Programme Outcomes, Programme Specific Outcomes And Course Outcomes Of All Programmes And Courses

Bachelor of Science (B.Sc.)

PHYSICS

Programme outcomes

After successful completion of three year degree programme in Physics, a student should be able to

PO-1: Demonstrate, solve and an understanding of major concepts in all disciplines of Physics.

PO-2: Solve the problem and also think methodically, independently and draw a logical conclusion

PO-3: Employ critical thinking and the scientific knowledge to design, carry out, record and analyze the results of Physics experiments.

PO-4: Create an awareness of the impact of Physics on the society and development outside the scientific community.

PO-5: To inculcate the scientific treatment in the students and outside the scientific community.

PO-6: Use modern techniques, descent equipments and different software.

Programme Specific Outcomes

PSO-1: Gain the knowledge of Physics through theory and practical's.

PSO-2: Understand good laboratory practices and safety.

PSO-3: Develop research oriented skills.

PSO-4: Make aware and handle the instruments/equipments.

Semester-I

Course Outcomes

Gravitation

After the completion of these courses students should be able to;

CO-1: Know the Newton's law of gravitation.

CO-2: To study variation of acceleration due to gravity at different places..

CO-3: To study Kepler's laws of planetary motion.

CO-4: To understand above concepts through experiments in laboratory.

CO-5: To develop numerical solving technique in students. (Numerical based on syllabus)

Rotational Motion

CO-1: Know the translational, vibrational & rotational motion.

CO-2: To find out moment of inertia of different body shapes.

CO-3: To understand the concept of linear & angular momentum.

CO-4: To understand above concepts through experiments in laboratory.

CO-5: To develop numerical solving technique in students. (Numerical based on syllabus)

Oscillation I

CO-1: Know the concept of simple harmonic motion

CO-2: To derive & solve differential equation of S.H.M.

CO-3: To study examples of S.H.M. like Compound pendulum, Kater's pendulum, etc.

CO-4: To understand above concepts through experiments in laboratory.

CO-5: To develop numerical solving technique in students. (Numerical based on syllabus)

Oscillations-II

CO-1: Know the damped & forced harmonic motion.

CO-2: To understand resonance & its types.

CO-3: To study superposition of two S.H.M.s (parallel & perpendicular)

CO-4: To understand above concepts through experiments in laboratory.

CO-5: To develop numerical solving technique in students. (Numerical based on syllabus)

Elasticity

CO-1: Know the concept of elasticity & plasticity

CO-2: To understand different elastic constants.

CO-3: To determine elastic constant by different methods.

CO-4: To understand above concepts through experiments in laboratory.

CO-5: To develop numerical solving technique in students. (Numerical based on syllabus)

Viscosity

CO-1: Know the viscous properties of fluid.

CO-2: To understand Bernoulli's theorem, Raynold's number.

CO-3: To study property of matter: surface tension.

CO-4: To understand above concepts through experiments in laboratory.

CO-5: To develop numerical solving technique in students. (Numericals based on syllabus)

Semester-II

Course Outcomes

Ideal gas, Real gas & Transport phenomenon

CO-1: Know the kinetic theory of gases.

CO-2: To understand Brownian motion, Avogadro's number & specific heat.

CO-3: To study Transport phenomenon in gases.

CO-4: To understand above concepts through experiments in laboratory.

CO-5: To develop numerical solving technique in students. (Numerical based on syllabus)

Laws of thermodynamics

CO-1: Know the laws of thermodynamics.

CO-2: To understand Carnot's heat engine & Carnot's theorem.

CO-3: To study Entropy.

CO-4: To understand above concepts through experiments in laboratory.

CO-5: To develop numerical solving technique in students. (Numerical based on syllabus)

Liquification of gases

CO-1: Know the Joule-Thomson effect.

CO-2: To understand liquification of hydrogen & helium.

CO-3: To study thermodynamic variables.

CO-4: To understand above concepts through experiments in laboratory.

CO-5: To develop numerical solving technique in students. (Numerical based on syllabus)

Motion of charged particles

CO-1: Know the motion of charged particle in electric & magnetic fields.

CO-2: To understand working principle of electron gun, Discharge tube & mass spectrograph.

CO-3: To study linear accelerator & Cyclotron.

CO-4: To understand above concepts through experiments in laboratory.

CO-5: To develop numerical solving technique in students. (Numericals based on syllabus)

Network theorems

CO-1: Know the network theorems.

CO-2: To understand Ballistic galvanometer.

CO-3: To study Varying current.

CO-4: To understand above concepts through experiments in laboratory.

CO-5: To develop numerical solving technique in students. (Numericals based on syllabus)

Alternating current

CO-1: Know the concept of alternating current.

CO-2: To understand applications of j-operator & complex number.

CO-3: To study resonance & transformer.

CO-4: To understand above concepts through experiments in laboratory.

CO-5: To develop numerical solving technique in students. (Numericals based on syllabus)

Course Outcomes

Mathematical background & electrodynamics

CO-1: Know the Scalar & Vector fields.

CO-2: To understand Gradient, Divergence & Curl.

CO-3: To study Ampere's law.

CO-4: To understand above concepts through experiments in laboratory.

CO-5: To develop numerical solving technique in students. (Numericals based on syllabus)

Magnetostatics& Maxwell's equation

CO-1: Know the Faraday's law.

CO-2: To understand Maxell's equation.

CO-3: To study Poynting theorem.

CO-4: To understand above concepts through experiments in laboratory.

CO-5: To develop numerical solving technique in students. (Numericals based on syllabus)

Solid state electronic devices-I

CO-1: Know the semiconductors.

CO-2: To understand Hall Effect.

CO-3: To study different types of diodes.

CO-4: To understand above concepts through experiments in laboratory.

CO-5: To develop numerical solving technique in students. (Numerical based on syllabus)

Solid state electronic devices-II

CO-1: Know the BJT.

CO-2: To understand types & applications of FET.

CO-3: To study IC OP-AMP.

CO-4: To understand above concepts through experiments in laboratory.

CO-5: To develop numerical solving technique in students. (Numerical based on syllabus)

Special theory of relativity

CO-1: Know the special theory of relativity.

CO-2: To understand length contraction, Time dilation.

CO-3: To study Einstein's mass-energy relation.

CO-4: To understand above concepts through experiments in laboratory.

CO-5: To develop numerical solving technique in students. (Numerical based on syllabus)

Atmosphere & Geophysics

CO-1: Know the structure of earth.

CO-2: To understand Atmosphere.

CO-3: To study earthquakes.

CO-4: To understand above concepts through experiments in laboratory.

CO-5: To develop numerical solving technique in students. (Numerical based on syllabus)

Geometrical Optics

CO-1: Know the types of diffraction.

CO-2: To understand diffraction through plane transmission grating.

CO-3: To study zone plates.

CO-4: To understand above concepts through experiments in laboratory.

CO-5: To develop numerical solving technique in students. (Numerical based on syllabus)

Polarization

CO-1: Know the Polarization.

CO-2: To understand Brewster's law.

CO-3: To study Nicol's prism.

CO-4: To understand above concepts through experiments in laboratory.

CO-5: To develop numerical solving technique in students. (Numericals based on syllabus)

Laser

CO-1: Know the mechanism of Laser.

CO-2: To understand types & applications of laser.

CO-3: To study concept of holography.

CO-4: To understand above concepts through experiments in laboratory.

CO-5: To develop numerical solving technique in students. (Numericals based on syllabus)

Fiber optics

CO-1: Know the mechanism of Optical fiber.

CO-2: To understand types & applications of optical fiber.

CO-3: To study optical communication system.

CO-4: To understand above concepts through experiments in laboratory.

CO-5: To develop numerical solving technique in students. (Numericals based on syllabus)

Renewable energy sources

CO-1: Know the types of renewable energy sources.

CO-2: To understand concept of solar energy.

CO-3: To study photovoltaic cell.

CO-4: To understand above concepts through experiments in laboratory.

CO-5: To develop numerical solving technique in students. (Numericals based on syllabus)

<h2 style="text-align:center">Semester-V</h2>

Course Outcomes

Quantum mechanics-I

CO-1: Know the black body radiation.

