Govt PT.SSM.COLLEGE DEOBHOG, DIST – GARIYABAND

Course Outcomes:

### B.A.-I Subject: Political Science Paper-I: Political Theories

On studying this paper, the student will be able to:

1. Know about state, its essential elements and different theories of the origin of state and basic knowledge about political science.
2. Know about citizenship equality liberty and many other important things.

Paper-II: State Government and Politics

On studying this paper, the student will be able to:

1. Know about constitution its main characteristics and fundamental rights and duties.
2. Know about state government, Election Commission and electoral reform.

### B.A.-II Subject: political science

Political Science Paper-I: Western Political Thought On studying this paper, the student will be able to:

1. Know about main western political thinker just like Plato, Aristotle, Hobbes, Locke, Rousseau and their thoughts about political institutions.
2. Know the different principles given by various thinkers.

Paper-II: Comparative Government and Politics On studying this paper, the student will be able to:

1. Know the main political system which is adopted by different countries.
2. Know about the main characteristics of political system of different countries like Britain, China, America and Switzerland.

### B.A.-III Subject: Political Science Paper-I: International Politics

On studying this paper, the student will be able to:

1. Know about the significance of international politics and its impact on different countries.
2. Know about the Disarmament, Globalization and Diplomacy etc.

Paper-II: Public Administration

On studying this paper, the student will be able to get:

1. Knowledge of Public Administration its importance and scope.
2. Knowledge about government's part like legislature, executive and judiciary and its control on administration.

### Course Outcomes:

**B.A. - I Subject: Economics Paper-I: Micro Economics**

Upon successful completion of this Paper the student will be able to:

1. Factors affecting consumer demand.
2. Production and cost matrix in output determination.
3. Various market forms and determination of prices in these markets.
4. How factor prices are determined
5. Factors of welfare as conceptualized by economist.

### Paper-II: Indian Economy

Upon successful completion of this Paper the student will be able to:

1. How Indian economy is changing toward a market based economy.
2. What are basic features of Indian Economy?
3. Planning in India and economic reform introduced and rationale behind reform.
4. Role of Industry and various policy decisions to induce industrial revolution in India.
5. Importance of foreign sector and rationale behind export promotion schemes.

### B.A. - II Subject: Economics Paper-I: Micro Economics

Upon successful completion of this Paper the student will be able to:

1. National income and understand how it is calculated.
2. Factors responsible for employment determination.
3. Consumption and investment and their importance in N.I. determination.
4. Trade cycles and various factors responsible for trade cycle.
5. Export- Import and its related concepts.
6. International institutions for trade and Economics.

### Paper-II: Money Banking and Public Finance

Upon successful completion of this Paper the student will be able to:

1. How value of money changes.
2. Inflation and measures to control inflation.
3. Banks, their role in economy and Central Banking System.
4. State and effect of its intervention in the economy.
5. Sources of various revenues to state.
6. Public debt and economics effects.

### B.A. - III Subject: Economics

**Paper-I: Development and Environmental Economics**

Upon successful completion of this Paper the student will be able to understand:

1. Economic well being of various nations; Poverty and emerging trends to measure poverty and deprivation.
2. Population and Economy linkage, various perspective developments.
3. Environment, Growing importance of study of Environment Economy inter play.
4. Various socio- economic issues affecting mankind.

### Paper-II: Statistical Methods

Upon successful completion of this Paper the student will be able to:

1. Statistics, data collection
2. Measurement of representative values.
3. Easement of various representative values.
4. Inter-relationship between social and economic variables.
5. Construction of Index numbers and Measurement of trend.

course outcome

Geography **BA Part-I**

**paper 1**

**Demonstrate knowledge of physical condition of atmosphere and oceans and general problems of climatic conditions.**

**paper 2**

**Understood different parts of geographical knowledge and evolution of geographical thoughts.**

**PRACTICAL GEOGRAPHY – Map making and scale of the maps and diagrams.**

**BA Part-2**

**paper 1**

**To understand importance of resourses and economic related geography.**

**paper 2**

Knowledge of physical and cultural characterstics of india.

