of speech
6. Detect rhythm in phrases and sentences
7. Notice and express common words and phrases in connected speech
8. Link words together through consonant & vowel or consonant & consonant utterances
9. Employ the rules and patterns of intonation
10. Present a short speech

COURSE OUTCOME

B.A – I SEM

COURSE :RESONANCE -1

PART-1 : LITERARY SECTION

CO.1 : Introduces students to the Vachanaliterature of great social worker and an eminent Poet

CO.2 : To understand the sportive spirit of Paralympics through poem, based on real life incidents

CO.3 :Introduces the students to the writing skills of folk tales

CO.4 :To understand the impact of urbanization effects on nature through a writing

CO.5 :Introduction of students to short story writing on political subject

CO.6 : Introduction of students to writing on human rights

CO.7 : Introduction of students to motivational speech

CO.8 : Introduction of students to science fiction writing

PART-II : GRAMMAR SECTION

CO.1 : Introduction of students to grammar part of the English language

CO.2 : To understand Article, parts of speech

CO.3 : To understand kinds of sentences , tenses , question tags

CO.4 : To understand Homophones, Homonyms

B.A – II SEM

COURSE : EXPERIENCE

LITERARY COMPONENT

CO.1 : Introduces students to the poem writing skills

CO.2 :Introduces students to learn about writing life experiences

CO.3 : Introduces the students to the writing skills of Autobiography

CO.4 : To learn about essay writing on adventures

CO.5 : To learn about essay writing on Travelogue

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COURSE :IMPRINTS

PART-1 : LITERARY SECTION/
A-NARRATIVES OF DEMOCRACY

CO.1 : Introduces students to the speeches on freedom

CO.2 : To understand the meaning of democracy through poem

CO.3 : Introduces the students to farewell speech

CO.4 : To understand the modernization through poem

B-THE DIGNITY OF DIFFERENCE

CO.5 : Introduction of students to short story writing on dreams

CO.6 :Introduction of students about the war through poem

CO.7 :Introduction of students to fiction writing

PART-II : GRAMMAR SECTION

CO.1 : Introduction of students to tenses, article prepositions

CO.2 :To learn about the writing skills

CO.3 :To learn about the word building

CO.4 :To learn about the speaking skills

B.Sc/B.C.A – II SEM

COURSE : EXPERIENCE

LITERARY COMPONENT

CO.1 : Introduces students to the poem writing skills on war, partition

CO.2 : Introduces students to learn about essay writing on politics

CO.3 : Introduces the students to the writing skills of Autobiography

CO.4 : To learn about essay writing on adventures

CO.5 : To learn about essay writing on Travelogue

CO.5 :To learn about essay writing on animal extinctions

CO.6 : To learn about essay writing on personal achievement of a sportsman

CO.7 : To write a short story on competition

COMMUNICATION SKILL COMPONENT & GRAMMAR

CO.1 : Introduction of students to the vocabulary

CO.2 : Introduction of students to the meaning of antonyms , synonyms, prefixes , suffixes

CO.3 : To learn about general English conversation in daily life

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CO.7 :Good, bad and in-between impacts of social media

CO.8 :First modern play to use folk art form

PART-II : GRAMMAR SECTION
CO.1 : Introduction of students to grammar part of the English language

CO.2 : To understand verbs, phrases and phrasal verbs

CO.3 :Dialogue to narration, passive voice,

CO.4 :letters of complaints

B.A – III SEM

COURSE : RESONANCE -III

PART-1 : LITERARY SECTION
CO.1 : Theme of cunningness ,trickery and selfishness in human nature

CO.2 : Modern way of life an changing values

CO.3 : Biography of SainaNehwal

CO.4 : Preparation to partition of Indian and Pakistan

CO.5 : Teachings to inculcate non-violence in students

CO.6 : Drama- Clash between the superiority of the intellect and the instinct

PART-II : GRAMMAR SECTION
CO.1 : Introduction of students to grammar part of the English language

CO.2 :To learn about Paragraph writing

CO.3 :Guided composition

CO.4 :To learn about script writing

CO.5 : To learn about non-verbal communication

B.A – IV SEM

COURSE : RESONANCE -III

PART-1 : LITERARY SECTION
CO.1 : Forgiveness is the attitude of the strong

CO.2 :How discrimination leads to loss of lives?

CO.3 :Emotion of the old age people

CO.4 :The best way to become immortal is to live in the hearts of people

CO.5 :Poem that traces the remarkable transformation of the women

CO.6 :Quality of TED Talks

CO.7 : Novel depicting the relationship between man and nature

PART-II : GRAMMAR SECTION
CO.1 : Introduction of students to presentation skills

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CO.3 : To learn about reading comprehension

B.Sc/B.C.A – IVSEM

COURSE : IMPRINTS IV

PART-1 : LITERARY SECTION
CO.1 :Typical Indian Rural set up

CO.2 :Land Lady, about women empowerment

CO.3 :Love for animal

CO.4 :About Phases of life

CO.5 :Mysore Sandal Soap heritage

CO.6 :Psychological exploration of identity prior to birth

CO.7 :Origin of Earthquakes

CO.8 :Social and religious customs plaguing Muslim women

CO.9 :Time machine, science fiction

PART-II : GRAMMAR SECTION
CO.1 : Introduction to speaking skills

CO.2 : To learn about letter , essay , covering letter writing, interview skills

CO.3 : To learn about idioms , proverb

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APS COLLEGE OF ARTS AND SCIENCE

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Department of Botany

Programme Specific outcomes of B.Sc., Botany

PSO1. Critically evaluation of ideas and arguments by collection relevant information about the plants, so as recognize the position of plant in the broad classification and phylogenetic level.

PSO2. Identify problems and independently propose solutions using creative approaches, acquired through interdisciplinary experiences, and a depth and breadth of knowledge/expertise in the field of Plant Identification.

PSO3. Accurately interpretation of collected information and use taxonomical information to evaluate and formulate a position of plant in taxonomy.

PSO4. Students will be able to apply the scientific method to questions in botany by formulating testable hypotheses, collecting data that address these hypotheses, and analyzing those data to assess the degree to which their scientific work supports their hypotheses.