CO-2: To understand Plank's radiation law & photoelectric effect.

CO-3: To study Compton effect & Heisenberg's uncertainty principle.

CO-4: To understand above concepts through experiments in laboratory.

CO-5: To develop numerical solving technique in students. (Numericals based on syllabus)

Quantum mechanics-II

CO-1: Know the Schrodinger's wave equation.

CO-2: To understand mathematical operator's.

CO-3: To study motion of particle in rectangular box.

CO-4: To understand above concepts through experiments in laboratory.

CO-5: To develop numerical solving technique in students. (Numericals based on syllabus)

Atomic & molecular Physics

CO-1: Know the different atomic models.

CO-2: To understand quantum numbers.

CO-3: To study Raman effect.

CO-4: To understand above concepts through experiments in laboratory.

CO-5: To develop numerical solving technique in students. (Numericals based on syllabus)

Nuclear Physics

CO-1: Know the theory of nucleus.

CO-2: To understand alpha & beta decay.

CO-3: To study Nuclear reaction & reactor.

CO-4: To understand above concepts through experiments in laboratory.

CO-5: To develop numerical solving technique in students. (Numericals based on syllabus)

Hybrid parameters

CO-1: Know the h-parameters.

CO-2: To understand concept of amplifier.

CO-3: To study Noise & distortion in amplifier.

CO-4: To understand above concepts through experiments in laboratory.

CO-5: To develop numerical solving technique in students. (Numericals based on syllabus)

Feedback in amplifier

CO-1: Know the concept of feedback.

CO-2: To electronic oscillators.

CO-3: To study multi vibrators.

CO-4: To understand above concepts through experiments in laboratory.

CO-5: To develop numerical solving technique in students. (Numericals based on syllabus)

Course Outcomes

Statistical mechanics-I

CO-1: Know the phase space, unit cell, micro& macro states.

CO-2: To understand Boltzmann's entropy relation.

CO-3: To study Maxwell-Boltzmann statistics & its applications.

CO-4: To understand above concepts through experiments in laboratory.

CO-5: To develop numerical solving technique in students. (Numericals based on syllabus)

Statistical mechanics-II

CO-1: Know the concept of boson & fermions.

CO-2: To understand Bose-Einstein statistics & its applications.

CO-3: To study Fermi-Dirac statistics & its applications.

CO-4: To understand above concepts through experiments in laboratory.

CO-5: To develop numerical solving technique in students. (Numericals based on syllabus)

Crystallography Crystallography

CO-1: Know the crystalline & amorphous solids.

CO-2: To understand different crystal structures & X-ray diffraction.

CO-3: To study crystal defects.

CO-4: To understand above concepts through experiments in laboratory.

CO-5: To develop numerical solving technique in students. (Numericals based on syllabus)

Electrical properties of materials

CO-1: Know the concept of drift motion.

CO-2: To understand Fermi energy.

CO-3: To study band structure in solids.

CO-4: To understand above concepts through experiments in laboratory.

CO-5: To develop numerical solving technique in students. (Numericals based on syllabus)

Magnetic properties of materials

CO-1: Know the concept of magnetism.

CO-2: To understand types of magnetic materials.

CO-3: To study Hysteresis.

CO-4: To understand above concepts through experiments in laboratory.

CO-5: To develop numerical solving technique in students. (Numericals based on syllabus)

Superconductivity & Nano technology

CO-1: Know the concept of superconductors.

CO-2: To understand types of superconductors & BCS theory.

CO-3: To study Basic concepts of nanotechnology.

CO-4: To understand above concepts through experiments in laboratory.

CO-5: To develop numerical solving technique in students. (Numericals based on syllabus)

Chemistry

After successful Completion of B.Sc. with Chemistry Students should able to

Programme Specific Outcomes

PSO-1. Gain the knowledge of chemistry through theory and practical

PSO-2. To explain nomenclature stereochemistry, structure, reactivity and mechanism of chemical reactions.

PSO-3. Identify chemical formulae and solve numerical problems.

PSO-4. Use modern chemical tools Models Charts and equipments.

PSO-5 Know structure activity relationship.

PSO-6. Understand good laboratory Practices and safety.

PSO-7. Develop research oriented skills

PSO-8. Make aware and handle the sophisticated equipments.

Semester –I

Course Outcomes

Inorganc Chemistry

CO-1. Get knowledge of periodic classification of elements.

CO-2. Understand periodic Properties.

CO-3. Know the periodic classification in S-block,P-block

CO-4. Discuss different physical and chemical properties.

Organic Chemistry

CO-1.Get the knowledge of Inductive effect, electromric effect, resonance and hyper conjugation.

CO-2 Acquaint about reactive intermediate.

CO-3. To study Aliphatic hydrocarbon and their properties.

CO-4. Information about aromatic hydrocarbon.

Physical chemistry

CO-1. To get knowledge of Thermodynamics

CO-2. Solve numerical problems on thermodynamics

CO-3. To understand gaseous state.

CO-3 To solve the problem on gaseous state

CO-4 To understand phase rule and different systems.

Organic Practicals

CO-1. To develop skill in student regarding different methods of organic preparation.

CO-2. To developed new concept of green synthesis.

CO-3. To develop skill of organic preparation.

Inorganic Qualitative Analysis

CO-1. Identify acidic and basic radicals from mixtures.

CO-2. To develop skill of inorganic separation.

CO-3 To develop idea about semi micro analysis

Course Outcomes:- After completion of these courses students able to

Inorganic Chemistry

CO-1. To understand the concept of polarization ,covalent bonding acid and bases.

CO-2. To get the knowledge of p-block and Nobel gas elements.

CO-3. To understand concept of hybridization, type of hybridization, geometry.

CO-4 .Know information regarding gravimetric analysis.

Organic chemistry

CO-1. To get knowledge of alky halides, aryl halides preparation properties uses.

CO-2. To developed method of preparation of phenols, Ethers and Epoxide.

CO-3. To get new method of synthesis.

Physical chemistry

CO-1. To understand concept of chemical kinetics Order,   moleclarity, pseudo unimolcular reaction

CO-2 To understand first, second order reaction their characteristics example.

CO-3.Tostudy electrical properties for polar and nonpolar molecule

CO-4 to know magnetic properties paramagnetic diamagnetic, ferromagnetic   and anti ferromagnetic

CO-5. To measure magntic susceptibility.

Organic chemistry practicals

CO-1 Analysis of organic compound and to study different parameters like m. p., Element detection, functional group, derivative preparation.

CO-2. -Analysis of Glucose, a-naphthol, b-naphthol Toludine, Anthracine, Benzoic acid, Salicylic acid.

Physical chemistry practicals

CO-1. To measure surface tension, Viscosity, Parachor value, Cleaning power of detergent.

CO-2. To determine activation energyof reaction betweenK2S2O8 and KI

Semester III

Course Outcomes:- After completion of these courses students able to

Inorganic Chemistry

CO-1. To understand the concept of covalent bonding, metallic bonding

CO-2. To get the knowledge of VSPER theory.

CO-3 Know frees electron theory, Valence bond theory and molecular orbital theory.

CO-4. To understand concept of volumetric analysis.

CO-5 .Know information regarding gravimetric analysis.

Organic Chemistry

CO-1 To get the information of different of aldehyde and carboxylic acid.

CO-2. Understand the terms Optical isomerism and conformational isomerism.

CO-3. To Know meaning of resolution, enatomers Diasteromers, Rand S Configuration.

CO-4. To understand the terms Newman's projection formula, Sawhorse projection formula.

Physical Chemistry

CO-1. To get the Knowledge Thermodynamic and Equilibrium.

CO-2. To solve the numerical problem on thermodynamics.

CO-3. To understand the concept of liquid state surface tension, Viscosity.

CO-4. Understand measurement application of surface tension and viscosity.

CO-5. To understand principal of redox titration.

CO-6. To inculcate importance of water, measurement of different parameters.

CO-7 Importance of different analysis.

CO-8 to develop skill based aptitude among the students

Inorganic Chemistry Practical's

CO-1. T o develop concept among the students for preparation of different solution.

CO-2. To performs redox titration, iodometry and iodimetric titration.