**PRACTICAL GEOGRAPHY ; Making projections and statistical methods.**

**BA Part-3**

**paper 1**

Knowledge of remote sensing and GIS.

**paper 2**

Knowledge of physical and cultural characterstics of Chhattisgarh.

**PRACTICAL GEOGRAPHY ;**

**Understand topographical sheets and socio-economic survey of village.**

### Course Outcomes:

**BA. / B.Sc. /B.Com. - Part-I Subject: English Language:**

On studying this paper, the student will be able to:

1. Development of comprehensive ability.
2. Improvement of vocabulary.
3. Effective communication skills.
4. Inculcation of moral and human values.
5. Acquire knowledge of Indian culture and tradition.
6. Write effectively and coherently.

### BA. / B.Sc. /B.Com. - Part-II Subject: English Language:

On studying this paper, the student will be able to:

1. Ability to discuss and respond to the content of the passage.
2. Knowledge of development of science and information technology.
3. Develop the writing skills through exercises in grammar and composition.

### BA. / B.Sc. /B.Com. - Part III Subject: English Language:

On studying this paper, the student will be able to:

1. Familiarity with values of Indian life and social system.
2. Development of India in the Modern context.
3. Development of linguistic competence and communication skills.

# Writing skills through essay writing and comprehension.

### Course Outcomes: B.Sc.-Part- I Subject: Chemistry

**Paper-I: Inorganic Chemistry**

Upon successful completion of this subject the student will be able to:

1. Describe atomic structure on the basis idea of de-Broglie matter-waves, Heisenberg uncertainty principle Schrodinger wave equation and atomic orbital.
2. Describe the shapes of S, p, d orbital's auf-bare and Pauli excessive principle hunt's rule 3. Write down the electronic configuration of elements and calculate EAN.
3. Describe the periodic (IE, EA, EN) trends in periodic table and their application.
4. Describe covalent bond on the basis of valence bond theory, directional characteristics of covalent bond hybridization with example of simple inorganic molecule.
5. Define bond parameters such as bond strength and bond energy and explain percentage ionic character. Ionic solids with reference to ionic structure, radius ratio, lattice defect, and semiconductor.
6. Describe lattice energy, salvation energy, polar sing power, Fagan's rule and metallic bonds.
7. Comparative study of s-block elements and salient feature of hydrides, salvation & compellation tendencies, function in bio systems and alkyl & aryls, chemistry of noble gases.
8. Comparative study of p-block elements, halides, hydrides, oxides and oxy acids of B, AI, N & P and their compounds.
9. Describe the principle involved in the detection of acids and basic radicals including interfering radicals.

### Paper-II: Organic Chemistry

Upon successful completion of this subject the student will be able to:

1. Describe resonance, hyper conjugation, inductive effects, and H- bonding.
2. Describe mechanism of organic reaction including clearage of bond types of reagent and reaction intermediates.
3. Describe optical and geometrical isomerism including resolution, inversion, retention, recriminations, relative & absolute configuration and nomenclature.
4. Describe the cycloalkanes, Bayer's strain theory, and theory of stainless ring and banana bonds and reaction mechanism benzene & naphthalene their structure.
5. Study of chemical reactions of Alcohols, Alkanes, dienes and alkynes including elucidation, Diels- alder reaction.

# Study of alkyls halides and aryl halides, mechanism and stereochemistry of nuclei Phillies substitution and elimination reaction.