PSO5. Students will be able to present scientific hypotheses and data both orally and in writing in the formats that are used by practicing scientists.

PSO6. Students will be able to access the primary literature, identify relevant works for a particular topic, and evaluate the scientific content of these works.

PSO7. Students will be able to apply fundamental mathematical tools (statistics, calculus) and physical principles (physics, chemistry) to the analysis of relevant biological situations.

PSO8. Students will be able to identify the major groups of organisms with an emphasis on plants and be able to classify them within a phylogenetic framework. Students 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.

PSO9. Students will be able to use the evidence of comparative biology to explain how the theory of evolution offers the only scientific explanation for the unity and diversity of life on earth. They will be able to use specific examples to explicate how descent with modification has shaped plant morphology, physiology, and life history.

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2nd semester B.Sc.,

❖ Mycology, Plant pathology, Bryophytes and Plant Anatomy

On completion of the course, students are able to:

CO1. Study fundamentals of plant Pathology

CO2. Study the classification of plant diseases

CO3. Study seed pathology

CO4. Study air borne pathogens, methods and application

CO5. Study Koch's Postulates

CO6. Study the following diseases with respect to causal organism, symptoms disease cycle and disease management.

CO7. Study black stem rust of wheat,

CO8. Study grain smut of jowar,

CO9. Study ergot of bajara ,

CO10. Study wilt of Pigeon pea,

CO11. Study yellow vein mosaic of bean,

CO12. Study late blight of potato,

CO13. Study little leaf of brinjal,

CO14. Study black rot of onion,

CO15. Study Tikka disease of groundnut,

CO16. Study damping off of mustard,

CO17. Study Grassy shoot of sugarcane,

CO18. Study Downy mildew of grapes,

CO19. Study Angular leaf spot of cotton,

CO20. Study Citrus canker,

CO21. Study Powdery mildew of rose,

CO22. Study Rust of Euporbia,

CO23. Study Cercospra on Albizzia fruits.

CO24. Study general characters and classification of bryophytes,

CO25. Study ofMarchantia and Funaria.

4th semester B.Sc.,

❖ Gymnosperms and Embryology of Angiosperms

CO1. Study salient features of gymnosperms, morphology and anatomy of Cycas, Pinus, Gnetum.

CO2. Study fossils, fossilization, Lyginopteris, geological time scale

CO3. Study utilization of plants

CO4. Study the salient features, origin and evolution of Angiosperm.

CO5. Study systems of classification.

CO6. Study taxonomy in relation to anatomy, embryology, palynology, ecology and cytology.

CO7. Study the concept of binomial nomenclature and its advantages.

CO8. Understand concept of genus and species.

CO9. Understand about herbaria and botanical garden.

CO10. Study the following families, salient features, common examples and economic importance.

CO11. Study general character and classification of Pteridophytes ,

CO12. Study types of tissue, meristematic, permanent, epidermal and histological organization of root and stem apices.

CO13. Understand the primary structure of dicot and monocot root, stem and leaf.

CO14. Understand the secondary growth in root and stem of dicot.

CO15. Study the wood anatomy and periderm structure and function.

CO16. Study the structure of anther, microsporogenesisand development of male gametophyte.

CO17. Study the structure of ovule, megasporogenesis and female gametophyte.

CO18. Study the pollination mechanism, types and agencies.

CO19. Study double fertilization and its significance,

CO20. Study development of dicot embryo

CO21. Study structure, development and types of endosperm.

CO22. Study structure of dicot and monocot seed

BCA (Bachelor of Computer Application)

Course Objectives Outcome (COS)

Course: BCA103T - Problem Solving Techniques Using C

PROGRAMME: **Computer Application**	COURSE: **Problem Solving Techniques Using C**
DEGREE:**BCA**	SEMESTER: **1** CREDITS: **2**
COURSECODE: **BCA 103 T**	COURSE AREA/DOMAIN: **NA**
COURSE TYPE: **Theory**	CONTACT HOURS: **4 (weekly)**

Course pre-requisites:

Basic understanding of techniques used in Programming, algorithm and Flowchart.

Course Objectives

1. Learn the difference between software and hardware.
2. Learn data types, keywords and control structures of C
3. Learn to write algorithms for the given Problems.
4. Learn to write Flowcharts for the given Problems.
5. Learn to map problems to programming features of C.
6. Learn the looping concept.
7. Learn the concept of functions.
8. Learn to write good portable C programs.

Course Outcomes

Upon successful completion of the course, a student will be able to:

Co.1:- Appreciate and understand the differences between hardware and software.
Co.2:- Analyze a given problem and develop an algorithm to solve the problem.
Co.3:- Improve upon a solution to a problem.
Co.4:-Use the 'C' language constructs in the right way.
Co.5:-Design, develop and test programs written in 'C'.

Course: BCA104 Digital Electronics

PROGRAMME: Computer Application	COURSE: Digital Electronics
DEGREE:BCA	SEMESTER: 1 CREDITS: 2
COURSECODE: BCA 104 T	COURSE AREA/DOMAIN: NA
COURSE TYPE: Theory	CONTACT HOURS: 4 (weekly)

Course pre-requisites;

Basic understanding of Number systems and Basic Electronics concepts.

Course Objectives

The objective of this course is to introduce the organization of a computer and its principal components, viz, ALU, Control, Memory and Input/output. The course will also enable the student to understand the design components of a digital subsystem that required realizing various components such as ALU, Control, etc.

Course Outcomes:

Upon successful completion of the course, a student will be able to:

Co.1:-An ability to understand theory of Digital Design and Computer Organization to provide an insight of how basic computer components are specified.
Co.2:-An ability to understand the functions of various hardware components and their building blocks
Co.3:- An ability to understand and appreciate Boolean algebraic expressions to digital design
Co.4:-An in depth understanding of sequential! Combinational circuits
Co.5:-An in depth understanding of realization of different combinational/sequential circuits
Co.6:- An in depth understanding of different stages of an instruction execution
Co.7:-An in depth understanding of how different hardware components are related and works in coordination
Co.8:-An ability to understand computer buses and input/output peripherals

Course: BCA105T -Discrete Mathematics

PROGRAMME: **Computer Application**	COURSE: **Discrete Mathematics**
DEGREE:**BCA**	SEMESTER: **1** CREDITS: **3**
COURSECODE: **BCA 105 T**	COURSE AREA/DOMAIN: **NA**
COURSE TYPE: **Practicals**	CONTACT HOURS: **3 (weekly)**
CORRESPONDING LABCOURSE CODE	(IFANY): **BCA104P**

Course Objectives

To develop logical thinking and its application to computer science (to emphasize the importance of proving statements correctly and de-emphasize the hand-waving approach towards correctness of an argument). The subject enhances one's ability to reason and ability to present a coherent and mathematically accurate argument. About 40% of the course time will be spent on logic and proofs and remaining 60% of the course time will be devoted to functions, relations, etc.