Physical Chemistry Practicals

CO-1.To develops skill of construction of phase diagram.

CO-2. To devlope laboratory skill for study order of reaction.

Course outcomes:- After completion of these courses students able to

Inorganic Chemistry

CO-1.Knowledge about 3rd transition series elements.

CO-2. To develop skill among the students for extraction of elements.

CO-3. To get the knowledge of metallurgy.

CO-4. To understand inner transition elements.

Organic Chemistry

CO-1. Information regarding olynuclear hydrocarbon.

CO-2. To understand the chemistry of reactive methylene group.

CO-3. To inculcate importance of carbohydrate.

CO-4. To acquire importance of amino acids, diazonium salt and proteins.

Physical Chemistry

CO-1. To know the importance of colligative properties.

CO-2. To solve numerical problems.

CO-3.To understands crystalline state by using different models and video film.

CO-4. To solve numerical problem on crystallography.

Inorganic Chemistry practicals

CO-1 To know various parameters of water like hardness of water and its estimation.

CO-2 Estimation of $KMnO_4$ colorometrically and also copper

Physical Chemistry practicals

CO-1 To developed skill regarding separation of Casein, nicotine, caffeine.

CO-2 Determination of equivalent weight of organic acid

<p style="text-align:center"><mark>**Semester V**</mark></p>

Course outcomes:- After completion of these courses students able to

Inorganic Chemistry

CO-1. Know the meaning of various terms involved in coordination chemistry.

CO-2. To understand Werners formulation of complexes and identify the type of valences'.

CO-3. To get importance of electronic spectra of transition series elements.

CO-4. To solve numerical on crystal field theory.

Organic Chemistry

CO-1. Information regarding heterocyclic compounds their synthesis, physical and chemical Properties.

CO-2. Have the knowledge of various drugs their synthesis and application.

CO-3. Knowledge about various pesticides and herbicides.

CO-4. Acquaint about mode of action of drugs on various diseases.

Physical Chemistry

CO-1. Understand concept of photochemistry.

CO-2. To understands different terms Lamberts law Beers law, Quantum yield, Fluorescence, phosphorescence.

CO-3. Derive expression for rotational spectra, vibrational spectra, band spectra.

CO-4. Solve numerical on rational and vibrational spectroscopy.

Inorganic Chemistry Practical

CO-1. To develope skill for inorganic complex salt prepation.

CO-2. Know idea for preparation of complexes like tetr ammineCu(II) sulphate,hexamine Ni(II) chloride, Prussian blue,Sodium thiosulphate.

Physical Chemistry

CO-1. To develop skill for handling various sophisticated equipments

CO-2. To perform titration and estimation by conductometry, potetiometry, polriometrically.

Course out comes:- After completion of these courses students able to

Inorganic Chemistry

CO-1.To get the knowledge of different reaction SN1 and SN2 substitution reaction.

CO-2. To understand various concept of beers law verification Beer slaw, expressions.

CO-3. To understand chromatography types.

CO-4. To get information of organometallic compound.

CO-5. To know the role Na , K, Ca, Mghaemoglobin myoglobin in biological system.

Organic Chemistry

CO-1. To understand different spectroscopic terms   In electronic spectroscopy chromophore, auxochrome bathochromic shift, hypsochromic shift

CO-2. Application of electronic spectra for dienes unsaturated aldydes and ketones, aromatic compound.

CO-3.To understand concept of NMR, Mass spectroscopy and their application in structure determination.

CO-4.To solve numerical on spectroscopy.

Physical Chemistry

CO-1.To gets information about redox potential, determination types of different electrode.

CO-2 Determination pH of solution by using hydrogen, glass, quinhydrone electrode.

CO-3.To understands different terms of nuclear chemistry Shell model, liquid drop model, and meson theory.

CO-4. Knowledge about nuclear fusion and fission, Q value

CO-5. Application of radioisotope in industries agriculture and medicine.

Organic chemistry practicals

CO-1 To develop skill among the students for performing titrations.

CO-2. Know the idea to perform various titration formaldehyde, ascorbic acid, phenol , aniline, urea

CO-3. To develop skill based practical's like separation of mixtures of dyes.

Physical Chemistry practicals

CO-1.To gives knowledge to students for handling various sophisticated equipments.

CO-2.To develop titration skill for conductometry, potetiometry , pH metry.

CO-3.To verifies lamberts beers law by using colorimeter.

Mathematics

Programme Outcomes

PO-1. Demonstrate, solve and an understanding of major concepts in all discipline of mathematics.

PO-2. Solve the problem and also think methodically, independently and draw a logical conclusion.

PO-3. Employ critical thinking and scientific knowledge to design, carryout, record and analyze the result of mathematical analysis.

PO-4. Create an awareness of the impact of mathematics on the environment, society and development outside the scientific community.

PO-5. To inculcate the scientific temperament in the students and outside the scientific community.

PO-6. Use modern techniques, application of mathematics in various fields and for developing new software.

Programme Specific Outcomes

PSO-1. A student should be able to recall basic facts about mathematics and be able to display knowledge of conventions such as notations, terminology and recognize basic geometrical figures and graphical displays, state important facts resulting from their studies.

PSO-2. A student should a relational understanding of mathematical concepts and concerned structures and should be able to follow the patterns involved, mathematical reasoning.

PSO-3. A student should get adequate exposure to global and local a concern that explores them many aspects of Mathematical Sciences.

PSO-4. Students are able to apply their skills and knowledge that translate information presented verbally into mathematical form, select and use appropriate mathematical formulae or techniques in order to process the information and draw the relevant conclusion.

PSO-5 Student should be able to made aware of history of mathematics and hence of its past, present and future role as part of our culture.

PSO-6. Develop research oriented skills

<mark>Semester-I</mark>

<mark>Paper–I Algebra & Trigonometry</mark>

De Moivre's theorem,

CO-1, students' applies the De Moivers' theorem in finding the roots.

CO-2. Students know the Definition of hyperbolic function and inverse hyperbolic function.

CO-3. Also the relation between hyperbolic functions and circular functions.

CO-4. Students can find real and imaginary parts of the circular and hyperbolic functions of complex variables

Trigonometric series:

CO-1 Students are able to find the .Gregory series, Euler's series, Machin's series, Rutherford's series, summation of series, series based upon $\sin x$, $\cos x$, $\sinh x$, $\cosh x$, exponential series, logarithmic series and series based upon Gregory series.

Elements of quaternion:

CO-1. Students get the knowledge of quaternions its Definition.

CO-2. They know the concept of Equality and addition, multiplication of quternions, complex conjugate of a quaternion, norm, inverse,

CO-3. Students can find quaternion as a rotation operator, and its geometric interpretation.

CO-4. Students have knowledge of a special quaternion product, operator algorithm, quaternion to matrices.

Theory of equations:

CO-1. Know the relations between the roots and coefficients and can find roots of the polynomial

CO-2. Use the transformation of equations

CO-3. Solve the cubic equations using Cardon method

CO-4. Solve biquadratic equations.

Matrices:

CO-1. Find the rank of a matrix, row rank, column rank,

CO-2. Find the eigenvalues, eigenvectors and the characteristic equation of a matrix.

CO-3. Verify Cayley- Hamilton theorem and its application.

Limits and Continuity of the functions

CO-1. Understand the basic concept and definition of a limit of a function and continuity and the basic difference between them.

CO-2. To prove the properties of limits and continuity of functions.

Co-3. To find the limit of the function and verify the continuity of the function.

CO-4. Verify types of discontinuities and problems based on it.

Successive Differentiation.

CO-1. Familier with the techniques finding the derivatives of any order using successive differentiation.

CO-2 Study and Apply Leibnitz theorem for successive differentiation of multiplication of two different functions.

CO-3. Identify and apply the L'hospital's rule in case of indeterminate form of the limits.

Rolle 's Theorem, Lagrange's mean value theorem, Cauchy's mean value theorem, Maclaurin and Taylor series expansions.

CO-1. Verify Rolle's theorem, Lagrange's Mean Value Theorem, Cauchy's Mean value theorem and their appliction in solving problems.