### Paper-III: Physical Chemistry

Upon successful completion of this subject the student will be able to:

1. Describe the mathematical chemists including logarithmic relation, cure sketching, linear graph, straight line with slope and intercept.
2. Determine and workout integration and differentiation, permutation combination and probability.
3. Know about the computers, hardware and software computer language, programming and operation systems.
4. Describe molecular velocities - RMS, average and most probable velocities, Maxwell's law and other relevant details including J-T effect and lignifications of gases.
5. Describe ideal, real gases and derivation including Vander - Waal's equation.
6. Describe the liquid state, viscosity and surface tension, ideal and no ideal solutions.
7. Describe the colloid properties relate to vapor pressure osmosis, boiling and freezing points, molar masses and vent Hoff factor, Liquid crystals, emulsion, micelle, gel.
8. Describe the solid state - classification, symmetry, X-ray diffraction, miller indices and identification of unit cell.
9. Describe the chemical kinetics- rate of reaction, order of reaction and their determination.
10. Describe the catalysis - homogeneous and heterogeneous, industrial applications of catalysis.

### Lab Course:

At the end of laboratory course the student will be able to:

1. Analyze inorganic mixture containing four radicals (two acid and two basic) including interfering and combination of acid radicals.
2. Detect the functional group in the given organic compound and determine its melting & boiling prints.
3. Crystallize the given organic compound and determine its melting print.
4. Decolorize the given brown colored sugar.
5. Determine the percentage composition of binary mixture of liquids by viscometer and stalagmometer.

### B.Sc.-Part- II Subject: Chemistry

**Paper-I: Inorganic Chemistry**

Upon successful completion of this subject the student will be able to:

1. Describe the characteristic properties of d-block elements and elements of first transition series, their binary compounds and complexes.
2. Describe the chemistry of elements of second and third transition series.
3. Describe oxidation and reduction, use of red-ox potential data and red-ox diagrams.
4. Describe coordination chemistry, Werner theory, EAN, chalets, nomenclature, isomerism, VBT.
5. Describe the chemistry of lanthanides and actinides.
6. Describe acids and bases by Arrhenius, bronzed- lowery, Lax-flood, solvent system and Lewis concepts.
7. Describe the properties and reactions of non- aqueous solvents w.r.t liquid ammonia and liquid Sulpher dioxide.

### Paper-II: Organic Chemistry:

Upon successful completion of this subject the student will be able to:

1. Describe the nomenclature, formation & chemical reactions of dihydric and trihydric alcohols and phenols.
2. Describe mechanism of rearrangements reactions, nudeophilic additions to carbonyl group.
3. Describe oxidation and reduction of aldehydes and ketoses.
4. Describe methods of formation & chemical reactions of carboxylic acid and substituted carboxylic acids.
5. Describe reactivity, structure and nomenclature, basicity, structure of amines.
6. Describe Gabriel phthalamide, Hofmann bromamide azo coupling reactions.
7. Describe orbital picture and aromatic character of pgrrole, furan, thiophene and pyridine.
8. Describe preparation and reaction of in dole, quinoline and iso quinoline and reaction of in dole, quinoline and iso quinoline and electro phallic substitution reactions.

### Paper-III: Physical Chemistry

Upon successful completion of this subject the student will be able to:

1. Describe fundamentals of thermodynamics system, internal energy, enthalpy, heat capacity of gases at constant volume and constant pressure.
2. Calculate w, q, du & dh for the liquefaction of expansion of ideal gases under isothermal and adiabatic conditions, entropy and entropy change.
3. Apply phase rule to one, two and three component systems.
4. Describe Nerst distribution law, Henry's law and their application.
5. Describe specific and equivalent conductance & effect of dilution on conductance.
6. Describe applications of Kohlnausch's law and theories of strong electrolytes, transport no. and its determination by different methods.
7. Describe electrochemical cell and its conventional representation pH and pKa.
8. Describe corrosion, types, theories and its prevention.

### Paper: Lab Course

Upon successful completion of this subject the student will be able to:

1. Prepare standard solutions of oxalic acid.
2. Determine % of acetic acid in commercial vinegar using NaOH solutions.
3. Sprats different pigments of spinach using paper chromatography.
4. Determine RF value of organic compound using paper chromatography.
5. Understand effect of temperature on solubility of benzoic acids.
6. Calculate AH of salvation of benzoic acid in water.
7. Perform a laboratory experiment using conventional equipment, instrumentation and techniques and understand the principle well enough to interpret the data collected.