Prerequisites
PHI 251 and MAT 295

Course Outcomes

After completing this course satisfactorily, a student will:

Co.1:-Be able to construct simple mathematical proofs and possess the ability to verify them ABET[(a, j)].

Co.2:-Have substantial experience to comprehend formal logical arguments ABET[(a, b, c)].

Co.3:-Be skillful in expressing mathematical properties formally via the formal language of propositional logic and predicate logic ABET[(a)].

Co.4:-Be able to specify and manipulate basic mathematical objects such as sets, functions, and relations and will also be able to verify simple mathematical properties that these objects possess ABET[(a)].

Co.5:-Acquire ability to describe computer programs (e.g. recursive functions) in a formal mathematical manner ABET[(a, c, i, j)]

Co.6:-Be able to apply basic counting techniques to solve combinatorial problems ABET[(a)].

Co.7:-Gain experience in using various techniques of mathematical induction (weak, strong and structural induction) to prove simple mathematical properties of a variety of discrete structures ABET[(a, c, j)].

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3. How to implement Iterated Lists and variations thereof
4. Tree data structures and how to balance them, for specific access needs
5. Understanding Graph representations, Event modeling, spatial and temporal relational data
6. Choose a Data structure, a set of access methods and determine their asymptotic efficiency

Course Outcomes

Upon successful completion of the course student should be able to:

Co.1:-Analyze data structure impact on algorithms, program design and program performance.
Co.2:-Understand and apply amortized analysis on data structures, including binary search trees, heaps, and disjoint sets.
Co.3:- Explain & describe the applications of static and dynamic trees.
Co.4:- Design, implement, and use advanced ADTs.

Course Outcomes

Upon successful completion of the course, a student will be able to:

Co.1:- Appreciate and understand the differences between hardware and software.
Co.2:- Analyze a given problem and develop an algorithm to solve the problem
Co.3:- Improve upon a solution to a problem
Co.4:- Use the 'C' language constructs in the right way
Co.5:- Design, develop and test programs written in 'C'

Assessment Methodologies

S.NO	DESCRIPTION	TYPE
1	Student Assignment	Direct
2	Tests Direct	Direct
3	University Examination	Direct
4	Student Feedback	Indirect

good database and use various SQL operations. The course concludes with an overview of transaction management and introduction to advanced and non-relational databases.

Course Outcomes

Co.1:- Able to master the basic concepts and understand the applications of database systems.
Co.2:- Able to construct an Entity-Relationship (E-R) model from specifications and to transform to relational model.
Co.3:- Able to construct unary/binary/set/aggregate queries in Relational Algebra.
Co.4:- Understand and apply database normalization principles.
Co.5:- Able to construct SQL queries to perform CRUD operations on database. (Create, Retrieve, Update, Delete)
Co.6:- Understand principles of database transaction management, database recovery, security.

Assessment Methodologies

S.NO	DESCRIPTION	TYPE
1	Student Assignment	Direct
2	Tests Direct	Direct
3	University Examination	Direct
4	Student Feedback	Indirect

Course: BCA 204P Database Lab (Oracle)

PROGRAMME: Computer Application	COURSE: Data Structures Lab
DEGREE:BCA	SEMESTER: 2 CREDITS: 1
Lab COURSECODE: BCA 204P	COURSE AREA/DOMAIN: NA
COURSE TYPE: Practicals	CONTACT HOURS: 3 (weekly)

Assessment Methodologies

S.NO	DESCRIPTION	TYPE
1	Student Assignment	Direct
2	Tests Direct	Direct
3	University Examination	Direct
4	Student Feedback	Indirect

Course: BCA303T Object Oriented Programming using C++

PROGRAMME: **Computer Application**	COURSE: Object Oriented Programming using C++
DEGREE:**BCA**	SEMESTER: **3** CREDITS: **2**
COURSECODE: **BCA 303 T**	COURSE AREA/DOMAIN: **NA**
COURSE TYPE: **Theory**	CONTACT HOURS: **4 (weekly)**
CORRESPONDING LABCOURSE CODE	(IFANY): **BCA303P**

Course pre-requisites

Fundamental programming knowledge about C language.

Course Objectives

The fundamental point in learning programming is to develop the critical skills of formulating programmatic solutions for real problems. It will be based on basic knowledge of algorithms and procedural programming language. Once the basic skill of writing programs using loop, methods and arrays will be clear then the student can develop object oriented software using class encapsulation and inheritance.

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Course: BCA 303T -Operating System

PROGRAMME: **Computer Application**	COURSE: OOP in C++ Lab
DEGREE:**BCA**	SEMESTER: **3** CREDITS: **3**
COURSECODE: **BCA 303 T**	COURSE AREA/DOMAIN: **NA**
COURSE TYPE: **Theory**	CONTACT HOURS: **5hr (weekly)**

Course pre-requisites:
Basic knowledge of working principle of computer. Familiarity with working with WINDOWS operating system.

Course Objectives
1. To understand the services provided by and the design of an operating system.
2. To understand the system programs, system components.
3. To understand the structure and organisation of the file system.
4. To understand what a process is and how processes are synchronized and scheduled.
5. To understand different approaches to memory management.
6. Students should be able to use system calls for managing processes, memory and the file system.
7. Students should understand the data structures and algorithms used to control deadlock.
8. To understand disk scheduling, protection and security.