CO-2. Know the Maclaurin's and Taylor series expansions and their applications in solving problems for finding their power series expansion.

Partial derivatives and differentiation of real valued function of two variables,

CO-1. Develop knowledge of limit, continuity, differentiation of real valued function of two variables,

CO-2. Define homogenous functions and study Euler's theorem for finding the differential equations.

Euler's theorem on homogeneous functions.

CO-1. Learn how to solve the integration of the form $\int \frac{P_n(x)}{\sqrt{Q}} dx$,

CO-2. To find reduction formulas for $\int \sin^n x dx, \int \cos^n x dx, and Walli's Formula \int \tan^n x dx$,

$$\int \cot^n x dx, \int \sec^n x dx, \int \cosec^n x dx, \int \sin^n x \cos^m x dx,$$

CO-3. Know the quadrature, rectification,

CO-4. Have knowledge omethods and concepts of multiple integrals and their application

Paper-III Differential Equations: Ordinary and Partial

First Order Ordinary Differential Equations

CO-1. Determine Degree and order of a ordinary differential equation,

CO-2. Solve linear differential equations and differential equations reducible to the linear form. CO-3. Verify and solve the exact differential equations.

CO-4. Study and solve differential equations of first order and higher degree using the methods differential equations solvable for p and y, differential equations in Clairaut's form.

CO-5. Define and find the orthogonal trajectories.

Linear differential equations

CO-1. Determine Second order linear differential equations with constant coefficients,

CO-2. Find the Complementary function for the homogeneous linear differential equation and Particular integral of the linear ordinary differential equations,

CO-3. Convert the equations reducible to homogeneous differential equations to find the primitive.

Second order ordinary differential equations

CO-1. Study and apply the reduction of order, transformation of the equation by changing the dependent variable and independent variable,

CO-2. Learn the normal form (removal of first order derivative)

CO-3. Apply method of variation of parameters. Co-4. Find the solution of Ordinary simultaneous differential equations.

Total differential equations or Pfaffin differential equation .

CO-1. Form partial differential equations,

CO-2. Find the solution of total partial differential equations of the first order or Pfaffian using various methods.

CO-3. Solve the Lagrange's method, some special types of equations which can be solved easily by methods other than the general method

Compatible differential equations.

CO-1. Solve Compatible differential equations.

CO-2. Use Charpit's general method of solution,

CO-3. Learn and find the solution of partial differential equations of second and higher orders.

CO-4. Solve Homogeneous and non-homogeneous equations with constant coefficients.

<div align="center">==Semester-II==</div>

==Paper-IV   Vector Analysis and Solid Geometry==

Vector differentiation and vector integration.

CO-1. Have knowledge of Scalar and vector product of three vectors,

CO-2. Define and solve the product of four vectors, vector differentiation and vector integration.

Differential Geometry

CO-1. Have knowledge of the geometry of space curve t, n, b vectors, fundamental planes,

CO-2. define and find the curvature, torsion,

CO-3. Have knowledge Frenet-Serret formulae.

Double integral and triple Integration

CO-1. Define and find the Gradient, divergence and Curl, directional derivative, line integral (existence and evaluation),

CO-2. Find and evaluate the work done

CO-3. Prove and apply the Greens theorem.

Sphere

CO-1. Solve the problems of lines in three dimensions, planes of different forms of spheres.

CO-2. Have the knowledge different forms of spheres. Section of a sphere by a plane and their geometry by using their algebraic equations.

CO-3. Have the knowledge of intersection of sphere and a line. Condition of orthogonality of two intersecting spheres

Cone and Cylinder

CO-1. Study the equation of cone with guiding curve, equation of cone with vertex and origin.

 CO-2. Equation of right circular cylinder and its geometry.

Advanced Calculus

Sequence

CO-1. Knowledge and proofs of theorems on limits of sequences, bounded and monotonic sequences,

CO-2. Knowledge and proofs of Cauchy's convergence criterion.

Series

CO-1. Knowledge of Series of non negative terms, convergence of geometric series and the series $\sum \frac{1}{n^p}$ Comparison tests,

CO-2. Use of Cauchy's integral test, Ratio test, Root test.

CO-3. Understand the concept of absolute Convergent, conditional convergent, Leibnitz rule, Abel's test, Dirichlet's test

Double integral

CO-1. Define and evaluate the double integrals.

CO-2. Change the order of integration in double integrals

CO-3. Define and evaluate the triple integrals.

CO-4. Prove and apply the Guass and Stoke's theorem.

Divisibility

CO-1.Understand the concept and definition of the divisibility and their properties and results.

CO-2. Prove division algorithm and its application in finding the results on greatest common divisor ,

CO-3. Methods of finding the gcd of more than two integers.

CO-4. Define and find the least common multiple and its results.

CO-5. Knowledge of Euclidean algorithm and its applications

CO-6. Find the relation between the gdc and lcm

CO-7. Find the lcm of more than two integers

Arithmetic functions

CO-1. Define and understand the concept of Arithmetic functions,

CO-2. Proovethe apply Euler's theorem,

CO-3. Define and find the functions, Mobius ⊠ function.

Modern Algebra: groups and rings

Group

CO-1. Define and verify a group with examples, properties of a group, subgroups, cyclic groups, order of a generator of a cyclic group, permutation groups even and odd permutations

Cosets and normal subgroups

CO-1. Define and find Cosset,

CO-2. Knowledge of Statement and proof of Lagrange's theorem,

CO-3. Definition and Properties of normal subgroups, different characterization of normal subgroups, algebra of normal subgroups, quotient group

Homomorphism and isomorphism

CO-1. Define and verify Homomorphism, homomorphic image, kernel of homomorphism, isomorphism of a group,

CO-2. State and prove Fundamental theorem on homomorphism of a group, natural homomorphism, second isomorphism theorem, third isomorphism theorem. and their applications.

Ring, integral domain and field

CO-1. Define Rings, Integral domain and field and their results with examples.

CO-2. Define and verify the Ring Homomorphism, homomorphic image, kernel of homomorphism, isomorphism of a group, and Fundamental theorem on homomorphism of a group, natural homomorphism, second isomorphism theorem, and third isomorphism theorem.

<mark>Semester IV</mark>

Lagrangian Dynamics

CO-1. Understand the concept of Constraints, generalized coordinates,

CO-2. State and prove D' Alembert's principle and to derive Lagrange's equations of motion from it.

CO-3. To construct the Lagrangian find to derive the Lagrange's equations of motion.

Central force motion

CO-1. Understand the concept of central force field, types of central force. Equivalent one body problem

CO-2. Define A real velocity, central orbit,

CO-3. State and prove the Virial theorem,

CO-4. State and prove the Kepler's laws of motion.

Hamilton's principle

CO-1. Define Hamiltonian of the system.

CO-2. Understand the concept of Hamilton's principle for conservative and non conservative system.

CO-3. Derive Hamilton's equations.

CO-4. Derive Lagrange's equations for non-holonomic conservative system,

CO-5. Follow Roth's procedure and least action principle.

Mechanics of Rigid body

CO-1. Find generalized co-ordinates of a rigid body, Eulerian angles, Euler's theorem, finite rotations, infinitesimal rotations.

Semester V

Mathematical Analysis

Riemann Integral

CO-1. Define Riemann Integral and its properties. Integrability of continuous and monotonic functions,

CO-2. To prove the fundamental theorem of integral calculus, mean value theorem of integral calculus. and to solve the examples.

Improper Integrals

CO-1. Have the knowledge of improper integrals and their convergence, comparison and limit tests.

CO-2. Learn Definations and properties of Beta and gamma functions and relation between them.

Analytic Functions

CO-1, Elementary function, mapping by elementary function,

CO-2. Mobius transformation, fixed point, cross ratio, inverse and critical points, conformal mapping.

Metric spaces

CO-1. Learn basic ideas of analysis,

CO-2. Define and verify the examples of metric spaces, neighbourhood, limit point, interior point, open and closed sets,

CO-3. Cauchysequences, completeness.