### B.Sc.-Part- III

**Subject: Chemistry Paper-I: Inorganic Chemistry**

Upon successful completion of this subject the student will be able to:

1. Describe metal- lagans bounding in transition metal complexes crystal field theory.
2. Describe the thermodynamics and kinetic aspect of metal complexes, factor affecting the stability of complexes, substitution reaction in square planer complexes.
3. Describe the magnetic properties of the complexes, determination of magnetic susceptibility, L-S coupling, magnetic moments and application of magnetic moment data.
4. Describe the electronic spectra of transitional metal complexes including types of electronic transition, spectroscopic ground state, orgel diagrams, spectra of hexa qua titanium complexion.
5. Describe organo metallic chemistry including definition, nomenclature and classification. Alkyls and aryls of Li, Al, Hg, Sn and Ti.
6. A brief account of metal- ethylene complexes, homogenous hydrogenation and mononuclear carbonyl and their nature of bonding.
7. Describe the bio-inorganic chemistry including essential and trace elements in biological system, the hemoglobin and myogblin, biological role of alkali and alkaline earth metals with special reference to Ca2+ and the nitrogen fixation.
8. Classification of acids and bases as hard and soft.
9. Describe HSAB concept, symbiosis and theoretical basis.
10. Describe inorganic polymers - silicon phosphous.

### Paper-II: Organic Chemistry

Upon successful completion of this subject the student will be able to:

1. Describe the formation, structure and chemical reactions of Grignard reagent, organ zinc and organ lithium.
2. Describe the nomenclature, structure formation and reactions of trios, trio ether, euphonic acids, sylph on amides and sylph on guanidine.
3. Describe the organic synthesis via insolates including acidity of alpha hydrogen's, diethyl Malone's and ethyl ace to ace tale and their synthesis.
4. Describe the chaise condensation, Kato - Enola, taut amorism, alkylation of 1, 3-dithianes and a Kyla ion - acryl ion of enemies.
5. Classification, nomenclature of carbohydrates, mechanism of ova zone formation.
6. Describe the inter conversion of glucose & fracture, glucose to mannose, formation of gluers ides.
7. Describe mechanism of mote rotation, structure of ribose & doxy RI base disaccharides and poly saccharine.
8. Describe the chemistry of fats, oils and detergents including sanctification value, iodine value, acid value, soap and detergents.
9. Describe synthetic polymers polymerization such as free radical vinyl, ionic vinyl, Z-N, vinyl polymerization condensation or step polymerization.
10. Describe the polyester, polyamides, phenol formaldehyde resin urea formaldehyde resin, epoxy resin and rubbers.
11. Describe synthetic dyes, their classification and chemistry.
12. chemistry and synthesis of methyl orange , Congo red, malachite green , crystal violet , phenolphthalein , fluoresce in, alizarins and indigo.
13. Describe the absorption spectra including UV absorption spectroscopy, beer's lamberts law and type of electronic transition, concept of chromospheres and Auto chrome, different shift.
14. Describe infra-red spectroscopy including type of vibration, hook's law, selection rule, intensity of IR bands, finger print region and characteristic absorption of functional gap.
15. Describe the NMR spectroscopy including all parameters such as nuclear shielding, de-shielding, chemical shift, spin-spin splitting coupling.
16. Interpret the PMR spectra of simple organic molecule.

### Paper-III: Physical Chemistry

Upon successful completion of this subject the student will be able to:

1. Describe elementary quantum mechanism through black-body radiation, plank's law, photoelectric effect and heat capacity and Bohr model of H-Atom.
2. Describe de-Broglie, hypothesis, uncertainty principle, ware function, Schrodinger wave equation complete.
3. Describe elementary quantum mechanism with reference to molecular orbital theory.
4. Describe the spectroscopy and define its basic and spectrophotometer.
5. Describe the rotational spectrum and Vibration spectrum.
6. Describe the electronic spectrum along with concept of PE curves, frank-Condon principle.
7. Describe the photochemistry, law of photochemistry, Je Bloke diagram.
8. Describe the fluorescence, phosphorescence and quantum yield.Describe the physical properties and molecular structure including optical activity, polarization, dipole moment and magnetic properties.
9. Describe the solutions; dilute solution and Collegative properties in details.

