# PROGRAMME OUTCOME



GOVT. E.V.P.G. COLLEGE,KORBA

(Atal Bihari Vajpayee University, Bilaspur(C.G.)

Pin Code-495677, Ph No. 07759-221458

Email- gevpg1981@gmail.com

Website: <a href="https://gevpgkrb.ac.in/">https://gevpgkrb.ac.in/</a>

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# PROGRAMME OUTCOMES, PROGRAMME SPECIFIC OUTCOMES AND COURSE OUTCOMES

#### B.Com.- 3 years Undergraduate programme

#### **Programme Outcomes (PO)**

- **PO1.** The students after the completion of this programme will be enabled to overcome the challenges and cash in the opportunities in the field of commerce.
- **PO2.**The students after the completion of this programme will become well prepared to take up various professional assignments, engagements and jobs in medium to large scale business establishments, industries, commercial set-ups and other public/private commercial sectors like banking, stockexchange, insurance, NBFCs as accountants, investment bankers, business analysts, finance officers, business / financial advisors etc.
- **PO3.**The students will be able to think critically and take informed decisions after identifying the accuracy and validity of their assumptions and ideas from intellectual, organizational, and personal perspectives.
- **PO4.** The students will be able to communicate effectively throughspeaking, reading, writing and listening clearly in one Indian language and thereby express themselves to the world by connecting with different ideas, books, people, media and technology.
- **PO5.** The students will be able to interact socially and stimulate views, reconcile disagreements and help reach consensual conclusions.
- **PO6.** The students will be able to demonstrate compassionate social concern and act with cognizant awareness of issues to contribute in civic life by volunteering impartially towards national development and thereby deliver effective citizenship.
- **P07.** The students will be able to ethically recognize different value systems, understand the moral dimensions of individual decisions and accept responsibility for them.
- **PO8.** The students will be able to recognize the issues of environmental perspectives and appreciate sustainable development for long term environmental sustainability.
- **PO9.** The students will be able to engage themselves in life-long self-determining and learning in the comprehensive background of socio-technological changes for continued self-directed and life-long learning.

#### **Programme Specific Outcomes (PSO)**

- **PSO1.** The students after the completion of this programme will become well versed with financial accounting.
- **PSO2.** The students after the completion of this programme will become well versed with business communication.

- **PSO3.**The students after the completion of this programme will be able to understand business mathematics.
- **PSO4.** The students after the completion of this programme will be able to understand business regulatory framework.
- **PS05.** The students after the completion of this programme will be able to identify a business environment.
- **PS06.** The students after the completion of this programme will be able to understand the economics of a business.
- **PSO7.** The students after the completion of this programme will be able to understand the essentials of corporate accounting.
- **PSO8.** The students after the completion of this programme will be able to understand the essentials of company law.
- **PSO9.** The students after the completion of this programme will be able to understand the essentials of cost accounting.
- **PSO10.** The students after the completion of this programme will be able to understand the principles of business management.
- **PSO11.** The students after the completion of this programme will be able to understand the essentials of business statistics.
- **PSO12.** The students after the completion of this programme will be able to understand the fundamentals of entrepreneurship.
- **PSO13.** The students after the completion of this programme will be able to understand the principles of direct taxation income tax.
- **PSO14.** The students after the completion of this programme will be able to recognize the procedures of auditing.
- **PSO15.** The students after the completion of this programme will be able to understand the essentials, principles and procedures of indirect taxation and GST.
- **PSO16.** The students after the completion of this programme will be able to understand the essentials of management accounting.
- **PSO17.**The students after the completion of this programme will be able to understand the financial management.
- **PSO18.** The students after the completion of this programme will be able to understand the financial market operations.

#### **Course Outcomes (CO)**

#### **Course 1: Financial Accounting**

- **CO1.**The students after the completion of this course will be able to impart the knowledge of various accounting concepts.
- **CO2.**The students after the completion of this course will be able to instill the knowledge about accounting procedures, methods and techniques.

#### **Course 2: Business Communication**

- **CO1.**The students after the completion of this course will be able to understand the concept, process and importance of communication.
- **CO2.** The students after the completion of this course will be able to develop awareness regarding new trends in business communication.
- **CO3.** The students after the completion of this course will be able to recognize various media of communication.

#### **Course 3: Business Mathematics**

- **CO1.** The students after the completion of this course will be able to prepare for competitive exams.
- **CO2.** The students after the completion of this course will be able to improve their calculating power & skills.
- **CO3.** The students after the completion of this course will be able to understand the concept of simple interest, compound interest, ratio, proportion, average and percentage etc.

#### Course 4: Business Regulatory Framework

- **CO1.** The students after the completion of this course will be acquainted with the basic concepts, terms & Provisions of mercantile & Business Laws.
- **CO2.**The students after the completion of this course will be able to develop the awareness regarding laws affecting business, trade & commerce and consumer awareness.

#### **Course 5: Business Environment**

- **CO1.** The students after the completion of this course will become aware about the Business Environment.
- **CO2.** The students after the completion of this course will be able to know the issues in the business at national and international level in the light of the LPG.
- **CO3.** The students after the completion of this course will be able to motivate themselves for taking up entrepreneurship as career.

#### **Course 6: Business Economics**

- **CO1.** The students after the completion of this course will be able to use various economic theories.
- **CO2.** The students after the completion of this course will be able to apply economic reasoning to problems of business.
- **CO3.** The students after the completion of this course will be able to understand the basic micro economic concepts.

#### **Course 7: Corporate Accounting**

- **CO1.**The students after the completion of this course will be enabled to develop awareness about corporate accounting with the provisions of companies Act & Accounting as per Indian Accounting standards.
- **CO2.** The students after the completion of this course will be enabled to develop conceptual aspect of corporate accounting & develop skills about accounting standards.

#### Course 8: Company Law

- **CO1.** The students after the completion of this course will be able to impart the knowledge of fundamental law of company Act 2013.
- **CO2.** The students after the completion of this course will be able to update the knowledge of provisions of the companies Act of 2013.

#### **Course 9: Cost Accounting**

- **CO1.** The students after the completion of this course will be enabled with the knowledge of Basic cost concepts, Elements of cost, Ascertainment of materials & costing.
- **CO2.** The students after the completion of this course will be able to understand various methods of costing & their applications in different sectors engaged in production and service.

#### **Course 10: Principles of Business Management**

- **CO1.** The students after the completion of this course will be able to understand about business management concept.
- **CO2.** The students after the completion of this course will be able to understand about various functions of business management.

#### **Course 11: Business Statistics**

- **CO1.** The students after the completion of this course will be able to understand & apply the concepts of mean, mode & median.
- **CO2.** The students after the completion of this course will be able to apply various methods of sampling& probability measurement.

#### **Course 12: Fundamentals of Entrepreneurship**

- **CO1.** The students after the completion of this course will be able to create entrepreneurial temper.
- **CO2.** The students after the completion of this course will be able to take up the cause of entrepreneurship.

#### **Course 13: Income Tax**

- **CO1.** The students after the completion of this course will be able to understand the basic concept & acquire knowledge about computation of Income.
- **CO2.** The students after the completion of this course will be enabled to submit Income Tax Returns, Advance Tax & Tax deducted at source
- **CO3.** The students after the completion of this course will be able to identify the procedures of Tax collection authorities under Income Tax Act.

#### **Course 14: Auditing**

- **CO1.** The students after the completion of this course will be able to acquaint themselves about concept & principles of Auditing, Audit process, Assurance standards & Tax Audit and Audit of computerized system.
- **CO2.** The students after the completion of this course will be able to prepare Audit Reports.

#### Course 15: Indirect Taxes with GST

- **CO1.**The students after the completion of this course will be able to understandand apply the concept of GST.
- **CO2.** The students after the completion of this course will be able to understand and apply the concept of Excise duty, CENVAT.
- **CO3.** The students after the completion of this course will be able to understand and apply the knowledge of Registration under GST including its procedures & the liable person for GST registration.

#### **Course 16: Management Accounting**

- **CO1.** The students after the completion of this course will be able to understand and apply the basic knowledge of accounting & techniques for management.
- **CO2.** The students after the completion of this course will be able to understand and apply managerial behavior & control structures prevalent under varied business environment.

#### **Course 17: Financial Management**

- **CO1.** The students after the completion of this course will be able to understand and apply the conceptual framework of financial management.
- **CO2.** The students after the completion of this course will be able to understand and apply the theories, methods which increases the wealth of the investors and the business concern.

#### **Course 18: Financial Market Operations**

- **CO1.** The students after the completion of this course will be able to understand the working culture of the financial markets in India.
- **CO2.** The students after the completion of this course will be able to understand the SEBI rules and regulations for both investors and company.
- **CO3.** The students after the completion of this course will be able to understand role of brokers, jobbers and merchant banking in Indian Financial Market.

(डॉ. आर. के. सक्सेना) प्राचार्य (डॉ.सकीय इं.वि.स्नातकोत्तर महाविद्यालय कोरवा (छ.न.)

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# PROGRAMME OUTCOMES, PROGRAMME SPECIFIC OUTCOMES AND COURSE OUTCOMES

### B.Sc. (Maths Group) - 3 years Undergraduate programme

#### **Programme Outcomes (PO)**

- **PO1.**The undergraduate programme in Mathematics / Physics / Chemistry is aimed at providing the students necessary inputs so as to set forth the task of bringing about new and innovative ideas/concepts so that the formulated model curricula in Mathematics / Physics / Chemistry becomes in tune with the changing scenario and incorporate new and rapid advancements and multi-disciplinary skills, societal relevance, global interface, self-sustaining and supportive learning.
- **PO2.**It is desired that undergraduate programme in Mathematics / Physics / Chemistry besides teaching the basic concepts of Mathematics / Physics / Chemistry should in addition have broader vision for students so that the students therefore be exposed to societal interface of Mathematics / Physics / Chemistry and the role of Mathematics / Physics / Chemistry in the development of physical, chemical and mathematical sciences &technologies.
- **PO3.**The students will be able to think critically and take informed decisions after identifying the accuracy and validity of their assumptions and ideas from intellectual, organizational, and personal perspectives.
- **PO4.** The students will be able to communicate effectively throughspeaking, reading, writing and listening clearly in one Indian language and thereby express themselves to the world by connecting with different ideas, books, people, media and technology.
- **PO5.** The students will be able to interact socially and stimulate views, reconcile disagreements and help reach consensual conclusions.
- **PO6.** The students will be able to demonstrate compassionate social concern and act with cognizant awareness of issues to contribute in civic life by volunteering impartially towards national development and thereby deliver effective citizenship.
- **PO7.** The students will be able to ethically recognize different value systems, understand the moral dimensions of individual decisions and accept responsibility for them.
- **PO8.** The students will be able to recognize the issues of environmental perspectives and appreciate sustainable development for long term environmental sustainability.
- **PO9.** The students will be able to engage themselves in life-long self-determining and learning in the comprehensive background of socio-technological changes for continued self-directed and life-long learning.

#### **Programme Specific Outcomes (PSO)**

**PSO1.** The students after the completion of this programme will be able to understand and apply the fundamentals of Mechanics, Oscillation and Properties of Matter.

- **PSO2.** The students after the completion of this programme will be able to understand and apply the fundamentals of Electricity, Magnetism and Electromagnetic Theory.
- **PSO3.** The students after the completion of this programme will be able to understand and apply the fundamentals of Thermodynamics, Kinetic Theory and Statistical Physics.
- **PSO4.**The students after the completion of this programme will be able to understand and apply the fundamentals of Wave, Acoustics and Optics.
- **PSO5.**The students after the completion of this programme will be able to understand and apply the fundamentals of Relativity, Quantum Mechanics, Atomic, Molecular and Nuclear Physics.
- **PSO6.**The students after the completion of this programme will be able to understand and apply the fundamentals of Solid State Physics, Solid State Devices and Electronics.
- **PSO7.**The students after the completion of this programme will be able to understand and apply the fundamentals of Algebra & Trigonometry.
- **PSO8.** The students after the completion of this programme will be able to understand and apply the fundamentals of Calculus.
- **PSO9.**The students after the completion of this programme will be able to understand and apply the fundamentals of Vector Analysis & Geometry.
- **PSO10.**The students after the completion of this programme will be able to understand and apply the fundamentals of Advanced Calculus.
- **PSO11.**The students after the completion of this programme will be able to understand and apply the fundamentals of Differential Equations.
- **PSO12.**The students after the completion of this programme will be able to understand and apply the fundamentals of Mechanics.
- **PSO13.**The students after the completion of this programme will be able to understand and apply the fundamentals of Analysis.
- **PSO14.**The students after the completion of this programme will be able to understand and apply the fundamentals of Abstract Algebra.
- **PSO15.**The students after the completion of this programme will be able to understand and apply the fundamentals of Advanced Discrete Mathematics.
- **PSO16.** The students after the completion of this programme will be able to understand and apply the fundamentals of Inorganic Chemistry.
- **PSO17.** The students after the completion of this programme will be able to understand and apply the fundamentals of Organic Chemistry.
- **PSO18.**The students after the completion of this programme will be able to understand and apply the fundamentals of Physical Chemistry.

#### **Course Outcomes (CO)**

#### **Course 1: Mechanics, Oscillation and Properties of Matter**

**CO1.** The students after the completion of this course will be able to understand laws of motion and their application to various dynamical situations, notion of inertial frames and concept of Galilean invariance. Learn the concept of conservation of energy, momentum, angular momentum and apply them to basic problems.

- **CO2.** The students after the completion of this course will be able to understand expression for the moment of inertia about the given axis of symmetry for different uniform mass distributions.
- **CO3.** The students after the completion of this course will be able to understand and apply the principles of elasticity, viscosity and surface tension.
- **CO4.** The students after the completion of this course will be able to understandand apply Kepler's law to describe the motion of planets and satellite in circular orbit, through the study of law of Gravitation.
- **CO5.** The students after the completion of this course will be able to explain the phenomena of simple harmonic motion and the properties of systems executing such motions.

#### Course 2: Electricity, Magnetism and Electromagnetic Theory

- **CO1.** The students after the completion of this course will be able todemonstrate Gauss law, Coulomb's law for the electric field, and apply it to systems of point charges as well as line, surface, and volume distributions of charges.
- **CO2.** The students after the completion of this course will be able to demonstrate a working understanding of capacitors.
- **CO3.** The students after the completion of this course will be able to describe the magnetic field produced by magnetic dipoles and electric currents and explain Faraday-Lenz and Maxwell laws to articulate the relationship between electric and magnetic fields.
- **CO4.** The students after the completion of this course will be able to apply various network theorems and their applications.

#### **Course 3: Thermodynamics, Kinetic Theory and Statistical Physics**

- **CO1.**The students after the completion of this course will be able to describe the basic concepts of laws of thermodynamics, the concept of entropy and the associated theorems, the thermodynamic potentials and their physical interpretations.
- **CO2.** The students after the completion of this course will be able to describe about Maxwell's thermodynamic relations.
- **CO3.** The students after the completion of this course will be able to describe the basic aspects of kinetic theory of gases, Maxwell-Boltzmann distribution law, equitation of energies, mean free path of molecular collisions etc.
- **CO4.** The students after the completion of this course will be able to describe the about the real gas equations, Vander Waal equation of state, the Joule- Thompson effect etc.

#### **Course 4: Wave, Acoustics and Optics**

- **CO1.** The students after the completion of this course will be able to describe the principle of superposition of waves and thus describe the formation of standing waves.
- **CO2.** The students after the completion of this course will be able to apply basic knowledge of principles and theories about the behavior of light and the physical environment to conduct experiments.
- **CO3.** The students after the completion of this course will be able to use the principles of wave motion and superposition to explain the physics of polarization, interference and diffraction.
- **CO4.** The students after the completion of this course will be able to describe the working of selected optical instruments like biprism, interferometer, diffraction grating, and holograms.

**CO5.** The students after the completion of this course will be able to describe the spontaneous and stimulated emission of radiation, optical pumping and population inversion as well as Ruby laser and HeNe laser.

#### Course 5: Relativity, Quantum Mechanics, Atomic, Molecular and Nuclear Physics

- **CO1.** The students after the completion of this course will be able to describe the main aspects of the inadequacies of classical mechanics and understand historical development of quantum mechanics and ability to discuss and interpret experiments that reveal the dual nature of matter.
- **CO2.** The students after the completion of this course will be able to describe the theory of quantum measurements, wave packets and uncertaintyprinciple.
- **CO3.** The students after the completion of this course will be able to describe the central concepts of quantum mechanics and the Schrodinger equations.
- **CO4.** The students after the completion of this course will be able to describe the properties of nuclei and structure of atomic nucleus.
- **CO5.** The students after the completion of this course will be able to calculate the decay rates and lifetime of radioactive decays.
- **CO6.** The students after the completion of this course will be able to describe the fission and fusion as well as nuclear processes to produce nuclear energy in nuclear reactor and stellar energy in stars.

#### **Course 6: Solid State Physics, Solid State Devices and Electronics**

- **CO1.** The students after the completion of this course will be able to describe the crystalline and amorphous substances and diffraction of X-rays by crystalline materials.
- **CO2.** The students after the completion of this course will be able to describe the lattice vibrations, phonons and in depth of knowledge of Einstein and Debye theory of specific heat of solids.
- **CO3.** The students after the completion of this course will be able to describe the band theory of solids and must be able to differentiate insulators, conductors and semiconductors.
- **CO4.** The students after the completion of this course will be able to describe the N- and P- type semiconductors, P-N junctions, application of PN junction for different type of rectifiers and voltage regulators.
- **CO5.** The students after the completion of this course will be able to describe the PNP and NPN transistors and their applications as amplifiers and oscillators.

#### Course 7: Algebra & Trigonometry

- **CO1.** The students after the completion of this course will be able to describe Group theory, Ring theory, Vector Space, Modules.
- **CO2.** The students after the completion of this course will be able to find the inverse of matrix, Canonical form and apply the Clayey Hamilton theorem.
- **CO3.** The students after the completion of this course will be able to describe that every problem can be solved as every theorem in Group theory and Ring theory has its proof and solution.
- **CO4.** The students after the completion of this course will be able to apply de-moivre's theorem to solve related problems.

#### Course 8: Calculus

- **CO1.**The students after the completion of this course will be able to test the continuity and differentiability of functions of one variable.
- **CO2.** The students after the completion of this course will be able to calculate and solve the definite and indefinite integrals.
- **CO3.** The students after the completion of this course will be able to find the Maclaurin and Taylor's series of functions at any value.

#### **Course 9: Vector Analysis & Geometry**

- **CO1.**The students after the completion of this course will be able to determine &calculate vector and scalars, dot and cross products.
- **CO2.** The students after the completion of this course will be able to solve and verify Gauss, Creeno and Stokes theorem.
- **CO3.** The students after the completion of this course will be able to solve Vector Integration and differentiation.
- **CO4.** The students after the completion of this course will be able to describe Cone, Sphere, Cylinder, Generating Lines, Straight line, Plane etc.

#### Course 10: Advanced Calculus

- **CO1.** The students after the completion of this course will be able to determine the series and alternating series. Different types of tests to solve the series.
- **CO2.** The students after the completion of this course will be able to determine Jacobian of two and three variables.
- **CO3.** The students after the completion of this course will be able to find the limit of a function of one and two and test its continuity and differentiability.
- **CO4.** The students after the completion of this course will be able to determine the Beta Gamma functions and solve the double and triple integrations.

#### **Course 11: Differential Equations**

- **CO1.** The students after the completion of this course will be able to solve the ordinary and partial differential equations.
- **CO2.** The students after the completion of this course will be able to compute the Laplace and Inverse Laplace transformation of the given equation.
- **CO3.** The students after the completion of this course will be able to describe and solve differential equations.

#### Course 12: Mechanics

- **CO1.** The students after the completion of this course will be able to find the velocity and acceleration of a moving particle.
- **CO2.** The students after the completion of this course will be able to compute the equilibrium condition of particle.
- **CO3.** The students after the completion of this course will be able to describe the attraction and potential of different particles (Moving and Static)

#### Course 13: Analysis

- **CO1.** The students after the completion of this course will be able to determine the Fourier series of full and half range of any function of one variable.
- **CO2.** The students after the completion of this course will be able to apply Schwarz and Young's theorem on various functions.
- **CO3.** The students after the completion of this course will be able to analyze all type of trigonometric real functions.

#### Course 14: Abstract Algebra

- **CO1.**The students after the completion of this course will be able to use various forms of "Sylow theorem" to identify the whole structure of group.
- **CO2.** The students after the completion of this course will be able to analyze Groups, Sub-groups, Normal Sub-groups, and Semi-groups etc.
- **CO3.** The students after the completion of this course will be able to determine inner product of two Vectors, and Inner product space.
- **CO4.** The students after the completion of this course will be able to analyze Vector space, Ring, their types, modules, ideals etc.

#### **Course 15: Advanced Discrete Mathematics**

- **CO1.** The students after the completion of this course will be able to describe Graphs, Trees, Spanning Trees, Circuits, finite state machine and their types.
- **CO2.** The students after the completion of this course will be able to describe the difference between Mealy and Moore machine.
- **CO3.** The students after the completion of this course will be able to compute the output of a finite state machine corresponding to their next state of the given input.

#### **Course 16: Inorganic Chemistry**

- **CO1.** The students after the completion of this course will be able to describe Atomic Structure, Periodic Properties.
- **CO2.** The students after the completion of this course will be able to describe Chemical Bonding.
- **CO3.** The students after the completion of this course will be able to describe S-Block Elements, Chemistry of Noble Gases.
- **CO4.** The students after the completion of this course will be able to describe P-Block Elements, Inorganic Chemical Analysis.
- **CO5.** The students after the completion of this course will be able to describe Chemistry of Elements of First Transition Series.
- **CO6.** The students after the completion of this course will be able to describe Chemistry of Elements of Second & Third Transition Series.
- **CO7.** The students after the completion of this course will be able to describe Oxidation and Reduction, Coordination Compounds.
- **CO8.** The students after the completion of this course will be able to describe Chemistry of Lanthanide Elements, Chemistry of Actinides.

- **CO9.** The students after the completion of this course will be able to describe Acids and Bases, NonAqueous Solvents.
- **CO10.** The students after the completion of this course will be able to describe Metal-Ligand Bonding in Transition Metal Complexes.
- **CO11.** The students after the completion of this course will be able to describe Magnetic Properties of Transition Metal Complexes.
- **CO12.** The students after the completion of this course will be able to describe Organometallic Chemistry.
- **CO13.** The students after the completion of this course will be able to describe Bioinorganic Chemistry.
- **CO14.** The students after the completion of this course will be able to describe Hard and Soft Acids and Bases (HSAB).

#### **Course 17: Organic Chemistry**

- **CO1.** The students after the completion of this course will be able to describe Electronic structure & bonding, mechanism of organic reactions.
- **CO2.**The students after the completion of this course will be able to describe Stereochemistry of organic compounds.
- **CO3.** The students after the completion of this course will be able to describe Aliphatic and aromatic ring compounds.
- **CO4.** The students after the completion of this course will be able to describe Alkenes, dienes and alkynes.
- **CO5.** The students after the completion of this course will be able to describe Arenes and aromaticity.
- **CO6.** The students after the completion of this course will be able to describe Alcohols, phenols, epoxides. **CO7.** The students after the completion of this course will be able to describe Aldehydes and ketones.
- **CO8.** The students after the completion of this course will be able to describe Carboxylic acids, substituted carboxylic acids, and carboxylic acid derivatives.
- **CO9.** The students after the completion of this course will be able to describe Organic compounds of nitrogen.
- **CO10.** The students after the completion of this course will be able to describe Heterocyclic compounds, amino acids and peptides.
- **CO11.** The students after the completion of this course will be able to describe organometallic compounds, organosulphur compounds, and organic synthesis via enolates.
- **CO12.** The students after the completion of this course will be able to describe Biomolecules, carbohydrates, proteins and nucleic acids.
- **CO13.** The students after the completion of this course will be able to describe Synthetic polymers, synthetic dyes.

**CO14.** The students after the completion of this course will be able to describe Spectroscopy, mass spectroscopy, infra-red spectroscopy, uv-visible spectroscopy, nmr-spectroscopy, cmr-spectroscopy, magnetic resonance imaging (MRI).

#### **Course 18: Physical Chemistry**

- **CO1.** The students after the completion of this course will be able to describe Mathematical concepts for chemist and computer.
- **CO2.** The students after the completion of this course will be able to describe Molecular velocities.
- **CO3.**The students after the completion of this course will be able to describe Liquid state.
- **CO4.** The students after the completion of this course will be able to describe Liquid crystals, colloidal state, and solid state.
- **CO5.** The students after the completion of this course will be able to describe Chemical kinetics, catalysis.
- **CO6.** The students after the completion of this course will be able to describe Thermo chemistry.
- **CO7.** The students after the completion of this course will be able to describeLaws of thermodynamics.
- **CO8.** The students after the completion of this course will be able to describe Phase equilibrium.
- **CO9.** The students after the completion of this course will be able to describe Electrochemistry.
- **CO10.** The students after the completion of this course will be able to describe Electrochemical cell or galvanic cell.
- **CO11.** The students after the completion of this course will be able to describe Quantum mechanics.
- **CO12.** The students after the completion of this course will be able to describe Quantum mechanical approach of molecular orbit theory.
- **CO13.** The students after the completion of this course will be able to describe Spectroscopy, electromagnetic radiation, vibrational spectra, and Raman spectra.
- **CO14.** The students after the completion of this course will be able to describe Electronic spectra, photochemistry.
- **CO15.** The students after the completion of this course will be able to describe Thermodynamics, physical properties and molecular structure, magnetic properties.

(डॉ. आर. के. सक्सेना) प्राचार्य (शासकीय इं.वि.स्नातकोत्तर महाविद्यालय कोरवा (छ.न.)

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# PROGRAMME OUTCOMES, PROGRAMME SPECIFIC OUTCOMES AND COURSE OUTCOMES

### M.A. SOCIOLOGY - 4 Semesters Postgraduate programme

#### **Programme Outcomes (PO)**

- **PO1.** Students would be able to think critically on societal issues and its national & global implications.
- **PO2.** Students would be able to shoulder social and ethical responsibilities in its true form and hence develop into a better citizen.
- **PO3.** Students would be able to perceive social issues both objectively and subjectively.
- **PO4.** Students would be able to develop better social interaction skills for greater exchange of thoughts and ideas.
- **PO5.**The students will be able to think critically and take informed decisions after identifying the accuracy and validity of their assumptions and ideas from intellectual, organizational, and personal perspectives.
- **P06.** The students will be able to communicate effectively throughspeaking, reading, writing and listening clearly in one Indian language and thereby express themselves to the world by connecting with different ideas, books, people, media and technology.
- **P07.** The students will be able to interact socially and stimulate views, reconcile disagreements and help reach consensual conclusions.
- **PO8.** The students will be able to demonstrate compassionate social concern and act with a cognizant awareness of issues to contribute in civic life by volunteering impartially towards national development and thereby deliver effective citizenship.
- **PO9.** The students will be able to ethically recognize different value systems, understand the moral dimensions of individual decisions and accept responsibility for them.
- **PO10.** The students will be able to recognize the issues of environmental perspectives and appreciate sustainable development for long term environmental sustainability.
- **PO11.** The students will be able to engage themselves in life-long self-determining and learning in the comprehensive background of socio-technological changes for continued self-directed and life-long learning.

#### **Programme Specific Outcomes (PSO)**

- **PSO1.**The students after the completion of this programme will be able to contemplate and comprehend Classical Sociological Tradition. Students would be able to understand sociological phenomena of individuals, socio-ethnic structures, socio-cultural institutions and socio-economic inequality.
- **PSO2.**The students after the completion of this programme will be able to contemplate and comprehend Philosophical and Conceptual Foundation of Social Research. Students would be

- able to effectively communicate and draft sociological concepts and theories associated with real life situations.
- **PSO3.**The students after the completion of this programme will be able to contemplate and comprehend Rural Sociology. Students would be able to become a thorough professional with social intellect so as to have career opportunities galore social welfare, rural development, public policy, governance, business, social foundations, NGO and academia.
- **PSO4.**The students after the completion of this programme will be able to contemplate and comprehend Classical Sociological Thinkers.
- **PSO5.**The students after the completion of this programme will be able to contemplate and comprehend and apply Quantitative Research Techniques in Sociology.
- **PSO6.**The students after the completion of this programme will be able to contemplate and comprehend Sociology of Development.
- **PSO7.**The students after the completion of this programme will be able to contemplate and comprehend Indian Rural Society.
- **PSO8.**The students after the completion of this programme will be able to contemplate and comprehend Classical Sociological Theories.
- **PSO9.**The students after the completion of this programme will be able to contemplate and comprehend Social Movements in India.
- **PSO10.**The students after the completion of this programme will be able to contemplate and comprehend Perspectives of Study to Indian Society.
- **PSO11.**The students after the completion of this programme will be able to contemplate and comprehend Industry and Society in India.
- **PSO12.**The students after the completion of this programme will be able to contemplate and comprehend Criminology.
- **PSO13.**The students after the completion of this programme will be able to contemplate and comprehend Modern Sociological Theories.
- **PSO14.**The students after the completion of this programme will be able to contemplate and comprehend Comparative Sociology.
- **PSO15.**The students after the completion of this programme will be able to contemplate and comprehend Contemporary issues in Industry.

#### **Course Outcomes (CO)**

#### **Course 1: Classical Sociological Tradition**

- **CO1.**Students will be able to make sense of modernity by identifying the emergence of sociology as a discipline.
- **CO2.**Students will be able to understand critically and comparatively the methodological preferences of the founders of sociology.