Course Outcomes
Co.1:- Analyse the concepts of processes in operating system and illustration of the scheduling of processor for a given problem instance.
Co.2:- Understand the evolution of operating system.
Co.3:- Identify the dead lock situation and provide appropriate solution so that protection and security of the operating system is also maintained.
Co.4:- Analyze memory management techniques, concepts of virtual memory and disk scheduling.
Co.5:- Understand the implementation of file systems and directories along with the interfacing of IO devices with the operating system.

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Assessment Methodologies

SL.NO	DESCRIPTION	TYPE
1	Student Assignment	Direct
2	Tests	Direct
3	University Examination	Direct
4	Student Feedback	Indirect

PROGRAMME: Computer Application	DEGREE:BCA
COURSE: **Financial Accounting & Management**	Semester : 3 CREDITS: 1
COURSECODE: BCA 304P	COURSE TYPE: Theory
COURSE AREA/DOMAIN:NA	CONTACT HOURS: 4 (weekly)
CORRESPONDING LABCOURSE CODE (IFANY): BCA 304P	LABCOURSE NAME: TALLY Lab

Course: BCA 403 T Visual Programming

PROGRAMME: Computer Application	DEGREE:BCA
COURSE: Visual Programming	Semester : 4 CREDITS: 2
COURSECODE: BCA 403T	COURSE TYPE: Theory
COURSE AREA/DOMAIN:NA	CONTACT HOURS: 4 (weekly)
CORRESPONDING LABCOURSE CODE (IFANY): BCA 403P	LABCOURSE NAME: Visual Programming Lab

Course pre-requisites:

Basic knowledge of Programming and basic user interface design.

Course Objectives
1. Learn basics of visual Basic programming
2. Learn how to design a given problem
3. Learn to use various paradigms of programming and user interface designing.
4. Learn Visual Basic as a programming language
5. Learn how to implement data structures and functions available in Visual Basic to solve problems

Course pre-requisites

Basic knowledge about Operating System.

Course Objectives

1. The aim of this course is to make you aware of the functioning of a multi-user operating system.
2. This course serves as a foundation course for other higher level course in UNIX.
3. The course will help you to learn commands while doing practical and it emphasizes more on those switches/options and flags which are most frequently used in real life.
4. To understand Unix Operating System
5. To explore the Basic Shell Commands

Course Outcomes:

After this course, the student will be able to

CO1: Discuss the architecture, networking and basic commands of UNIX. (Understand)

CO2: Implement various file processing commands used in UNIX. (Apply)

CO3: Apply Regular expression to perform pattern matching using utilities like grep, sed and awk. (Apply)

CO4: Construct various shell scripts for simple applications. (Apply)

CO5: Explain the process management using system calls UNIX environment (Understand)

CO6: Implement and innovate commands using the basic tool kit

CO7: Develop shell programs in vi/vim editor.

Assessment Methodologies

SL. NO	DESCRIPTION	TYPE
1	Student Assignment	Direct
2	Tests	Direct
3	University Examination	Direct
4	Student Feedback	Indirect

Course: BCA404 P UNIX Lab

PROGRAMME: Computer Application	DEGREE:BCA
COURSE: Unix Lab	SEMESTER: 4 CREDITS: 1
COURSECODE: BCA404P	COURSE TYPE: Practical
COURSE AREA/DOMAIN: NA	CONTACT HOURS: 6 P/WEEK

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Assessment Methodologies

S.NO	DESCRIPTION	TYPE
1	Student Assignment	Direct
2	Tests	Direct
3	University Examination	Direct
4	Student Feedback	Indirect

Course: BCA 502: Software Engineering

PROGRAMME: Computer Application	**COURSE TYPE:** Theory
DEGREE : BCA	**COURSE AREA/DOMAIN:** NA
COURSE : Software Engineering	**CONTACT HOURS:** 4 (weekly)
SEMESTER: 5	**CORRESPONDING LABCOURSE CODE (IFANY):** NA
CREDITS: 3	

Course pre-requisites:

Basic knowledge about Software Development life cycle.

Course Objectives

To develop an understanding of software engineering, software crisis, SDLC. Understanding the concept of software project planning – feasibility analysis, requirement analysis, SRS documents. Come to know the software designing strategies – structured analysis, structured design, DFD, structure chart. Understand concept of Project Management along with software testing, maintenance, back-up..

Course Outcomes

Co.1:- Evaluate and analyze the SDLC and basic architecture SRS documents.
Co.2:- Help to understand the software design and coding techniques.
Co.3:- Understand the software testing principles.
Co.4:- Understand the concept project management.
Co.5:- Identify various concepts of Advanced UML techniques.

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Co.2:- An ability to understand the functions of various hardware components and their building blocks.

Co.3:- An ability to understand and appreciate Boolean algebraic expressions to digital design.

Co.4:- An in depth understanding of sequential! Combinational circuits.

Co.5:- An in depth understanding of realization of different combinational/sequential circuits.

Co.6:- An ability to understand computer buses and input/output peripherals.

Co.7:- An ability to understand memory hierarchy and design of primary memory and DMA.

Co.8:- An ability to understand digital components in organisation like logic gates, combinational circuits, Flip Flop and sequential circuits.

Co.9:- An ability to understand digital components.

Co.10:- An ability to understand data representation and various binary codes.

Co.11:- An ability to understand designs an elementary basic computer.

Co.12:- An ability to understand organization and architecture of central processing unit.

Co.13:- An ability to understand the organization and architecture of IOP.

Assessment Methodologies

S.NO	DESCRIPTION	TYPE
1	Student Assignment	Direct
2	Tests	Direct
3	University Examination	Direct
4	Student Feedback	Indirect

Course: BCA 504 T Java Programming

PROGRAMME: Computer Application	DEGREE:BCA
COURSE: Visual Programming	Semester : 4 CREDITS: 2
COURSECODE: BCA 504 T	COURSE TYPE: Theory
COURSE AREA/DOMAIN:NA	CONTACT HOURS: 4 (weekly)
CORRESPONDING LABCOURSE CODE (IFANY): BCA 504 P	LABCOURSE NAME: Java Programming Lab

Course pre-requisites:
Basic knowledge about C, C++.