<h2 style="text-align:center"><mark>Semester-VI</mark></h2>

Linear Algebra

Vector Space

CO-1. Use the concept of vector spaces,

CO-2. Define subspaces and proves using the theorems on it,

CO-3. Define sum and direct sum of subspaces, prove thermos on it and solve the examples

CO-4. Define linear span, linear dependence, independence and their basic properties,

CO-5. Define and find the basis of a finite dimensional vector spaces, prove existence theorem for bases, invariance of the number of elements of a basis set, dimension.

Linear transformations

CO-1. Apply the properties of linear transformations to linearity of transformations, kernel and rank of linear transformations using rank – nullity theorem, inverse transformations to solve the problems of matrix transformations, change of basis.

Dual Spaces

CO-1. Define the Dual space, bidual space

CO-2. State and prove the theorems on natural isomorphism,

CO-3. Define the adjoin of a linear transformation, Eigen values and eigenvectors of a linear transformation and sole examples on it.

Inner Product Spaces

CO-1. Use the concept of inner product spaces to find norm of vectors, distance between vectors, check the orthogonality of vectors, to find the orthogonal and orthonormal basis.

CO-2. State and prove Cauchy-Schwarz inequality, orthogonal vectors, orthogonal complements, orthonormal sets and bases, Bessel's inequality for finite dimensional spaces, Gram Schmidt orthogonalisation process.

Zoology

Course outcome

Semester I

Diversity of Non Chordates

CO-1 Students undergo scientific temper and Practical Skills.

CO-2 Students learned how to Classify Non Chordates animals.

CO-3 Students learn the habitats of different animals.

CO-4 Students got knowledge of economical importance of some animals.

CO-5 Students got the knowledge of which animals become the source of food.

CO-6 Students got the knowledge of diseases and their prevention like malaria, amoebiasis, leismaniasis and trypanosomiasis.

Semester II

Cytology and Developmental Biology

CO-1 Students got the knowledge of structure of cell and cell organelles.

CO-2 Students known the functions of different cell organelles.

CO-3 Students got the knowledge of development process ie embryonic process in Amphioxus,

Frog and Chick.

CO-4 Students got the knowledge of stem cells and its significance.

CO-5 Students got the knowledge of parthenogenesis and regeneration.

CO-6 Students practices incubation of chick egg.It will helpful them in poultry for how to hatch eggs.

CO-7 Students understood the process of mitosis cell division.

Semester III

Diversity of Chordates

CO-1 Student undergoes Practical Skills.

CO-2 Students learn how to Classify Chordates animals.

CO-3 Students learned the habitats some Chordate animals.

CO-4 Students got knowledge of economical importance of some animals.

CO-5 Students got the knowledge of which animals become the source of human food.

CO-6 Students got the knowledge of anatomy and physiology of Chordate animals.

Genetics and Evolution

CO-1 Students understood the molecular basis of cell.

CO-2 Students understood the Mendelian Laws and Assortments of traits in plants and animals.

CO-3 Students got the knowledge of genetic diseases and how these are transmitted.

CO-4 Students got the knowledge of process of evolution.

CO-5 Students got the knowledge of vestige organs, homologous organs and analogous organs.

Animal physiology

CO-1 Students got the knowledge of physiological process in chordates ie physiology of circulation, osmoregulation, muscle physiology, nerve physiology, reproductive physiology and endocrinology.

CO-2 Students practices how to count WBCs, RBCs, Hemoglobin percentage, blood pressure in Human.

Advanced Genetics and ecology

CO-1 Students understood the structure of DNA and its replication.

CO-2 Students practices microtechnique , a very basic principle of research work.

CO-3 Students understand blood groups and related diseases.

CO-4 Students understood the different ecosystem ie water, forest, etc. and also got the knowledge of role plyed by different organisms in ecosystem.

Botany

Course Outcome -I

CO-1   To understand plant diversity; lower group of plants; study of algae, bryophytes, fungi, pteridophytes; mechanism of reproduction in lower plants and microbes responsible for plant diseases and economic losses.

CO-2 To study paleo botany, gymnosperm classification, plant morphology such as study of roots, stem and leaves, Inflorescence, economic botany and the role of plants as a medicine, food, condiments etc.

CO-3 To understand the basis for classification of plants; plant taxonomy; plant families; plant anatomy and embryological study of the plants.

==**Programme Specific Outcomes**==

PSO1: Communicating computing concepts and solutions to bridge the gap between computing industry experts and business leaders to create and initiate innovation.

PSO2: Effectively utilizing their knowledge of computing principles and mathematical theory to develop sustainable solutions to current and future computing problems.

PSO3: Exhibiting their computing expertise within the computing community through corporate leadership, entrepreneurship and advanced graduate study.

PSO4: Developing and implementing solution based systems and processes that address issues and improve existing systems within a computing based industry.

PSO5: Information on Emerging Trends: Give information about software design and development practices to develop software applications in emerging areas such as Cloud and High performance computing, Data analytics and Cyber security.

PSO6: Successful Career and Entrepreneurship. The ability to employ modern computer languages, environments, and platforms in creating innovative career paths to be an entrepreneur, and for higher studies.

==Course Outcomes==

==Course==: Fundamentals of Information Technology and C Programming By the completion of this course the student will be able to

CO1: Be aware of the history of the discipline of Computer Science and understand the conceptual planning of the subject.

CO2: Understand the nature of the software development process, including the need to provide appropriate documentation.

CO3: Understand the working of computers, networking and programming languages like C.

CO4: Analysis of different functions, syntaxes, flow and types of programming languages and be able to program fluently in one or two programming languages.

CO5: Understand standard techniques for solving a problem on a computer, including programming techniques and techniques for the representation of information.

CO6: Understand the importance and the nature of operating systems and compilers.

: Web Technology and Advanced Programming in C By the completion of this course the student will be able to

CO1: Understand the basics of websites.

CO2: Understand different elements used in creation of WebPages.

CO3: Application of different styles on WebPages using CSS.

CO4: Understand data transfers using XML.

CO5: Understand C programming in depth by knowing concepts of arrays, pointers, etc.

CO6: Understand working of functions, structures and file handling in C Programming.

Course: Object Oriented Programming with Data Structure and C++

CO 1: Introduction to data structure & types of data structure. Detailed concept of Stacks, Linear arrays & its operations.

CO 2: Student will understand concept of Queues, Linked List and its different operations

CO 3: Tees, Sorting and Searching techniques and its operations are studied.

CO 4: Understands an Object Oriented Programming concept which includes Classes and objects specifies, defining data member and member functions, managing console I/O.

CO 5: Understands Functions in C++, Function overloading and Inline Function, Friend function. Array of Objects Pointer to objects, 'this' pointer. Constructor and Destructor, Usage of Constructor.

CO 6: Student will able to understand concept of Operator Overloading: Inheritance, virtual base classes and abstract base classes.

Course: RDBMS and PL/SQL By the completion of this course the student will be able to

CO1: Understands fundamentals of DBMS, architecture of DBMS and database models.

CO2: Understands about relations and Normalization.

CO3: Understands about different commands in SQL and able to do program on SQL.

CO4: Student will understand different functions like conversion, numeric.

CO5: Understands what is PL/SQL, variable, curser and trigger.

CO6: Understands about transactions and their commands like GRAND and REVOKE

Course: RDBMS and Visual Basics By the completion of this course the student will be able to

CO1: Understand basics of database management system.

CO2: Identify different models in database and knowing the differences in it.

CO3: Understand the Structured Query Language to interact with databases.

CO4: Understand basics of Visual Basic to get knowledge of Event Driven Programming.

CO5: Create Menu Driven Programs in Visual Basic.

CO6: Understand Internal Functions in Visual Basic.

Course: PL/ Advanced Visual Basics By the completion of this course the student will be able to

CO1: Learn about the built-in functions in SQL.

 CO2: Understand the basics of PL/SQL and Transactions.

CO3: Understand the securities applied on databases.

CO4: Understand different aspects of Visual Basic like, Dialog box controls, Forms and File Handling.

CO5: Program with different programming languages effectively in languages like Visual Basic and as back end tool like Oracle.

CO6: Proficient in problem solving using different programming languages.

Bachelor of Arts (B.A.)