#### Course 2: Philosophical and Conceptual Foundation of Social Research

**CO1**.Students will be able to recognize various issues in social research.

**CO2.** Students will be able to undertake research by selectively choosing and formulating a social research problem.

#### **Course 3: Rural Sociology**

- **CO1.** Students will be able to assimilate the theoretical and empirical knowledge of the past and present rural scenario and approach in rural sociology.
- **CO2.** Students will be able to identify with the various changes and development in rural sociology.

#### **Course 4: Classical Sociological Tradition**

- **CO1.** Students will be able to explain the major themes of Marxian and Weberian perspectives on the social world.
- **CO2.** Students will be able to compare and differentiate between Marxian and Weberian perspectives on the social world.

#### **Course 5: Quantitative Research Techniques in Sociology**

**CO1.** Students will be able to assess, interlink, correlate and use the measures of central tendency and measures of variation involved in social research.

#### **Course 6: Indian Rural Society**

**CO1.** Students will be able to absorb the theoretical and empirical knowledge of the past and present rural scenario and intricacies of social fabric in India.

#### **Course 7: Classical Sociological Theories**

- **CO1.** Students will be able to recognize the role of a sociological theory in the application of conceptual frameworks in a social research progress.
- **CO2.** Students will be able to comprehend various sociological theories like structuralism and exchange theory.

#### **Course 8: Perspectives of Study to Indian Society**

**CO1.**Students will be able to explain the major methods and concepts used in the systematic study of Indian society, its social classes, its social fabric and its sociological issues.

#### Course 9: Industry and Society in India

**CO1.** Students will be able to identify the trends of Industrial disputes in Indian society and their impacts on Indian social classes & sociology.

#### **Course 10: Criminology**

- **CO1.** Students will be able to familiarize with mainstream criminological theories.
- **CO2.** Students will be able to apply theories of crime and criminal justice to explain actual and hypothetical scenarios, behaviors and trends.

#### **Course 11: Modern Sociological Theories**

- **CO1.** Students will be able to debate on modern sociological theories.
- **CO2.** Students will be able to identify the origin and development of modern sociological theories.

#### **Course 12: Industry and Society**

- **CO1.** Students will be able to ascertain the history, objectives and functions of trade unionism in India.
- **CO2.** Students will be able to contemplate on Industrialization in the third world countries.

#### **Course 13: Urban Sociology**

- **CO1.** Students will be able to understand the structure of urban society.
- **CO2.** Students will be able to understand the way in which sociological concept are linked to this intimate relationship between urban sociologist and the city they study.

#### **Course 14: Demographical Profile**

- **CO1.** Students will be able to understand demography through various analysis, Malthusian, zero population growth, Cornucopian Theory.
- **CO2.** Students will be able to understand the factor affecting the various parameters of population growth like mortality rate, natality rate and migration including immigration and emigration.

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# PROGRAMME OUTCOMES, PROGRAMME SPECIFIC OUTCOMES AND COURSE OUTCOMES

### M.A. English Literature - 4 Semesters Postgraduate programme

#### **Programme Outcomes (PO)**

- **PO1.** Students would be able to think critically on contemporary literary issues of English literature and its national & global implications.
- **PO2.** Students would be able to signify the influence of English literature on contemporary societal causes and hence develop into a better citizen.
- **PO3.** Students would be able to perceive contemporaryliterary issues of English literature both objectively and subjectively.
- **PO4.** Students would be able to develop better social interaction skills for greater exchange of thoughts and ideas.
- **PO5.**The students will be able to think critically and take informed decisions after identifying the accuracy and validity of their assumptions and ideas from intellectual, organizational, and personal perspectives.
- **PO6.** The students will be able to communicate effectively through speaking, reading, writing and listening clearly in one Indian language and thereby express themselves to the world by connecting with different ideas, books, people, media and technology.
- **PO7.** The students will be able to interact socially and stimulate views, reconcile disagreements and help reach consensual conclusions.
- **PO8.** The students will be able to demonstrate compassionate social concern and act with an cognizant awareness of issues to contribute in civic life by volunteering impartially towards national development and thereby deliver effective citizenship.
- **PO9.** The students will be able to ethically recognize different value systems, understand the moral dimensions of individual decisions and accept responsibility for them.
- **PO10.** The students will be able to recognize the issues of environmental perspectives and appreciate sustainable development for long term environmental sustainability.
- **PO11.** The students will be able to engage themselves in life-long self-determining and learning in the comprehensive background of socio-technological changes for continued self-directed and life-long learning.
- **PO12.** Students will be able to give new ideas on development of society in a better way with a command of language.

#### **Programme Specific Outcomes (PSO)**

- **PSO1.**The students after the completion of this programme will be able to contemplate and comprehend Poetry in English literature.
- **PSO2.**The students after the completion of this programme will be able to contemplate and comprehend Drama in English literature.

- **PSO3.**The students after the completion of this programme will be able to contemplate and comprehend Prose in English literature.
- **PSO4.**The students after the completion of this programme will be able to contemplate and comprehend Fiction in English literature.
- **PSO5.**The students after the completion of this programme will be able to contemplate and comprehend History of English Literature.
- **PSO6.**The students after the completion of this programme will be able to contemplate and comprehend Critical Theory in English literature.
- **PSO7.**The students after the completion of this programme will be able to contemplate and comprehend Indian Writing in Englishliterature.
- **PSO8.**The students after the completion of this programme will be able to contemplate and comprehend the influence of American literature on English literature.
- **PSO9.**The students after the completion of this programme will be able to contemplate and comprehend the influence of Colonial and Post-Colonial Studieson English literature.
- **PSO10.**The students after the completion of this programme will be able to contemplate and comprehend the influence of Linguisticson English literature.
- **PSO11.** Students will learn to correlate the different language of the world and the formation of the words in a language.

#### **Course Outcomes (CO)**

#### **Course 1: Poetry**

- **CO1**.Students would be able to identify a variety of forms and genres of poetry from diverse cultures and historic periods, such as sonnets, ballads, dramatic monologues, epic and pastoral, free verse, Elegy etc.
- **CO2.** Students will be able to recognize the rhythms metrics and other musical aspects of poetry.
- **CO3.** Students will also learn natural sounds of nature and the music in nature and how words where form by natural sounds.

#### Course 2: Drama

- **CO1.** Students would be able to identify and understand the insights, genres, conventions and experimentations associated with English Drama.
- **CO2.** Students will be able to explore how writers use the resources language's creativity to explore the entire range of human experience through dramas as a literary form.
- **CO3.** Students will understand the story of humans, in a rich language ans be able to interpret the lives of men.

#### Course 3: Prose

- **CO1.**Students would be able to identify and understand a literary text in different contexts, and be aware of socio-political and economic conditions of the society from different periods.
- **CO2.** Students will be able to write precisely with brevity.
- **CO3.** Students will be able to improve their vocabulary and learn to interpret a word in many different ways depending on the circumstances. will learn to interpret words according to moods.

#### Course 4: Fiction

- **CO1.** Students would be able to identify and understand various cultures and construction of gender, nation and race throughout the history.
- **CO2.** Students will be able to learn human values and the behavioral patterns from great work of art.
- **CO3.** Students will be able to develop the ability to understand human race.
- **CO4.** Students will learn about the society and its evolution in different ways from the reading of the fiction of the times.

#### **Course 5: History of English Literature**

- **CO1.** Students would be able to identify and delineate major writers and their works in chronological order.
- **CO2.** Students will be able to compare English literature of one period with that of another.
- **CO3.** Students will be able to classify all major literary works.
- **CO4.** Students will learn the development of language and literature in the different periods of history and the development of society will also be understood.

#### **Course 6: Critical Theory**

- **CO1.**Students would be able to debate the nature of literary criticism based on classical Greek paradigms and trace the historical development of criticism.
- **CO2.** Students will be able to develop an aptitude for critical analysis of literary works.
- **CO3.** Students will learn the basics of the critical theories and how to interpret the texts ass per the readings of the great philosophers and to read into the internal depths of the writings.

#### **Course 7: Indian Writing in English**

- **CO1.** Students would be able to become aware of social, political and cultural issues reflected in Indian writing in English.
- **CO2.** Students will be able to develop awareness for Indian social reformations, freedom struggle, women education and empowerment in nineteenth century.
- **CO3.** Students will be able to to discuss major class / Caste issues in the context of Indian Literature.
- **CO4.** Students will understand the term bondage and freedom when reading the texts and a glimpse into the richness of the heritage of India will also be visualised.

#### **Course 8: American Literature**

- **CO1.** Students would be able to inculcate a rhetorical approach to the literary study of American texts and also the conceptions, generalization, myths and beliefs about American cultural history about the society of the times when the text was written..
- **CO2.** Students will be able to develop awareness of the social, historical, literary and cultural elements of the changes in American literature.
- **CO3.** Students will be able to analyze literary works of eminent American writers.
- **CO4.** Students will be able to co relate the different writings from different countries at the particular times and about the society and culture of the times.

#### **Course 9: Colonial and Post-Colonial Studies**

- **CO1.** Students would be able to explore and understand ways in which literary theory applies to their own lives and cultures in Post-Colonial literature.
- **CO2.** Students will be able to develop understanding and assessment of various mainstream and subaltern cultures and appreciate them.
- **CO3.** Students will understand the term Independence after reading the colonial and post colonial literature. They will be able to differentiate the literature of bondage and literature of freedom. They will be able to understand the circumstances of the times.

#### **Course 10: Linguistics**

- **CO1.** Students would be able to identify the symbols of all the 44 English sounds, and transcription of the sounds.
- **CO2.** Students will be able to improve the fluency in spoken English and neutralize mother tongue influence.
- **CO3.** Students will understand how words came into being and their stories and also the relation between all the languages.

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# PROGRAMME OUTCOMES, PROGRAMME SPECIFIC OUTCOMES AND COURSE OUTCOMES

#### M.Com. - 4 Semesters Postgraduate programme

### Programme Outcomes (PO)

- **PO1.**The Master of Commerce (M.Com.) semester wise programme offered by the College accomplishes the students to cash in on the opportunities and overcome the challenges in the field of commerce by providing systematic learning of managerial economics, advance accounting, income tax law & account, statistical analysis, corporate legal framework, business economics, specialized accounting, tax planning & management, advanced statistics, business law, management concept, organizational behavior, advanced cost accounting, management accounting, accounting for managerial decisions, principles of marketing, advertising & sales management, marketing research, international marketing and research project work. The students after the completion of this programme become well prepared to take up various professional assignments, engagements and jobs in medium to large scale business establishments, industries, commercial set-ups and other public/private commercial sectors like banking, stock-exchange, insurance, NBFCs as accountants, investment bankers, business analysts, finance officers, business / financial advisors etc.
- **PO2.**The students after the completion of this programme will be enabled to overcome the challenges and cash in the opportunities in the field of commerce.
- **PO3.**The students after the completion of this programme will become well prepared to take up various professional assignments, engagements and jobs in medium to large scale business establishments, industries, commercial set-ups and other public/private commercial sectors like banking, stockexchange, insurance, NBFCs as accountants, investment bankers, business analysts, finance officers, business / financial advisors etc.
- **PO4.** The students will be able to think critically and take informed decisions after identifying the accuracy and validity of their assumptions and ideas from intellectual, organizational, and personal perspectives.
- **PO5.** The students will be able to communicate effectively throughspeaking, reading, writing and listening clearly in one Indian language and thereby express themselves to the world by connecting with different ideas, books, people, media and technology.
- **P06.** The students will be able to interact socially and stimulate views, reconcile disagreements and help reach consensual conclusions.
- **PO7.** The students will be able to demonstrate compassionate social concern and act with cognizant awareness of issues to contribute in civic life by volunteering impartially towards national development and thereby deliver effective citizenship.
- **PO8.** The students will be able to ethically recognize different value systems, understand the moral dimensions of individual decisions and accept responsibility for them.

- **PO9.**The students will be able to recognize the issues of environmental perspectives and appreciate sustainable development for long term environmental sustainability.
- **PO10.** The students will be able to engage themselves in life-long self-determining and learning in the comprehensive background of socio-technological changes for continued self-directed and life-long learning.

#### **Programme Specific Outcomes (PSO)**

- **PSO1.** The students after the completion of this programme will become well versed with Managerial Economics.
- **PSO2.** The students after the completion of this programme will become well versed with Advance Accounting.
- **PSO3.** The students after the completion of this programme will be able to identify a Corporate Legal Framework.
- **PSO4.** The students after the completion of this programme will be able to understand Statistical Analysis.
- **PSO5.** The students after the completion of this programme will be able to understand the Business Economics.
- **PSO6.** The students after the completion of this programme will be able to understand the essentials of Specialized Accounting.
- **PSO7.** The students after the completion of this programme will be able to understand the essentials, principles and procedures of Accounting for Managerial Decisions.
- **PSO8.** The students after the completion of this programme will be able to understand the essentials of Advanced Statistics.
- **PS09.** The students after the completion of this programme will be able to understand the principles of Business Law.
- **PSO10.** The students after the completion of this programme will be able to understand the essentials of Management Concept.
- **PSO11.** The students after the completion of this programme will be able to understand the fundamentals of Organizational Behaviour.
- **PSO12.** The students after the completion of this programme will be able to understand the principles of Advance Cost Accounting.
- **PSO13.** The students after the completion of this programme will be able to understand Income Tax Law and Account.
- **PSO14.** The students after the completion of this programme will be able to understand the essentials of Tax Planning and Management.
- **PSO15.** The students after the completion of this programme will be able to recognize the procedures of Management Accounting.
- **PSO16.** The students after the completion of this programme will be able to understand the Principles of Marketing.
- **PSO17.** The students after the completion of this programme will be able to understand the procedures of Advertising and Sales Management.

- **PSO18.** The students after the completion of this programme will be able to understand the essentials and fundamentals of Marketing Research.
- **PSO19.** The students after the completion of this programme will be able to understand the essentials and fundamentals of International Marketing.
- **PSO20.** The students after the completion of this programme will be able to do Project Work in various fields of commerce studies.

#### **Course Outcomes (CO)**

#### **Course 1: Managerial Economics**

- **CO1.**The students after the completion of this course will be able to comprehend with the basic concepts, terms &provisions of managerial economics.
- **CO2.** The students after the completion of this course will be able to determine the prices under different market forms.
- **CO3.** The students after the completion of this course will be able to comprehend with the concepts of inflation, slowdown, deflation, stagflation and recession in an economy.

#### **Course 2: Advance Accounting**

- **CO1.** The students after the completion of this course will be able to comprehend with the basic accounting structure of companies.
- **CO2.** The students after the completion of this course will be able to find out how a company can dissolve by liquidating its assets or through bankruptcy and insolvency.
- **CO3.** The students after the completion of this course will be able to comprehend with the viable and operational accounting format of companies.

#### **Course 3: Management Accounting**

- **CO1.**The students after the completion of this course will be able to get acquainted with a separate branch of accounting.
- **CO2.** The students after the completion of this course will be able to analyze the management accounting and its relevance in a business organization.
- **CO3.** The students after the completion of this course will be able to familiarize with the management control system.
- **CO4.**The students after the completion of this course will be able to fulfill the requirements of management sense and responsibilities.

#### **Course 4: Statistical Analysis**

- **CO1.** The students after the completion of this course will be able to independently calculate basic statistical parameters applied in commerce and accounting.
- **CO2.** The students after the completion of this course will be able to comprehend probability theory and probability distributions in relation to general statistical analysis done in commerce and accounting.

#### **Course 5: Corporate Legal Framework**

**CO1.** The students after the completion of this course will be able to to Provistions of various laws influencing business operations.

- **CO2.** The students after the completion of this course will be able to comprehend the use of M/A and prospectus in a company of commerce and accounting.
- **CO3.** The students after the completion of this course will be able to get acquainted with the negotiable instruments (Cheque, Holder and Holder in due course).

#### **Course 6: Business Economics**

- **CO1.** The students after the completion of this course will be able develop managerial, pesspective to economic fundamental as aids to decision making under given environment.
- **CO2.** The students after the completion of this course will be able to comprehend the factors in commerce and accounty that contribute to and detract from long-term economic growth and business cycle.

#### **Course 7: Specialized Accounting**

- **CO1.** The students after the completion of this course will be able to ascertain the knowledge of Banking and insurance companies accounts.
- **CO2.** The students after the completion of this course will be able to comprehend the systems of double account system and maintenance accounts.
- **CO3.** The students after the completion of this course will be able to get acquainted with the basic concepts of royalty and Investments account.

#### **Course 8: Accounting For Managerial Decisions**

- **CO1.** The students after the completion of this course will be able to ascertain the applicability of certain techniques of management i.e. Target coshing, ABC costing.
- **CO2.** The students after the completion of this course will be able to analyze the essentials of capital budgeting and use different techniques of capital budgeting.
- **CO3.** The students after the completion of this course will be able to familiarize with contemporary issues in management.
- **CO4.**The students after the completion of this course will be able to fulfill the requirements of accounting management sense and responsibilities.

#### **Course 9: Advanced Statistics**

- **CO1.**The students after the completion of this course will be able to ascertain the concepts of the statistical decision theory &statistical estimations in commerce and accounting.
- **CO2.**The students after the completion of this course will be able to comprehend the provisions of statistical quality control & the procedures of sampling methods in commerce and accounting.
- **CO3.** The students after the completion of this course will be able to interpret the meaning of the calculated statistical indicators in commerce and accounting.

#### Course 10: Business Law

- **CO1.** The students after the completion of this course will be able to ascertain the consumer rights under consumer protection Act 1986.
- **CO2.** The students after the completion of this course will be able to comprehend the international trade concepts used in global market decisions.

**CO3.** The students after the completion of this course will be able to comprehend and interpret the legal environments for security markets.

#### **Course 11: Management Concept**

- **CO1.** The students after the completion of this course will be able to ascertain the objectives of managerial reporting.
- **CO2.** The students after the completion of this course will be able to fulfill the reporting requirements at different levels of management.
- **CO3.** The students after the completion of this course will be able to get acquainted with the objectives of managerial reporting and reporting requirements.
- **CO4.**The students after the completion of this course will be able to comprehend and interpret the requirements of management.

#### **Course 12: Organizational Behaviour**

- **CO1.** The students after the completion of this course will be able to develop an understanding regarding the role of leaders in decision making process.
- **CO2.** The students after the completion of this course will be able to fulfill the requirements of communication skills at different levels of leadership.
- **CO3.** The students after the completion of this course will be able to analyze the challenges and opportunities in the field of organizational behavior.

#### **Course 13: Advance Cost Accounting**

- **CO1.** The students after the completion of this course will be able to develop the impact knowledge of basic cost concepts, elements of cost, ascertainment of materials and labor cost.
- **CO2.** The students after the completion of this course will be able to analyze the various methods of costing and their applications.
- **CO3.** The students after the completion of this course will be able to determine various levels of material cost i.e. reorder level, minimum level, EOQ for managing working capital.

#### **Course 14: Income Tax Law and Account**

- **CO1.** The students after the completion of this course will be able to compute total income and define tax compliances & strictures.
- **CO2.** The students after the completion of this course will be able to file IT return on individual basis.
- **CO3.** The students after the completion of this course will be able to comprehend with the amendments made from time to time in finance Act.

#### **Course 15: Tax Planning and Management**

- **CO1.** The students after the completion of this course will be able to ascertain the concepts of TDS and advance payment of tax.
- **CO2.** The students after the completion of this course will be able to comprehend the provisions of various taxes rebates& reliefs and procedure to file IT return.
- **CO3.** The students after the completion of this course will be able to get acquainted with the concept of recovery and refund of tax.

#### **Course 16: Principles of Marketing**

- **CO1.** The students after the completion of this course will be able to ascertain the applicability of certain principle techniques and fundamentals of marketing.
- **CO2.** The students after the completion of this course will be able to analyze product life-aide.
- **CO3.** The students after the completion of this course will be able to familiarize with the significance & contribution of marketing to the business enterprise.

#### **Course 17: Advertising and Sales Management**

- **CO1.**The students after the completion of this course will be able to ascertain the applicability of concepts of advertising, media of advertising &its influence on buying habits of consumers.
- **CO2.** The students after the completion of this course will be able to promote sales by applying the methods and techniques of sales promotion.

#### **Course 18: Marketing Research**

- **CO1.** The students after the completion of this course will be able to ascertain the applicability of concepts of marketing research.
- **CO2.** The students after the completion of this course will be able to apply & promote marketing research procedures, methods & techniques.
- **CO3.** The students after the completion of this course will be able to ascertain the significance, importance and requirements for introduction of new products and new markets.

#### **Course 19: International Marketing**

- **CO1.** The students after the completion of this course will be able to ascertain the applicability of concepts of EXIM policy, International transport system & International product life cycle.
- **CO2.** The students after the completion of this course will be able to apply & promote themselves for employment as well as self employment in international businesses dealing with variety of innovative products & services.

#### **Course 20: Project Work**

- **CO1.** The students after the completion of this course will be able to ascertain the applicability of concepts of Research and Research Methodology.
- **CO2.** The students after the completion of this course will be able to represent data in tabular and graphic manner for convenient interpretation.
- **CO3.** The students after the completion of this course will be able to familiarize with Research and Research problems.
- **CO4.**The students after the completion of this course will be able to develop skills to write Research papers.
- **CO5.** The students after the completion of this course will be able to comprehend and apply the quantitative methods of Research.

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# PROGRAMME OUTCOMES, PROGRAMME SPECIFIC OUTCOMES AND COURSE OUTCOMES

#### M.A. Geography - 4 Semesters Postgraduate programme

#### **Programme Outcomes (PO)**

- **PO1.** The M.A. Geography semester wise programme offered by the College accomplishes the students to possess in-depth insights, critical knowledge of basic concepts, clear understanding at par with international standards & peers, and familiarization at the minutest level of the issues pertaining to geographical nature, bodies, regions, morphology, environment, climate & atmosphere of mother earth gained through systematic learning of Geomorphology, Climatology, Geographical Thought, Geography of India, Economic and Natural Resource Management, Oceanography, Regional Development and Planning, Social Geography, Population Geography, Settlement Geography, Biogeography and Ecosystem, Research Methodology, Urban Geography, Agricultural Geography, and Environmental Geography. The students after the completion of this programme become well prepared to take up various professional assignments, engagements and jobs in the diverse fields of application of geographical studies and technologies.
- **PO2.** The students will be able to think critically and take informed decisions after identifying the accuracy and validity of their assumptions and ideas from intellectual, organizational, and personal perspectives.
- **PO3.** The students will be able to communicate effectively through speaking, reading, writing and listening clearly in one Indian language and thereby express themselves to the world by connecting with different ideas, books, people, media and technology.
- **P04.** The students will be able to interact socially and stimulate views, reconcile disagreements and help reach consensual conclusions.
- **PO5.** The students will be able to demonstrate compassionate social concern and act with cognizant awareness of issues to contribute in civic life by volunteering impartially towards national development and thereby deliver effective citizenship.
- **P06.** The students will be able to ethically recognize different value systems, understand the moral dimensions of individual decisions and accept responsibility for them.
- **P07.** The students will be able to recognize the issues of environmental perspectives and appreciate sustainable development for long term environmental sustainability.
- **PO8.** The students will be able to engage themselves in life-long self-determining and learning in the comprehensive background of socio-technological changes for continued self-directed and life-long learning.
- **PO9.**The students will be able to inculcate values to become life-long environment conscious and nature volunteers, warriors and preservers.

#### **Programme Specific Outcomes (PSO)**

- **PSO1.** The students after the completion of this programme will become well versed with Geomorphology.
- **PSO2.** The students after the completion of this programme will become well versed with Climatology.
- **PSO3.** The students after the completion of this programme will be able to understand Geographical Thought.
- **PSO4.** The students after the completion of this programme will be able to understand Geography of India.
- **PSO5.** The students after the completion of this programme will be able to identify Economic and Natural Resource Management.
- **PSO6.** The students after the completion of this programme will be able to understand Oceanography.
- **PSO7.** The students after the completion of this programme will be able to understand the essentials of Regional Development and Planning.
- **PSO8.** The students after the completion of this programme will be able to understand the essentials of Social Geography.
- **PSO9.** The students after the completion of this programme will be able to understand the essentials of Population Geography.
- **PSO10.** The students after the completion of this programme will be able to understand the principles of Settlement Geography.
- **PSO11.** The students after the completion of this programme will be able to understand the essentials of Biogeography and Ecosystem.
- **PSO12.** The students after the completion of this programme will be able to understand the fundamentals of Research Methodology.
- **PSO13.** The students after the completion of this programme will be able to understand the principles of Urban Geography.
- **PSO14.** The students after the completion of this programme will be able to recognize the principles of Agricultural Geography.
- **PSO15.** The students after the completion of this programme will be able to understand the essentials, and principles of Environmental Geography.
- **PSO16.** The students after the completion of this programme will be able to do Field Work in various fields of geographical studies.

#### **Course Outcomes (CO)**

#### **Course 1: Geomorphology**

**CO1.** The students after the completion of this course will be able to comprehend with the nature and scope of geomorphology.

- **CO2.** The students after the completion of this course will be able to determine the interior of the earth.
- **CO3.** The students after the completion of this course will be able to comprehend the movement of the earth.
- **CO4.** The students after the completion of this course will be able to comprehend the exogenic processes and concept of graduation.
- **CO5.** The students after the completion of this course will be able to comprehend the geological structures and land forms.

#### **Course 2:Climatology**

- **CO1.** The students after the completion of this course will be able to comprehend with the nature and scope of climatology.
- **CO2.** The students after the completion of this course will be able to determine the composition of atmosphere.
- **CO3.** The students after the completion of this course will be able to comprehend the movement of general circulation of Jet stream, El-Nino and La-Nino.
- **CO4.** The students after the completion of this course will be able to comprehend the climate classification and climate changes.
- **CO5.** The students after the completion of this course will be able to comprehend the uses of applied climatology.

#### Course 3:Geographical Thought

- **CO1.** The students after the completion of this course will be able to comprehend the prehistory of geographical ideas in different durations from Greek's, Roman's, Arab's and impact of exploration & discoveries.
- **CO2.** The students after the completion of this course will be able to determine the modern Geographical thoughts and contribution of eminent geographers.
- **CO3.** The students after the completion of this course will be able to comprehend the beginning of modern geography fundamental concepts and models in geography.
- **CO4.** The students after the completion of this course will be able to comprehend the present status and application of modern techniques and it's uses in climatology, geomorphology, economic geography and population geography.

#### Course 4:Geography of India

- **CO1.** The students after the completion of this course will be able to comprehend with the geological structure, relief, climate, drainage, vegetation and soils of India.
- **CO2.** The students after the completion of this course will be able to determine the nature of agriculture and agricultural regions of India.
- **CO3.** The students after the completion of this course will be able to comprehend the geographical regional division of India and various land forms in India.
- **CO4.** The students after the completion of this course will be able to determine the stratosphere of India.

**CO5.** The students after the completion of this course will be able to determine the presence of various water bodies in India.

#### **Course 5:Economic and Natural Resource Management**

- **CO1.** The students after the completion of this course will be able to comprehend with the nature and scope of economic geography.
- **CO2.** The students after the completion of this course will be able to determine the world pattern of major natural resources.
- **CO3.** The students after the completion of this course will be able to comprehend the conservation and management of resources.
- **CO4.** The students after the completion of this course will be able to determine the policy making for resource management.
- **CO5.** The students after the completion of this course will be able to determine the need for sustainable development of resources.

#### Course 6:Oceanography

- **CO1.** The students after the completion of this course will be able to comprehend with the nature and scope of oceanography.
- **CO2.** The students after the completion of this course will be able to determine the physical and chemical properties of sea water.
- **CO3.** The students after the completion of this course will be able to comprehend the conservation and management of oceanic resources.
- **CO4.** The students after the completion of this course will be able to determine the impact of Human on the marine environment.
- **CO5.** The students after the completion of this course will be able to determine the need for sustainable development of oceanic resources.

#### **Course 7: Regional Development and Planning**

- **CO1.** The students after the completion of this course will be able to determine the nature of various regions, types of regions.
- **CO2.**The students after the completion of this course will be able to comprehend with theregional development theories.
- **CO3.** The students after the completion of this course will be able to comprehend the regional planning in India.
- **CO4.** The students after the completion of this course will be able to determine the center-state relations and multilevel planning in India.

#### Course 8:Social Geography

- **CO1.** The students after the completion of this course will be able to comprehend with the nature, scope of social geography and its relationship with other social sciences.
- **CO2.** The students after the completion of this course will be able to determine the concept of society.

- **CO3.** The students after the completion of this course will be able to comprehend the social development planning.
- **CO4.** The students after the completion of this course will be able to determine the impact of public policy and social planning in India.

#### **Course 9:Population Geography**

- **CO1.**The students after the completion of this course will be able to comprehend with historical development of population geography.
- **CO2.** The students after the completion of this course will be able to determine the scope of population geography.
- **CO3.** The students after the completion of this course will be able to comprehend the distribution of population.
- **CO4.** The students after the completion of this course will be able to determine the impact of migration of population and population composition.
- **CO5.** The students after the completion of this course will be able to determine the population resource regions and population policies of India.

#### **Course 10:Settlement Geography**

- **CO1.** The students after the completion of this course will be able to comprehend with the objectives and scope of settlement geography.
- **CO2.** The students after the completion of this course will be able to determine the evolution and growth of urban settlements.
- **CO3.** The students after the completion of this course will be able to comprehend the central place theory.
- **CO4.** The students after the completion of this course will be able to determine the impact of city-country relationship.
- **CO5.** The students after the completion of this course will be able to determine the impact of rural-urban fringe.