PROGRAMME: Computer Application	COURSE TYPE: Theory
DEGREE: BCA	COURSE AREA/DOMAIN: NA
COURSE: Assembly Language And Microprocessor	CONTACT HOURS: 4 (weekly)
SEMESTER: 5	CORRESPONDING LABCOURSE CODE (IFANY):
CREDITS: 3	BCA 505 P
COURSECODE: BCA 505T	LABCOURSE NAME: NA

Course Objective:
• To introduce students with the architecture and operation of typical microprocessors and Microcontrollers.
• To familiarize the students with the programming and interfacing of microprocessors and Microcontrollers.
• To provide strong foundation for designing real world applications using microprocessors and microcontrollers.

Course Outcomes:
At the end of the course, a student will be able to:
1. **Assess and solve** basic binary math operations using the microprocessor and explain the Microprocessor's and Microcontroller's internal architecture and its operation within the area of manufacturing and performance.
2. **Apply** knowledge and demonstrate programming proficiency using the various addressing modes and data transfer instructions of the target microprocessor and microcontroller.
3. **Compare** accepted standards and guidelines to select appropriate Microprocessor (8085 & 8086) and Microcontroller to meet specified performance requirements.
4. **Analyze** assembly language programs; select appropriate assemble into machine a cross Assembler utility of a microprocessor and microcontroller.
5. **Design** electrical circuitry to the Microprocessor I/O ports in order to interface the processor to external devices.
6. **Evaluate** assembly language programs and download the machine code that will provide solutions real-world control problems.

Course Objectives and Role in Program
The objectives of this course include:
Teach principles of instruction set architecture and assembly language
Programming
> Co.1:- Teach basic procedures of how a compiler translates C/C++ code to assembly
> Language and perform simple optimizations
> Co.2:- Explore in detail a simple hardware CPU implementation that supports a small
> Instruction subset; introduce students to computer organization

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COURSE: PROJECT WORK	Semester : 5 CREDITS: 1
COURSECODE: BCA 506 P	COURSE TYPE Practical
COURSE AREA/DOMAIN:NA	CONTACT HOURS: 8 (weekly)

Course Objectives

To learn languages to code front end and back end of a software
. • To initiate into the process of designing, coding and testing a software module.
  • To develop a complete software module

Course Outcomes

Skill to apply Software Development Cycle to develop a software module.
Co.1:- Ability to use the techniques, skills and modern engineering tools necessary for software development.
Co.2:- Develop a software product along with its complete documentation

Course: BCA601T Theory of Computation

PROGRAMME: Computer Application	COURSE TYPE: Theory
DEGREE: BCA	COURSE AREA/DOMAIN: NA
COURSE: Theory Of Computation	CONTACT HOURS:4 (weekly)
SEMESTER:6	CORRESPONDING LABCOURSE CODE
CREDITS: 3	(IFANY): NA
COURSECODE: BCA 601T	LABCOURSE NAME: NA

Course pre-requisites:

Basic knowledge about fundamental concepts of Mathematics like Set algebra, elementary formal logic, constructing proofs, recurrence relations.

Course Objectives:

Introduction to finite automata, regular expressions and languages; push-down automata and context-free languages; selected advanced language theoretical topics; emphasis on technique.

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Course: BCA602 - System Programming

PROGRAMME: Computer Application	Course Type: Theory
DEGREE: BCA	COURSE AREA/DOMAIN: NA
COURSE: System Programming	CONTACT HOURS: 4 (weekly)
SEMESTER:6	CORRESPONDING LABCOURSE CODE
CREDITS: 3	(IFANY): NA
COURSECODE: BCA 602T	LABCOURSE NAME: NA

Course pre-requisites:

Basic knowledge of data structures, computer organization and architecture, operating system, and Programming skills.

Course Objectives

1. Learn basic concepts of operating systems and system software's.
2. Design of operating systems and system software's.
3. Learn the functioning of the principal parts of an operating system.

Course Outcomes

Co.1:-To understand the basics of system programs like editors, compiler, assembler, linker, loader, interpreter and debugger.

Co.2:-Describe the various concepts of assemblers and macro processors.

Co.3:-To understand the various phases of compiler and compare its working with assembler.

Co.4:-To understand how linker and loader create an executable program from an object module created by assembler and compiler.

Co.5:-To know various editors and debugging techniques.

Co.6:-To know about assembly language.

Co.7:-To know about Hypothetical machine structure.

Assessment Methodologies

S.NO	DESCRIPTION	TYPE
1	Student Assignment	Direct
2	Tests	Direct
3	University Examination	Direct

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2	Tests	Direct
3	University Examination	Direct
4	Student Feedback	Indirect

Course: BCA604 - Web Programming

PROGRAMME: Computer Application	Course Type: Theory
DEGREE: BCA	COURSE AREA/DOMAIN: NA
COURSE: Web Programming	CONTACT HOURS: 4 (weekly)
SEMESTER:6	CORRESPONDING LABCOURSE CODE
CREDITS: 3	(IFANY): NA
COURSECODE: BCA 603T	LABCOURSE NAME: NA

Course Objective:

- Demonstrate competency in the use of common HTML code.
- Demonstrate competency using FTP to transfer web pages to a server.
- Construct pages that meet guidelines for efficient download.
- Construct pages that meet the needs of an identified audience.
- Construct efficient file structure for web sites.
- Demonstrate proficiency in the use of WYSIWYG design software.
- Evaluate the functions of specific types of web pages in relationship to an entire web site.
- Design electronic text and web pages that include the standard textual components needed on web pages.
- Create web pages that meet accessibility needs of those with physical disabilities.
- Understand how CSS will affect web page creation.
- Understand the role of JavaScript in web page creation.
- Modify CSS and JavaScript for use on a web site.
- Understand the function of copyright in relationship to web design and coding.
- Utilize graphic design to enhance web pages.

Course Outcomes:

Each course outcome is followed in parentheses by the Program Outcome to which it relates.

Programming Environment - Install and configure an Apache 2 server with PHP5 module, MySQL database and the tool PhpMyAdmin. (*BS-CS I currency,*)

Course Outcomes

Skill to apply Software Development Cycle to develop a software module.
Co.1:- Ability to use the techniques, skills and modern engineering tools necessary for software development.
Co.2:-Develop a software product along with its complete documentation

Program Specific Outcomes (PSO)

After the completion of the course, a student is able

- To pursue further studies to get specialization in Computer Science and Applications, , Mathematics
- To pursue the career in corporate sector can opt for MBA.
- To Work in the IT sector as programmer, system engineer, software tester, junior programmer, web developer, system administrator, software developer etc.
- To work in public sector undertakings and Government organizations.
- For teaching in Schools and Colleges.