PO1: Provide knowledge and understanding of various fields of study in core disciplines in the humanities and social sciences

PO2: Develop critical and analytical skills to the identification and resolution of problems within complex changing social, linguistic and literary contexts

PO3: Understanding of the general concepts and principles of selected areas of study outside core disciplines of the humanities, social sciences and languages

PO4: Follow independence in learning appropriate theories and methodologies with intellectual honesty and an understanding of ethical and human values

PO5: Encourage students to analyze the problems and apply their knowledge for remedies.

PO6: Enhance students skills of effective communication and language learning i.e. reading, writing, listening and speaking another language with fluency and understand its cultural value

PO7: Become well informed and updated member of the community and responsible citizens

PO8: Work with self esteem, self reliance, self-reflection and creativity to face adversities in the work and personal life English

Programme Specific Outcomes

PSO1: Make students English Language proficient to improve their employability

PSO2: Train them in the use and application of English language to overcome their day to day difficulties

PSO3: Tribal can preserve and popularize their language and culture through English

PSO4: Imbibing moral and human values through study of language and literature

PSO5: Give them a broader picture of the world through making them learn English language and literatures of the world

PSO6: Introduce them with technological advancement in English language.

Course Outcomes By the completion of this course the student will be able to

CO1: Students will learn analysis of the text from prose passages for understanding the contents

CO2: Prose passages will help improve reading and writing skills

CO3: They will develop imaginative thinking by reading and reciting poetry

CO4: Language activities will promote effective use of language in day to day life and enhance professional skills

CO5: The course content will enable rational thinking along with learning life skills.

CO6: Students will learn professional ethics.

CO7: Students will learn environmental consciousness.

CO8: Developing sensitivity regarding gender equality.

English

PSO1: Make students English Language proficient to improve their employability

PSO2: Train them in the use and application of English language to overcome their day to day difficulties

PSO3: Tribal can preserve and popularize their language and culture through English

PSO4: Imbibing moral and human values through study of language and literature

PSO5: Give them a broader picture of the world through making them learn English language and literatures of the world

PSO6: Introduce them with technological advancement in English language

Course Outcomes By the completion of this course the student will be able to

CO1: Students will learn analysis of the text from prose passages for understanding the contents

CO2: Prose passages will help improve reading and writing skills

CO3: They will develop imaginative thinking by reading and reciting poetry

CO4: Language activities will promote effective use of language in day to day life and enhance professional skills

CO5: The course content will enable rational thinking along with learning life skills.

CO6: Students will learn professional ethics.

CO7: Students will learn environmental consciousness. CO8: Developing sensitivity regarding gender equality.

Marathi

Programme Specific Outcomes

PSO1: To make students learn various literary streams, their nature, scope etc.

PSO2: To go through the contemplation by numerous thinkers on human life, values, and human problems expressed in Marathi

PSO3: To enhance empathy, inclusiveness, tolerance and human values

PSO4: To make the students study multi disciplinary aspects of Marathi

PSO5: To learn about Marathi culture with its variety and plurality vis a vis Indian culture

PSO6: To develop commutation skills

PSO7: To motivate students to make career in Marathi

Course Outcomes By the completion of this course the student will be able to

CO1: Develop Attitude of Literary Forms. (Marathi Poetry & Story)

CO2: Develop Reading, Writing & Communication Skills of Students.

CO3: Develop Attitude of Literary Forms. (Marathi vaicharik sahitya & Novel)

CO4:Get the students introduced with interdisciplinary aspects of Marathi .

CO5: Information about Literary Theory.

CO6: Develop Attitude of Literary Forms. (Lalit Gadya)

CO7: Get the students introduced with various streams of Marathi

CO8: Information about the history of MODERN Marathi Literature.

CO9: Develop Attitude of Marathi Linguistics & Grammar.

<mark>Economics</mark>

<mark>Programme Specific Outcomes</mark>

PSO1: To study economics theories and principles and see their applications

PSO2: Understand and study the Indian economy

PSO3: Understand and study monetary policies of India

PSO4: Determine economic variables including inflation, unemployment, poverty, GDP, balance of payments

PSO5: Understand the behavior of financial and money markets and perform cost-benefit analysis for making investment decisions.

<mark>Course outcomes</mark>

<mark>Course</mark>: Micro Economics On completion of the course, students are able to

CO1. Aware about fundamental concepts of economics

CO2. Understand economic approach

CO3. Know role of market in real life.

CO4. Understand the theory of oligopoly & duopoly.

Course: Economy of Maharashtra

CO1. Understand nature of Maharashtra economy

CO2. Understand population & economic development

CO3. Understand infrastructure and economic development

CO4. Understand role of agriculture in Maharashtra economy

<mark>Course</mark>: Macro Economics On completion of the course, students are able to

CO1. Understand macro economic analysis

CO2. Understand of national income

CO3. Understand classical & Keynesian theories of output and employment

CO4. Understand consumption & Investment function

CO5. Understand concept of public fiancé

CO6. Understand concept of public revenue

CO7. Understand concept of inflation and deflation.

Course Indian Economy Developments and Environmental Economics On completion of the course, students are able to

CO1. Understand India's foreign trade

CO2. Understand concept of globalization

CO3. Understand public expenditure in India

CO4. Understand public debt& deficit finance

CO5. Understand concept of fiscal policy

CO6. Understand concept of budget & deficit finance

CO7. Understand international trade theories

CO8. Understand gains from international trade & trade policy

CO9. Understand economics of agriculture

CO10. Understand Indian agriculture sector

CO11. Understand the concept of environmental pollution

CO12. Understand relation between population and environment

CO13. Understand types of pollution and its remedies

Home Economics

PSO1: To create an awareness about decision making & management in family

PSO2: Develop employability skills & the skill of earning while learning

PSO3: Understand basic concept of nutrition & dietetics

PSO4: Develop ability to plan diet for various stages of life & disease

PSO5: Understand Human development regarding children's physical & Psychological development

Course Outcomes

Course: Home management on completion of the course, students are able to

CO1: Understand the Home Economics as education of life

CO2: Understand the importance of Home management & uses of family Resources

CO3: Understand role of decision making in home management

CO4: Understand the skill of learning

CO5: Aware about water management

Course Food Science and Water Management

CO1: Understand basic concept of food and nutrition.

CO2: Know the relation between health and nutrition.

CO3 : Understand therapeutic diet

CO4: Aware about food preservation & food Adulteration

Course : Human Development

CO1: Understand Prenatural Development

CO2: Understand various behavior problems of childhood

CO3: Realise the effect of Heredity and Environment of Children's development

CO4: Understand importance of discipline (Punishment and Reward)

CO5: Understand Role of Parent –child relationship

Political Science

Programme Specific Outcomes

PSO1: Political Science students will be able to write, read, speak and listen effectively in academic and social contexts

PSO2: Political Science students will be able to construct research questions and use appropriate sources and research methods to answer them

PSO3: Political Science students will analyze individual and group political behavior; the political process; public policy and administration; and case law within government

PSO4: Political Science students will analyze the core intellectual traditions in political thought and apply their central tenets to contemporary political questions and issues

PSO5: Political Science students will analyze the behavior of state and non-state actors and the nature of their interactions

PSO6: Political Science students will compare and contrast the various political, social and economic systems that exist across the international community and analyze the political consequences of those variations

PSO7: Political Science students will use analytical skills to understand civic, social and environmental challenges

PSO8: Political Science students will demonstrate social responsibility and ethical reasoning within a variety of contexts

PSO9: Political Science students will generate a scholarly product that demonstrates appropriate knowledge, technical proficiency, information collection, synthesis, interpretation, presentation, and reflection

Course Outcomes

Course: Indian Constitutional Provisions and Local Self Government By the completion of this course the student will be able to

CO1: Characteristic of Indian Constitution, Preamble, Fundamental Rights.

CO2: Directive Principal of State Policy, Fundamental Duties, Citizenship

CO3: President, Vice President, Prime minister

CO4: Parliament- Loksabha, Rajyasabha

CO5: Judicial System of India-Supreme Court, High Court

<mark>Course</mark>: Indian Constitutional Provisions and Local Self Government By the completion of this course the student will be able to

CO1: Election Commission of India- structure, power and Function

CO2: state Executive- Governor, Chief Minister, council of Minister

CO3: State Legislature- structure, power and Function

CO4: local self Government

CO5: women Political Participation in Panchyat raj, Nagpur Pact in Maharashtra formation, Right to Information Act.