#### **Course 11:Research Methodology**

- **CO1.** The students after the completion of this course will be able to examine research motivation, types of research, significance of research, research process and criteria of good research.
- **CO2.** The students after the completion of this course will be able to determine the scope, types of data and methods of data collection, processing and analysis of data using different statistical methods.
- **CO3.** The students after the completion of this course will be able to comprehendresearch report, types of reports and oral presentation mechanics of writing a research report.
- **CO4.** The students after the completion of this course will be able to determine the interpretation and report writing techniques and precautions of interpretation layout.

#### **Course 12:Urban Geography**

**CO1.** The students after the completion of this course will be able to comprehend with the objectives and scope of urban geography.

- **CO2.** The students after the completion of this course will be able to determine the internal structures, morphology and land use of city.
- **CO3.** The students after the completion of this course will be able to comprehend the urban issues and urban planning.
- **CO4.** The students after the completion of this course will be able to determine the urban functions.
- **CO5.** The students after the completion of this course will be able to determine theurban and metropolitan planning in India.

#### **Course 13:Agricultural Geography**

- **CO1.**The students after the completion of this course will be able to comprehend with the nature, scope and development of agricultural geography.
- **CO2.** The students after the completion of this course will be able to determine the world's agricultural system and types of agriculture.
- **CO3.** The students after the completion of this course will be able to comprehend the agricultural regionalization and modes in agricultural geography and the classification of agricultural models and theories of agricultural geography.
- **CO4.** The students after the completion of this course will be able to determine the agricultural statistics and land use survey techniques and agricultural revolution, meaning & merit and demerit of green revolution and white revolution.

#### **Course 14: Environmental Geography**

- **CO1.** The students after the completion of this course will be able to comprehend with the fundamental concepts related to environment, structure, types, and components.
- **CO2.** The students after the completion of this course will be able to determine the nature, scope, basic concepts of interdisciplinary science and study methods.
- **CO3.** The students after the completion of this course will be able to comprehend the environmental global problems such as deforestation, depletion of Ozone, global warming.
- **CO4.** The students after the completion of this course will be able to determine the role of environmental legislation laws and acts for environment protection and conservation.
- **CO5.** The students after the completion of this course will be able to determine the environmental planning and management for future and also understand the climatic changes and its effect on environment and human being.

#### **Course 15:Tourism**

- **CO1.**The students after the completion of this course will be able to perform the studies to relate places, landscape and people describing travel
- **CO2.** The students after the completion of this course will be able exchange the knowledge of economical, social and cultural activities.

#### **Course 16:Geography of Chhattisgarh**

**CO1.**The students after the completion of this course will be able to perform diverse technical works in various fields of geographical studies like climatology, geomorphology, economic geography, population geography, settlement geography, urban geography, agricultural geography, climate change in reference to Chhattisgarh.

<b>CO2.</b> The students after the completion of this course will be able exchange the knowledge of economical, social and cultural activities of Chhattisgarh state.
Course 17:Field Work
<b>CO1.</b> The students after the completion of this course will be able to perform diverse technical works in various fields of geographical studies like climatology, geomorphology, economic geography, population geography, settlement geography, urban geography, agricultural geography, climate change etc.
(डॉ. आर. के. सक्सेना) प्राचार्य श्रीय इं.वि.स्नातकोत्तर महाविद्यालय कोरवा (छ.ग.)

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# PROGRAMME OUTCOMES, PROGRAMME SPECIFIC OUTCOMES AND COURSE OUTCOMES

### M.A. Economics - 4 Semesters Postgraduate programme

#### Programme Outcomes (PO)

- **PO1.**The M.A. Economics semester wise programme offered by the College accomplishes the students to cash in on the opportunities and overcome the challenges in the field of economics by providing systematic learning of Economics Micro, Macro, Quantitative, Indian, Industrial, Research, Indian policy, Labour, Growth, International, Public, Environmental, Demography, Development & Planning, Social sector and Viva-Voce. The students after the completion of this programme become well prepared to take up various professional assignments, engagements and jobs in medium to large scale business establishments, industries, commercial set-ups and other public/private commercial sectors like banking, stock-exchange, insurance, NBFCs as accountants, investment bankers, business analysts, finance officers, business / financial advisors, policy making etc.
- **PO2.** The students after the completion of this programme will be enabled to overcome the challenges and cash in the opportunities in the field of economics.
- **PO3.**The students after the completion of this programme will become well prepared to take up various professional assignments, engagements and jobs in medium to large scale business establishments, industries, commercial set-ups and other public/private commercial sectors like banking, stockexchange, insurance, NBFCs as accountants, investment bankers, business analysts, finance officers, business / financial advisors, policy making etc.
- **PO4.** The students will be able to think critically and take informed decisions after identifying the accuracy and validity of their assumptions and ideas from intellectual, organizational, and personal perspectives.
- **PO5.** The students will be able to communicate effectively through speaking, reading, writing and listening clearly in one Indian language and thereby express themselves to the world by connecting with different ideas, books, people, media and technology.
- **P06.** The students will be able to interact socially and stimulate views, reconcile disagreements and help reach consensual conclusions.
- **PO7.** The students will be able to demonstrate compassionate social concern and act with cognizant awareness of issues to contribute in civic life by volunteering impartially towards national development and thereby deliver effective citizenship.
- **PO8.** The students will be able to ethically recognize different value systems, understand the moral dimensions of individual decisions and accept responsibility for them.
- **P09.** The students will be able to recognize the issues of environmental perspectives and appreciate sustainable development for long term environmental sustainability.

**PO10.** The students will be able to engage themselves in life-long self-determining and learning in the comprehensive background of socio-technological changes for continued self-directed and life-long learning.

# **Programme Specific Outcomes (PSO)**

- **PSO1.** The students after the completion of this programme will be able to understand the Micro Economics.
- **PSO2.** The students after the completion of this programme will be able to understand the principles of Quantitative Method
- **PSO3.** The students after the completion of this programme will be able to understand Indian Economy.
- **PSO4.** The students after the completion of this programme will be able to understand the fundamentals of International Trade.
- **PS05.** The students after the completion of this programme will be able to understand the Micro Economics.
- **PSO6.** The students after the completion of this programme will be able to understand the essentials of Research Methodology and Computer Application.
- **PS07.** The students after the completion of this programme will be able to identify Industrial Economics.
- **PSO8.** The students after the completion of this programme will be able to understand the Micro Economics.
- **PS09.** The students after the completion of this programme will be able to understand the principles of Quantitative Method
- **PSO10.** The students after the completion of this programme will be able to understand the essentials of Indian Economic Policy.
- **PSO11.** The students after the completion of this programme will be able to understand the fundamentals of International Trade.
- **PSO12.** The students after the completion of this programme will be able to understand the principles of Labour Economics.
- **PSO13.**The students after the completion of this programme will become well versed with Macro Economics
- **PSO14.** The students after the completion of this programme will be able to understand the essentials and fundamentals of Public Economics.
- **PSO15.** The students after the completion of this programme will be able to understand the essentials of Economics of Growth.
- **PSO16.** The students after the completion of this programme will be able to recognize the procedures of Environmental and welfare Economics.
- **PSO17.** The students after the completion of this programme will be able to understand the principles of Macro economic Analysis
- **PSO18.** The students after the completion of this programme will be able to understand the principles of Economic of Social Sector
- **PSO19.** The students after the completion of this programme will be able to understand the principles of Economics of Development and Planning.
- **PSO20.** The students after the completion of this programme will be able to understand the essentials and fundamentals of Economics of Social Sector.

# **Course Outcome (CO)**

**Course 1 Micro Economic Analysis** 

- CO 1 The students will be able to understand theory of micro economics critically.
- CO 2 The students will be able to analyze the economics behavior of individuals, firms and markets.

# **Course 2 Quantitative Method**

- CO 1 The students will be able to use the techniques of mathematical & statistical analysis.
- CO 2 The students will be able to use simple tools and techniques which will help a students in data collection, presentation, analysis and drawing inferences about various statistical hypothesis.

# **Course 3 Indian Economic Policy**

- CO 1 The students will be able to learn Indian economy characters.
- CO 2 The students will be able to be aware to Indian economic policies and economic reforms.
- CO 3 The students will be able to high light an integrated approach to the functioning aspects of the Indian economy keeping in view.

#### **Course 4 International Trade and Finance**

- CO 1 The students will be able to evaluate the importance of international trade and limitations critically
- CO 2 The students will be able to critically examine international trade policies
- CO 3 The students will be able to learn govern the free flow of trade which includes goods, services and capital at the global level .

# **Course 5 Micro Economic Analysis**

- CO 1 The students will be able to understand theory of micro economics critically.
- CO 2 The students will be able to analyze the economics behavior of individuals, firms and markets.

# **Course 6 Research Methodology and computer application**

- **CO1.**The students will be able to critically ascertain and apply various research methods used in social science by drawing upon a range of theoretical and empirical research in survey studies of Economics
- **CO2.**The students will be able to critically examine the theoretical aspects comprising an exploration of various theories, concepts and term that are part of the research methodologyin survey studies of Economics

#### Course 7 Industrial Economics

- CO 1 The students will be able to assess the contemporary world with globalization and liberalization. more and more attention is being given to this industry.
- CO 2 The students will be able to analyze labour management relationship critically.
- CO 3 This course intends to provide knowledge to the student on the basic of issues as productivity, efficiency, capacity utilization and debates involved in the industrial development of india.

# **Course 8 Micro Economic Analysis**

- CO 1 The students will be able to understand theory of micro economics critically.
- CO 2 The students will be able to analyze the economics behavior of individuals, firms and markets.

# **Course 9 Quantitative Method**

- CO 1 The students will be able to use the techniques of mathematical & statistical analysis.
- CO 2 The students will be able to use simple tools and techniques which will help a students in data collection, presentation, analysis and drawing inferences about various statistical hypothesis.

# **Course 10 Indian Economic Policy**

- CO 1 The students will be able to learn Indian economy characters.
- CO 2 The students will be able to be aware to Indian economic policies and economic reforms.
- CO 3 The students will be able to high light an integrated approach to the functioning aspects of the Indian economy keeping in view.

#### **Course 11 International Trade and Finance**

- CO 1 The students will be able to evaluate the importance of international trade and limitations critically
- CO 2 The students will be able to critically examine international trade policies
- CO 3 The students will be able to learn govern the free flow of trade which includes goods, services and capital at the global level .

#### **Course 12 Labour Economies**

- CO 1 The students will be able to learn various labour legislations and laws in india.
- CO 2 The students will be able to examine labour welfare and social security critically
- CO 3 This course exposes students to theoretical as well as empirical issues relating to the labour market with special reference to india.

#### **Course 13 Macro economic Analysis**

- CO 1 The students will get broad knowledge of macro economics or arregative economics analysis and establishes the functional relationship between the large aggregates.
- CO 2 The students will be able to assess macro economics now is not only a scientific method or analysis but also a body of empirical economic knowledge.

#### **Course 14 Public Economics**

- CO 1 The students will be able to learn the role and functions of the government in an economy that has been changing with the passage of time
- CO 2 The students will be able to assess there are vast array of fiscal institutions tax system, expenditure programmes, budgetary procedures, debt issues, level of government etc.
- CO 3 The students will be able to evaluate the term "Public Finance" that has traditionally been applied to the package of these policies and operations.

# **Course 15 Economics of Growth and Development**

- CO 1 The students will be able to evaluate social and institutional aspects of development, importance of agriculture and the rational and pattern of industrialigation in developing countries.
- CO 2 The other important issue in the context of development such as infrastructure linkage, role of international trade, importance of domiestic macro economic policies & investment criteria etc.
- CO 3 The students will be able to learn many economic growth models and social and institutional aspects of development.

#### **Course 16 Environmental and welfare Economics**

- CO 1 The students will be able to assess the design and implementation of public policy related to the management of environment and social sectors critically .
- CO 2 The students will be able to analyze models of optimal use of natural resources, sustainable development, environmental resource problem in india.
- CO 3 The students will be devoted to the issue of environmental economics, environment and social services and the problem of evaluation of these services and designing of instruments.

# **Course 17 Macro economic Analysis**

- CO 1 The students will get broad knowledge of macro economics or arregative economics analysis and establishes the functional relationship between the large aggregates .
- CO 2 The students will be able to assess macro economics now is not only a scientific method or analysis but also a body of empirical economic knowledge.

#### **Course 18 Public Economics**

- CO 1 The students will be able to learn the role and functions of the government in an economy that has been changing with the passage of time
- CO 2 The students will be able to assess there are vast array of fiscal institutions tax system, expenditure programmes, budgetary procedures, debt issues, level of government etc.
- CO 3 The students will be able to evaluate the term "Public Finance" that has traditionally been applied to the package of these policies and operations.

# **Course 19 Economic Development and Planning**

- CO 1 The students will be able to learn the achievements and failure of Indian plans,
- CO 2 The students will be able to assess Big-push theoiy, tlibdry.6f critical minimum efforts, balanced and unbalanced growth.
- CO 3 The students will be able to evaluate the Investment criteria in economic development.
- CO 4 The students will be able to evaluate the role of state in economic development, problem of pricerise in India.

#### **Course 20 Economic of Social Sector**

CO 1 The students will be able to learn the Classification and Control of pollution.

CO 2 The students will be able to Sustainable development, population growth and environmental issues global warming, climate change, green house effect.		
CO 3 The students will be able to Classification of resource	and optimum use of Resource .	
CO 4 The students will be able to Educational reforms and r	right the education Act.	
CO 5 The students will be able to Health Economics.		
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# PROGRAMME OUTCOMES, PROGRAMME SPECIFIC OUTCOMES AND COURSE OUTCOMES

# M.Sc. Zoology - 4 Semesters Postgraduate programme

# **Programme Specific Outcomes (PSO)**

- **PSO1.** The students after the completion of this programme will become well versed with Biosystematics, Taxonomy and Biodiversity.
- **PSO2.** The students after the completion of this programme will become well versed with Structure and Function of Invertebrates.
- **PSO3.** The students after the completion of this programme will be able to understand Population Genetics and Evolution.
- **PSO4.** The students after the completion of this programme will be able to understand the Tools &Techniques in Biology.
- **PSO5.**The students after the completion of this programme will be able to understand Molecular Cell Biology and Biotechnology.
- **PSO6.** The students after the completion of this programme will be able to understand the principles and fundamentals of General Physiology and Endocrinology.
- **PSO7.** The students after the completion of this programme will be able to understand the principles and fundamentals of Developmental Biology.
- **PSO8.** The students after the completion of this programme will be able to understand the essentials of Quantitative Biology and Computer Application.
- **PSO9.** The students after the completion of this programme will be able to understand the essentials of Comparative Anatomy of Vertebrates.
- **PSO10.** The students after the completion of this programme will be able to understand the principles, essentials and fundamentals of Animal Behavior.
- **PSO11.** The students after the completion of this programme will be able to understand the principles of Environment Physiology and Population Ecology.
- **PSO12.**The students after the completion of this programme will be able to understand the principles and procedures of Immunology and Parasitism.
- **PSO13.** The students after the completion of this programme will be able to understand the fundamentals of Biochemistry.
- **PSO14.** The students after the completion of this programme will be able to understand the principles of Neurophysiology.
- **PSO15.**The students after the completion of this programme will be able to recognize the procedures of Fish (ichthyology) structure and function.

<b>PSO16.</b> The students after the completion of this programme will be able to understand the essentials, principles and procedures of Cell biology.		
<b>PSO17.</b> The students after the completion of this programme will be able to understand the essentials, principles and procedures of Biology of Vertebrate immune system.		
<b>PSO18.</b> The students after the completion of this programme will be able to understand the essentials, principles and procedures of Pisciculture and economic importance of fishes (Ichthyology).		
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# PROGRAMME OUTCOMES, PROGRAMME SPECIFIC OUTCOMES AND COURSE OUTCOMES

# M.Sc. Botany - 4 Semesters Postgraduate programme

# **Programme Specific Outcomes (PSO)**

- **PSO1.** The students after the completion of this programme will become well versed with Cytology.
- **PSO2.** The students after the completion of this programme will become well versed with Genetics.
- **PSO3.** The students after the completion of this programme will be able to understand Microbiology, Phycology and Mycology.
- **PSO4.** The students after the completion of this programme will be able to understand the Bryophyte, Pteridophyta and Gymnosperm.
- **PSO5.** The students after the completion of this programme will be able to understand Taxonomy and diversity of plants.
- **PSO6.** The students after the completion of this programme will be able to understand the principles and fundamentals of Molecular Biology.
- **PSO7.** The students after the completion of this programme will be able to understand the principles and fundamentals of Plant physiology.
- **PSO8.** The students after the completion of this programme will be able to understand the essentials of Plant metabolism.
- **PSO9.** The students after the completion of this programme will be able to understand the essentials of Plant development and plant resources.
- **PSO10.** The students after the completion of this programme will be able to understand the principles, essentials and fundamentals of Plant Ecology– I (Ecosystem and vegetation ecology).
- **PSO11.** The students after the completion of this programme will be able to understand the principles of Biotechnology I (Genetic engineering of plants & microbes).
- **PSO12.** The students after the completion of this programme will be able to understand the principles and procedures of Molecular plant pathology-I.
- **PSO13.** The students after the completion of this programme will be able to understand the fundamentals of Limnology-I.
- **PSO14.** The students after the completion of this programme will be able to understand the principles of Ethno botany I.
- **PSO15.** The students after the completion of this programme will be able to recognize the procedures of Plant reproduction and plant resources utilization.

<b>PSO16.</b> The students after the completion of this programme will be able to understand the essentials, principles and procedures of Plant Ecology II (Pollution and biodiversity conservation).			
<b>PSO17.</b> The students after the completion of this programme will be able to understand the essentials, principles and procedures of Biotechnology II ( Plant cell, tissue culture & organ culture).			
<b>PSO18.</b> The students after the completion of this program principles and procedures of Molecular plant pathology-I.			
<b>PSO19.</b> The students after the completion of this program principles and procedures of Limnology-II.	nme will be able to understand the essentials,		
<b>PSO20.</b> The students after the completion of this program principles and procedures of Ethno botany - II.	nme will be able to understand the essentials,		
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# PROGRAMME OUTCOMES, PROGRAMME SPECIFIC OUTCOMES AND COURSE OUTCOMES

# M.Sc. Mathematics - 4 Semesters Postgraduate programme

Programme Outcomes (PO), Programme Specific Outcomes (PSO), Course Outcomes (CO)

Programme Outcomes (PO), Programme Specif		tic Outcomes (PSO), Course Outcomes (CO)
Class	Paper Name	Outcome
M.Sc I & II Sem.	Advanced Abstract Algebra	<ol> <li>Students will learn Group theory, Ideals, Ring theory, Modules, Vector space, Normal Group, Abelian group etc.</li> <li>Students Skills to solve any theorem by using the properties of the given group, Ring, Ideal or field.</li> <li>Students compute different theorems and learn how to find the Galois group of any given group.</li> </ol>
	Real Analysis	Students will be able to know the sequence and series of real numbers, convergence and divergence of both sequence and series. Determine the Riemann integrability.
	Topology	Students Skill to:-  1. Understand various basic topologies and topological spaces.  2. Understand the countability and
		uncountability of spaces and sets and their types.  3. Understand the concept of connectedness, compactness, completeness of spaces.  4. Understand the topological and hereditary property  5. Learns the separation axioms.
	Complex Analysis	Studen is will learn to:-  1. Analyze sequence and series of complex numbers and analytical function.  2. Apply the concept of Cauchy-Riemann equations for analytic function.  3. Compute complex contour integrals and apply the cauchy Integral formula in various versions.  4. Understand the concept of Harmonic functions.
	Advanced Discrete Mathematics	<ol> <li>Students will know about the finite state machine, their outputs corresponding to their next state of input.</li> <li>Students will learn the conjunctives and disjunctive Canonical form of two, three, four variables.</li> </ol>

M.Sc III & IV	Integration Theory and Functional	<ul> <li>3. Students learn to formulate the output of Mealy and Moore machine, parallel and series circuits.</li> <li>4. Students will have the knowledge of graphs, Trees, Spanning trees etc.</li> <li>Students Skill to:-</li> </ul>
Sem.	Analysis	<ol> <li>Learn the concept of linear and bounded linear transformation.</li> <li>Understands the Function spaces and conjugate of Function Spaces.</li> <li>Understand the concept of Dual linear spaces.</li> <li>Learns to compute the real and complex functions.</li> </ol>
	PDE and Mechanics	<ol> <li>Studen is will have the knowledge and Skills to:- Form         <ol> <li>the partial differential equations and solve them.</li> <li>Learn the wave equations and heat equations and form their solutions.</li> </ol> </li> <li>Solve the problems on first order and higher degree partial differential equations and its application.</li> </ol>
	Fuzzy Sets and their Applications	<ol> <li>Students learn the fundamentals of fuzzy set theory.</li> <li>Students Skill to compute operations with fuzzy sets, extension principle, fuzzy logic, fuzzy probability.</li> <li>Students acquire knowledge of important parts of fuzzy set theory which will enable them to create effective mathematical models of technical phenomena.</li> </ol>
	Operations Research	Students will be able to model LPP and solve them.      Students will understand the feasibility, infeasibility, basic, bounded, unbounded, optimal solutions of the problem.      Students will understand the Game theory. Modify a primal problem and obtain its solution.
	Programming In 'C'	<ol> <li>Students will learn to:-         <ol> <li>Code programs in 'C' of different types.</li> <li>Understand different type of preprocessors in 'C'.</li> </ol> </li> <li>Struct basic structure of C-program and learns how to compile and run a C-program.</li> </ol>

(डॉ. आर. के. सक्सेना) प्राचार्य श्रीसकीय इं.वि.स्नातकोत्तर महाविद्यालय कोरवा (छ.न.)

# GOVT. E.V.P.G. COLLEGE, KORBA (C.G.) (Atal Bihari Vajpayee University, Bilaspur(C.G.)) Pin Code-495677, Ph No. 07759-221458

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# Website: <a href="https://gevpgkrb.ac.in/">https://gevpgkrb.ac.in/</a> <a href="PROGRAMME OUTCOMES">PROGRAMME SPECIFIC OUTCOMES AND COURSE OUTCOMES</a>

# M.Sc. Chemistry - 4 Semesters Postgraduate programme

Programme Outcomes (PO), Programme Specific Outcomes (PSO), Course Outcomes (CO)

Class	Paper Name	Outcome
M.Sc. – I Sem.	Inorganic Chemistry	The Purpose of this paper is to give description about stereochemistry & bonding in Main group compounds; bonding, electronic & magnetic properties of transition metal complexes; symmetry, its elements and its application.
	Organic Chemistry	In this paper students learn about reaction intermediates, stereo-chemical, conformational analyses and pericyclic reactions.
	Physical Chemistry	In this paper student learn about quantum chemistry, atomic chemistry, chemical dynamics and surface chemistry.
	Spectroscopy And Mathematics/Biology For Chemists	In this paper student learn about different electromagnetic radiations and their application in structural analysis, basic mathematics and biology.
M.Sc. – II Sem.	Inorganic Chemistry	The purpose of this paper is to give detailed description of metal ligand equilibrium, reaction mechanism of transition metal complexes, boranes, carbonyl compounds, isopoly and heteropoly acids.
	Organic Chemistry	Student learns about the Mechanism of electrophilic & mucleophilic substitution reactions; free radical reactions, addition and elimination reactions.
	Physical Chemistry	The purpose of this paper is to give Knowledge about classical & statistical Thermodynamics; electrochemistry and diffraction methods.
	Spectroscopy, Diffraction Methods & Computer For Chemists	In this paper student learn about electronic spectroscopy, magnetic spectroscopy , X-ray diffraction and C programming.
M.Sc. – III Sem.	Application of Spectroscopy	In this paper student learn about various types of spectroscopy viz. UV-Vis, IR, NMR, Mass spectroscopy and its application in structure elucidation.
	Bioinorganic and Bioorganic Chemistry	In this paper student learn metal ion in biological systems; transport and storage of dioxygen; enzyme kinetics and models.
	Physical Organic Chemistry	In this paper student learn about advanced methods for determining structural properties, reactivity and conformational properties.
	Heterocyclic Chemistry	In this paper student learn about nomenclature, synthesis and properties of three, four, five and six-member heterocyclic compounds.
M.Sc. – IV Sem.	Photochemistry and Solid State Chemistry	Student learns about various photochemical reactions; bonding, structure & properties of solid state compounds.

Biophysical and Environmental Chemistry	In this paper students will learn about biological cell; biological membranes; various analytical methods for determining water quality parameters.
Medicinal Chemistry	To give knowledge about drug design; structure activity relationship; synthesis, properties and uses of some common drugs used in day to day life of living world.
Chemistry of Natural Product	Student learn about synthesis, properties, uses of terpenoids, steroids, alkaloids and plant pigments

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# PROGRAMME OUTCOMES, PROGRAMME SPECIFIC OUTCOMES AND COURSE OUTCOMES

# M.Sc. Physics - 4 Semesters Postgraduate programme

Programme Outcomes (PO), Programme Specific Outcomes (PSO), Course Outcomes

# (CO)Semester-I

# PAPER - I MATHEMATICAL PHYSICS

In this course the student will:

- 1 Learn about special type of matrices that are relevant in physics and then learn about tensors.
- 2 Get introduced to Special functions like Delta function, Dirac delta function, Bessel functions and their recurrence relations.
- 4 Learn the fundamentals and applications of Fourier series, Fourier and Laplace transforms their inverse.
- 3 Learn different ways of solving second order differential equations and familiarized with singular points and Frobenius method transforms etc.
- 5 Know the method of contour integration to evaluate definite integrals of varying complexity.
- 6 To become familiar with the method of Green's function to solve linear differential equations with inhomogeneous term.

# PAPER -II CLASSICAL MECHANICS

This paper enables the students to understand

- 1 The Lagrangian and Hamiltonian approaches in classical mechanics.
- 2 The classical background of Quantum mechanics and get familiarized with Poisson brackets and Hamilton -Jacobi equation.
- 3 Kinematics and Dynamics of rigid body in detail and ideas regarding Euler's equations of motion.
- 4 Theory of small oscillations in detail along with basis of Free vibrations.
- 5 Basic ideas about Non linear equations and chaos.

#### PAPER -III ELECTRODYNAMICS AND PLASMA PHYSICS

After successful completion of the course, the student is expected to:

- 1 Have gained a clear understanding of Maxwell's equations and electromagnetic boundary conditions.
- 2 Know that laws of reflection, refraction are outcomes of electromagnetic boundary conditions.
- 3 Have grasped the idea of electromagnetic wave propagation through wave guides and transmission lines.
- 4 Extend their understanding of special theory of relativity by including the relativistic electrodynamics.
- 5 Understand the rather complex physical phenomena observed in plasma.

#### PAPER -IV ELECTRONIC

On completion of this course the student will learn about

- 1 Field Effect Transistors, their principles and applications.
- 2 Photonic devices like LED, Laser diode, photodetectors, solar cells etc and their working in detail. 3 Basic operational amplifier characteristics, OPAMP parameters ,applications as inverter, integrator, differentiator etc.
- 4 Digital electronics baiscsusing logic gates and working of major digital devices like flip flops, CMOS, CCD etc.

5 Study the Organization and internal architecture of the Intel 8085.

#### Semester-II

# PAPER - I QUANTUM MECHANICS - I

After successful completion of this paper, the student will be well-versed in

- 1 Linear vector spaces, Hilbert space, concepts of basis and operators and bra and ket notation.
- 2 Both schrodinger and Heisenberg formulations of time development and their applications.
- 3 Theory of angular momentum and spin matrices, orbital angular momentum and Clebsh Gordan Coefficient.
- 4 Space-time symmetries and conservation laws, theory of identical particles.
- 5 Theory of scattering and calculation of scattering cross section, optical theorem, Born approximation, partial wave analysis etc.

#### PAPER -II STATISTICAL MECHANICS

The students should be able to,

- 1 Explain statistical physics and thermodynamics as logical consequences of the postulates of statistical mechanics.
- 2 Apply the principles of statistical mechanics to selected problems.
- 3 Grasp the basis of ensemble approach in statistical mechanics to a range of situations.
- 4 To learn the fundamental differences between classical and quantum statistics and learn about quantum statistical distribution laws.
- 5 Study important examples of ideal Bose systems and Fermi systems.

# PAPER -III ELECTRONICS & PHOTONICS DEVICES & OPTICAL MODULATORS

The students should be able to,

- 1 To learn the Special Bipolar Devices: Diac & Triac, SCR, UJT etc.
- 2 Explain the Unipolar Devices: JFET, MOSFET, MESFET etc.
- 3 Learn common applications of Photonic Devices.
- 4 Study the Optical modulator and display devices like luminescence, LCD etc.

# PAPER -IV COMPUTATIONAL PHYSICS & COMPUTER PROGRAMMING

The students should be able to.

1Learn about the linear and nonlinear algebraic equation and their solution.

- 2 Apply the Newton cotes formula, Gauss method in polynomial equation.
- 3 Numerical solution of ordinary differential equation.
- 4 Elementary information about the digital computer principle and FORTRAN Programs.

#### **Semester-III**

# PAPER -I QUANTUM MECHANICS - II

This course will enable the student to have basic knowledge about advanced techniques like 1 Approximation methods for time-independent problems like the WKB approximation.