Programme Outcomes (PO) – BCA

PO1: Acquire and Apply Knowledge: Ability to understand and apply the fundamental principles, concepts and methods in key areas of Computer Applications and multidisciplinary fields.

PO2: Problem Analysis: Ability to analyze real-time problems using various tools and techniques.

PO3: Design and Development: Ability to design and develop solutions to meet the desired needs.

PO4: State-of-art Technologies: Ability to adapt and apply emerging tools and technologies.

PO5: Entrepreneurship and Innovation: Ability to provide sustainable and innovative solutions for real-time problems.

PO6: Lifelong Learning: Ability to engage in continuous reflective learning in the context of technological advancement.

PO7: Communication and Team Building: Ability to demonstrate effective communication and interpersonal skills.

PO8: Ethics and Social Responsibility: Ability to integrate ethical and human values to become a socially responsible citizen.

PO9: To provide thorough understanding of nature, scope and application of computer and computer languages

P1O: To develop interdisciplinary approach among the students

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Department of History

I SEM PAPER-I HISTORY OF ANCIENT INDIA

Course Outcome

Co1:-Illustrate how literary and archaeological sources are analyzed and interpreted by scholars.

Co2:- understand the Stone Age culture.

Co3:- Explain the salient features of India valley civilization.

Co4:-Understand the importance of the study of Vedic period.

Co5:- Understand the importance of the study of Later-Vedic period.

Co6:-Explain the place of Ashoka in Indian history and his contributions.

Co7:-Able to explain the contributions of the mauryan in various fields that is administration, cultural, economic, political and religious.

Co8:- Understanding the Jainism and Buddhism.

Co9:- Overseas contact to mahajanapadas

II SEMPAPER- II. EARLY MEDIEVAL INDIA 300-1200 CE

Course Outcomes

Co1:- Illustrate how literary and archaeological sources are analyzed and interpreted by scholars.

Co2:-Explain the cultural contributions of Harsha Vardhana

Co3:- Understand the ancient Education system.

Co4:- Able to explain the contributions of the Chalukyas of badami in various field that is administration, cultural, economic, political and religious.

Co5:-Able to understand the social, economic and cultural history of Karnataka under the Pallavas and Rastrakutas.

Co6:-Understandthecircumstancethatlevel tothecomingofIslamtoIndia.

Co7:-Explain the influence of Alwars and Nayanmars on the society.

III SEM PAPER-III. MEDIEVAL INDIA-1206-1707

Course Outcomes

CO1:-UNDERSTAND THE CIRCUMSTANCE THAT LEVEL TO THE COMING OF ISLAM TO INDIA.

CO2:-ABLE TO DISCUSS THE ESTABLISHMENT OF THE DELHI SULTANATE AND THE ADMINISTRATION OF THE EARLY SULTANS.

CO3:-ASSESS ALLU-UD-DINKHILJIS ACHIEVEMENTS.

CO4:-CRITICALLYANALYSETHEADMINISTRATIVEEXPERIMENTSOFMOHAMMED-BIN-TUGHLAQ.

CO5:-ABLE TO DESCRIBE THE REASONS AND EVENTS THAT LED TO BABUR'S ARRIVAL AND CONSOLIDATIONS OF MUSLIM POWER BY ANEWRULING FAMILY.

CO6:-ANALYZE AKBAR'S POLICIES AND ACTION.

CO7:-ABLE TO COMPARE AND CONTRAST AURANGZEB TO AKBAR AND OTHER MUGHALEMPERORS.

CO8:- CO8:-EXPLAIN THE INFLUENCE OF BHAKTI MOVEMENT ON THE SOCIETY.

CO9:-ABLE TO EXPLAIN THE CONTRIBUTIONS OF THE MUGHALS IN VARIOUS FIELDS THAT IS ADMINISTRATION, CULTURAL, ECONOMIC, POLITICAL AND RELIGIOUS.

C10:-ABLE TO UNDERSTAND THE SOCIAL, ECONOMIC AND CULTURAL HISTORY OF KARNATAKA UNDER THE VIJAYANAGARA AND BAHMANIS

IV   SEM PAPER-V. MODERN

INDIAN HISTORY Course Outcomes

Co1:-Understand the events that level to rise and growth of British power in India.

Co2:-Analyze the British polices and ideologies and how they led to the birth of Indian-Nationalism.

Co3:- Understand the importance of Indian National Movement appreciate and respect nation all leaders, imbibe values like patriotism and nationalism.

Co4:-Able to know the true nature of British colonialism in India.

Co5:-Develop critical thinking skills through debate discussion, seminars and assignment writing.

Co6:-understand the problems Independent India faced.

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V SEM PAPER-VI. History of Europe-1500 1945

Course Outcomes

Co1:-Students examine the political, social, cultural forces that have shaped Europe an history from 1500 to 1945. They identify how and why Modern era developed and how it has contributed to contemporary world.

Co2:-AnalysetheimpactofFrenchRevolutionontheevolutionofwesterncivilization.

Co3:-Understand the factors that led to the rise of nationalism in Europe with special reference to movements for unification in Germany and Italy.

Co4:-Significance of the Russian Revolution and outbreak of world war- I.

Co5: Critically analyze the causes and effects of the rise of dictatorship in Germany, Italy and Japan and the outbreak of II world war.

V SEM PAPER-VI HISTORY UP TO

1956 Course Outcomes

Co1:-understand the state formation in Karnataka.

Co2:-Able to understand the social, economic and cultural history of Karnataka under the Mauryan, Satavahana Kadamba, Gangas, Ratrakutas, Chalukyas, Vijaynagara, Bahamans, Adilshahis.

Co3:- understand the Land grants in all kingdoms.

Co4: Able to have acknowledge of literacy contributions made by pampa, vachanasahitya, dasasahityana vodayasalitya and development of architecture under different rules.

Co5:-Able to understand the social, economic and cultural history of Karnataka under the Hyderali and Tipu sultan.