<mark>Course</mark>: Comparative Government and Politics By the completion of this course the student will be able to

CO1: Meaning of comparative Government, Approaches of the comparative study, Constitutionalism

CO2: The Government and Politics of U.K. - Constitution, Executive, Legislature, Judiciary, Political Party

CO3: The Government and Politics of U.S.- Constitution, Executive, Legislature, Judiciary, Political Party

CO4: The Government and Politics of Switzerland- Constitution, Executive, Legislature, Judiciary, Political Party

CO5: The Government and Politics of China- Constitution, Executive, Legislature, Judiciary, Political Party

<mark>Course</mark>: Political Theory By the completion of this course the student will be able to

CO1: Nature and Significance of Political Theory, Meaning and scope

CO2: State- Theory of state Origin- Devine theory, Social Contract Theory, Evolutionary Theory

CO3: Political Concept- Sovereignty, citizenship, Liberty

CO4: Equality and Justice, Democracy

CO5: Development and Welfare State

Bachelor of Commerce (B.Com.)

PO1: To build conceptual foundation and application skills in the areas of Accountancy, Finance, Management, research and higher education

PO2: To sharpen the students analytical and decision making skills

PO3: To provide the students with a unique ability to manage accounts, people and organizations across the world with a combination of B. Com. Degree

PO4: To build life skills through value based education and service oriented program

PO5: To provide the students a competitive edge in the job market by equipping them with financial and management accounting techniques covering the technical areas that accountants are required to master Statistics

Programme Specific Outcomes

PSO1: Mathematical knowledge to analyze and solve problems

PSO2: Statisticals reasoning and inferential methods, modeling and its limitations

PSO3: interpreting and communicating the result of a statistical analysis

PSO4: Data analysis using statistical computing tools and software

PSO5: Enhancing confidence through problem-solving method

Accounting

Programme Specific Outcomes

PSO1: Introduction to the real/ practical way of Accountancy.

PSO2: To enable students with computerized accounting skills through MS-Excel and Tally to bring out a good Book-keeper in themselves

PSO3: Trying to bring out a good accountant.

PSO4: Students should be able to find out the profitability of the business, cost efficiency

PSO5: Explain the basic nature of a joint stock company as a form of business Organization and the various kinds of companies based on liability of their members

PSO6: Describe the types of shares issued by a company; explain the accounting Treatment of shares issued at par, at premium and at discount including over subscription

PSO7: Outline the accounting for forfeiture of shares and reissue of forfeited shares under varying situations

Computer and Information Technology

Programme Specific Outcomes

PSO1: Study the history of the discipline of computer and understand the concepts of the subject

PSO2: Understand the nature of the software development process, including the need to provide appropriate documentation

PSO3: Understand the working of computers, networking and programming languages

PSO4: Analysis of different functions, syntaxes, flow and types of programming languages and be able to program fluently in one or two programming languages

PSO5: Understand standard techniques for solving a problem on a computer, including programming techniques and techniques for the representation of information

PSO6: Explore the ways of programming with different logic than traditional ways

PSO7: Designing WebPages using scripting languages like HTML, CSS and XML

PSO8: Understanding databases and operating it with SQL and PL/SQL

Business Regulatory Framework and Company Law

Programme Specific Outcomes

PSO1: Critically review the Indian legal system and institution relevant to commercials actors and advisors and argue its relevance in managing contemporary business organizations

PSO2: Critically examine the general areas of contact and corporate law and regulation encountered by commercial in local and global settings

Programme Specific Outcomes

PSO1: Analyzing the impact of e-commerce on business models and strategy

PSO2: Recognize and discuss global E-commerce issues

PSO3: Assess electronic payment systems

PSO4: Growth in entrepreneurship skill of the students

Economics:

Programme Specific Outcomes

PSO1: Use Supply and Demand curves to analyze the impact of Taxes etc. on consumer surplus and market efficiency

PSO2: Apply the concept of opportunity cost

PSO3: Employ marginal analysis for decision making

PSO4: Analyze operation of market under varying competitive conditions

PSO5: Analyze causes and consequences of on employment inflection and growth

Business Environment:

Programme Specific Outcomes

PSO1: Imparting them the specific knowledge of Business Environment

PSO2: Analyse the political, social, economical, technological and other configurations that supports cross-border trade

PSO3: Apply an understanding of the nature of the multinational firm as institutional structure for the conduct of the cross-border trade and e- investment

PSO4: Analyze the key decisions that multinational firms make in relation to the choice of markets and entry strategies

Money and Financial System

PSO1: Identify the principles behind the workings of the financial system

PSO2: Demonstrate knowledge about the evolution of financial markets and various credit instruments; and the evolution of money and its functions

PSO3: Analyse the operations of equity and debt (bond) markets including interest- rate movements

PSO4: Demonstrate an understanding of the history, evolution, structure, operations and regulation of modern central banking and financial systems together with the design and conduct of monetary policy, with particular focus on the Asia-Pacific

PSO5: Demonstrate an understanding of the principles of modern commercial banking and operational issues within a globalised economic system

Principles of Business Management

Programme Specific Outcomes

PSO1: Identify major business functions of accounting, finance, information systems, management, and marketing

 PSO2: Describe the relationships of social responsibility, ethics, and law in business

PSO3: Explain forms of ownership, including their advantages and disadvantages

PSO4: Identify and explain the domestic and international considerations for today's business environment

PSO5: Identify and explain the role and effect of government on business

PSO6: Describe the importance and effects of ethical practices in business and be able to analyze business situations to identify ethical dilemmas and ethical lapses

PSO7: Explain the banking and financial systems, including the securities

Course outcomes

Principles of Business Organization

On successful completion of this course students will be able to

CO1: Study the forms of business organization understand the basic concepts and recent trends in commerce, Trade & business practices. Understand the functioning of trade associations and study the industrialization.

CO2: Explain forms of ownership, including their advantages and disadvantages, identify and explain the domestic and international considerations for today's business environment: social, economic, legal, ethical, technological, competitive, and international and identify and explain the role and effect of government on business.

Advanced Accountancy (AAC)

On successful completion of this course students will be able to

CO1: Learn the Basics of Advanced Accountancy & record Accounting Transactions in Journal, Ledger Posting, Prepare Trial- Balance and Rectify the Errors if any.

CO2: Learn to keep various types of Subsidy Books like Purchase Book, Sales Book etc. and maintain Various Types of Cash Book.

CO3: Learn to prepare Final Accounts of Individuals.

CO4: Learn Various Methods of Depreciation and Solve Problems on- Straight line Method and Reducing Balance Method.

CO5: Prepare all types of Bank Reconciliation Statements. In and all Trying to bring out a good Accountant within themselves. He must be able to find out the profitability of the business, cost efficiency.

Computer Fundamentals and Operating System

On successful completion of this course students will be able to

CO1: Learn the concept of Block Diagram, Input and Output, Concept of Software and types Software.

CO2: Learn the concept of fundamentals of computer, Generations of Computer, Types and Applications of Digital Computer.

CO3: Learn the concept of Memory and types primary memory and Secondary memory.

CO4: Learn the Input and Output Device

CO5: Get the knowledge of the concept of MS-Word and Formatting Documents.

<mark>Business Economics:</mark>

CO1: Describe and explain how microeconomics models can be used to consider fundamental economics choices of households and firms.

CO2: Describe and explain how macroeconomics models can be used to analyses the economy as a whole.

CO3: Describe and explain how Government police influences microeconomics outcomes.

CO4: Interpret and use economic models diagrams and tables use them to analyses economic situation.

CO5: Be able to evaluate the effects of Law of Demand, Law of Variable Proportion.

<mark>Course:</mark> Principles of Business Management

On successful completion of this course students will be able to

CO1: Discuss and communicate the management evolution and how it will affect future managers, Observe and evaluate the influence of historical forces on the current practice of management and Identify strengths, weaknesses, opportunities, and threats of information technology for businesses.