- 2 The variational equation and its application to ground state of the hydrogen and Helium atom.
- 3 Perturbation theory and Interaction of an atom with the electromagnetic field.
- 4 Relativistic Quantum Mechanics using Dirac equation, Dirac matrices. The Klein Gordon equation etc.

#### PAPER -II ATOMIC & MOLECULAR SPECTROSCOPY

After successful completion of the course, the student is expected to:

- 1 Know about different atom model and will be able to differentiate different atomic systems, different coupling schemes and their interactions with magnetic and electric fields.
- 2 Have gained ability to apply the techniques of microwave and infrared spectroscopy to elucidate the structure of molecules.
- 3 Be able to apply the principle of Raman spectroscopy and its applications in the different field of science & Technology.

4 To become familiar with different resonance spectroscopic techniques and its applications.

5 To find solutions to problems related different spectroscopic systems.

# PAPER -III SOLID STATE PHYSICS - I

After successful completion of the course, the student is expected

- to 1 Have a basic knowledge of crystal systems and spatial symmetries.
- 2 Know what phonons and be able to perform estimates of their dispersive and thermal properties be able to calculate thermal and electrical properties in the free-electron model.
- 3 Know Bloch's theorem and what energy bands are and know the fundamental principles of semiconductors.
- 4 Know the fundamentals of dielectric and ferroelectric properties of materials.
- 5 Be able to explain superconductivity using BCS theory.

# PAPER -IV ELECTRONICS

The students should be able to.

- 1 To learn about the Microwave devices like, Klystron, Magnetron.
- 2 Explain the Microwave wave guide & components with their modes.
- 3 Use Microwave cavities in communication system and explain Transferred Electrons devices.
- 4 Learn about the Radar System.
- 5 Know Satellite Communication through the orbital satellite, geostationary satellite etc.

#### **Semester-IV**

# PAPER -I NUCLEAR AND PARTICLE PHYSICS

After successful completion of the course, the student is expected to

- 1 Have a basic knowledge of nuclear size, shape, bindingenergy.etc and also the characteristics of nuclear force in detail.
- 2 Be able to gain knowledge about various nuclear models and potentials associated.
- 3 Acquire knowledge about nuclear decay processes and their outcomes. Have a wide understanding regarding beta and gamma decay.
- 4 Grasp knowledge about Nuclear reactions, Fission and Fusion and their characteristics.
- 5 Understand the basic forces in nature and classification of particles and study in detail conservations laws and quark models in detail.

#### PAPER -II LASER PHYSICS AND APPLICATIONS

After successful completion of the course, the student is expected to

- 1 Have a basic knowledge of laser physics and their working process.
- 2 Learn about the many types of laser system such as solid state laser, gas laser, etc.
- 3 Study advanced in laser physics like giant pulse dynamic harmonic generation, optical mixing etc.
- 4 Explain the multi-photon processes.
- 5 Be able to gain knowledge about various application of laser.

#### PAPER -III SOLID STATE PHYSICS- II

This paper enables the students to understand

- 1 Grape knowledge about Plasmon's, Polaritons.
- 2 Study the dielectric and ferroelectrics materials.
- 3 Learn about the advance in magnetism theory.
- 4 Have a gain the knowledge about the ferromagnetism and anti ferromagnetism.
- 5 Explain the optical processes and excitons and defects in crystal structure.

#### PAPER - IV ELECTRONICS

The students should be able to.

- 1 Be able to gain knowledge about the digital communication.
- 2 Explain the digital modulation techniques.

<ul><li>3 Study the Noise in Digital communication.</li><li>4 Learn about data transmission through PSK, FSK etc.</li></ul>	
5 Understand the basic knowledge of PCM Transmission.	
	6
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# PROGRAMME OUTCOMES, PROGRAMME SPECIFIC OUTCOMES AND COURSE OUTCOMES

M.A. Hindi - 4 Semesters Postgraduate programme

Programme Outcomes (PO), Programme Specific Outcomes (PSO), Course Outcomes (CO)

# ,e- ,- fgUnh & izFke IsesLVj

izFke iz'u i= & fgUnh lkfgR; dk

# bfrgkl

bfrgkl ,sfrgkfld ?kVukvkas vkSj o`rkUrks a dk ys[kk&tks[kk gh ugha izLrqr djrk] bfrgkl dk fuekZ.k Hkh djrk gSA bfrgkl ds Lo:i dks le>uk ljy dk;Z ugha gSA bfrgkl ls euq'; dk lac/ak iqjkuk gSA gekjk laLdkj] gekjk O;ogkj gekjh laLd`fr] gekjh uhfr vrhr ls vuq"kkflr ,d vuojr /kkjk gSA vrhr ds ifjizs{; eas orZeku dks le> ldrs gSA vr% fo|kfFkZ;kas ds fy, ;g lokZf/kd mi;ksxh ikB~;dze gSA

# f}rh; iz'u i= & izkphu dkO;

fgUnh ds vkfndkyhu dkO; viuh i`'V Hkwfe esa viHkz"k ds vonku dks iwjh rjg lesVs gq, gSA izca/k eqDrd vkfn dkO; #iksa esa jfpr vkSj viHkz"k ] vogV~V ,oa ns"kh Hkk'kk esa vfHkO;aftr vkfndkyhu lkfgR; dh ijorhZ dkyks dks izHkkfor djus esa lfdz;k ,oa la{ke Hkwfedk jgh gSA blds v/;;u ds fcuk fdlh Hkh dky dk okLrfod ewY;kadu laHko ugh gSA vr% ;g yksd tkxj.k vkSj yksd eaxy dk uohu Loj rFkk HkkoRed ,drk vkSj lkaLd`frd ijaijk dks le>us ds fy, mi;ksxh ikB~;dze gSA

# r'rh; iz'u i=& vk/kqfud x| lkfgR; ¼miU;kl] fuca/k ,o a dgkuh½

Nk=&Nk=kvksa eas ukVd ,oa ,dkadh ds jlkLokn dh n`f'V fodflr gqbZA bues a fgUnh ukVd dk Lo:i] rRo vkfn ekunaMks ds vk/kkj ij leh{kk dh {kerk fufeZr gqbZA mueas fgUnh ds izfrfuf/k miU;kl] fuca/k] dgkuhdkjkas dk ifjp; izklr gqvkA mudh dgkfu;ks a ,o a ukVdks a eas fufgr rRoks a ls voxr gq,A vPNkb;ks a ,o a cqjkb;kas dks le>us dh mueas psruk tkxr` gksxhA

# prqFkZ iz'u i= & Hkk"kk & foKku

fo|kfFkZ;kas dks Hkk'kk foKku ds ek/;e ls fgUnh Hkk'kk ds O;ofLFkr vkjS ;Fkksfpr iz;ksx dk Kku izklr djkukA Nk=kvkas eas Hkk'kk foKku ds oSKkfud v/;;u dh n`f'V ls fo"o eas QSyh fofHkUu Hkk'kkvkas dk rqyukRed] ,sfrgkfld dkydzekuqlkj v/;;u djkuk mn~ns"; gSA ftlls fo|kfFkZ;kas dks fofo/k :ikas dk Kku izklr gks ldsA fo|kfFkZ;ksa dks Hkk'kk ds Lo:i ifjHkk'kk vkSj fo"sk'krkvkas dh tkudkjh izklr djkuk bldk mn~ns"; gSA

,e- ,- fgUnh & f}rh; IsesLVj

izFke iz'u i= & fgUnh lfgR; dk bfrgkl ¼vk/kgfud dky½

fgUnh Hkk'kk ds bfrgkl vkSj mlds fofo/k #iksa dk Kku gksrk gSA fgUnh dk Hkk'kk dh fLFkfr foLrkj vkSj mls Hkk'kk;h i+{k ls fo|kFkhZ ifjfpr gksrs gSA Hkkjr dh izfrfuf/k Hkk'kk ds #i esa fgUnh ds nkf;Ro dks le>k tk ldrk gSA Hkk'kk foKku dh n`f'V ls Hkfo'; esa gksus okys fodkl vkSj ifjorZu dk vuqeku yxk;k tk ldrk gSA

# f}rh; iz'u i=& e/;dkyhu dkO;

fo|kfFkZ;kas dks e/;;qx ds dfo;ks a ds ;ksxnku dk ifjp; izklr gqvkA fo|kfFkZ;kas eas lkfgfR;d d`fr;kas ds f"kYi ,o a lkSUn;Z dks ns[kus dh n`f'V fodflr gksrh gSA bueas lar ,oa HkDrkas ds dkO; lkSUn;Z dh tkudkjh izklr gksrh gS Nk=kvkas dks fgUnh lkfgR; ds izfrfuf/k jpukdkjks a dk egRo izns;] izHkko vkfn dk Kku izklr gksxkA

# r'rh; iz'u i= & vk/kqfud x| lkfgR;

vk/kqfud dkO; x| dh fo/kkvkas ij vkfJr gS ;g ekuo ds eu vkSj efLr'd eas vusd iz;kts ukas dks izLrqr djrk gSA mUgh a Hkkoukvkas ds vk/kkj ij dkO; dk l'tu gksrk gSA bleas fpUru] euu vkSj jkxkRedrk dk izLrqrhdj.k dkS"kyiw.kZ <ax ls gksrk gSA izkd'frd ifjos"k eas dkO; oSHko dk Hkko ,o a dyk i{k bles a x| lkfgR; dh fofo/k fo/kkvkas eas vR;Ur fo"kky cu x;k gSA gekjh lkaLd'frd prs uk dks blus vR;Ur izHkkfor fd;k gSA lkfgR; ds fo|kFkhZ blls ykHkkfUor gksrs gSA

# prqFkZ iz'u i= & fgUnh Hkk"kk

yksd ekul Hkk'kk dk O;ogkj viuh t:jrkas ds eqrkfcd djrk gSA lafo/kku eas fgUnh Hkk'kk dks jktHkk'kk dk ntkZ fn;k x;k gSA dkbs Z Hkh Hkk'kk turk ds ftruss djhc gksrh gS] mueas tuHkk'kk cuus dh mruh gh lkeF;Z gksrh gSA Hkk'kk dk fodkl turk dh jk'Vah; Hkkouk ds fodkl dk irzhd gSA vr% ;g ikB~;dze fo|kfFkZ;kas ds fodkl eas cgqr mi;ksxh gksxkA

# ,e- ,- fgUnh & r`rh; IsesLVj

# izFke iz'u i= &Hkkjrh; dkO; 'kkL=

dkO; "kkL= ds v/;;u ls lkfgR; ds eeZ vkSj eqY; dh le> fodlhr gksrh gSA lkekftd lkaLd`frd ifjos"k ds lkFk jpuk dk Kku izklr djus ds fy, Hkkjrh; dkO; "kkL= dk v/;;u vko";d gSA blesa u dsoy fgUnh cfYd laLd`r ds Hkh dkO;ks dk v/;;u djk;k tkrk gSA ftlls fo|kFkhZ vius dkO; ds izfr Kku dks le> vkSj ij[k ldsaA

# f}rh; iz'u i= & vk/kqfud dkO;

lkfgR; ,d lkekftd laLFkk gS blfy, lekt es a ifjorZu dk vFkZ gS lkfgR; ds Lo:i vkjS n`f'Vdks.k eas ifjorZuA dsoy fgUnh dfork ij /;ku ns arks mlea s ohjxkFkk dky] HkfDrdky] jhfrdky] Hkkjrsna q ;qx] f}osnh ;qx] Nk;kokn] izxfrokn] ubZ dfork ,o a ledkyhu dfork tSlh fofo/k & dkO; n`f'V;kWa ifjyf{kr gksrh gSA thoukuqHkfwr;kW a vkSj mu ij iM+us okys rRdkfyd nckoks a dks dkjxj <ax ls O;Dr djus ds fy, dfork vko`;d gSA vr% ;g ikB~;dze fo|kfFkZ;kas ds fy, mi;kxh gSA

# r`rh; iz'u i= & iz;kstuewyd fgUnh

Hkk"kk thou dh vfuok; Z lkekftd oLrq vkSj O; ogkfjd psruk gSA ftlds nks eq[; vk;ke gS & lkSUn; Z ijd vkSj iz;kstu ijdA Hkk'kk ds iz;kstu ijd vk;ke dk laca/k gekjh lkekftd vko"; drkvksa vkSj O; ogkfjd thou ls gSA blds fofo/k vk;keks ls u dsoy jkstxkj ;k thfodk dh leL;k gy gksxh vfirq jk'Vz Hkk'kk dk laLdkj Hkh n'< gksxkA

# prqFkZ iz'u i= & Hkkjrh; lkfgR;

Hkkjr esa vusd Hkk"kk,W vkSj lkfgR; gSA izR;sd lkfgR; esa ekuo dY;k.k ds fopkj fo|eku gSA vusdrk esa ,drk ds bl jk'Vz esa lHkh Hkk'kkvksa ds lkfgR; dh tkudkjh ls fo|kfFkZ;ksa dks Hkkjrh; dh >yd feyrh gSA Hkk'kk vkSj lkfgR; ds izfr leHkko mRiUu djus ds fy, Hkkjrh; lkfgR; dk v/;;u v/;kiu gksrk gSA

# ,e- ,- fgUnh & prqFkZ lsesLVj

# izFke iz'u i= & ik'pkR; dkO; 'kkL=

Hkkjrh; dkO; "kkL= ds lkFk ik"pkR; dkO; "kkL= dk Kku gksuk lkfgR; ds fo|kfFkZ;ks ds fy, vko";d gSA orZeku esa lkfgR; jpuk ds ekun.M lkoZnf"kZd o lkoZ Hkksfed gks pqds gSA vr% ik"pkR; dkO; "kkL= dk rqyukRed vk/;;u vko";d gSA

# f}rh; iz'u i= & Nk;koknksRrj dkO;

fgUnh lkfgR; ds bfrgkl esa Nk;ksoknksRrj dkO; dk i`Fkd egRo gSA ;g fgUnh lkfgR; ds bfrgkl ] io`fRr vkSj lkfgfR;d vfHk#fp;ksa dks crkus okyk ,d iMko Hkh gSA Nk;koknksRrj dkO; ds fnEn"kZu ls gh Nk= lkfgR; dh xfr fLFkfr vkSj io`fRr ls ifjfpr gksrs gSA

# r`rh; iz'u i= & i=dkfjrk izf'k{k.k

iz;kstuewyd fgUnh dk egRoiw.kZ i{k i=dkfjrk gSA i=dkfjrk fgUnh ds O;kogkfjd ,oa dkS"ky i{k dks mtkxj djrk gSA i=dkfjrk izf"k{k.k esa fo|kfFkZ;ksa Hkk'kk dkS"ky vkSj ys[ku {kerk dh vfHko`f) gksrh gSA i=dkfjrk izf"k{k.k ikB~;dze ls fgUnh dh jkstxkjijdrk Lor% fl) gksrh gSa A

# prqFkZ iz'u i= & yksd lkfgR; NRrhlx<+h Hkk"kk dk lkfgR;</pre>

tuinh; Hkk'kk ,oa lkfgR; ds ek/;e ls Nk=kvkas dks NRrhlx-+ dh xkSjoxkFkk] ,fsrgkfldrk] ikjSf.kdrk dk Kku djkuk gSA NRrhlx-=h lkfgR; dh lkekftd] /kkfedZ ] lkaLd`frd xfrfof/k;kas dk thoar nLrkost gSA tuinh; Hkk'kk lkfgR; ds ek/;e ls NRrhlx-+h Hkk'kk dh fodkl ;k=k dk foLr`r Kku djkrk gSA fo|kFkhZ NRrhlx-+h lkfgR; ,oa lkfgR;dkjks a dk v/;;u dj ;gkWa dh jhfr&fjokt] jgu&lgu] [kku&iku] laLd`fr dk Kku izklr djkrk gSA

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# PROGRAMME OUTCOMES, PROGRAMME SPECIFIC OUTCOMES AND **COURSE OUTCOMES**

# PGDCA -Postgraduate diploma programme

Programme Outcomes (PO), Programme Specific Outcomes (PSO), Course Outcomes (CO)

#### **Course Outcomes of PGDCA**

Semester	PAPER CODE	PAPER NAME	PAPER OUTCOMES
I	PGDCA 101	Introduction to Software Organization	<ul> <li>Describe basic organization of computer and the architecture of Pentium processor.</li> <li>Demonstrate control unit of operation.</li> <li>Categorize memory organization and explain the function of each element of a memory hierarchy.</li> <li>Understanding of network, types and topology.</li> <li>Understanding to internet, media and protocols.</li> </ul>

I	PGDCA 102	Programming in "C"	<ul> <li>Illustrate the flowchart and design an algorithm for a given problem and to develop C program.</li> <li>Develop conditional and iterative statements to write C programs.</li> <li>Design user define functions to solve real time problem</li> <li>Using Pointers user write programs to access Arrays, Strings and Functions.</li> <li>Exercise user define data types including structures and unions to solve a problems.</li> </ul>
I	PGDCA 103	Office Automation and Tally	<ul> <li>To perform documentation using MS-Word.</li> <li>To perform arithmetic and logical operations using MS Excel.</li> <li>To perform presentation skills using MS-Power Point.</li> <li>Design a database with lookup tables Using MSAccess.</li> <li>To perform accounting operation using Tally.</li> </ul>
I	PGDCA 104	PGDCA - 104:Practical based on PGDCA -103	<ul> <li>To perform documentation using MSWord.</li> <li>To perform arithmetic and logical operations using MS excel.</li> <li>To perform presentation skills using MS-Power Point.</li> <li>To perform accounting operation using Tally.</li> </ul>
II	PGDCA 109	PGDCA-109: Practical Based or PGDCA106,107,10	database by formulating complex
II	PGDCA 110	PGDCA-110: Project	<ul> <li>Identify the requirements of the real world problems.</li> <li>Conduct a survey.</li> <li>Design the problem solution as per the requirement analysis done.</li> <li>Demonstrate and build the project successfully by coding and testing.</li> </ul>



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PROGRAMME OUTCOMES, PROGRAMME SPECIFIC OUTCOMES AND

COURSE OUTCOMES

M.A. Political Science - 4 Semesters Postgraduate programme

**Programme Outcomes (PO)** 

- **PO1.** Students would be able to think critically on political issues and its national & global implications.
- **PO2.** Students would be able to shoulder socio-political responsibilities in its true form and hence develop into a better citizen.
- **PO3**. Students would be able to perceive political issues both objectively and subjectively.
- **PO4.** Students would be able to develop better socio-political awareness and interaction skills for greater exchange of political thoughts and socio-political ideas.
- **PO5.** The students will be able to think critically and take informed decisions after identifying the accuracy and validity of their assumptions and ideas from intellectual, organizational, and personal perspectives.

- **PO6.** The students will be able to communicate effectively throughspeaking, reading, writing and listening clearly in one Indian language and thereby express themselves to the world by connecting with different ideas, books, people, media and technology.
- **PO7.** The students will be able to interact socially and stimulate views, reconcile disagreements and help reach consensual conclusions.
- **PO8.** The students will be able to demonstrate compassionate social concern and act with a cognizant awareness of issues to contribute in civic life by volunteering impartially towards national development and thereby deliver effective citizenship.
- **PO9.** The students will be able to ethically recognize different value systems, understand the moral dimensions of individual decisions and accept responsibility for them.
- **PO10.** The students will be able to recognize the issues of environmental perspectives and appreciate sustainable development for long term environmental sustainability.
- **PO11.** The students will be able to engage themselves in life-long self-determining and learning in the comprehensive background of socio-technological changes for continued self-directed and life-long learning.

# **Programme Specific Outcomes (PSO)**

- **PSO1.**The students after the completion of this programme will be able to proactively contemplate and comprehend Western Political Thought.
- **PSO2**. The students after the completion of this programme will be able to proactively contemplate and comprehend Comparative Politics.
- **PSO3.**The students after the completion of this programme will be able to proactively contemplate and comprehend and critically gauge Public Administration.
- **PSO4.**The students after the completion of this programme will be able to deeply contemplate and comprehend Principles of International Politics.
- **PSO5**. The students after the completion of this programme will be able to critically contemplate and comprehend Morden Indian Political Thought.
- **PSO7**. The students after the completion of this programme will be able to proactively contemplate and comprehend and apply the principles of Research Methodology in political issues
- **PSO8.**The students after the completion of this programme will be able to proactively contemplate and comprehend International Organization.
- **PSO9**. The students after the completion of this programme will be able to proactively and critically contemplate and comprehend and perform a participatory role in Government and Politics of India.
- **PSO10.** The students after the completion of this programme will be able to critically contemplate and comprehend Indian Foreign Policy.
- **PSO11**. The students after the completion of this programme will be able to critically contemplate and comprehend Contemporary of International Law.
- **PSO12.**The students after the completion of this programme will be able to proactively contemplate and comprehend Indian Fedral system.
- **PSO13.**The students after the completion of this programme will be able to proactively contemplate and comprehend and actively participate in State Politics in India.

**PSO14**. The students after the completion of this programme will be able to critically contemplate and comprehend diplomacy in differents countries.

**PSO15.**The students after the completion of this programme will be able to critically and proactively contemplate and comprehend human rights problems and prospects.

**PSO16.**The students after the completion of this programme will be able to critically and proactively contemplate and comprehend identify Features, Funcations, Importance and Merits-Demerits of Local Self Governments.

# **Course Outcomes (CO)**

# **Course 1: Western Political Thought**

**CO1.**The students will be able to critically understand the dominant feature of ancient western political thought.

**CO2.**The students will be able to critically assess features of medieval political thought.

# **Course 2: Comparative Politics**

**CO1.**The students will be able to critically judge the useful information about the probable consequences of different political order.

**CO2.**The students will be able to critically assess the constitutions or party systems of different countries and voluntary participate to bring positive changes in Indian political atmosphere.

# **Course 03: Public Administration**

**CO1.** The students will be able to critically ascertain the concept of administration in India.

**CO2**. The students will be able to critically compare traditional approach and new approaches.

**CO3.**The students will be able to critically examine the structure and operation of public organizations.

#### **Course 04: Principles of International Politics**

**CO1.**The students will be able to critically assess the evolution of International politics.

**CO2**. The students will be able to critically contemplate the theories of International politics.

**CO3**. The students will be able to critically examine the nature and developments in International politics.

# **Course 5: Morden Indian Political Thought**

**CO1.**The students will be able to critically contemplate and comprehend on Indian Political thought and philosophical thinkers.

**CO2.**The students will be able to critically contemplate and comprehend about the new thinkers like Nehru, DeendayalUpadhyay, Aurbindo, etc.

# **Course 6: Contemporary Issue of International Politics**

**CO1**. The students will be able to critically ascertain and comprehend the fundamental theories and themes of contemporary International politics.

**CO2.**The students will be able to critically think, analyze information, and express their ideas clearly in the practice of International politics.

# **Course 7: Research Methodology**

**CO1.**The students will be able to critically ascertain and apply various research methods used in social science by drawing upon a range of theoretical and empirical research in survey studies of political **science.** 

**CO2.**The students will be able to critically examine the theoretical aspects comprising an exploration of various theories, concepts and term that are part of the research methodologyin survey studies of political science.

# **Course 8: International Organization**

**CO1**. The students will be able to critically decide upon the scope and subject matter of International relation.

**CO2**. The students will be able to critically assess the basic concepts like Globalization in contemporary world order.

#### **Course 9: Indian Government and Politics**

**CO1.**The students will be able to critically explain the politics, governance and authority of India.

**CO2.**The students will be able to critically assess the information about racism, regionalism, communalism, criminalization and corruption and be refrained from such politics and politicians.

# **Course 10: Indian Foreign Policy**

**CO1.**The students will be able to critically ascertain the increasing India's influence in the international platform.

**CO2.**The students will be able to critically assess India's foreign policy and India's engagement with the rest of the world.

**CO3.**The students will be able to critically examine India's foreign relations with her neighbors.

# **Course 11: International Law**

**CO1.**The students will be able to critically ascertain the importance of International Law and Limitation and possibility of international Law.

**CO2.** The students will be able to critically examine the Impact of International Law.

# **Course 12: Fedral System In India**

**CO1**. The students will be able to critically examine the Fedral System In India and Thought of Constitution Makers.

**CO2.**The students will be able to critically analyze the Regional Parties and Their effectes on Indian Federalism emerging triends in indian fedralism.

# course 13:State politics in India

**CO1**. The students will be able to perform the critical comprehension, review and assessment of various concepts like Legislative Assembaly, Legislative Council ,Power and Funcation of State Legislative.

**CO2.**The students will be able to critically contemplate, assess and review of Arguments in Favour and agaist of State Autonomy.

# **Course14: Deplomacy Theory and Practice**

**CO1.**The students will be able to critically ascertain the importance of Great diplomats and Their Working.

**CO2.** The students will be able to critically examine the Forms of diplomacy in differents countries.

# **Course 15: Human Rights: Problems and Prospects**

**CO1**.The programme provides the student with the capacity to identify issues and problems relating to the realisation of human rights, and strengthens the ability to contribute to the resolution of human rights issues and problems.

**CO2.**The programme enables students to take an analytic and critical stance and deal with questions of how human rights affect social and political processes.

# Course 16: Local Self Government in India

**CO1**. The programme provides the student identify Features, Funcations, Importance and Merits-Demerits of Local Self Governments.

**CO2.** The students will be able to critically ascertain and comprehend the main determining factors and features of Local and self government.

(डॉ. आर. के. सक्सेना) प्राचार्य (डॉ.सम्मिय इं.वि.स्नातकोत्तर महाविद्यालय कोरवा (छ.न.)

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PROGRAMME OUTCOMES, PROGRAMME SPECIFIC OUTCOMES AND

COURSE OUTCOMES

# B.Sc. (Bio Group) - 3 years Undergraduate programme

# Programme Outcomes (PO)

**PO1.** The undergraduate programme in Zoology / Botany / Microbiology/Biotechnology is aimed at providing the students necessary inputs so as to set forth the task of bringing about new and innovative ideas/concepts so that the formulated model curricula in Zoology / Botany / Microbiology/ Biotechnology becomes in tune with the changing scenario and incorporate new and rapid advancements and multi-disciplinary skills, societal relevance, global interface, self-sustaining and supportive learning.

**PO2.**The undergraduate programme in Zoology / Botany / Microbiology/ Biotechnology besides teaching the basic concepts of Zoology / Botany / Microbiology / Biotechnology should in addition have broader vision for students so that the students therefore be exposed to societal interface of Zoology / Botany / Microbiology/ Biotechnology and the role of Zoology / Botany / Microbiology/ Biotechnology in the development of biological sciences.

- **PO3.** The students will be able to think critically and take informed decisions after identifying the accuracy and validity of their assumptions and ideas from intellectual, organizational, and personal perspectives.
- **PO4.** The students will be able to communicate effectively throughspeaking, reading, writing and listening clearly in one Indian language and thereby express themselves to the world by connecting with different ideas, books, people, media and technology.
- **PO5.** The students will be able to interact socially and stimulate views, reconcile disagreements and help reach consensual conclusions.
- **PO6.** The students will be able to demonstrate compassionate social concern and act with cognizant awareness of issues to contribute in civic life by volunteering impartially towards national development and thereby deliver effective citizenship.
- **P07.** The students will be able to ethically recognize different value systems, understand the moral dimensions of individual decisions and accept responsibility for them.
- **PO8.** The students will be able to recognize the issues of environmental perspectives and appreciate sustainable development for long term environmental sustainability.
- **PO9.** The students will be able to inhance their scientific view and engage themselves in life-long self-determining and learning in the comprehensive background of socio-technological changes for continued self-directed and life-long learning.

# **Programme Specific Outcomes (PSO)**

- **PSO1.** The students after the completion of this programme will be able to understand and apply the knowledge of life science .
- **PSO2.** The students after the completion of this programme will be able to understand and apply the knowledge of Vertebrates & Embryology.
- **PSO3.**The students after the completion of this programme will be able to understand and apply the knowledge of Anatomy & Physiology.
- **PSO4.** The students after the completion of this programme will be able to understand and apply the knowledge of Vertebrate Endocrinology, Reproductive Biology Behavior, Evolution and Applied Zoology.
- **PSO5.** The students after the completion of this programme will be able to understand and apply the knowledge of Ecology, Environmental biology; Toxicology; Microbiology and Medical Zoology.
- **PSO6.** The students after the completion of this programme will be able to understand and apply the knowledge of Genetics, Cell Physiology, Biochemistry, Biotechnology and Bio-techniques.
- **PSO7.** The students after the completion of this programme will be able to understand and apply the knowledge of General Diversity of Microbes and Cryptogams and Phenerogames.
- **PSO8.** The students after the completion of this programme will be able to understand and apply the knowledge of Cell Biology and Genetics.
- **PSO9.** The students after the completion of this programme will be able to understand and apply the knowledge of Diversity of Seeded Plants and their Systematics.
- **PSO10.** The students after the completion of this programme will be able to understand and apply the knowledge of Structure Development and Reproduction in Flowering Plants.

- **PSO11.** The students after the completion of this programme will be able to understand and apply the knowledge of Plant Physiology, Biochemistry and Biotechnology.
- **PSO12.** The students after the completion of this programme will be able to understand and apply the knowledge of Ecology and Utilization of Plants.
- **PSO13.** The students after the completion of this programme will be able to understand and apply the knowledge of General Microbiology.
- **PSO14.** The students after the completion of this programme will be able to understand and apply the fundamentals of Biochemistry and Immunology.
- **PSO15.** The students after the completion of this programme will be able to understand and apply the fundamentals of Microbial Physiology and Genetics.
- **PSO16.** The students after the completion of this programme will be able to understand and apply the fundamentals of Principles of Bioinstrumentation and Techniques.
- **PSO17.** The students after the completion of this programme will be able to understand and apply the fundamentals of Molecular Biology and Genetic Engineering.
- **PSO18.** The students after the completion of this programme will be able to understand and apply the fundamentals of Environmental and Medical Microbiology.