Co6:- Understand the Backward class movement in Karnataka.

Co7:-Co3:- Understand the importance of Indian Unification Movement appreciate and respect nation all leaders, imbibe values like patriotism and nationalism.

VI SEM PAPER-VII Bangalore in time and space

Course Outcomes

Co1:-Explain the history and evolution of Karnataka in Bangalore.

Co2:-understand the Geographical features in Karnataka.

Co3:- Able to understand the Hindu, Muslim, Christian, Sikh, Buddhist Jain and Anglo Indian society.

Co4:-Able to understand the social, economic and cultural history of Karnataka under the Hoysala to Kempegowda.

Co5:-Understand the trade and Commerce Advent of outside.

Co6:--Understand the impact of Urbanization.

Co7:--Understand the new towns and Small towns.

Co9:-Explain the Development of science and Technology.

VI SEM PAPER-VIII Select debates in Indian History

Course Outcomes

Co1:--Understand the impact of Indian antiquity

Co2:- Explain the salient features of India valley civilization.

Co3:--Understand the impact Indus script.

Co4:-Understand the importance of the study of the Aryan people,   Arya-Dravida debate.

Co5:-Explain the place of Ashoka in Indian history and his contributions.

Co6:--Understand the impact Feudalism.

Co6:-understand the problems Independent India faced Gandhi and Ambedkar.

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Programme Specific outcomes of BA History.

At the completion of B.A in History the students are able to:.

Psos1:-Understand the basic themes, concept, chronology and scope of Indian History and Karnataka History.

Psos2:-Be acquainting with the range of issues related to Indian history and its decisive

eras.

Psos3:-UnderstandthehistoryofcountriesotherthanIndiawithcomparativeapproach.

Psos4:-Think and argue historically and critically in writing and

discussions.

Psos5:-Prepare for various types of competitive examinations.

Psos6:-Critically recognize the social, political, economic and cultural aspects of

history.

Psos7:-To study further in the applied field of history.

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Department of Music

Program Specific Outcome : Dec-2021

Program Specific Outcomes of BA Music

PSO 1: Understand basics of Classical Music - Theory and Practical's

PSO 2: Able to sing harmoniously in a group and solo. Analyze good and bad music.

PSO 3: Able to participate in small competitions and win prizes.

PSO 4: Able to participate in state level competitions. Improve voice through Voice Culture.

PSO 5: Able to sing in small concerts and develop their singing ability.

PSO 6: Able to sing in big concerts, teach music to students and get ready for higher education in Music. Improve ability to become professional singers.

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Department of Music

Course Outcome : Dec-2021

Course Outcomes of BA Music

CO 1: Able to differentiate between good and bad music.

CO 2: Able to understand the different types of Indian Classical Music, i.e., Hindustani and Karnataka Classical Music.

CO 3: Able to sing in district level and state level competitions and win medals.

CO 4: Read to teach music.

CO 5: Ready to sing various types of music, i.e., Bhaavageethe, Light Classical, Janapada and Film songs.

CO 6: Become professional music singers and/or directors for TV Serials and Films.

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Department of Kannada

Programme Specific outcomes of B.A., B.Sc., and B.C.A., Language Kannada and B.A., Optional Kannada

PSO1. A student who has taken admission into this programme of B.A., B.Sc., and B.C.A.,

with language Kannada as specific subject of study is expected to target on programme

outcomes

PSO2. Basic Knowledge of Kannada as a language

PSO3. Major Knowledge of Kannada as a literature

PSO4. Basic Knowledge of Kannada Grammar

PSO5. Critical study in Kannada literary studies

PSO6. Relation between pleasure of literature and real life

PSO7. Creating an interest in Kannada Literature

PSO8. Availing job opportunities in translation, transformation and media

PSO9. Ability of creativity to deal with Research in Kannada Literature

PSO10. Imbuing the literary research attitude.

PSO11. Creating an interest to join Editing, Journalism, Social worker and School teacher.

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Course Outcomes for B.A., B.Sc., and B.C.A., (I, II, III and IV Semester) Language

Kannada

Students at the end of the course able

CO1. To unlock the communicator in them by using regional language Kannada appropriately and with confidence for further studies

CO2. To use language as indispensable tool of Communication

CO3. To obtain Knowledge of Fundamental rights and duties of citizen, structure and functions.

CO4. To obtained good information on environmental science, resource and management.

CO5. To analyse the ways in which the Natural Environments Impact the society.

CO6. To understand and interpret the poems, prose, essay and short stories.

CO7. To learn Interview techniques.

CO8. To write Resume, Letters and News report.

Course Outcomes for B.A., Optional Kannada

B.A., 1st & 2nd Semester

- ❖ Paper-1 SahityaCharitre – Parikalpanegalu

- ❖ Paper-2 HosagannadaSahithyaCharitre

CO1. Introduction to basic concept of Kannada Literature

CO2. Understanding in brief the knowledge of Halagannada

CO3. Implementing the literary approach in the students

CO4. Introduction to the various literature methods in students

CO5. Developing the Kannada literature attitude among students

B.A., 3rd & 4th Semester

❖ Paper-3 NadugannadaKavyagalu

❖ Paper-4 BharathiyaKavyamimamse and PaschatyaKavayamimamse

CO1. A tool that can used to teach many literary skills

CO2. Poetry often contains words that rhymes for effect

CO3. Students can learn about phonics and letters sounds by listening for

locating rhyming words.

CO4. A poem can be used to learn sentence structure, parts of speech and

many grammar skills.

CO5. Indian poetry is a soul of literature.

CO6. It gives pleasure for the readers

CO7. The students know about the roles of the grammar, syntax and

vocabulary

B.A., 5th Semester

❖ Paper -5 Halagannadagadya

❖ Paper-6 Shabdamanidarpana

CO1. The main aim of old prose is to develop the language ability of the

students

CO2. Old prose lessons is the best way to make learns acquire an integrated

skills

CO3. The basic skills of learning language namely listening, speaking, reading and writing.

CO4. To understand the passage and the grasping its meaning.

CO5. Grammar skills are useful in every aspect of life from education to leadership and social life to employment of opportunity.

CO6.Grammer is important because it provides information that helps the student's comprehensions

CO7. To help student to understand the communicative importance of grammars.