CO2: Practice the process of management's four functions: planning, organizing, leading, and controlling, Identify and properly use vocabularies within the field of management to articulate one's own position on a specific management issue and communicate effectively with varied audiences.

CO3: Explain how organizations adapt to an uncertain environment and identify techniques managers use to influence and control the internal environment.

CO4: Evaluate leadership styles to anticipate the consequences of each leadership style.

CO5: Gather and analyze both qualitative and quantitative information to isolate issues and formulate best control methods.

Financial Accounting (FAC)

On successful completion of this course students will be able to

CO1: Prepare Accounts of Non-Trading Institutions.

CO2: Prepare Accounts of Co-operative Societies.

CO3: Prepare Accounts of Agriculture Farms.

CO4: Prepare Accounts of Hire, purchases and Installment purchase.

CO5: Understand Law`s of Insolvency and prepare Accounts of Insolvency of Individuals.

Course: Computer Fundamentals and Operating System

On successful completion of this course students will be able to

CO1: Understand concept of Operating system, advantages and disadvantages of operating system

CO2: Get the practical knowledge of UNIX /Linux MACINTOSH MS –Window Operating System command

CO3: Understand the concept of Memory management techniques, CPU management, Data management

CO4: Understand the concept only regarding modern communication likes fax voice mail , e mail Tele conferencing and video conferencing file exchange

CO5: Understand the concept of word processing and working with table and graphics using MS word 2007

CO6: Understand the concept of MS Power point presentation using power point 2007

Business Economics

On successful completion of the requirements for this course students will

CO1: Be familiar with introductory canonical models of consumer and macro economy.

CO2: Have a basic understanding of the operation of a modern economy.

CO3: Be able to evaluate the effects of Government interventions in individual markets and in the macro economy.

CO4: Analyze operation of markets under varying competitive condition.

CO5: Analyze operation of factor pricing.

Corporate Accounting

On successful completion of this course students will be able to

CO1: This course shall able the students to develop awareness and train them in Corporate Accounting inconformity with the Provisions of Indian Companies Act 1956 and Indian Accounting Standards.

CO2: Student would learn to prepare Accounting for Liquidation of companies – Preparation of Liquidator's Final Statement of Account. Accounting for Amalgamation, Absorption and External Reconstruction of companies – Calculation of purchase consideration.

CO3: This course students will be able explain the Concept of Fund, What is flow of Fund, Rules of Fund flow statement, Schedule of changes in working capital, Statement of sources and Application of Fund.

Business Economics

On successful completion of this course students will be able to

CO1: Explain the evolution of money and its nature and functions of money, Explain how information about the future can reduce the uncertainty associated with future monetary value, and explain the concept "value of money"

CO2: Identify the principles behind the workings of the financial system, the Indian Banking System, the role of development banks in India. To study the law and practice of Banking System in India, study the recent trends in Indian Banking System

CO3: Assess the responses of the economy to both monetary and fiscal policy; explain the basic purposes of the monetary and financial systems. Identify the markets for tocks, bonds, derivatives, and currencies.

CO4: Demonstrate an understanding of the history, evolution, structure, operations and regulation of commercial banking, central banking and financial systems together with the design and conduct of monetary policy.

Income Tax and Audit

By the completion of this course the student will be able to

CO1: Understand basic Concepts of Income Tax.

CO2: Compute Tax liability on Various Heads of Income like Salary, House Property, Business and profession, Capital Gain & other sources.

CO3: Compute Tax liability on Various Heads of Income, & understand Tax Management & Tax Administration.

CO4: Understand Basic Concepts of Auditing, Types of Audits, Audit Programme, Audit Books, Routine checking and Vouching.

CO5: Understand the power and duties of Company Auditor & preparation of Audit Report.

CO6: Understand the Special Audit of Banking, Insurance and Non-Profit Companies & Educational Institutes also Investigation. In and all to Make him a good Tax Consultant or an Auditor.

Information Technology and Business Data Processing

On successful completion of this course students will be able to

CO1: Understand the use of information technology and data in computing use of data processing

CO2: Understand the Database and Database management system

CO3: Understand use of ms excel 2003/2007/higher

CO4: Understand the concept of MS-Excel, spreadsheet Basics and Editing and Formatting Worksheet

CO5: Understand computerizing accounting and taxation

CO6: Work with tally 9.0 and higher version

Business Mathematics and Statistics

By the completion of this course the student will be able to

CO1: Recognize the importance and value of mathematical and statistical thinking approach to problem slowing, on a diverse variety of disciplines.

CO2: Become familiar with a verity of examples where mathematics and statistics helps accurately explain abstract or physical phenomena.

CO3: Independently read mathematical or statistical literature of a various types, including survey articles, scholarly books and online sources.

CO4: Become life-long learners who are able to independently expand their mathematical or statistical expertise when needed.

CO5: Analyze Mathematical and statistical knowledge and solve problems.

Internet World Wide Web

On successful completion of this course students will be able to

CO1: Develop skill among students in applications of internet in commerce education.

CO2: Explain the Concept of HTML, HTML Organization, Creation of HTML files, HTML editor, Tags and attributes of HTML, learning the basic structure, elements of HTML, Creation of web page using HTML and Introduction to Internet and World Wide Web, web browsers, web sites, search engines.

CO3: Explain HTML Form Building - Form elements, Tab navigation, Access Keys, Developing web pages using frames, Hyperlinks, images.

Business Environment (BEM)

By the completion of this course the student will be able to

CO1: Understand Indian Business Environment, National Income, Parallel Economy, Indian Trade & Industry and Indian Agriculture.

CO2: Understand Problems in the Development of India. Human resources, unemployment and poverty in India.

CO3: Understand the Role of Government- Industrial Policy, Free Trade Policy, Liberalization, rivatization & Glob.

CO4: Understand & Analyze Planning in India, Finance Commission Current Trends in Indian Economic planning.

CO5: Understand the International Business Environment, International Economic Institutions and Grouping like GATT, World Bank, WTO, IMF, SAFTA etc.

Essentials of E-Commerce (EOE)

In this subject Essentials of E-Commerce the outcomes are as under

CO1: Analyzing the impact of e-commerce on business models and strategy

CO2: Recognize and discuss global E-commerce issues

CO3: Assess Electronic Payment Systems

CO4: Growth in Entrepreneurship Skill of the Students

CO5: Understand various Emerging Business Models of E- Commerce.

Course: Cost and Management Accounting

Upon successful completion of this course students will able to

CO1: Demonstrate an understanding of the difference between job-order costing and process costing.

CO2: Identify and describe the basic cost concepts and understand the manufacturing environment.

CO3: Demonstrate knowledge of the tools to make management decisions using relevant costs and capital budgeting techniques.

CO4: Explain how an organization develops there master budget.

CO5: Demonstrate knowledge of Standard costs and analysis of variances.

Business Regulatory Framework and Company Law

Upon successful completion of the module, candidates are expected to able to

CO1: Apply their knowledge of the law of trusts to establish the presence or absence of tortoise liability and consequences which result.

CO2: Discuss the various legal and regulatory rules covered in the course and the respective rights and obligations created under these.

CO3: Apply their knowledge of the legal rules governing contract to determine: The existence and validity of a contract.• The rights and obligations of the parties to a contract.•

CO4: Discuss and explain the regulatory framework, mechanisms and laws relating to corporate decision making, opportunities and governance.

 CO5: Analyze, explain and apply the essential aspects of a good corporate governance framework and practice for companies.

CO-4 To know basic cell biology; cellular contents; chromosomal study, mechanism of inheritance; effects due to chromosomal changes and the biochemistry of the cell.

CO-5 To understand the basic physiology of plants as how a plant can prepare its own food material; how it can respire; Nutrition mechanism, Role of hormones in growth and development of plants; flowering mechanism, plant movements, ecology and ecosystem.

CO-6 To understand the molecular biology of plants such as structure and functions of DNA, RNA, PROTEINS. Molecular mechanism of DNA Replication and protein synthesis. Control mechanisms of genetic system of the cell. Genetic engineering of the cell in order to create the new hybrid ones; new aspects in biological science and plant tissue culture mechanism for the conservation of rare plants.