# **Course Outcomes (CO)**

# **Course 1: Cell Biology & Invertebrates**

- **CO1.** The students after the completion of this course will be able to describe Prokaryotic & Eukaryotic Cells.
- **CO2.**The students after the completion of this course will be able to describe Cell divisions (Mitosis & Meiosis).
- **CO3.** The students after the completion of this course will be able to describe general characteristics &classification of invertebrates.
- **CO4.** The students after the completion of this course will be able to describe Helminthes & Annelida.
- **CO5.** The students after the completion of this course will be able to describe Mollusca, Protochordata.

#### **Course 2: Vertebrates & Embryology**

Mammals.

- **CO1.** The students after the completion of this course will be able to describe the origin and classification of Chordates.
- **CO2.** The students after the completion of this course will be able to describe Fishes, Amphibia &
- Reptilia. CO3. The students after the completion of this course will be able to describe Aves &
- **CO4.** The students after the completion of this course will be able to describe Gametogenesis, Fertilization &Parthenogenesis, and Development of frog upto formation of three germ layers.
- **CO5.**The students after the completion of this course will be able to describe development of Chick upto formation of three germ layers, Extra embryonic membranes, Placenta in mammals.

# Course 3: Anatomy & Physiology

- **CO1.** The students after the completion of this course will be able to describe anatomy of various organ systems of vertebrates Integument and its derivatives, structure of scales, hair and feathers; Alimentary canal and digestive glands in vertebrates; Respiratory Organs, Gills and lungs; Air-Sac in birds.
- **CO2.** The students after the completion of this course will be able to describe endoskeleton-limbs, girdles and vertebrae; Circulatory System Evolution of heart and aortic arches; Urogenital System Kidney and excretory ducts.
- **CO3.**The students after the completion of this course will be able to describe nervous system general plan of brain and spinal cord; Endocrine glands classification and histology; Gonads and genital ducts.
- **CO4.** The students after the completion of this course will be able to describe digestion and absorption of dietary components; physiology of heart, cardiac cycle and ECG; blood coagulation; respirationmechanism and control of breathing.
- **CO5.** The students after the completion of this course will be able to describe physiology of excretion, osmoregulation; physiology of muscle contraction; physiology of nerve impulse; synaptic transmission; ear and eye structure and function.

# Course 4: Vertebrate Endocrinology, Reproductive Biology Behaviour, Evolution and Applied Zoology

- **CO1.** The students after the completion of this course will be able to describe general characters of hormones, hormone receptors, biosynthesis and secretion of thyroid, adrenal, ovarian and testicular hormones, endocrine disorder due to hormones and other glands.
- **CO2.** The students after the completion of this course will be able to describe reproductive cycle in vertebrates, menstruation, lactation and pregnancy, mechanism of parturition, hormonal regulation of gameto genesis, extra embryonic membrane.
- **CO3.** The students after the completion of this course will be able to describe evidences of organic evolution, theories of organic evolution, variation, mutation, isolation and natural selection, evolution of horse.
- **CO4.** The students after the completion of this course will be able to describe ethnology, patterns of behavior taxes, reflexes, drives and stereotyped behavior, reproductive behavioral patterns, hormones, drugs and behavior.
- **CO5.**The students after the completion of this course will be able to describe aquaculture, sericulture, apiculture, pisciculture, poultry keeping, elements of pest control chemical control &biological control.

# Course 5: Ecology, Environmental biology; Toxicology; Microbiology and Medical Zoology

- **CO1.** The students after the completion of this course will be able to describe aims and scopes of ecology, major ecosystems of the world, population- characteristics and regulation of densities, communities and ecosystems, biogeochemical cycles, air and water pollution, ecological succession.
- **CO2.** The students after the completion of this course will be able to describe environmental biology, laws of limiting factors, food chain in a freshwater ecosystem, energy flow in ecosystem-trophic levels, conservation of natural resources, environmental impact assessment.

- **CO3.** The students after the completion of this course will be able to describe toxicology, definition of toxicity, classification of toxicants, principle of systematic toxicology, toxic agents and their action-metallic and inorganic agents, animal poisons snake-venom, scorpion and bee poisoning, food poisoning.
- **CO4.** The students after the completion of this course will be able to describe microbiology, general and applied microbiology, microbiology of domestic water and sewage, microbiology of milk and milk products, industrial microbiology.
- **CO5.** The students after the completion of this course will be able to describe medical microbiology, brief introduction to pathogenic micro-organisms, rickettsia, spirochaetes and bacteria, brief account of lifehistory and pathogenicity of the following pathogens with reference to man; prophylaxis and treatment pathogenic protozoans entamoeba, trypanosoma, and giardia, pathogenic helminths—schistosoma, nematode pathogenic parasites of man, vector insects.

# Course 6: Genetics, Cell Physiology, Biochemistry, Biotechnology and Bio-techniques

- **CO1.** The students after the completion of this course will be able to describe genetics, linkage and linkage maps, varieties of gene expression multiple alleles; lithogenesis; pleiotropic genes; gene interaction; epistasis, sex-chromosome systems, and sex-linkage, mutation and chromosomal alterations; meiotic consequences, human genetics chromosomal and single gene disorders (somatic cell genetics).
- **CO2.** The students after the completion of this course will be able to describe cell physiology, general idea about pH and buffer, transport across membrane cell membrane; mitochondria and endoplasmic reticulum, active transport and its mechanism; active transport in mitochondria and endoplasmic reticulum, hydrolytic enzymes their chemical nature, activation and specificity.
- **CO3.** The students after the completion of this course will be able to describe biochemistry, amino acids and peptides basic structure and biological function, carbohydrate and its metabolism glycogenesis; gluconeogenesis; glycolysis, glycogenolysis; Kreb's cycle, lipid metabolism oxidation of glycerol; oxidation of fatty acid, protein metabolism deamination, transamination, transmethylation; biosynthesis of protein.
- **CO4.** The students after the completion of this course will be able to describe biotechnology scope and importance, recombinant DNA and gene cloning, cloned genes and other tools of biotechnology, applications of biotechnology in pharmaceutical industry, and food processing industry.
- **CO5.** The students after the completion of this course will be able to describe biotechniques principles and techniques of pH meter, colorimeter, microscopy-light microscopes, phase contrast and electron microscopes, centrifugation, separation of biomolecules by chromatography and electrophoresis, biochemical methods for determination of protein, lipids, and carbohydrates.

# Course 7: General Diversity of Microbes and Cryptogams

- **CO1.** The students after the completion of this course will be able to describe Viruses and Bacteria: General account of viruses and mycoplasma; bacteria structure; nutrition, reproduction and economic importance; general account of cyanobacteria.
- **CO2.** The students after the completion of this course will be able to describe Algae: General characters, classification and economic importance; important features and life history of Chlorophyceae-Volvox, Oedogonim, Coleochaete; Xanthophyceae- Vaucheria; Phaeophyceae-Ectocarpus, Sargassum; Rhodophyceae- Polysiphonia.
- **CO3.** The students after the completion of this course will be able to describe Fungi: General characters, classification and economic importance; important features and life history of Mastigomycotina- Pythium, Phytophthora; Zygomycotina- Mucor, Ascomycotina-Saccharomyces,

Eurotium, Chaetomium, Peziza; Basidiomycotina- Puccinia, Agaricus; Deuteromycotina-Cercospora, Colletotrichum; general account of Lichens.

- **CO4.** The students after the completion of this course will be able to describe Bryophyta: Amphibians of plant kingdom displaying alternation of generations; structure, reproduction and classification of Hepaticopsida (e.g. Riccia Marchantia); Anthocerotopsida (e.g. Anthoceros), Bryopsida (e.g. Funaria)
- **CO5.** The students after the completion of this course will be able to describe Pteridophyta: The first vascular plants; important characteristics of Psilopsida, Lycopsida, Sphenopsida and Pteropsida; structure, Reproduction in Rhynia, LycopodiumSelaginella, Equisetum, Pteris and Marsilea.

# **Course 8 : Diversity of Seed Plants and their Systematic**

- **CO1.** The students after the completion of this course will be able to describe characteristics of seed plants; evolution of the seed habit; seed plants with (angiosperms) and without (gymnosperms) fruits; fossil and living seed plants, general features of gymnosperms and their classification; evolution and diversity of gymnosperms; geological time scale, fossilization and fossil gymnosperms.
- **CO2.** The students after the completion of this course will be able to describe morphology of vegetative and reproductive parts; anatomy of roots, stem and leaf, reproduction and life cycle of Pinus, Cycas and Ephedra.
- **CO3.** The students after the completion of this course will be able to describe angiosperms: origin and evolution, some examples of primitive angiosperms, angiosperms taxonomy: brief history, aims and fundamental components; identification, keys taxonomic literature, botanical nomenclature: principles and rules; taxonomic ranks; type concept; principle of priority.
- **CO4.** The students after the completion of this course will be able to describe classification of angiosperms; salient features of the systems proposed by Bentham and Hooker and Engler and Prantl, major contributions of cytology, phytochemistry and taximetrics to taxonomy.
- **CO5.** The students after the completion of this course will be able to describe diversity of flowering plants: general account of the families- Ranunculaceae, Brassicaceae, Malvaceae, Rutaceae, Fabaceae, Apiaceae, Acanthaceae, Apocynaceae, Asclepiadaceae, Solanaceae, Lamiaceae, Chenopodiaceae, Euphorbiaceae, Liliaceae and Poaceae.

# Course 10: Structure Development and Reproduction in Flowering Plants

- **CO1.** The students after the completion of this course will be able to describe the basic body plan of a flowering plant: modular type of growth, diversity in plant form in annuals, biennials and perennials; convergence of evolution of tree habit in gymnosperms, monocotyledons and dicotyledons; treeslargest and longest-lived organisms.
- **CO2.** The students after the completion of this course will be able to describe the shoot system: the shoot apical meristem and its histological organization; vascularization of primary shoot in monocotyledons and dicotyledons; formation of internodes, branching pattern; monopodial and sympodial growth canopy architecture; cambium and its functions; formation of secondary xylem, a general account of wood structure in relation to conduction of water and minerals; characteristics of growth rings, sapwood and heart wood; role of woody skeleton; secondary phloem structure, function, relationships, periderm.
- **CO3.** The students after the completion of this course will be able to describe leaf: origin, development, arrangement and diversity in size and shape; internal structure in relation to photosynthesis and water loss; adaptations to water stress; senescence and abscission, the root system: the root apical meristem; differentiation of primary and secondary tissues and their roles; structural modification for storage, respiration, reproduction and for interaction with microbes.

- **CO4.** The students after the completion of this course will be able to describe flower: a modified shoot; structure, development and varieties of flower, functions, structure of anther and pistil, the male and female gametophytes; types of pollination; attractions and rewards for pollinators; pollen-pistil interaction, self incompatibility, double fertilization, formation of seed-endosperm and embryo; fruit development and maturation.
- **CO5.** The students after the completion of this course will be able to describe significance of seed: suspended animation; ecological adaptation; unit of genetic recombination and replenishment, dispersal strategies, vegetative reproduction: vegetative propagation, grafting, economic aspects.

# Course 11: Plant Physiology, Biochemistry and Biotechnology

- **CO1.** The students after the completion of this course will be able to describe plant-water relations: importance of water to plant life; physical properties of water; diffusion and osmosis; absorption, transport of water and transpiration; physiology of stomata, mineral nutrition: essential macro and micro-elements and their role; mineral uptake; deficiency and toxicity symptoms.
- **CO2.** The students after the completion of this course will be able to describe transport of organic substances: mechanism of phloem transport; source-sink relationship; factors affecting translocation, basic of enzymology: discovery and nomenclature; characteristics of enzymes; concept of holoenzyme, apoenzyme, coenzyme and cofactors; regulation of enzyme activity, mechanism of action, photosynthesis: significance; historical aspects; photosynthetic pigments; action spectra and enhancement effects; concept of two photosystems; Z-scheme; photo-phosphorylation; Calvin cycle; C4 pathway; CAM plants; photorespiration.
- **CO3.**The students after the completion of this course will be able to describe respiration: ATP the biological energy currency; aerobic and anaerobic respiration; Kreb's cycle, electron transport mechanism (chemi-osmotic theory); redox potential; oxidative phosphorylation; pentose phosphate pathway, Nitrogen and lipid metabolism: Biology of nitrogen fixation; importance of nitrate reductase and its regulations; ammonium assimilation; structure and function of lipids; fatty acid biosynthesis; Betaoxidation; saturated and unsaturated fatty acids; storage and mobilization of fatty acids.
- **CO4.** The students after the completion of this course will be able to describe growth and development: definitions; phases of growth and development; kinetics of growth, seed dormancy, seed germination and factors of their regulation; plant movements; the concept of photoperiodism; physiology of flowering; florigen concept; biological clocks; physiology of senescence, fruit ripening; plant hormones auxins, gibberellins, cytokinins, abscisic acid and ethylene, history of their discovery, biosynthesis and mechanism of action; photomorphogenesis; phytochromes and cryptochromes, their discovery, physiological role and mechanism of action.
- **CO5.** The students after the completion of this course will be able to describe genetic engineering: tools and techniques of recombinant DNA technology; cloning vectors; genomic and cDNA library; transposable elements; techniques of gene mapping and chromosome walking, biotechnology: functional definition; basic aspects of plant tissue culture; cellular totipotency, differentiation and morphogenesis; biology of Agrobacterium; vectors for gene delivery and marker genes; salient achievements in crop biotechnology.

# **Course 12: Ecology and Utilization of Plants**

**CO1.** The students after the completion of this course will be able to describe plants and environment: atmosphere (gaseous composition), water (properties of water cycle), light (global radiation, photosynthetically active radiation), temperature, soil (development, soil profiles, physico-chemical properties), and biota, Morphological, anatomical and physiological responses of plants to water (hydrophytes and xerophytes), temperature (thermoperiodicity), light (photoperiodism, heliophytes and sciophytes) and salinity.

- **CO2.** The students after the completion of this course will be able to describe community ecology: community characteristics, frequency, density, cover, life forms biological spectrum; ecological succession, ecosystems: structure, abiotic and biotic components; food chain, food web, ecological pyramids, energy flow; biogeochemical cycles of carbon, nitrogen and phosphorus.
- **CO3.** The students after the completion of this course will be able to describe population ecology: growth curves; ecotypes; ecads, biogeographical regions of India, Vegetation types of India: Forests and grasslands.
- **CO4.** The students after the completion of this course will be able to describe utilization of plants food plants: rice, wheat, maize, potato, sugarcane, fibers: cotton and jute, vegetable oils: groundnut, mustard and coconut, general account of sources of firewood, timber and bamboos.
- **CO5.** The students after the completion of this course will be able to describe Spices, Medicinal plants, Beverages- Tea and coffee, Rubber.

# **Course 13: General Microbiology**

- **CO1.** The students after the completion of this course will be able to describe unity of microbial world, scope of microbiology, microbiology and human health, beneficial and harmful microbes, development of microbiology (contributions and pioneers).
- **CO2.** The students after the completion of this course will be able to describe diversity of microbial world: principle of classification, classification of viruses, bacteria (including cyanobacteria) algae and fungi (including yeast) and protozoa.
- **CO3.** The students after the completion of this course will be able to describe methods of studying microorganism: origin of microbes, microscopy, pure culture techniques, sterilization, aseptic techniques, isolation of pure culture, conditions and media for growth of microorganisms in the laboratory.
- **CO4.** The students after the completion of this course will be able to describe general organization of microbes; structural functional organization and economic importance of algae (Nostoc, anabaena, Ocillitoria), fungi (Rhizopus, Penicillium, Aspergillus), yeast and lichens.
- **CO5.** The students after the completion of this course will be able to describe structure, functional organization and economic importance of bacteria (Gram +ve and Gram -ve), viruses (plant and animal) and protozoa (Ciliates, Flagellates and Sporozoans).

# **Course 14: Biochemistry and Immunology**

- **CO1.**The students after the completion of this course will be able to describe structure and properties of mono and disaccharides, amino acids and peptides, bases; purines and pyrimidines, sugars; ribose, deoxyribose and nucleoside and nucleotide; general account of lipids.
- **CO2.**The students after the completion of this course will be able to describe the concept of macromolecules; structural and functional organization of polysaccharides (starch, glycogen, cellulose, mucopolysaccharides), proteins and nucleic acids (DNA, RNA).
- **CO3.** The students after the completion of this course will be able to describe enzymes; historical account, classification, co-enzymes and their role, enzyme action, enzyme kinetics, km, vm and enzyme inhibition, allosteric enzyme and isoenzyme, extracellualar enzymes and their role.
- **CO4.** The students after the completion of this course will be able to describe metabolism; general concept of metabolism (anabolism, catabolism and amphibolism), glycolysis, TCA Cycle and HMP Shunt, Anaerobic catabolism of glucose; alpha, beta and gamma oxidation of fatty acids.

**CO5.** The students after the completion of this course will be able to describe concept of immunity, innate and acquired immunity, brief account of cells and organs of immune system, antigen and antigenicity, antibody structure and function, antigen-antibody reaction.

# **Course 15: Microbial Physiology and Genetics**

- **CO1.** The students after the completion of this course will be able to describe plasma membrane and transport across membrane, energy transformation, physiology of bacterial growth, phases of growth, growth conditions, differentiation in bacterial cells-sporulation, germination; bacterial cell division replication of chromosome, partition of chromosome into daughter cell.
- **CO2.** The students after the completion of this course will be able to describe primary and secondary metabolism.
- **CO3.** The students after the completion of this course will be able to describe bacterial plasmids; structure and properties, replication, incompatibility, plasmid amplification, bacteriophages; lytic development cycle T4; lytic and lysogenic development of phage, single stranded DNA phage, transposition; structure of bacterial transposons, types of bacterial transponsons, mechanism of antibiotic resistance and spread of antibiotic resistance.
- **CO4.**The students after the completion of this course will be able to describe genetic recombination; requirements, molecular basis, genetic analysis of recombination in bacteria.
- **CO5.**The students after the completion of this course will be able to describe DNA repair and restriction; types of repair systems, restriction endonuclease, various types of restriction enzymes, dam and dcmmethylases.

# **Course 16: Principles of Bioinstrumentation and Techniques**

- **CO1.** The students after the completion of this course will be able to describe colorimetry and spectrophotometry, spectrofluorimetry, turbidometry, nepholometry, luminometry, pH meter.
- **CO2.** The students after the completion of this course will be able to describechromatography; adsorption partition, column, gas, ion-exchange, gel filtration, and affinity chromatographies, HPLC, FPLC.
- **CO3.** The students after the completion of this course will be able to describe centrifugation and ultracentrifugation, microscopy- light, phase-contrast, fluorescence, dark field, electron microscopy, laser, confocal, microscopy and digital image analysis.
- **CO4.** The students after the completion of this course will be able to describe tissue culture techniques; principal and requirements of animal tissue culture, decontamination, sterilization and disinfection.
- **CO5.** The students after the completion of this course will be able to describe electrophoreses techniques- types and their application; electrophoresis of proteins and mucleicacids,immuneelectrophoresis sequencing of proteins and nucleic acids, radioisotope techniques; nature of radioactivity, detection measurement, counter, safety aspects, enzyme purification and assay techniques.

# **Course 17: Molecular Biology and Genetic Engineering**

**CO1.** The students after the completion of this course will be able to describe history of molecular biology, model systems, concepts of molecular biology, early history of genetic engineering, genetic engineering concepts, ethical issue.

- **CO2.** The students after the completion of this course will be able to describe mutation; spontaneous and induced, base pair change, frame shift, deletion, inversion, random duplication, insertion, useful phenotypes (auxotrophs, conditional lethal, resistance), revertion vs. suppression, Ame's test.
- **CO3.** The students after the completion of this course will be able to describe function of macromolecules; early observation on the mechanism of heredity, DNA as genetic material; basic mechanism of replication, enzymes involved in replication, enzymes involved in transcription translation, genetic code, regulation of gene expression-transcription, translation and control of gene expression in microbes.
- **CO4.** The students after the completion of this course will be able to describe DNA repair and restriction, types of repair systems, restriction modification systems, types of restriction enzymes, properties and uses, methylation, biology of plasmids, bacteriophages, lytic vs. lysogenic phages, single standard DNA phages, M 13, restriction modification systems, restriction enzymes.
- **CO5.** The students after the completion of this course will be able to describe plasmid and phage vectors, restriction and ligation of vector and passenger DNA, transformation of host cells, selection vs. screening of recombinant colonies, analysis of recombinant clones, DNA sequencing, protein separation and identification methods.

# Course 18: Environmental and Medical Microbiology

- **CO1.** The students after the completion of this course will be able to describe aerobiology; definition, droplet nuclei, aerosol assessment of air quality, some important air borne diseases caused by bacteria (Diptheria, Peneumonia, Meningitis), virus (Influenza, Chicken pox, Measles) and fungi (mycosis); their symptoms and preventive measures.
- **CO2.** The students after the completion of this course will be able to describe soil microbiology: physical and chemical characteristics and micro flora of various soil types, rhizosphere, phyllosphere, brief account of microbial interactions: symbiosis, mutualism, commensalism, competition, amensalism, synergism, parasitism, and predation. biofertilizers biological nitrogen fixation, nitroginase enzyme, nif genes, symbiotic nitrogen fixation, and non-symbiotic nitrogen fixation (Azotobacter, Azospirillum), VAM-ecto-endo-ectendomycorrhizae.
- **CO3.** The students after the completion of this course will be able to describe aquatic microbiology; ecosystem, fresh water (ponds, lakes, stream) and marine, water zonation: upwelling, entrophication, potability of water microbial assessment of water quality, brief account of water borne diseases (Typhoid, Dysentery, Cholera, Hepatitis) and preventive measures.
- **CO4.** The students after the completion of this course will be able to describe food spoilage and food borne infections, biodegradation, xenobiotics, bioaccumulation, biopestisides and deterioration, general concept of industrial microbiology and their applications.
- **CO5.** The students after the completion of this course will be able to describe waste treatment: types of wastes, characterization of solid and liquid waste, waste treatment solid saccharification, gasification, composting, liquid waste treatment aerobic, anaerobic primary, secondary and tertiary methods, useful byproducts, mushroom, fuel, fertilizer, biodegradation of industrial waste.

(डॉ. आर. के. सक्सेना) प्राचार्य (डॉ.स्टार्सकीय इं.वि.स्नातकोत्तर महाविद्यालय कोरवा (छ.ग.)

## GOVT. E.V.P.G. COLLEGE, KORBA (C.G.) (Atal Bihari Vajpayee University, Bilaspur(C.G.)) Pin Code-495677, Ph No. 07759-221458 Email- gevpg1981@gmail.com Website: <a href="https://gevpgkrb.ac.in/">https://gevpgkrb.ac.in/</a> PROGRAMME OUTCOMES, PROGRAMME SPECIFIC OUTCOMES AND **COURSE OUTCOMES** M.Sc. Botany- 4 Semesters Postgraduate programme Programme Outcomes (PO), Programme Specific Outcomes (PSO), Course Outcomes (CO) M.Sc.- I Students learn and understand: Sem. Biology & Diversity of > Structure, Reproduction, Nutrition, economic importance Virus Bacteria & Fungi of Archaebacteria & Eubacteria. > Structure, chemical nature, purification, multiplication of virus & general account of Mycoplasma > Structure, Nutrition, Reproduction and classification of

		Fungi
		Students learn and understand
	Biology & Diversity Of	➤ General account , Thallus structure, anatomy,
	Algae, Bryophytes And	reproduction, economic importance and affinities between
	Pteridophytes	different groups of Algae, Brtophyta & Pteridophyta.
		Students learn and understand
	Cell And Molecular	<ul><li>Cell dynamics, cell wall, plasma membrane, cell</li></ul>
	Biology of Plants	organelles, Nucleic acids, cell cycle, apoptosis,
		karyokinesis.
		Students learn and understand
	Taxonomy Of	<ul> <li>Origin and intra-population variations, speies concept,</li> </ul>
	Angiosperms	taxonomic evidence, taxonomic tools, system of
		angiosperm classification, concept of phytogeography.
		Students learn and understand
M.Sc II	Cytology ,Genetics And	Chromatin Organization, Structure and Numerical
Sem.	Cytogenetics	Alterations in Chromosomes, Genetics of Prokaryotes &
Beni.		Eukaryotic Organelles, Gene Structure &Expression,
		Genetic Recombination & Genetic Mapping, Mutation,
		Cytogenetic of Aneuploidy & Heterozygotes, Molecular
		Cytogenetic, Alien Gene Transfer Through Chromosome
		Manipulation
		Students learn and understand
	Biology & Diversity Of	<ul> <li>Introduction, evolution and and complexity of</li> </ul>
	Gymnosperm species	Gymnosperm.
		<ul><li>Classification of Gymnosperms &amp; their Distribution in</li></ul>
		India, Brief Account of the families of Pteridospermales.
		<ul><li>General account comparative structure and</li></ul>
		Reproduction in different group of Gymnosperm.
		Students learn and understand
	Plant Physiology	Membrane Transport and Translocation of Water and
		Solute, Nitrogen Fixation, Nitrogen and sulphur
		Metabolism, Signal Transduction, Photochemistry and
		Photosynthesis, Street Physiology
		Students learn and understand
	Plant Biochemistry And	<ul><li>Energy Flow, Respiration and lipid Metabolism,</li></ul>
	Bioenergetics	Fundamentals of Enzymology, Sensory
	l	

		Photobiology, Plant Growth Regulators and
		Elicitors, The Flowering Process.
M.SC. III		Students learn and understand
Sem.	Plant	> Unique features of plant growth, difference between
	Development	plasnt and animal growth.
		Seed Germination and seedling Growth, Shoot
		development, Root development, Leaf Growth and
		differentiation.
		Plant Tissues, Secondary Growth
		Students learn and understand
	Plant	> Plant reproduction in detail, Pollination, pollen-pistil
	Reproduction	interaction, Seed development and fruit growth,
		Senescence and Programmed Cell Death (PCD)
		Students learn and understand
	Plant	➤ Ecological factors, ecological organization,
	Ecology	Vegetation Organization, Vegetation Development,
		Air Water and Soil Pollution, Climate Change,
		Ecological Stability, Ecological management.
	Elective Paper	Students learn and understand
	(A) Plant Pathology -	Introduction ,concept, history of plant pathology.
	I	<ul><li>Cause of Plant Diseases, Methods of studying Plant</li></ul>
		Diseases, General Characteristics, Pathogenicity,
		Host Parasite Relation.
M.Sc. IV	Plant cell, Tissue and	Students learn and understand
Sem.	organ culture	Basic concept and principle of biotechnology.
		Organogenesis and Adventive Embryogenesis,
		Somatic Hybridization, Application of Plant Tissue
		Culture, Biostatistics.
	Plant Resource Utilization	Students learn and understand
	And Conservation	Biological Diversity, Plant Biodiversity, World
		Centers of Primary Diversity of Domesticated
		Plants, Origin, Evolution, Botany Cultivation and
		Uses of plants used for food, medicine, fibre etc.
		➤ Important Fire –Wood and Timber Yielding Plant
		and Nonwood Forest Products(NWFPS)
		Principal of Conservation, Strategies for

	conservation in situ and ex situConservation.
Genetic Engineering Of	Students learn and understand
Plant And Microbes	Recombinant DNA Technology, Genetic
&Biostatics	Engineering of Plants, Microbial Genetic
	Manipulation, Genomics And Proteomics,
	Biostatistics.
Elective Paper	Students learn and understand
(A) Plant Pathology –II	> Effect of Environment on Disease Development,
!	Control of Plant Disease, Details of Disease Cycle of
	various cultivated plants.