B.A., 6th Semester

❖ Paper -7 Language and society

❖ Paper-8 Comparative studies in drama and autobiography

CO1. Language is basically a system of communication where sound are sings convey objects, action and index.

CO2. Strong language skills in education consist of listening, speaking, reading and writing

CO3. Understand the key drives in language variation and change in particular social factors such a gender, ethnicity

CO4. The major aim of comparative study is to identify similarities and difference between social entities

CO5. Comparative study seeks to compare and contrast cultures, societies and institutions.

CO6. Students develop to comparative studies in Folklore area

CO7. The study helps students to improve the education in their home country.

CO8. Comparative studies helps to students to acquire better understanding of education system.

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SUBJECT - SAMSKRITAM

Programme: BCA

Course Outcomes

I Semester

Topic: KUMARASAMBHAVAM OF KALIDASA AND GRAMMAR

Students will gain/learn

1. Basic knowledge of Sanskrit language and Literature.
2. Knowledge about Indian Puranas particularly Shivapuranam
3. Sense of open mind to think, Impartial behaviour, un-biased nature, Zeal to help others.
4. Declination and conjugation of nouns and verbs in the Sanskrit language.
5. to understand and interpret some simple unread passages.
6. The virtues of good human being.
7. Understand Emotions and sentiments in Life.

II Semester

Topic : Mitra Samprapti of Panchatantram& Grammar

Students

1. Will be introduced to Katha Sahityam in Samskritam.
2. Will learn Vishnu Sharma's scholastic status, Poetic Beauty. Learn to Appreciate the expressions and style of the poet. Understand the sequential order of incidents occured in Historical period.
3. Will learn about Historical evidences/written documentary accounts about King Amarakirti or Amarashakti, Social and Village life during Vishnusharma's period.
4. Will learn about changing the formation of sentences and analysis of compound words (Samasas)/their formation in Grammar part.
5. Will learn how to frame sentences splits and affects the sandhis and learn the vigrahavaakyaa and samaasa.

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III Semester

Topic: Shukraneeti of Shukracharya&Svasthya Samrakshanam

Students

1. Will be introduced to critical study of Neethi ShastraLiterature in Sanskrit.
2. Will learn to compare between old and New Method of Administration.
3. Will gain knowledge about Leadership abilities.
4. Will understand the stories of different Kings Who suffered because of their greed and other Defects. .
5. Will learn sentence formation/cases and study of Vibhakti and Karakas.
6. Will learn to translate some simple passages into Samskritam.
7. Will learn tomaintain the health according to Ayurvedashastram. Learn to have good and Satvika food in their Life.

IV Semester

Topic : Charudattam of Bhasamahakavi&Dramaturgy

Students

1. Will be introducedto dramatic literature in Samskritam, varieties in Samskrita Dramas.
2. Will gain knowledge of Sanskrit Dramatists, their style and fame.
3. Will be introducedtoBhasa's Roopakas and will learn about other Playwrights also.
4. Will learn about dramas based on Social theme, knowledge about the ancient social life.
5. Will gain knowledge aboutMinister's Character, his sacrifice towards success of the King, skill, hard efforts required to reach the goal.
6. Will be introduced to description about ancient India's Natyashastra.
7. Rasa, Bhava, Anubhava and lakshanas of Nayaka and Nayika.
8. Will learn to appreciate the emotions expressed, prosody employed, dialogues and other gesters expressed in the drama.

SUBJECT - SAMSKRITAM

Programme: BSc /B.A

Course Outcomes

I Semester

Topic: Raghuvamsham of Kalidasa & Grammar

Students

1. Will be introduced to Sanskrit language and Literature and poetry in Sanskrit Literature.
2. Will learn about greatness of Valmiki Maharshi and his Works.
3. Will gain knowledge about the administration of ancient Kings, particularly the kings of Surya vamsha Especially Sri Rama.
4. Will learn the power, strength and Rama's treatment and relationship with the subjects.
5. Will learn about Rama's generosity, devotion and respect towards his Parents.
6. Will learn about introduction to the formation of sentences, with adequateknowledge of Nouns and Verbs in Grammar of Samskritam.

II Semester

Topic: Suhrudbheda of Hitopadesha & Grammar

Students

1. Will be introduced to Katha Sahityam in Samskritam.
2. Will learn Narayana pandita's scholastic status, Poetic Beauty. Learn history of Katha Sahityam. Learn to appreciate expressions and style of the poet. Understand the sequential order of incidents occured in Historical period.
3. Will learn about Historical evidences/written documentary accounts of that period, Social and Village life during Narayana pandita's period.
4. Will learn about changing the formation of sentences and analysis of compound words/their formation in Grammar part.
5. Will learn how to frame sentences splits and effects the sandhis and learns the vigrahavaakyaa and samaasa.

III Semester

Topic: Rajadharma in Manusmruthi & Svasthya Samrakshanam

Students

1. Will be introduced to Smruti and Neethishastra literature, its originand its Historical evidences in Sanskrita Literature.
2. Willrelish studyingSmruthi texts.
3. Will be able to do compare Modern Administration with Ancient one

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4. Will learn Manudharma and its Misinterpretation in the modern time by British Rulers. Understand real thing.
5. Will be introduced to Real history of our Nation.
6. Will learn to maintain the health according to Ayurvedashastram. Practice to have good and Satvika food in their Life.

IV Semester
Topic: Venisamharamof Bhatta Narayana &Dramaturgy
Students

1. Will be introduced to dramatic literature in Samskritam, varieties in Samskrita Dramas.
2. Will gain knowledge of Sanskrit Dramatists, their style and fame.
3. Will be introduced to Bhattanarayana's Roopakas and will learn about other Playwrights also.
4. Will learn about dramas based on Mahabharatham.
5. Will gain knowledge about success of the King, skill, hard efforts required to reach the goal. Learn the Bheema's Character in Mahabharatam.
6. Will be introduced to description about ancient India's Natyashastra.
7. Rasa, Bhava, Anubhava and lakshana's of Nayaka and Nayika.
8. Will learn to appreciate the emotions expressed, prosody employed, dialogues and other gesters expressed in the drama.
9. Will learn to have pure love and affection towards their beloved.

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