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PROGRAMME OUTCOMES, PROGRAMME SPECIFIC OUTCOMES AND COURSE OUTCOMES

## BCA - I Programme Outcomes (PO), Programme Specific Outcomes (PSO), Course Outcomes (CO) Course Outcomes of BCA-I

s no	paper name	paper outcomes
		recall of statement and logical connectivity
		Boolean algebra and etc properties
1	Discrete mathametics	Boolean function
		Basic concepts of graph ,Tree,
		Cartesian product
2	computer fundmential and concept of software	basic of computer in detail
	and concept of software	Processor building Blocks

		Types of memory and Input and Output Devices
		Introduction to software, operating system
		Loder and Compiler
		Installing windows,and MS word
		MS excel and MS Access
	PC Software package and	C programming tokens ,keys,datatype,loop
3	programming in c	
		Structure Array, String, and Union with thee help of C programming
		File mantanence in C,Input output File,Utility File with the help of
		structure
	data structure	Introduction to Array
		Concepts of Link List
4		Defination of structure, Queue, and tree
		Data Arrangmet Searching and Sorting
		Time and Space complexity of Algorithm
	Lab 1 software package	Working in file,searching,Editing,Send,Mail mearge
		Making Prasentation ,Layout ,Color ,Animation,Tables
_		Excel-tool bar, Entering and Editing data, Exploring and sending file,
5		Formatting and printing.
		Database-form,report,Table desigh, Setting Relationship, printing
		Reports
		Shift inputs data, Switch statement ,Looping, Sum,Sub,Mul in
6	Lab 2 programming in c	Matrix, Find largest no using Function call
		by value and Call by Refrence



PROGRAMME OUTCOMES, PROGRAMME SPECIFIC OUTCOMES AND
COURSE OUTCOMES

#### BCA - II

## <u>Programme Outcomes (PO), Programme Specific Outcomes (PSO), Course Outcomes (CO)</u> Course Outcomes of BCA-II

s no	paper name	paper outcomes
1	Operating system	Operating System, types,and System call process management-paging, Sagments, Deadlock memory management-disk Scheduling  File Implemantation-Logical and physical File System, Directory Management Storing files
2	Digital Electronic and Digital Signals, Number System, Gates Introduction to Semiconductor, and Logic Family	

sor boolenan Algebra-Kmap, SOP,POS,	
Sequentian Circuits-Kmap, BCA <ex 3="" code,="" flip="" flop,latch<="" td=""><td></td></ex>	
Microprocessor 8085,8086 with pin Diagram	
OSI model, Signial, MUX, DMUX, TCP/IP models	
I IFFF XIIX IPV 4 IPV 6 A IIVI NETWORK VSA I	
Application Laver www. HTTD Drovy Server Web server	
Cyber Law in India ,Ecommerse	
OPPS vs pos, Data type, Operators, Logical statement	
red Program and Decision control, conditional statement	
with Binding Data & function, Contructor, Array of Objects	
Overloding and overridding, and data type	
Polymorphism, Virtual basic Classes	
Graphics system , input Devices, Sccan-Line poloygon	
2D Transformation	
- · · · · · · · · · · · · · · · · · · ·	
Multimedia nd Photoshop	
Corel Draw.tools, Curve path, Working with Layers	
find the invidual digits of positive	
nrime no 1 to n	
tower of hanio problem	
Getting start with corel draw	
Cropping, Rotation, overlapping, Superimposing	
printing Document	
nt g	Sequentian Circuits-Kmap, BCA <ex &="" ,="" ,ecommerse="" 1="" 2d="" 3="" 3d="" 4,="" 6,="" 808,ipv="" 8085,8086="" and="" application="" array="" atm="" basic="" binding="" classes="" code,="" conditional="" control,="" contructor,="" corel="" cropping,="" cyber="" data="" decision="" devices,="" diagram="" digits="" dmux,="" draw="" draw.tools,curve="" find="" flip="" flop,latch="" function="" function,="" getting="" graphics="" hanio="" http,="" ieee="" in="" india="" input="" invidual="" ip="" ipv="" law="" layer="" layers="" logical="" matrix="" microprocessor="" model,signial,mux,="" models="" multimedia="" n="" nd="" network,="" no="" non-recurive="" objects="" of="" operators,="" opps="" osi="" overlapping,="" overloding="" overridding,and="" path,working="" photoshop="" pin="" poloygon="" polymorphism,="" pos,="" positive="" prime="" problem="" program="" proxy="" recursive="" rotation,="" sccan-line="" server="" server,="" staarting="" start="" statement="" superimposing<="" system="" tcp="" td="" the="" to="" tower="" transformation="" transformation,rotation="" type="" type,="" virtual="" vs="" vsat="" web="" with="" working="" www,=""></ex>



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PROGRAMME OUTCOMES, PROGRAMME SPECIFIC OUTCOMES AND COURSE OUTCOMES

#### **BCA - III**

## <u>Programme Outcomes (PO), Programme Specific Outcomes (PSO), Course Outcomes (CO)</u> Course Outcomes of BCA-III

s no	paper name	paper outcomes
1	Computer Organization and Architecture	Top level Organization.register, memory, Addressing mode Architecture, Micro programming controller, Micro Programming, Classification of computer, RICS-CICS, ARRAY processor Memory Organization DMA, Virtual memory, Catche memory

2	Software	SDLC, RAD model, Sprial Model, Water fall model
	Engineering	Requirment Engineering analysis model,
		analysis modelling -flow ,object oriented Analysis
		Design and Testing
		sotwar evolution , varification and Validation, Critical, risk management
3	INTRODUCTION	data base,DDL,DML,DCL, Data model,DBMS,
	TO RDBMS	ER diagram, Types of keys, Generarlization ,specilazation
	(ORACLE)	structure Qurey language, joins (inner join, self join, set operation, using relation), primary key, foreign key.
		, , , ,
		Relation Database design-Normalization(1NF,2NF,3NF)
		ORACLE-SQL,DDL,DML,SQL(SELECTFROM,GROUP BY, HAVING ORDERBY)
4	WEB	introduction to web page, testing web uploding
	TEChNOLOGY	HTML-heading paragraph,link to difftrent we pages, table tag
		java CSS and JAVA Script
		PHP, HTTP GET,and POST, array(), list(), forech()
		MYSQL,data types, Mysql-select,PHP
5	NUMERICAL	Algebric Eqution, complex roots of polynomil eqution,
	ANALYSIS	Simulation Equation Marix, Gauss-jordan, power menthos
		Curve fitting-Numerical Differnation and Integration,Forward and Backrd
		Euler's, weddle Rule,
		Euler's method,Runga Kutta Menthode,Miline Method
6	RDBMS & WEB	Overview of database management system, Entity-relationship model,
	TECHNOLOGY MARK 75	Structured Query Language Relational Algebra, Relational Database Design, HTML,Cascading Style Sheet (CSS) and JAVA Script,PHP,MySQL
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PROGRAMME OUTCOMES, PROGRAMME SPECIFIC OUTCOMES AND COURSE OUTCOMES

#### **DCA**

## Programme Outcomes (PO), Programme Specific Outcomes (PSO), Course Outcomes (CO) Course Outcomes of DCA

s no	paper name	paper outcomes
1	computer fundmential	basic of computer in detail
		Processor building Blocks
		Types of memory and Input and Output Devices
		Introduction to software, operating system
		Loder and Compiler
		Network Direction and Transmmition

2	Windows and PC	Dos operating system
	Software	MS excel and MS Access
		MS Word advance .Working with coloum,table and intend
		Excel Making Prasentation ,Layout ,Color ,Animation,Tables
3	Print Technology and	introduction of printer, types of printer, advantage
	Desktop Publishing	Page maker-tools bar ,Menu Bar,Screen, resize,paper arrangmet
		photoshop-Exploring the tools, templets, Drawing, Brush tools, Objects
		DTP-Scanning,Types, Acrobat,Word conversion
		Corel Draw -working with Image
4	Internet and Web	Application of Internet
	Technology	Growth of Internet, dial up connection
		Searching the web page with Protocols
		Transfer Protocol Telnet and Chatting, remote logging
		HTML concept of Hyper Text,tages,Layout
5	Programming in c	Working with pointer
		Tocken,Data Types,Declaration
		C programming tokens ,keys,datatype,loop
		Structure Array, String, and Union with thee help of C programming
		File mantanence in C,Input output File,Utility File with the help of
		structure
6	operating Syatem	Operating System, types,and System call
		process management-paging, Sagments, Deadlock
		memory management-disk Scheduling
		File Implemantation-Logical and physical File System, Directory
		Management Storing files
7	Lab 1 PC package And	Working in file,searching,Editing,Send,Mail mearge
	DTP mark 100	Making Prasentation ,Layout ,Color ,Animation,Tables
		Excel-tool bar, Entering and Editing data, Exploring and sending file,
		Formatting and printing.
		Database-form,report,Table desigh, Setting Relationship, printing Reports
8	Lab 2 programming	Shift inputs data, Switch statement ,Looping, Sum,Sub,Mul in Matrix,
	in c mark 100	Find largest no using Function call by value and Call by Refrence
		·



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PROGRAMME OUTCOMES, PROGRAMME SPECIFIC OUTCOMES AND
COURSE OUTCOMES

#### M.Sc. Zoology

Programme Outcomes (PO), Programme Specific Outcomes (PSO), Course Outcomes (CO)
Course Outcomes of M.Sc. Zoology

CLASS	PAPER NAME	OUTCOMES
Msc 1 <sup>st</sup> sem.		The objective of the paper is to learn and comprehension about morpholopgical ,anatomical and physiological ,structure and way of living of invertebrates animals and minor phyla of the animal kingdom.
	Animal behaviour	The aim of this paper understand the animal bihaviour and

		when ,how and what animal survive their existence and students also learn about behavioural studies are ceatrel conserration of biology
	Quantitative biology	In this paper student will learn about quantitative biology and also learn computational techniques to study life and living organism.
	Ecology and environmental physiology	The main aim of this paper is to understand the distribution of biotic and abiotic factors of living things in the environment ,'students will understand the biotic and abiotic factors include the living and non-living factors and their intractions with environments
Msc 2 <sup>nd</sup> sem.	General and comparative endocrinology of vertebrates	In this paper students will understand about evolutionary pattern's of endocrine system and its physiology in the vertebrates animals
	Gamete biology and reproductive physiology in human being	In this paper students will grasp about embryology and developmental biology of human being and also learn about hormonal regulation of developmental biology in human beings
	Molecular cell biology	In this paper students will learn about cellular organisation at molecular level, and also understand about cellular techniques, cell junction, cell signaling etc.
	Tools and technique for biology	The main purpose of this paper is to learn and enhance skill about tools and techniques which help the students the study of structure of various kinds of organism and their parts.
Msc 3 <sup>rd</sup> sem.	Comparative anatomy of vertebrates	In this paper students will understands evolutionnary significance and body organism of vertebrates animals student also learn comparatively anatomy of vertebrates
	Biosystematics ,taxonomy and biodiversity	The main purpose of the paper is to identification nomenclature, classification and provide scientific name of animal to students produce a cohered arrangement and universal system of classification.
	Immunology and developmental biology	In this paper students will learn about immune system of organism and this paper also provide knowledge about embryological process and method patterns
	Population genetics and evolution	The main goal of this paper is to provide knowledge about frequency change of traits in various population rather then studying the inheritance of a traits, population genetics attempts to describe how the frequency of allele which control the traits change overtime, students will also learn about evolutionary process of animals.
Msc 4rth sem.	General physiology and neurophysiology	In this paper students will understand about physiology of various organ and organ system and will also learn about nervous system and neurophysiology of organism.
L		

Biochemistry and metabolic regulation and cell function	From the study of this paper students will understand about biological phenomena at the molecular level, its aim to understand the fundamental chemical principle that Great complex biological system.
Fish (ecthyology) structure and function	In this paper students will be able to understand about various species of fishes, students will also learn structure and function and behaviour of fishes.
Applied fisheries	From the study of this paper students will understand about ,fish breeding, spawning fish culture process improve their socioeconomic status ,students will also learn about scientific method of pisciculture to enhance economic status



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PROGRAMME OUTCOMES, PROGRAMME SPECIFIC OUTCOMES AND
COURSE OUTCOMES

#### **M.Sc. Mathematics**

<u>Programme Outcomes (PO), Programme Specific Outcomes (PSO), Course Outcomes (CO)</u>
Course Outcomes of M.Sc. Mathematics

Class	Paper Name	Outcome
Msc-1 sem.	Advance     abstract algebra	This paper will provide knowledge of group theory and all related concept of vector space ring ideal or field
	2. Real analysis	Student able to know the sequence series of real number and also convergence and divergence of both sequence and series.

		3.	topology	Student able to understand basic topology and countability.
		4.	Complex analysis	Student able to understand the concept of complex number with analytical function Cauchy –riemen equation for analytical function.
Msc sem.	2 <sup>nd</sup>	1.	Advance abstract algebra -2	Student able to understand the concept of Homomorphism of modules, isomorphism theorem, exact sequence of modules, short exact sequence cyclic modules.
		2.	Real analysis-2	Student graphs the knowledge of measurable function lebesque integral , lebesque sets, absolutely continuous functions, integral of the deravatives. Lebesque $L^p$ spaces – the classes $L^p$ , holder and minikowski inequalities.
		3.	Topology-2	Student able to understand the concept of continuous function and copmpact sets ,countable compactness and sequencial compactness in metric space, connected spaces ,connectedness on the real line.
		4.	Complex analysis -2	Student able to understand the concept of entire function – weierstress factorization theorem gamma function and its properties, riemann's functional equations mittagleffel's theorem ,uniqueness of direct analytic continuation , schwartz's reflections principle
Msc sem.	3 <sup>rd</sup>	1.	Integration theory and functional analysis -1	Student able to the understand the concept of signed measure lebesgue decomposition extension theorem (caratheory), tunnelle's theorem, differential and integration , baire measure, regularity of measures on locally compact spaces.
		2.	Partial	Student able to the understand the concept of
			differential equations,	Laplaces'equations – fundamental solutions ,mean value formulae , properties of harmonic function , energy method
			mechanics and gravitational -1	Wave equations – homogeneous equations ,energy methods ,envelopes characteristics Hamilton jocobi equations
				Attraction – attraction of rod spherical shell of finite thickness. Surface integral of normal attraction
		3.	Fuzzy sets and their applications-1	Student able to the understand the concept of fuzzy sets ,types of fuzzy sets , extension principle for fuzzy sets , bounded difference and sum, fuzzy numbers , fuzzy morphism, problem partitioning
		4.	Operations research-1	Student able to the understand the concept of linear programming graphical method of solutions , theory of the simplex method, parametric linear programming , solutions of transportation problems, network analysis
Msc sem.	4rth	1.	Integration theory and functional	Student able to the understand the concept of normal linear spaces, equivalent norms, riesz lemma, weak convergence and baunded linear transformations, Hahn-branch theorem for

analysis	real linear spaces, structure of Hilbert spaces
2. Partial differential equations, mechanics and gravitational -2	Generalized co-ordinates, lagrange's equations of first kind and $2^{\rm nd}$ ,energy equations for convergence fields, cyclic coordinate, routh's equations , poisson's identity, Jacobipoisson theorem , fundamental lemma of calculus of variations
3. Fuzzy sets and their applications - 2	Students able to the understand the concept of Possibility theorem, fuzzy logic, fuzzy implications and their selections, fuzzy rule base, multi criteria decision making, fuzzy linear programming.
4. Operations research-2	Students able to the understand the concept of dynamic programming , integer programming , queueing system, deterministic inventory problem with no shortages , non linear programming.



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PROGRAMME OUTCOMES, PROGRAMME SPECIFIC OUTCOMES AND COURSE OUTCOMES

#### M.Sc. Physics

Programme Outcomes (PO), Programme Specific Outcomes (PSO), Course Outcomes (CO)
Course Outcomes of M.Sc. Physics

First Semester

Paper-I (Mathematical methods -1)

- 1. Be able to gain knowledge of vector spaces and matrixes.
- 2. Be able to gain knowledge of leaguers polynomial generating function, recursion relations.
- 3. Be able to gain knowledge of Bessel's differential equations.
- 4. Be able to gain knowledge of Fourier series

#### Paper –II (Classical mechanics)

- 1. Be able to gain knowledge of application of lagrange's equation of motion.
- 2. Be able to gain knowledge of variational principle
- 3. Be able to gain knowledge of hamiltonial formulation of mechanics
- 4. Be able to gain knowledge og Hamilton jacoby theory poissson bracket

#### Paper –III (Numerical method and programming)

- 1. Be able to gain knowledge of problem analysis and solving scheme
- 2. Be able to gain knowledge of loops
- 3. Be able to gain knowledge of power and Jacobi method
- 4. Be able to gain knowledge of numerical solutions of ordinary differential equations

#### Paper- IV (Electronics - 1)

- 1. Be able to gain knowledge of transistors
- 2. Be able to gain knowledge of mos cliode
- 3. Be able to gain knowledge of transfer electron devices
- 4. Be able to gain knowledge of maculation

#### **Second Semester**

#### Paper – I (Mathematical Method - II)

- 1. Be able to gain knowledge of Tensors.
- 2. Be able to gain knowledge of greens function.
- 3. Be able to gain knowledge of D' Alembert solution.
- 4. Be able to gain knowledge of function of complex variables.

#### Paper – II (Quantum Mechanis)

- 1. Be able to gain knowledge of schrodinger equation, Ehrenfest theorem.
- 2. Be able to gain knowledge of matrix representation of an operator.
- 3. Be able to gain knowledge oa analers momentum.
- 4. Be able to gain knowledge of time independent perturbation theory.

#### Paper – III (Electrodynamics)

- 1. Be able to gain knowledge of a simple model for dynamic conductivity.
- 2. Be able to gain knowledge of wave guides TM mode and TE modes.
- 3. Be able to gain knowledge of lorent's transformations and its consequence.
- 4. Be able to gain knowledge of Electromagnebe vector and sector potential.

#### Paper – IV (Electronics II)

- 1. Be able to gain knowledge of photo conductive devices, LED
- 2. Be able to gain knowledge of photo detectors.
- 3. Be able to gain knowledge of basic opamp, Differential amplifier.
- 4. Be able to gain knowledge of oscillators principles.



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PROGRAMME OUTCOMES, PROGRAMME SPECIFIC OUTCOMES AND

COURSE OUTCOMES

#### M.A. SOCIOLOGY - 4 Semesters Postgraduate programme

#### Programme Outcomes (PO)

PO1. Students would be able to think critically on societal issues and its national & global implications.

PO2. Students would be able to shoulder social and ethical responsibilities in its true form and hence develop into a better citizen.

- PO3. Students would be able to perceive social issues both objectively and subjectively.
- PO4. Students would be able to develop better social interaction skills for greater exchange of thoughts and ideas.
- PO5. The students will be able to think critically and take informed decisions after identifying the accuracy and validity of their assumptions and ideas from intellectual, organizational, and personal perspectives.
- PO6. The students will be able to communicate effectively throughspeaking, reading, writing and listening clearly in one Indian language and thereby express themselves to the world by connecting with different ideas, books, people, media and technology.
- PO7. The students will be able to interact socially and stimulate views, reconcile disagreements and help reach consensual conclusions.
- PO8. The students will be able to demonstrate compassionate social concern and act with a cognizant awareness of issues to contribute in civic life by volunteering impartially towards national development and thereby deliver effective citizenship.
- PO9. The students will be able to ethically recognize different value systems, understand the moral dimensions of individual decisions and accept responsibility for them.
- PO10. The students will be able to recognize the issues of environmental perspectives and appreciate sustainable development for long term environmental sustainability.
- PO11. The students will be able to engage themselves in life-long self-determining and learning in the comprehensive background of socio-technological changes for continued self-directed and life-long learning.

#### **Programme Specific Outcomes (PSO)**

- PSO1. The students after the completion of this programme will be able to contemplate and comprehend Classical Sociological Tradition. Students would be able to understand sociological phenomena of individuals, socio-ethnic structures, socio-cultural institutions and socio-economic inequality.
- PSO2. The students after the completion of this programme will be able to contemplate and comprehend and apply Quantitative Research Techniques in Sociology.
- PSO3. The students after the completion of this programme will be able to contemplate and comprehend Rural Sociology. Students would be able to become a thorough professional with social intellect so as to have career opportunities galore social welfare, rural development, public policy, governance, business, social foundations, NGO and academia.
- PSO4.The students after the completion of this programme will be able to contemplate and comprehend Indian Urban Society.
- PSO5.The students after the completion of this programme will be able to contemplate and comprehend Modern Sociological Theories and Thinkers.
- PSO6. The students after the completion of this programme will be able to contemplate and comprehend Philosophical and Conceptual Foundation of Social Research. Students would be able to effectively communicate and draft sociological concepts and theories associated with real life situations.

- PSO7.The students after the completion of this programme will be able to contemplate and comprehend Sociology of Rural Development.
- PSO8. The students after the completion of this programme will be able to contemplate and comprehend Urban Social Structure and Problems.
- PSO9. The students after the completion of this programme will be able to contemplate and comprehend Indian Society.
- PSO10.The students after the completion of this programme will be able to contemplate and comprehend Industrial Sociology.
- PSO11.The students after the completion of this programme will be able to contemplate and comprehend Demographical Profile.
- PSO12.The students after the completion of this programme will be able to contemplate and comprehend Criminology.
- PSO13.The students after the completion of this programme will be able to contemplate and comprehend Perspectives of Study to Indian Society.
- PSO14.The students after the completion of this programme will be able to contemplate and comprehend Industry and Society in India.
- PSO15.The students after the completion of this programme will be able to contemplate and comprehend Social Demography of India.
- PSO16.The students after the completion of this programme will be able to contemplate and comprehend Criminology and Correctional Institutions .

#### **Course Outcomes (CO)**

#### **Course 1: Classical Sociological Theories**

- CO1. Students will be able to recognize the role of a sociological theory in the application of conceptual frameworks in a social research progress.
- CO2. Students will be able to comprehend various sociological theories like structuralism and exchange theory.

#### **Course 2: Metodology of Social Research**

- CO1. Students will be able to recognize various issues in social research.
- CO2. Students will be able to undertake research by selectively choosing and formulating a social research problem.

#### **Course 3: Rural Sociology**

- CO1. Students will be able to assimilate the theoretical and empirical knowledge of the past and present rural scenario and approach in rural sociology.
- CO2. Students will be able to identify with the various changes and development in rural sociology.

#### **Course 4: Urban Society in India**

- CO1. Students will be able to understand the structure of urban society.
- CO2. Students will be able to understand the way in which sociological concept are linked to this intimate relationship between urban sociologist and the city they study.

#### **Course 5: Modern Sociological Theories**

- CO1. Students will be able to debate on modern sociological theories.
- CO2. Students will be able to identify the origin and development of modern sociological theories.

#### **Course 6: Social Research and Statistics**

- CO1.Students will be able to recognize various issues in social research and use of Mean, Meadian, Mode in Research Work.
- CO2. Students will be able to explain the Digrametic and Graphic Presentation of Facts.

#### **Course 7: Rural Development and Changes**

- CO1. Studnts Understand the efecte of to cast ,economy and social stratification.
- CO2. Studnts Understand the efecte of Rural social problems and peseant unrest.

#### **Course 8: Urban Social Structure and Problems**

- CO1. Students will be able to understand the Urban Planning in Chhattisgarh
- CO2. Students will be able to understand the way in which sociological concept are linked to this intimate relationship between urban sociological Thinkers and they study.

#### **Course 9: Perspectives of Indian Society**

- CO1. Students will be able to explain the major methods and concepts used in the systematic study of Indian society, its social classes, its social fabric and its sociological issues.
- CO1. Students will be able to explain the Factors for intensification of linkage and Network binding in indian Society.

#### **Course 10: Industrial Sociology**

- CO1. Students will be able to identify the Industrilization and Industrial Revolution.
- CO2. Students will be able to identify the Formal and Informal Industrial Oraganization.

#### **Course 11: Demographical Profile**

- CO1. Students will be able to understand demography through various analysis, Malthusian, zero population growth, Cornucopian Theory.
- CO2. Students will be able to understand the factor affecting the various parameters of population growth like mortality rate, natality rate and migration including immigration and emigration.

#### **Course 12: Criminology**

- CO1. Students will be able to familiarize with mainstream criminological theories.
- CO2. Students will be able to apply theories of crime and criminal justice to explain actual and hypothetical scenarios, behaviors and trends.

#### **Course 13: Theoretical Perspective &Indian Society**

- CO1. Students will be able to explain the major methods and concepts used in the systematic study of Sociological Prespective.
- CO1. Students will be able to explain the major methods and concepts used in the systematic study of Idiological, Structural-Funcational and Conflict Perspectives .

#### Course 14: Industry and Society in India

- CO1. Students will be able to ascertain the history, objectives and functions of trade unionism in India.
- CO2. Students will be able to contemplate on Industrialization in the third world countries.

#### Course 15: Social Demography Of India

- CO1. Studnts Understand the efecte of population in public health and health policy.
- CO2. Studnts Understand the relationaships between Demographic Factors and Social Change.

#### **Course 16: Criminology and Correctional Institutions**

- CO1. Students will be able to ascertain the Role of police and Judiciary in India.
- CO2. Studnts Understand the Correctional Programmes in Prison.

(डॉ. आर. के. सक्सेना) प्राचार्य (शासकीय इं.वि.स्नातकोत्तर महाविद्यालय कोरवा (छ.न.)

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PROGRAMME OUTCOMES, PROGRAMME SPECIFIC OUTCOMES AND

COURSE OUTCOMES

M.A. Political Science – 4 Semesters Postgraduate programme

**Programme Outcomes (PO)** 

- PO1. Students would be able to think critically on political issues and its national & global implications.
- PO2. Students would be able to shoulder socio-political responsibilities in its true form and hence develop into a better citizen.
- PO3. Students would be able to perceive political issues both objectively and subjectively.
- PO4. Students would be able to develop better socio-political awareness and interaction skills for greater exchange of political thoughts and socio-political ideas.
- PO5. The students will be able to think critically and take informed decisions after identifying the accuracy and validity of their assumptions and ideas from intellectual, organizational, and personal perspectives.
- PO6. The students will be able to communicate effectively throughspeaking, reading, writing and listening clearly in one Indian language and thereby express themselves to the world by connecting with different ideas, books, people, media and technology.
- PO7. The students will be able to interact socially and stimulate views, reconcile disagreements and help reach consensual conclusions.
- PO8. The students will be able to demonstrate compassionate social concern and act with a cognizant awareness of issues to contribute in civic life by volunteering impartially towards national development and thereby deliver effective citizenship.
- PO9. The students will be able to ethically recognize different value systems, understand the moral dimensions of individual decisions and accept responsibility for them.
- PO10. The students will be able to recognize the issues of environmental perspectives and appreciate sustainable development for long term environmental sustainability.
- PO11. The students will be able to engage themselves in life-long self-determining and learning in the comprehensive background of socio-technological changes for continued self-directed and life-long learning.

#### **Programme Specific Outcomes (PSO)**

- PSO1. The students after the completion of this programme will be able to proactively contemplate and comprehend Western Political Thought.
- **PSO2**. The students after the completion of this programme will be able to proactively contemplate and comprehend Comparative Politics.
- **PSO3.**The students after the completion of this programme will be able to proactively contemplate and comprehend and critically gauge Public Administration.
- **PSO4.**The students after the completion of this programme will be able to deeply contemplate and comprehend Principles of International Politics.
- **PSO5**. The students after the completion of this programme will be able to critically contemplate and comprehend Morden Indian Political Thought.
- **PSO6**. The students after the completion of this programme will be able to critically contemplate and comprehend Contemporary Issue of International Politics .
- **PSO7**. The students after the completion of this programme will be able to proactively contemplate and comprehend and apply the principles of Research Methodology in political issues

**PSO8.**The students after the completion of this programme will be able to proactively contemplate and comprehend International Organization.

**PSO9**. The students after the completion of this programme will be able to proactively and critically contemplate and comprehend and perform a participatory role in Government and Politics of India.

**PSO10.** The students after the completion of this programme will be able to critically contemplate and comprehend Indian Foreign Policy.

**PSO11**. The students after the completion of this programme will be able to critically contemplate and comprehend Contemporary of International Law.

PSO12. The students after the completion of this programme will be able to proactively contemplate and comprehend Indian Fedral system.

**PSO13.**The students after the completion of this programme will be able to proactively contemplate and comprehend and actively participate in State Politics in India.

**PSO14**. The students after the completion of this programme will be able to critically contemplate and comprehend diplomacy in differents countries.

**PSO15.**The students after the completion of this programme will be able to critically and proactively contemplate and comprehend human rights problems and prospects.

**PSO16.**The students after the completion of this programme will be able to critically and proactively contemplate and comprehend identify Features, Funcations, Importance and Merits-Demerits of Local Self Governments.

#### **Course Outcomes (CO)**

#### **Course 1: Western Political Thought**

**CO1.**The students will be able to critically understand the dominant feature of ancient western political thought.

**CO2.** The students will be able to critically assess features of medieval political thought.

#### **Course 2: Comparative Politics**

**CO1.**The students will be able to critically judge the useful information about the probable consequences of different political order.

**CO2.**The students will be able to critically assess the constitutions or party systems of different countries and voluntary participate to bring positive changes in Indian political atmosphere.

#### **Course 03: Public Administration**

CO1. The students will be able to critically ascertain the concept of administration in India.

CO2. The students will be able to critically compare traditional approach and new approaches.

CO3. The students will be able to critically examine the structure and operation of public organizations.

#### **Course 04: Principles of International Politics**

CO1. The students will be able to critically assess the evolution of International politics.

CO2. The students will be able to critically contemplate the theories of International politics.

CO3. The students will be able to critically examine the nature and developments in International politics.

#### **Course 5: Morden Indian Political Thought**

**CO1.**The students will be able to critically contemplate and comprehend on Indian Political thought and philosophical thinkers.

**CO2.**The students will be able to critically contemplate and comprehend about the new thinkers like Nehru, DeendayalUpadhyay, AbdulKalam etc.

#### **Course 6: Contemporary Issue of International Politics**

CO1. The students will be able to critically ascertain and comprehend the fundamental theories and themes of contemporary International politics.

CO2. The students will be able to critically think, analyze information, and express their ideas clearly in the practice of International politics.

#### **Course 7: Research Methodology**

CO1. The students will be able to critically ascertain and apply various research methods used in social science by drawing upon a range of theoretical and empirical research in survey studies of political science.

CO2. The students will be able to critically examine the theoretical aspects comprising an exploration of various theories, concepts and term that are part of the research methodology in survey studies of political science.

#### **Course 8: International Organization**

**CO1**. The students will be able to critically decide upon the scope and subject matter of International relation.

**CO2**. The students will be able to critically assess the basic concepts like Globalization in contemporary world order.

#### **Course 9: Indian Government and Politics**

**CO1.**The students will be able to critically explain the politics, governance and authority of India.

**CO2.**The students will be able to critically assess the information about racism, regionalism, communalism, criminalization and corruption and be refrained from such politics and politicians.

#### **Course 10: Indian Foreign Policy**

CO1. The students will be able to critically ascertain the increasing India's influence in the international platform.

CO2. The students will be able to critically assess India's foreign policy and India's engagement with the rest of the world.

CO3. The students will be able to critically examine India's foreign relations with her neighbors.

#### **Course 11: International Law**

CO1. The students will be able to critically ascertain the importance of International Law and Limitation and possibility of international Law.

CO2. The students will be able to critically examine the Impact of International Law.

#### **Course 12: Fedral System In India**

**CO1**. The students will be able to critically examine the Fedral System In India and Thought of Constitution Makers.

**CO2.**The students will be able to critically analyze the Regional Parties and Their effectes on Indian Federalism Emerging triends in Indian Fedralism .

#### Course 13: State Politics In India

CO1. The students will be able to perform the critical comprehension, review and assessment of various concepts like Legislative Assembaly, Legislative Council , Power and Funcation of State Legislative.

CO2. The students will be able to critically contemplate, assess and review of Arguments in Favour and agaist of State Autonomy.

#### **Course14: Deplomacy Theory And Practice**

CO1. The students will be able to critically ascertain the importance of Great diplomats and Their Working.

CO2. The students will be able to critically examine the Forms of diplomacy in differents countries.

#### **Course 15: Human Rights: Problems And Prospects**

CO 1.The programme provides the student with the capacity to identify issues and problems relating to the realisation of human rights, and strengthens the ability to contribute to the resolution of human rights issues and problems.

CO2. The programme enables students to take an analytic and critical stance and deal with questions of how human rights affect social and political processes.

#### Course 16: Local Self Government In India

CO 1. The programme provides the student identify Features, Funcations, Importance and Merits-Demerits of Local Self Governments.

CO2. The students will be able to critically ascertain and comprehend the main determining factors and features of Local and self government.

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PROGRAMME OUTCOMES, PROGRAMME SPECIFIC OUTCOMES AND COURSE OUTCOMES

(CG.)

#### **B.A.- 3 years Undergraduate programme**

#### **Programme Outcomes (PO)**

- **PO1.** The undergraduate programme in Hindi Language / English Language / Sociology/Political Science / Home Science / Sanskrit Literature/ Hindi Literature/ Economics/Geography/ Psychology /History /English Literature/ Environmental Studies & Human Rights is aimed at providing the students necessary inputs so as to set forth the task of bringing about new and innovative ideas/concepts so that the formulated model curricula in Hindi Language / English Language / Sociology/Political Science / Home Science / Sanskrit Literature/ Hindi Literature/ Economics/Geography/ Psychology /History /English Literature/ Environmental Studies & Human Rights becomes in tune with the changing scenario and incorporate new and rapid advancements and multi-disciplinary skills, societal relevance, global interface, self-sustaining and supportive learning.
- **PO2.**The undergraduate programme in Hindi Language / English Language / Sociology/Political Science / Home Science / Sanskrit Literature/ Hindi Literature/ Economics/Geography/ Psychology /History /English Literature/ Environmental Studies & Human Rights should in addition have broader vision for students so that the students therefore be exposed to societal interface of Hindi Language / English Language / Sociology/Political Science / Home Science / Sanskrit Literature/ Hindi Literature/ Economics/Geography/ Psychology /History /English Literature/ Environmental Studies & Human Rights the development of arts and social sciences.
- **PO3.** The students will be able to think critically and take informed decisions after identifying the accuracy and validity of their assumptions and ideas from intellectual, organizational, and personal perspectives.
- **PO4.** The students will be able to communicate effectively through speaking, reading, writing and listening clearly in one Indian language and thereby express themselves to the world by connecting with different ideas, books, people, media and technology.
- **PO5.** The students will be able to interact socially and stimulate views, reconcile disagreements and help reach consensual conclusions.
- **PO6.** The students will be able to demonstrate compassionate social concern and act with cognizant awareness of issues to contribute in civic life by volunteering impartially towards national development and thereby deliver effective citizenship.
- **P07.** The students will be able to ethically recognize different value systems, understand the moral dimensions of individual decisions and accept responsibility for them.
- **PO8.** The students will be able to recognize the issues of environmental perspectives and appreciate sustainable development for long term environmental sustainability.
- **PO9.** The students will be able to engage themselves in life-long self-determining and learning in the comprehensive background of socio-technological changes for continued self-directed and life-long learning.

#### **Programme Specific Outcomes (PSO)**

- PSO 01 To understand the basic concept and subject of Hindi & its origin
- **PSO 02** To make or not the importance of subject Hindi & its Branches.
- **PSO 03.** To understand various aspect of Hindi literature with a process to reach method and giving new mode and direction.
- **PSO 04.** To make a attempt in different area and theory such as vocabulary and vice versa

- **PSO 05.** To understand in the Literature more in a border areas then Mary confined to subject.
- **PSO 06.** To know about Hindi literature its roots cause perspectives and methods.
- PSO 07 To understand the basic concept and subject of English & its origin
- **PSO 08** To make or not the importance of subject English & its Branches.
- **PSO 09.** To understand various aspect of English literature with a process to reach method and giving new mode and direction.
- **PSO 10.** To make a attempt in different area and theory such as vocabulary and vice versa
- **PSO 11.** To understand in the Literature more in a border areas then Mary confined to subject.
- **PSO 12.** To know about English literature its roots cause perspectives and methods.
- **PSO13.** The students after the completion of this programme will be able to understand and apply the knowledge of Introduction to Sociology.
- **PSO14.** The students after the completion of this programme will be able to understand and apply the knowledge of Contemporary Indian Society.
- **PSO15.** The students after the completion of this programme will be able to understand and apply the knowledge of Society in India.
- **PSO16.** The students after the completion of this programme will be able to understand and apply the knowledge of Crime and Society.
- **PSO17.** The students after the completion of this programme will be able to understand and apply the knowledge of Sociology of Tribal Society.
- **PSO18.** The students after the completion of this programme will be able to understand and apply the knowledge of Social Research Methods.
- **PSO19.** The students after the completion of this programme will be able to understand and apply the knowledge of Political Theory.
- **PSO20.** The students after the completion of this programme will be able to understand and apply the knowledge of Indian Government and Politics.
- **PSO21.** The students after the completion of this programme will be able to understand and apply the knowledge of Western Political Thought.
- **PSO22.** The students after the completion of this programme will be able to understand and apply the fundamentals of Comparative Politics and Government.
- **PSO23.** The students after the completion of this programme will be able to understand and apply the knowledge ofInternational Politics.
- **PSO24.** The students after the completion of this programme will be able to understand and apply the knowledge of Public Administration.
- **PSO25.** The students after the completion of this programme will be able to understand and apply the knowledge of Anatomy, Physiology & Hygiene
- **PSO26.** The students after the completion of this programme will be able to understand and apply the knowledge ofHome Science Extension Education.

- **PSO27.** The students after the completion of this programme will be able to understand and apply the knowledge of Fabric & Cloth Science.
- **PSO28.** The students after the completion of this programme will be able to understand and apply the knowledge of Family Resource Management.
- **PSO29.** The students after the completion of this programme will be able to understand and apply the knowledge ofHome Science Human Development.
- **PSO30.** The students after the completion of this programme will be able to understand and apply the knowledge of Food & Nutrition Science.
- **PSO 31** A Sanskrit is to highlight the salient feature of Indian culture heritage preserved in Sanskrit texts
- **PSO 32** An increased ability to read and understand Sanskrit texts.
- PSO 33 An increased knowledge and understanding of Sanskrit grammar
- **PSO 34** A basic familiarity of the history of Sanskrit literature.
- PSO 35 A basic familiarity of Sanskrit culture and religious background
- PSO 36 The passages to be read, translated, interpreted and discussed in class are taken
- **PSO37.** The students after the completion of this programme will be able to understand and apply the knowledge of izkphu fgUnh dkO;
- **PSO38.** The students after the completion of this programme will be able to understand and apply the knowledge of fgUnh dFkk lkfgR;
- **PSO39.** The students after the completion of this programme will be able to understand and apply the knowledge of vokZphu fgUnh dkO;
- **PSO40.** The students after the completion of this programme will be able to understand and apply the knowledge of fgUnhfuca/k rFkk x| fo/kk,a
- **PSO41.** The students after the completion of this programme will be able to understand and apply the knowledge of tuinh; Hkk'kk lkfqR; ¼NRrhlx<+h½
- **PSO42.** The students after the completion of this programme will be able to understand and apply the knowledge of fqUnh  $\square \square \square \& kfqR$ ; dk bfrqkl rFkk dkO;kax foospu
- **PSO43.**The students after the completion of this programme will be able to understand and apply the knowledge of Micro Economics.
- **PSO44.** The students after the completion of this programme will be able to understand and apply the knowledge of Indian Economy.
- **PSO45.** The students after the completion of this programme will be able to understand and apply the knowledge of Macro Economics.
- **PSO46.** The students after the completion of this programme will be able to understand and apply the knowledge of Money, Banking and Public Finance.
- **PSO47.** The students after the completion of this programme will be able to understand and apply the knowledge of Development and Environmental Economics.
- **PSO48.** The students after the completion of this programme will be able to understand and apply the knowledge of Statistical Methods.

- **PSO49.** The students after the completion of this programme will be able to understand and apply the knowledge of Physical Geography Elements of Geomorphology.
- **PSO50.**The students after the completion of this programme will be able to understand and apply the knowledge of Introduction to Geography and Human Geography.
- **PSO51.** The students after the completion of this programme will be able to understand and apply the knowledge of Physical Geography Climatology and Oceanography.
- **PSO52.**The students after the completion of this programme will be able to understand and apply the knowledge of Regional Geography with Special Reference to North America.
- **PSO53.** The students after the completion of this programme will be able to understand and apply the knowledge of Geography Resources and Environment.
- **PSO54.** The students after the completion of this programme will be able to understand and apply the knowledge of Geography of India (with special reference to Chhattisgarh
- **PSO55.** The students after the completion of this programme will be able to understand and apply the knowledge ofBasic Psychological Process.
- **PSO56.** The students after the completion of this programme will be able to understand and apply the knowledge of Psychopathology.
- **PSO57.** The students after the completion of this programme will be able to understand and apply the knowledge of Social Psychology.
- **PSO58.** The students after the completion of this programme will be able to understand and apply the knowledge of Psychological Assessment.
- **PSO59.** The students after the completion of this programme will be able to understand and apply the knowledge of Psychology Human Development.
- **PSO60.** The students after the completion of this programme will be able to understand and apply the knowledge of Psychological Statistics.
- **PSO61.**The students after the completion of this programme will be able to understand and apply the knowledge of History of India from the Beginning to 1206 A.D.
- **PSO62.** The students after the completion of this programme will be able to understand and apply the knowledge of World History from 1453 to 1789 A.D.
- **PSO63..** The students after the completion of this programme will be able to understand and apply the knowledge of History of India from 1206 to 1761 A.D.
- **PSO64.** The students after the completion of this programme will be able to understand and apply the knowledge of World History from 1789 to 1871 A.D.
- **PSO65.** The students after the completion of this programme will be able to understand and apply the knowledge of History of India from 1761to 1950 A.D.
- **PSO66.** The students after the completion of this programme will be able to understand and apply the knowledge of World History from 1871 to 1945 A.D.
- **PSO67.** The students after the completion of this programme will be able to understand and apply the knowledge of Literature in English From 1550-1750 A.D.
- **PSO68.**The students after the completion of this programme will be able to understand and apply the knowledge of Literature in English From 1750-1900 A.D.

- **PSO69.** The students after the completion of this programme will be able to understand and apply the knowledge of Modern English Literatures I.
- **PSO70.** The students after the completion of this programme will be able to understand and apply the knowledge of Modern English Literatures II.
- **PSO71.** The students after the completion of this programme will be able to understand and apply the knowledge of Indian Writing in English.
- **PSO72.** The students after the completion of this programme will be able to understand and apply the knowledge of American Literature.
- **PSO** 73 Master core concepts and methods from ecological and physical sciences and their application in environmental problem solving.
- **PSO 74** Master core concepts and methods from economic, political, and social analysis as they pertain to the design and evaluation of environmental policies and institutions.
- **PSO** 75Appreciate the ethical, cross-cultural, and historical context of environmental issues and the links between human and natural systems.
- **PSO 76** Understand the transnational character of environmental problems and ways of addressing them, including interactions across local to global scales.
- **PSO 77** Apply systems concepts and methodologies to analyze and understand interactions between social and environmental processes.
- **PSO 78** Reflect critically about their roles and identities as citizens, consumers and environmental actors in a complex, interconnected world.
- **PSO 79** Demonstrate proficiency in quantitative methods, qualitative analysis, critical thinking, and written and oral communication needed to conduct high-level work as interdisciplinary scholars and/or practitioners.

#### **Course Outcome**

#### **Course: 01 Foundation course Hindi Language**

- **CO1.** The student will be able to write a paragraph with a topic sentence, support and concluding sentence.
- **CO2.** The student will be able to produce appropriate vocabulary and correct word forms.
- **CO3.** The student will be able to use grammatical structures accurately.
- **CO4.** The student will be able to broaden their vocabularies and develop an appreciation of language.
- **CO5.** The student will be able to be competent to write a report or idea expansion.
- **CO7.** The student will be able to summarize and paraphrase information in a text.

#### **Course: 02 Foundation course English Language**

- **CO1.** The student will be able to write a paragraph with a topic sentence, support and concluding sentence.
- **CO2.** The student will be able to produce appropriate vocabulary and correct word forms.
- **CO3.** The student will be able to use grammatical structures accurately.
- **CO4.** The student will be able to broaden their vocabularies and develop an appreciation of language.

- **CO5.** The student will be able to be competent to write a report or idea expansion.
- **CO7.** The student will be able to summarize and paraphrase information in a text.

#### **Course 03: Introduction to Sociology**

- **CO1.** The students after the completion of this course will be able to contemplate and comprehend and recognize the nature and scope of sociology.
- **CO2.** The students after the completion of this course will be able to contemplate and comprehend and recognize the basic concepts of society, community, institution, association etc.
- **CO3.** The students after the completion of this course will be able to contemplate and comprehend and recognize different social groups.
- **CO4.** The students after the completion of this course will be able to contemplate and comprehend and recognize various social processes.

#### **Course 04:Contemporary Indian Society**

- **CO1.** The students after the completion of this course will be able to contemplate and comprehend and recognize the classical view about Indian Society and Varna Vyavastha.
- **CO2.** The students after the completion of this course will be able to recognize the structure and composition of Indian society.

#### Course 05:Society in India

- **CO1.** The students after the completion of this course will be able to contemplate and comprehend and recognize various social problems like Casteism, Regionalism, and Communalism etc.
- **CO2.** The students after the completion of this course will be able to contemplate and comprehend and recognize various social problems like Dowry, Domestic Violence, Divorce etc.
- **CO3.** The students after the completion of this course will be able to contemplate and comprehend and recognize basic Institutions of society.

#### **Course 06:Crime and Society**

- **CO1.** The students after the completion of this course will be able to contemplate and comprehend and recognize social structure and anomalies.
- **CO2.**The students after the completion of this course will be able to contemplate and comprehend and recognize meanings, causes, consequences and remedies of Terrorism.

#### **Course 07:Sociology of Tribal Society**

- **CO1.** The students after the completion of this course will be able to contemplate and comprehend and recognize classification of tribal people.
- **CO2.** The students after the completion of this course will be able to contemplate and comprehend and recognize socio cultural profile of tribe.
- **CO3.** The students after the completion of this course will be able to contemplate and comprehend and recognize various tribal problems.
- **CO4.** The students after the completion of this course will be able to contemplate and comprehend and recognize various tribal movements.

#### Course 08:Social Research Methods

- **CO1.** The students after the completion of this course will be able to contemplate and comprehend and recognize & apply social survey and research.
- **CO2.** The students after the completion of this course will be able to contemplate and comprehend and recognize & apply research design.
- **CO3.** The students after the completion of this course will be able to contemplate and comprehend and recognize & apply techniques of data collection and statistics.

#### Course 09: Political Theory

- **CO1.** The students after the completion of this course will be able to contemplate and comprehend and recognize the nature and scope of political theory.
- **CO2.** The students after the completion of this course will be able to contemplate and comprehend and recognize the concept of state, nation and civil society.
- **CO3.** The students after the completion of this course will be able to contemplate and comprehend and recognize the meaning of organs of government and theory of separation of power.

#### **Course 10:Indian Government and Politics**

- **CO1.**The students after the completion of this course will be able to contemplate and comprehend and recognize the salient features in making of Indian Constitution.
- **CO2.** The students after the completion of this course will be able to contemplate and comprehend and recognize and appreciate the fundamental rights and duties and the directive principle of state policy.
- **CO3.** The students after the completion of this course will be able to contemplate and comprehend and recognize and evaluate the evolution, functioning and consequences of political parties in India.

#### **Course 11:Western Political Thought**

- **CO1.** The students after the completion of this course will be able to contemplate and comprehend and recognize the nature, methods and significance of political thought.
- **CO2.** The students after the completion of this course will be able to contemplate and comprehend and recognize and appreciate various social and political ideas of political thinkers.
- **CO3.** The students after the completion of this course will be able to contemplate and comprehend and recognize and demonstrate the knowledge of political thinkers and political concepts.

#### **Course 12:Comparative Politics and Government**

- **CO1.** The students after the completion of this course will be able to contemplate and comprehend and recognize and critically assess presidential and parliamentary system.
- **CO2.** The students after the completion of this course will be able to contemplate and comprehend and recognize the difference between federal and unitary systems of government.

#### **Course 13:International Politics**

- **CO1.** The students after the completion of this course will be able to contemplate and comprehend and recognize and critically assess the international political system.
- **CO2.** The students after the completion of this course will be able to contemplate and comprehend and recognize the relations of India with neighboring countries.

#### Course 14:Public Administration

- **CO1.** The students after the completion of this course will be able to contemplate and comprehend and recognize and critically assess the administrative system of the nation.
- **CO2.** The students after the completion of this course will be able to contemplate and comprehend and recognize various concepts in public administration.

#### Course 15: Anatomy, Physiology & Hygiene

- **CO1.** The students after the completion of this course will be able to describeanatomical structure &physiological functions of cell, tissue and their functions skeletal system Types of bones, classification general structure & functions of bones, Muscular system General structure, types and function.
- **CO2.** The students after the completion of this course will be able to describeanatomical structure &physiological functions of Circulatory system General structure of organs and functions, composition of blood & function, Respiratory system General structure of organs and functions.
- **CO3.** The students after the completion of this course will be able to describeanatomical structure &physiological functions of Digestive system General introduction of Nutrients, Liver and spleen organs of digestion their general structure and function, Excretory system- organs of excretion, Kidney & skin structure & function.
- **CO4.** The students after the completion of this course will be able to describeanatomical structure &physiological functions of Nervous system Central nervous system structure and function, Senses and Sensory organs ear and eye structure & function.
- **CO5.** The students after the completion of this course will be able to describeand apply principles of Hygiene Personal Hygiene, social Hygiene, Environmental and Industrial Hygiene, Water its importance and purification, Air its importance and purification, First aid home nursing Principles, qualities of nurse, responsibilities, selection of sick room, care of the patient, some common accidents and their aid, poison, bleeding, burns and scalds, fracture sprain, dislocation.

#### Course 16: Home Science - Extension Education

- **CO1.** The students after the completion of this course will be able to describe, recognize and apply inHome Science Concepts, goals and Areas of Home Science & their inter relationship with extension, Principles and methods of home science extension education general concepts of extension work, Objectives of extension education in qualities of extension workers, extension education process.
- **CO2.** The students after the completion of this course will be able to describe, recognize and apply principles of community development organization and function of community development, Role of home scientists in community development, programmes of extension education for community, programmes of community development at central, state, district, block and village level, Family planning programme, Community problems, child marriage, Dowry system, pardapratha, rural indebtedness unemployment.

The students after the completion of this course will be able to describe, recognize and apply methods of learning - Discussion, demonstration, observation and their application to home science teaching, Extension Methods - their scope advantages and application, Scope and use in Home Science teaching, Extension Methods - their scope advantages and application.

**CO4.** The students after the completion of this course will be able to describe, recognize and apply in attitude towards Home Science, Motivation towards Home Science, Application of Home Science towards improvement in family living, Job opportunities in Home Science, National and International

agencies and their collaboration with Home Science, Official organization Home Science Association of India, W.H.O. FAG, CARE, ICAR, ICDS, ICSSR, ICMR, IRDP, Adult education.

**CO5.** The students after the completion of this course will be able to describe, recognize and apply basic concept of curriculum planning, components of curriculum planning, implementation, evaluation and improvement required in the existing system of H.Sc. education policy and its relevance to H.Sc. Programme planning-concept, principles, objectives and steps in programme planning.

#### Course 17: Fabric & Cloth Science

- **CO1.** The students after the completion of this course will be able to describe, recognize and apply in fabric science and its testing, cloth weaving and its styling.
- **CO2.** The students after the completion of this course will be able to describe, recognize and apply textile ornamentation, selection of dyes and fabrics.
- **CO3.** The students after the completion of this course will be able to describe, recognize and apply textile & cloth printing and its types, tie & dye methods.
- **CO4.**The students after the completion of this course will be able to describe, recognize and apply laundry methods for various fabrics and cloth materials, stain removal.
- **CO5.** The students after the completion of this course will be able to describe, recognize and apply dress designing, fashion designing according to personality types, types of dress designing & ornamentation.

#### **Course 18: Family Resource Management**

- **CO1.** The students after the completion of this course will be able to describe, recognize and apply in Home management process, role of home-maker, decision making.
- **CO2.** The students after the completion of this course will be able to describe, recognize and apply in Home decoration, interior designing, selection of colors for home, furniture selection, flower decoration.
- **CO3.** The students after the completion of this course will be able to describe, recognize and apply in family resource management, time management, man-power management, income management, family income and budget, family savings, standard of living, account / book keeping.
- **CO4.** The students after the completion of this course will be able to describe, recognize and apply in Kitchen planning & management, modernization of kitchen and kitchen space, use of alternative energy sources like solar, water distribution system, ventilation, lighting and storage.
- **CO5.** The students after the completion of this course will be able to describe, recognize and apply in simplification of work, process charts, tools and methods for saving time, energy, labor and money.

#### **Course 19: Home Science - Human Development**

- **CO1.** The students after the completion of this course will be able to describe, recognize and apply in child growth and development, different aspects of growth, principles of development, factors affecting child development, heredity and environment.
- **CO2.** The students after the completion of this course will be able to describe, recognize and apply in stages of development Physiology of pregnancy, Prenatal Reproductive system, Prenatal development, Infancy, Early infancy, Babyhood, Childhood, Early childhood, Late childhood, Adolescence, Early adolescence, Late adolescence, prenatal growth and development Sources of studying prenatal life, Stages of growth prenatal and development, Factors affecting prenatal and

development growth, Mother's food, Health of mother, Narcotics, Age of parents, Effect of season, Emotion of mother.

- **CO3.** The students after the completion of this course will be able to describe, recognize and apply in effect of normal and caesarean delivery, Adjustment to new environment Temperature, Respiration, Food consumption, Excretion, Physical development of infant-Physical proportion, Height, Weight, Pulse rate, Respiration rate, Bodytemperature, Frequency of hunger, Sensory development of infant Light, Sound, Taste, Smell, Skin sensitivity, Motor activity of infants -Mass activities, Specific activities Reflex activities, Advantages of reflex action, Emotions of infants -Types of emotions, Significance of emotions, Characteristics of infant behavior Dependency, Individual difference, Adjustment.
- **CO4.** The students after the completion of this course will be able to describe, recognize and apply in childhood: Adolescence, Characteristics of this stage, Factors affecting growth and development during childhood and adolescence, Physical growth height, weight, body proportion, teeth, Growth and development of internal organs Nervous, Mental, Circulatory system, Digestive system, Respiratory system, Tissues and muscles systems, Development of motor abilities, Types of motor abilities, importance and characteristics of motor abilities in childhood, Development of motor skills, Types of motor skills, Delayed motor development.
- **CO5.** The students after the completion of this course will be able to describe, recognize and apply in development of emotional behavior-characteristics special emotions (affection, anger, fear, jealousy and worries) factors affecting emotional behavior, Social developments stages during infancy, nursery school period, elementary school period, Factor affecting social development, Development of intelligence Types according to Thorndike, theories regarding intelligence.
- **CO6.** The students after the completion of this course will be able to describe, recognize and apply in Play, work and play, theories of play, characteristics of children's play, types of play, factors effecting play and importance of play, Habits: Definition, Functions performed by habits, Habits and learning, Laws of habit formation-identical to laws of learning, Habit formation, Principles of habit formation, Rules for habit formation, Children delinquency-Types causes and remedial measures.

#### **Course 20: Food & Nutrition Science**

- **CO1.** The students after the completion of this course will be able to describe, recognize and apply the principles and components of nutrition like carbohydrates, lipids, proteins, minerals, vitamins & water and their sources, RDA, metabolism and deficiency.
- **CO2.** The students after the completion of this course will be able to describe, recognize and apply the principles and components of foods like food groups, cereals & grains, pulses & legumes, milk & dairy products, vegetables & fruits, egg, meat, fish & poultry, sugar, jiggery & honey, beverages & spices and their types, composition, nutrition, cooking and processing.

The students after the completion of this course will be able to describe, recognize and apply the principles and components of food preservation, food spoilage, food toxicity, food adulteration, food hygiene and food storage.

- **CO4.** The students after the completion of this course will be able to describe, recognize and apply the principles and components of dietary management & menu planning, RDA, economics of menu planning, infant nutrition, pediatric nutrition, child nutrition, student & youth nutrition, nutrition during pregnancy and lactation, geriatric nutrition.
- **CO5.**The students after the completion of this course will be able to describe, recognize and apply the principles and components of therapeutic nutrition, therapeutic nutrition for diabetics, under-weight & over-weight, anemic, vitamin deficiency, protein energy malnutrition, liver diseases, peptic ulcer, indigestion, diarrhea, constipation, hypertension.

#### Course Outcomes (CO)

Course 21: ukVd O;kdj.k vkSj vuqokn

- **CO1.** The students after the completion of this course will be able to contemplate and comprehend LoluoklonRre~ & O;k[;k
- **CO2.** The students after the completion of this course will be able to contemplate and comprehend LoluoklonRre~ & leh{kkRed iz"u
- **CO3.** The students after the completion of this course will be able to contemplate and comprehend lqcUr ¼"kCn#i½] frMUr ¼/kkrq#i½
- **CO4.** The students after the completion of this course will be able to contemplate and comprehend izR;kgkj | laKk| lfU/k vkSj foHkDr~;FkZ
- **CO5.** The students after the completion of this course will be able to contemplate and comprehend fgUnh Is IaLd`r esa vuqokn

Course 22: x|] dFkk ,oa lkfgR;ksfrgkl

- **CO1.** The students after the completion of this course will be able to contemplate and comprehend "kqduklksins"k% & O;k[;k]
- **CO2.** The students after the completion of this course will be able to contemplate and comprehend fgrksins"k% 1/4fe=ykHk%1/2& O;k[;k
- **CO3.** The students after the completion of this course will be able to contemplate and comprehend t; "kqduklksins"k ,oa fgrksins"k ds leh{kkRed iz"u
- **CO4.** The students after the completion of this course will be able to contemplate and comprehend oSfnd ,oa ikSjkf.kd lkfgR; dk lkekU; ifjp;
- **CO5.** The students after the completion of this course will be able to contemplate and comprehend egkdfo dkfynkl ] Hkkjfo] ek|] Jhg'kZ ] fo"kk[knRr] ck.kHkV~V] "kwnzd] fo"kk[knRr] HkoHkwfrA

Course 23: ukVd] O;kdj.k rFkk jpuk

- **CO1.** The students after the completion of this course will be able to contemplate and comprehend ukxkuUn ukVd  $\frac{1}{4}$ Jh g'kZ $\frac{1}{2}$
- **CO2.** The students after the completion of this course will be able to contemplate and comprehend ukxkuUn leh{kkRed iz"u
- **CO3.** The students after the completion of this course will be able to contemplate and comprehend O;kdj.k y|qfl)kUr dkSeqnh
- **CO4.** The students after the completion of this course will be able to contemplate and comprehend O;kdj.k y|qfl)kUr dkSeqnh lekl izdj.k
- **CO5.**The students after the completion of this course will be able to contemplate and comprehend I-qh- okD; ipuk

Course 24: i| rFkk lkfgR;ksfrgkl

- **CO1.** The students after the completion of this course will be able to contemplate and comprehend j|qoa"kegkdkO; f}rh; lxZ
- **CO2.** The students after the completion of this course will be able to contemplate and comprehend j|qoa"kegkdkO; leh{kkRed iz"u

- CO3. The students after the completion of this course will be able to contemplate and comprehend  $\frac{1}{4}$ Hkr $\frac{2}{5}$
- **CO4.** The students after the completion of this course will be able to contemplate and comprehend lkfgR;sfrgkl egkdkO; rFkk x| dkO;
- **CO5.** The students after the completion of this course will be able to contemplate and comprehend lkfgR;sfrgkl

Course 25: ukVd] Nun rFkk O;kdj.k

- **CO1.** The students after the completion of this course will be able to contemplate and comprehend vfHkKku "kkdqUrye~ ¼dkfynkl½
- **CO2.** The students after the completion of this course will be able to contemplate and comprehend vfHkKku "kkdqUrye~ & leh{kkRed iz"u}
- **CO3.** The students after the completion of this course will be able to contemplate and comprehend fu/kkZfjr NUnksa ds y{k.k rFkk mnkqj.k
- **CO4.** The students after the completion of this course will be able to contemplate and comprehend O;kdj.k & y|qfl)kUr dkSeqnh
- **CO5.** The students after the completion of this course will be able to contemplate and comprehend O;kdj.k & y|qfl)kUr dkSeqnh

Course 26: dkO;] vyadkj rFkk fuca/k

- **CO1.** The students after the completion of this course will be able to contemplate and comprehend fdjkrktqZuh; ¼Hkkjfo½ izFke lxZ
- **CO2.** The students after the completion of this course will be able to contemplate and comprehend fdjkrktqZuh; &vkykspukRed iz"u
- **CO3.** The students after the completion of this course will be able to contemplate and comprehend ewyjkek;.ke & okYehfd
- **CO4.** The students after the completion of this course will be able to contemplate and comprehend vyadkj
- **CO5.** The students after the completion of this course will be able to contemplate and comprehend fucU/k ¼laLd`r Hkk'kk esa ½ 15 okD;ksa esa

#### Course 27:izkphu fgUnh dkO;

**CO1.** The students after the completion of this course will be able to contemplate and comprehend dchj

1/4dchj&dkafrdqekj tSu)1/2

- **CO2.** The students after the completion of this course will be able to contemplate and comprehend tk;lh&laf{klr iùkor&";ke lqanj nkl ukxerh fo;ksx o.kZu
- CO3. The students after the completion of this course will be able to contemplate and comprehend lwj ¼Hkzej xhrlkj& la- vkpk;Z jkepUnz½
- **CO4.** The students after the completion of this course will be able to contemplate and comprehend rqylh& \*jkepfjrekul½
- **CO5.** The students after the completion of this course will be able to contemplate and comprehend ?kukuUn ¼?kukuUn& l.kfo"oukFk izlkn feJ½
- **CO6.** The students after the completion of this course will be able to contemplate and comprehend folkifr

**CO7.** The students after the completion of this course will be able to contemplate and comprehend ighe

**CO8.**The students after the completion of this course will be able to contemplate and comprehend jl[kku

#### Course 28: fgUnh dFkk lkfgR;

**CO1.** The students after the completion of this course will be able to contemplate and comprehend izsepan-

xcu

- **CO2.** The students after the completion of this course will be able to contemplate and comprehend izsepan&dQu
- **CO3.** The students after the completion of this course will be able to contemplate and comprehend t; "kadj izlkn& vdk"knhi
- **CO4.** The students after the completion of this course will be able to contemplate and comprehend Q.Q.ks"oj ukFk js.kq &Bsl
- **CO5.** The students after the completion of this course will be able to contemplate and comprehend eksgu jkds"k&eyos dk ekfyd
- **CO6.** The students after the completion of this course will be able to contemplate and comprehend Hkh'e lkguh&phQ dh nkor
- **CO7.** The students after the completion of this course will be able to contemplate and comprehend jktsUnz ;kno&fcjknjh ckgj
- **CO8.** The students after the completion of this course will be able to contemplate and comprehend jkxs; jk?ko&xny
- **CO9.** The students after the completion of this course will be able to contemplate and comprehend 1 misUnzukFk v"d] 2- cky "kkSjh jsM~Mh 3- f"kokuh

#### Course 29: vokZphu fgUnh dkO;

- **CO1.** The students after the completion of this course will be able to contemplate and comprehend eSfFkyh "kj.k xqlr&Hkkjr&Hkkjrh dh dfork,a
- **CO2.** The students after the completion of this course will be able to contemplate and comprehend lw;Zdkar f=ikBh fujkyk&lf[k clUr vk;k] oj ns] oh.kk okfnuh ojns] fgUnh ds lqeuksa ds izfr i=] rksM+rh&iRFkj]jkts us viuh j[kokyh dhA
- **CO3.** The students after the completion of this course will be able to contemplate and comprehend lqfe=kuanu iar&ckny] ifjorZu] [kksyrk b/kj tUe ykspu] vkt dk nq[k dy dk vkYgkn] rkt] >a>k esa uhe] HkkjrekrkA
- **CO4.** The students after the completion of this course will be able to contemplate and comprehend Ekk[ku yky prqosZnh&cfyiaFkh ls]Lkka> vkSj <+ksyd dh Fkkisa] eSa cspjghgaw] ngh]mykguk]fu%"kL= lsukuhA
- CO5. The students after the completion of this course will be able to contemplate and comprehend I-gh-okRL;k;u vKs; &lcsjs mBkrks /kwi f[kyh Fkh]lkekxzh dk uSos| nku]?kj]Pknauh thyks] nwokZpyA
- **CO6.** The students after the completion of this course will be able to contemplate and comprehend v;ks/;k flag mik/;k; \*\*gfjvkS/k\*\*]lqHknzk dqekjh pkSgku]JhdkaroekZA

#### Course 30: fgUnh fuca/k rFkk x fo/kk,a

- **CO1.** The students after the completion of this course will be able to contemplate and comprehend ukVd&va/ksjh uxjh&Hkkjrsunq gfj"k pUnz
- **CO2.** The students after the completion of this course will be able to contemplate and comprehend fuca/k dzks/k &vkpk;Z jkepUnz "kqDy] clUr&MkW- gtkjhizlkn f}osnh] ml vejkbZ u jke&jkedgh qS&MkW- folkfuokl feJ] dkO;s'kgukV~;e iE;e~ &ckcwxgykcjk;]csbZekuh dh ijr&gfj"kadj ijlkbZA
- CO3. The students after the completion of this course will be able to contemplate and comprehend ,adkdh&vkSjxatsc dh vkf[kjh jkr & MkW- jke dqekj oekZ] LVakbZd& Hkqus"oj] ,d fnu& y{ehukjk;.k feJ] nlgtkj&mn; "kadj HkV~V]eEehBdqjkbZu&MkW- y{ehukjk;.k yky
- **CO4.** The students after the completion of this course will be able to contemplate and comprehend jkgqy lkad`R;k;u] egknsohoekZ] gchcruohj

#### Course 31: tuinh; Hkk"kk lkfgR; ¼NRrhlx<+h½

- **CO1.** The students after the completion of this course will be able to contemplate and comprehend jpuk,a&izkphu dfo lar /keZnkl&xq: iba;kykxksauke y[kknh tksgks] uSuvkxs [;ky ?kusjk] Hktu djkS HkkbZjs] vbluruik; ds A
- **CO2.** The students after the completion of this course will be able to contemplate and comprehend y[ku yky xqlr dk x|&Lksuiku
- **CO3.** The students after the completion of this course will be able to contemplate and comprehend vokZphu jpukdkj MkW-IR;Hkkek vkfMy jfpr x| &lh[k lh[k ds xksB
- **CO4.** The students after the completion of this course will be able to contemplate and comprehend MkW- fou; ikBd dh dfork,a&ra; mBFkl lq:t mFks] ,d fdfle ds fu;ko
- **CO5.** The students after the completion of this course will be able to contemplate and comprehend eqdqUn dkS"ky&NRrhlx<+ xty \*\* NS fcRrk ds eu[ks ns[kksa ------ ls&eNjheuyk[k ysFks\*\*

#### Course 32: fgUnh Hkk"kk &lkfgR; dk bfrgkl rFkk dkO;kax foospu

- **CO1.**The students after the completion of this course will be able to contemplate and comprehend fgUnh Hkk'kk dk Lo:lk fodkl& fgUnh dj mRifRr] fgUnh dh ewy vkdjHkk'kk, arFkk fofHkUu Hkk'kvks dk fodklA fgUnh Hkk $\square$ k ds fofHkUu :i&cksypky dh Hkk $\square$ k] jpukRed Hkk $\square$ k] jk'V<sup>a</sup> Hkk $\square$ k] jktHkk $\square$ k lEidZHkk $\square$ k lapkjHkk $\square$ k
- **CO2.** The students after the completion of this course will be able to contemplate and comprehend fgUnh lkfgR; dkbfrgkl %&vkfndky] iwoZ e/;dky] mRrj e/; dky vkSj vk/kqfud dky dh lkekftd] lkaLd`frd i`'BHkwfe] izeq[k ;qxizo`fRr;ka] fof"k'V jpukdkj vkSj mudh izfrfuf/k d`fr;ka] lkfqfR;d fo"ks'krk,aA
- CO3. The students after the completion of this course will be able to contemplate and comprehend dkO;kax&dkO; dkLo:lk ,oaiz;kstuA jl ds fofHkUuHksn] fofHkUuvaxg] foHkkokfnrFkkmnkgj.kA nksgk] lksjBk] pkSikbZ] dq.Mfy;ka] loS;kA "kCnkyadkj&vuqizkl] ;ed] "ys'k] odzksfDr] iqu:fDrizdk"kA vFkkZyadkj&miek] :lkd] mRizs{kk] vfr";ksfDr] HkzkafrekuA

#### **Course 33: Micro Economics**

- **CO1.** The students after the completion of this course will be able to contemplate and comprehend and recognize the definitions, nature and scope of economics.
- **CO2.** The students after the completion of this course will be able to contemplate and comprehend and recognize the theory of production and cost.
- **CO3.** The students after the completion of this course will be able to contemplate and comprehend and recognize the market structure.

- **CO4.** The students after the completion of this course will be able to contemplate and comprehend and recognize factor pricing.
- **CO5.** The students after the completion of this course will be able to contemplate and comprehend and recognize welfare economics.

#### **Course 34: Indian Economy**

- **CO1.** The students after the completion of this course will be able to contemplate and comprehend and recognize pre and post independent Indian economy.
- **CO2.** The students after the completion of this course will be able to contemplate and comprehend and recognize the role of economics in population and human development.
- **CO3.** The students after the completion of this course will be able to contemplate and comprehend and recognize the role of economics in agriculture.
- **CO4.** The students after the completion of this course will be able to contemplate and comprehend and recognize the role of economics in industry.
- **CO5.** The students after the completion of this course will be able to contemplate and comprehend and recognize the role of economics in foreign external sector.

#### **Course 35: Macro Economics**

- **CO1.** The students after the completion of this course will be able to contemplate and comprehend and recognize national income & social accounts.
- **CO2.** The students after the completion of this course will be able to contemplate and comprehend and recognize the role of economics in consumption function.
- **CO3.** The students after the completion of this course will be able to contemplate and comprehend and recognize the nature and characteristics of trade cycle.
- **CO4.** The students after the completion of this course will be able to contemplate and comprehend and recognize the role of economics in international trade.
- **CO5.** The students after the completion of this course will be able to contemplate and comprehend and recognize the functions of IMF, World Bank and WTO.

#### **Course 36: Money, Banking and Public Finance**

- **CO1.** The students after the completion of this course will be able to contemplate and comprehend and recognize basic concepts of money.
- **CO2.** The students after the completion of this course will be able to contemplate and comprehend and recognize the role of economics in commercial banking.
- **CO3.** The students after the completion of this course will be able to contemplate and comprehend and recognize the meaning and scope of public finance.
- **CO4.** The students after the completion of this course will be able to contemplate and comprehend and recognize the sources of public revenue and taxation.
- **CO5.** The students after the completion of this course will be able to contemplate and comprehend and recognize public debt and financial administration.

#### **Course 37: Development and Environmental Economics**

- **CO1.** The students after the completion of this course will be able to contemplate and comprehend and recognize economic growth and development.
- **CO2.**The students after the completion of this course will be able to contemplate and comprehend and recognize the relationship between economics and population problem & growth.
- **CO3.** The students after the completion of this course will be able to contemplate and comprehend and recognize Harrods and Domar growth model.
- **CO4.** The students after the completion of this course will be able to contemplate and comprehend and recognize therelationship between economics and environment & ecology.
- **CO5.** The students after the completion of this course will be able to contemplate and comprehend and recognize the concept of intellectual capital.

#### Course 38: Statistical Methods

- **CO1.** The students after the completion of this course will be able to comprehend and apply statistical methods in economics.
- **CO2.** The students after the completion of this course will be able to comprehend and apply the measurement of central tendency in economics.
- **CO3.** The students after the completion of this course will be able to comprehend and apply the methods & tools of dispersion in economics.
- **CO4.** The students after the completion of this course will be able to comprehend and apply coefficient of correlation in economics.
- **CO5.** The students after the completion of this course will be able to comprehend and apply index number and measurement of trend in economics.

#### Course 39: Physical Geography - Elements of Geomorphology

- **CO1.**The students after the completion of this course will be able to contemplate and comprehend and recognize the effect of rotation and revolution the earth.
- **CO2.** The students after the completion of this course will be able to contemplate and comprehend and recognize the interior structure of the earth.
- **CO3.** The students after the completion of this course will be able to recognize theory regarding of origin of continents and oceans.
- **CO4.** The students after the completion of this course will be able to contemplate and comprehend and recognize the formation of rocks.
- **CO5.** The students after the completion of this course will be able to contemplate and comprehend and recognize the work of internal and external forces and their associated land forms.

#### Course 40:Introduction to Geography and Human Geography

- **CO1.** The students after the completion of this course will be able to contemplate and comprehend and recognize the relationship of man and environment.
- **CO2.** The students after the completion of this course will be able to contemplate and comprehend and recognize the races of man kinds.

**CO3.** The students after the completion of this course will be able to contemplate and comprehend and recognize the modes of life of pigmy, Bushman, Eskimos, Masai, Gond and Nagar.

#### Course 41: Physical Geography - Climatology and Oceanography

- **CO1.** The students after the completion of this course will be able to contemplate and comprehend and recognize the weather and climate.
- **CO2.** The students after the completion of this course will be able to contemplate and comprehend and recognize the atmospheric moisture.
- **CO3.** The students after the completion of this course will be able to contemplate and comprehend and recognize the air masses and fronts.
- **CO4.** The students after the completion of this course will be able to contemplate and comprehend and recognize the surface configuration of the ocean floor.
- **CO5.** The students after the completion of this course will be able to contemplate and comprehend and recognize the circulation of oceanic water.
- **CO6.** The students after the completion of this course will be able to contemplate and comprehend and recognize the marine deposits, coral reefs.

#### Course 42:Regional Geography with Special Reference to North America

- **CO1.** The students after the completion of this course will be able to contemplate and comprehend and recognize theregional concept, bases of regionalization.
- **CO2.** The students after the completion of this course will be able to contemplate and comprehend and recognize the structure, relief, climate and soils of North America.
- **CO3.** The students after the completion of this course will be able to contemplate and comprehend and recognize the mineral and energy resources, Forests and North America.
- **CO4.** The students after the completion of this course will be able to contemplate and comprehend and recognize the Agriculture belts, line stock and dairy forming in North America.
- **CO5.** The students after the completion of this course will be able to contemplate and comprehend and recognize the Industries and Regions of North America.

#### Course 43:Geography - Resources and Environment

- **CO1.**The students after the completion of this course will be able to contemplate and comprehend and recognize the resources: meaning, nature and components.
- **CO2.** The students after the completion of this course will be able to contemplate and comprehend and recognize the distribution and utilization of resources.
- **CO3.** The students after the completion of this course will be able to contemplate and comprehend and recognize the man environment interrelations.
- **CO4.**The students after the completion of this course will be able to contemplate and comprehend and recognize the environmental conservation and management.

#### Course 44: Geography of India (with special reference to Chhattisgarh)

**CO1.** The students after the completion of this course will be able to contemplate and comprehend and recognize thegeo-physical features of India.

- **CO2.** The students after the completion of this course will be able to contemplate and comprehend and recognize the drainage, climate of India.
- **CO3.** The students after the completion of this course will be able to contemplate and comprehend and recognize the resources, geo-cultural features of India.
- **CO4.** The students after the completion of this course will be able to contemplate and comprehend and recognize thegeo-physical features, geo-cultural features of Chhattisgarh.

#### **Course 45: Basic Psychological Process**

**CO1.** The students after the completion of this course will be able to describe, recognize and apply thebasic human behavior like thinking, learning, sensations, perception, attention, intelligence and personality traits.

#### **Course 46: Psychopathology**

- **CO1.** The students after the completion of this course will be able to describe, recognize and apply theknowledge about mental illness or mental distress or the dysfunctional behavior indicative of psychological impairment.
- **CO2.** The students after the completion of this course will be able to describe, recognize the underlying causes in respect of genetics, psychological or social factors and understand the treatment.

#### **Course 47: Social Psychology**

**CO1.** The students after the completion of this course will be able to describe, recognize and apply the know-how of people's thoughts, feelings and behaviors being influenced in social setting.

#### **Course 48: Psychological Assessment**

**CO1.** The students after the completion of this course will be able to describe, recognize and apply the process and types of testing that uses tools to measure and conclude person's behavior in personal, social and occupational setting.

#### Course 49: Psychology - Human Development

**CO1.** The students after the completion of this course will be able to describe, recognize and apply the knowledge of biological and psychological development of the human being throughout the life span.

#### **Course 50: Psychological Statistics**

**CO1.** The students after the completion of this course will be able to describe, recognize and apply the formulas, theorems, numbers and laws to understand human psychology.

#### Course 51: History of India from the Beginning to 1206 A.D.

- **CO1.** The students after the completion of this course will be able to contemplate and comprehend and recognize India's geographical structure, historical and archeological sources, Stone Age, Harappa civilization.
- **CO2.** The students after the completion of this course will be able to contemplate and comprehend and recognize Vedic era, Mahajanapada era, Jainism, Buddhism, Alexander's Invasion, rise of Magadha, Mauraya dynasty.
- **CO3.** The students after the completion of this course will be able to contemplate and comprehend and recognize Chola dynasty, Pandian dynasty, Gupta dynasty, Pallava dynasty, Chalukya dynasty, Vardhan dynasty.

- **CO4.** The students after the completion of this course will be able to contemplate and comprehend and recognize historical relation between India & Srilanka, invasions by Mohammad Bin Kasim, Mohammad Ghazhvani, Mohammad Gauri, caste system, societal status of women marriage system, sati system, pardah system, devdasi system, dasa system.
- **CO5.**Students will be able to demonstrate a breadth of training across historical time and space.Students will be able to develop an in-depth understanding of a field, theme or region.
- **CO6.**Students will be able to demonstrate an historical awareness of the diversity of the human experience across time and space.Students will be able to apply, assess and debate the major historical schools of thought, methodology and types of sources that historians use to make original arguments.Students will acquire basic historical research skills, and the effective use of libraries, archives, and databases.
- **CO7.**Students will learn to organize and express their thoughts clearly and coherently both in writing and orally.Students will be able to formulate historical arguments and communicate those arguments in clear and persuasive prose.

#### Course 52: World History from 1453 to 1789 A.D.

- **CO1.** The students after the completion of this course will be able to contemplate and comprehend and recognize end of feudalism, Renaissance, religious reforms, rise of nation states England, France, Spain, Russia, division of Poland.
- **CO2.** The students after the completion of this course will be able to contemplate and comprehend and recognize modern western world revolution in commerce & trade Capitalism, industrial revolution.
- **CO3.** The students after the completion of this course will be able to contemplate and comprehend and recognize beginning of colonialism, civil war in England, glorious revolution, rule of Louis 14<sup>th</sup>, America's war of Independence, French revolution and national assembly.

#### Course 53: History of India from 1206 to 1761 A.D.

- **CO1.** The students after the completion of this course will be able to contemplate and comprehend and recognize Sultanate rule, Slave dynasty, Khilji dynasty, Tughlaq dynasty, Taimur's Invasion.
- **CO2.** The students after the completion of this course will be able to contemplate and comprehend and recognize Babur's Mughal dynasty, Sher Shah Suri administration, policies of Akbar to Aurangzeb, Mughal administration.
- **CO3.** The students after the completion of this course will be able to contemplate and comprehend and recognize socio-economic aspects of Sultanate era, socio-economic aspects of Mughal era, religious and cultural aspects of medieval era Bhakti movement, Sufism, art & establishment in Sultanate era, art & establishment in Mughal era, education & literature in Sultanate era, education & literature in Mughal era.
- **CO4.** The students after the completion of this course will be able to contemplate and comprehend and recognize Vijaya Nagar Kingdom Raja Krishnadeva Raya, Chhatrapati Shivaji kingdom, Battle of Panipat.

#### Course 54: World History from 1789 to 1871 A.D.

**CO1.** The students after the completion of this course will be able to contemplate and comprehend and recognize French revolution – National convention, Napoleon Bonaparte – rise & fall.

- **CO2.** The students after the completion of this course will be able to contemplate and comprehend and recognize Vienna Congress combined system of Europe, Conservatism.
- **CO3.** The students after the completion of this course will be able to contemplate and comprehend and recognize revolutions of 1830 & 1848, Industrial revolution, England's Liberalism.
- **CO4.** The students after the completion of this course will be able to contemplate and comprehend and recognize reforms of 1832 & 1867, achievements of Napoleon III<sup>rd</sup>, rise of east, Greece's war of Independence, battle of Creamia, Russia Czar Alexander II<sup>nd</sup>, unification of Italy, unification of Germany.

#### Course 55: History of India from 1761 to 1950 A.D.

- **CO1.** The students after the completion of this course will be able to contemplate and comprehend and recognize expansion of British rule war & diplomacy battle of Karnataka, Plasi, Buxor, alliance treaties.
- **CO2.** The students after the completion of this course will be able to contemplate and comprehend and recognize reforms in British rule, Capitalism fall of industries & trade, fall of Agriculture and farmer's revolution, land revenue system.
- **CO3.** The students after the completion of this course will be able to recognize Indian renaissance Brahma samaj, Aryasamaj, Ram Krishna mission, Theosophical society, Aligarh movement.
- **CO4.** The students after the completion of this course will be able to contemplate and comprehend and recognize progress of western education and Press, social classification of farmers, labors, middle class and women, rise of Nationalism and revolution of 1857.
- **CO5.** The students after the completion of this course will be able to contemplate and comprehend and recognize Indian National Congress Moderates & Extremists, Gandhi's freedom movement, Communalism rise & progress, Subhash Chandra Bose & Azad Hind Fauj, India's Constitutional development 1919-1935 Federal system Provincial autonomy, India's Independence and Indian Constitution.

#### Course 56: World History from 1871 to 1945 A.D.

- **CO1.** The students after the completion of this course will be able to contemplate and comprehend and recognize the third republic of France, Bismarck foreign policy, WilliamII<sup>nd</sup> foreign policy, division of Africa.
- **CO2.** The students after the completion of this course will be able to contemplate and comprehend and recognize modernization of Japan, Japan-Russia war, Chinese revolution.
- **CO3.** The students after the completion of this course will be able to contemplate and comprehend and recognize Young Turk movement, Balkan war, World War I.
- **CO4.** The students after the completion of this course will be able to contemplate and comprehend and recognize Russian revolution-1917, Warsaw Treaty.
- **CO5.** The students after the completion of this course will be able to contemplate and comprehend and recognize Italy's Fascism Mussolini, Germany's Nazism Hitler, Japan's Imperialism Tajo, World War II.
- **CO6.** The students after the completion of this course will be able to contemplate and comprehend and recognize United Nations Organization (UNO) establishment, composition, achievements.

#### Course 57: Literature in English from 1550-1750 A.D.

- **CO1.** The students after the completion of this course will be able to demonstrate knowledge of the major texts and traditions of English literature.
- **CO2.** The students after the completion of this course will be able to contemplate and comprehend different periods of literature and important authors like Shakespeare, Milton, etc of English literature.

#### Course 58: Literature in English from 1750-1900 A.D.

- **CO1.** The students after the completion of this course will be able to contemplate and comprehend and become familiar with representative literacy and cultural texts with in a significant number of historical and cultural contexts.
- **CO2.** The students after the completion of this course will be able to contemplate and comprehend and form an idea about the various stages in the development of English literature.

#### Course 59: Modern English Literatures - I

- **CO1.** The students after the completion of this course will be able to contemplate and comprehend and develop critical thinking through long and short fictions of English literature.
- **CO2.** The students after the completion of this course will be able to write and appreciate different types of prose of English literature.

#### **Course 60: Modern English Literatures - II**

- **CO1.** The students after the completion of this course will be able to familiarize with the plays of master- dramatists and will have developed the ability to appreciate and evaluate different types of plays of English literature.
- **CO2.** The students after the completion of this course will be able to appreciate and evaluate different types of plays of English literature.

#### **Course 61: Indian Writing in English**

- **CO1.** The students after the completion of this course will be able to contemplate and comprehend and recognize the various phases of the evolution of Indian writing in English.
- **CO2.** The students after the completion of this course will be able to contemplate and comprehend and recognize the thematic concern, genres and trends of Indian writing in English.

#### Course 62: American Literature

- **CO1.** The students after the completion of this course will be able to contemplate and comprehend and recognize the cultural themes, literary periods and key artistic features of American Literature.
- **CO2.** The students after the completion of this course will be able to contemplate and comprehend and recognize the various aspects of American Society through a critical examination of the literary texts representing different periods and culture.

#### **Course: 63 Environmental Studies and Human Rights**

**CO1.** The students after the completion of this course will be able to describe, recognize and practice multi disciplinary nature of environmental studies, natural resources: renewable and non-renewable resources - forest resources, deforestation, timber extraction, mining, dams and their effects on forests and tribal people and relevant forest act, water resources, surface and ground water, floods

drought, conflicts over water, dams benefits and problems and relevant act, mineral resources, environmental

effects of extracting and using mineral resources, food resources, world food problems, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, energy resources, renewable and nonrenewable energy sources, use of alternate energy sources, land resources, land degradation, man induced landslides, soil erosion and desertification.

- **CO2.** The students after the completion of this course will be able to describe, recognize and practice ecosystem producers, consumers and decomposers, energy flow in ecosystem, ecological succession, food chains, food webs and ecological pyramids, structure and function of forest, grass, desert and aquatic ecosystem.
- **CO3.** The students after the completion of this course will be able to describe, recognize and practice biodiversity and its conservation, genetic, species and ecosystem diversity, bio-geographical classification of India, value of biodiversity: consumptive use, productive use, social ethics, aesthetic and option values, biodiversity at global, national and local levels, India as mega-diversity nation, hot spots of biodiversity, threats to biodiversity, habitat loss, poaching of wildlife, man-wild life conflict, endangered and endemic species of India, conservation of biodiversity: in situ and ex-situ conservation of biodiversity..
- **CO4.** The students after the completion of this course will be able to describe, recognize and practice pollution: causes, effect and control measures for air, water, soil, marine, noise, nuclear pollution and human population, solid waste management, urban and industrial wastes, disaster management: floods, earthquake, cyclone and landslides, environmental management from unsustainable to sustainable development, water conservation, rain water harvesting, water shed management, resettlement and rehabilitation of people, environmental ethics, climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust, wasteland reclamation, environment protection act, environmental legislation, information technology in environment and human health.
- **CO5.** The students after the completion of this course will be able to describe, recognize and practice concepts of human rights, classification of human rights, protection of human rights under the UNO charter, protection of human rights under the universal declaration of human rights, 1948 convention on the elimination of all forms of discrimination against women, convention on the rights of the child, 1989.
- **CO7.** The students after the completion of this course will be able to describe, recognize and practice human rights norms in India, human rights under the constitution of India, fundamental rights under the constitution of India, directive principles of state policy under the constitution of India, enforcement of human rights in India, protection of human rights under the human rights act, 1993-national human rights commission, state human rights commission and human rights court in India, fundamental duties under the constitution of India.

(डॉ. आर. के. सक्सेना)

प्राचार्य शिप्सकीय इं.वि.स्नातकोत्तर महाविद्यालय कोरवा (छ.ग.)

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## P.G.D.B.M. - PROGRAMME OUTCOMES, PROGRAMME SPECIFIC OUTCOMES AND COURSE OUTCOMES

S.No	Paper Name	Outcomes
1	MANAGEMENT CONCEPT & ORGANISATIONAL BEHAVIOUR	The students are able to develop the role of leadership , communication skills, and analysis opportunities and challenges in the field of organizational behaviour.
		The students are able to ascertain the objectives of managerial reporting and interpret the requirement of management.
2	PORTFOLIO MANAGEMNT AND TOTAL QUALITY MANAGEMENT	Portfolio management enables students to improve investment strategies, to decide where to invest and how much risk to be taken .  Total Quality Management enables students to expand their knowledge of their jobs so they might improve their work quality process system structure.
3	HUMAN RESOURCES MANAGEMENT	The students after completion of this course will be able to understand about various functions i.e. recruitment, selection, training, performance appraisal etc.  Human resources management enables students, to understand how to engage employees in their work , it help them to adapt in a constantly changing work environment.
4	PRODUCTION AND OPERATION MANAGEMENT	The students after completion of this course get knowledge about creation of goods and services. It involves planning ,organizing and controlling all resources needed to produce a company 's goods and services  The students can able to get knowledge about managing people, equipment , technology, information , and all the other resources needed in the production of goods and services for profit of business.
5	MARKETING RESEARCH AND CONSUMER BEHAVIOUR	The students are able to analysis behavior of consumers which is important for the requirement of introducing new product in market according to consumer choice and preference.  The students are able to promote marketing research procedures, method and techniques which helps in expansion of business.

(डॉ. आर. के. सक्सेना) प्राचार्य (डा.सकीय इं.वि.स्नातकोत्तर महाविद्यालय कोरवा (छ.न.)