### Paper- Lab Course

Upon successful completion of this subject the student will be able to:

1. Separate components of binary mixture of organic compounds.
2. Synthesize aspirin and sod. Trioxalato ferrate.
3. Estimate Ba as BaSO4 gravimetrically.
4. To verify Beer's law and determine the conc. of unknown solution of K2Cr2O7 by using digital photo elect uric colorimeter.
5. Students will be able to design and carry out scientific experiments as well as accurately record and analyze the results of such experiments.
6. Follow safety procedures and demonstrate proper use of personal protective equipment.

.

### Course Outcomes: B.Sc

### Subject: Mathematics

|  |  |
| --- | --- |
| **Name of course/Paper** | **Course outcome (should include one point for each unit of the paper)** |
| Algebra and Trigonometry | Matrices are a notable example of a common thread in Mathematics. Theory of Equations comprises a major part of traditional algebra. Group theory consist study of algebraic structures. A ring theory is one of the fundamental algebraic structures used in abstract algebra. De Moivre's theorem gives a formula for computing powers of complex numbers. |
| Calculus | **Calculus** is also used to gain a more precise understanding of the nature of space, time, and motion The study of differential equations is a wide field in pure and applied mathematics, physics, and engineering. Many fundamental laws of physics and chemistry can be formulated as differential equations.  Applications of integral calculus include computations involving area, volume, arc length, centre of mass, work, and pressure. More advanced applications include power series and Fourier  series. |
| Vector Analysis and Geometry | Vector Analysis provide geometric and physical explanations of the integral of a vector field over a curve. Stokes theorem is usually used in elctromagniusm.  Gauss's Law simplifies the calculation of the electric field. Describe the various forms of equation of a plane, straight line,  Sphere, Cone and Cylinder. |
| Advanced Calculus | Define various theorem of sequence in advanced calculus.  The notion of continuity and differentiability is a pivotal concept in calculus because it directly links and connects limits and derivatives.  Partial derivatives are used in vector calculus and differential geometry.  Double and triple integrals determine area and volume. |
| Differential Equations | Power series is an important application in the field of engineering spectrum analysis. Partial differential equations are used to mathematically formulate, and thus aid the solution of, physical and other problems involving functions of several variables, such as the propagation of heat or sound, fluid flow, elasticity, electrostatics, electrodynamics.  The transform has many applications in science and engineering because it is a tool for solving differential equations.  The calculus of variations is a field of mathematical analysis that uses variations, which are small changes in functions and functional, to find maxima and minima of functional, mappings from a set of functions to the real numbers. |
| Mechanics | Static mechanics analysis of loads acting on physical systems that do not experience an acceleration, but rather, are in static equilibrium with their environment. The motion of celestial bodies as well as manmade objects such as space probes, satellites etc are the fields where mechanics is the Base. |
| Analysis | **Real Analysis** enables the necessary background for Measure Theory. Measure theory is further used in the study of Stochastic Differential Equations (Finance, Signal Processing), Stochastic Geometry (Wireless Communications), Topology (Topological Data **Analysis**) and many more.  Complex analysis, in particular the theory of conformal mappings, has many physical applications and is also used throughout analytic number theory. Another important application of complex analysis is in string theory which studies conformal invariants in quantum field theory. Understand several standard concepts of metric spaces and their properties like  openness, closed ness, completeness, Bolzano Weierstrass property, compactness, and connectedness. Identify the continuity of a function defined on metric spaces and  homeomorphisms |

|  |  |
| --- | --- |
| Abstract Algebra | Understand the basic concepts of group actions and their applications. Recognize and use the Sylow theorems to characterize certain finite groups. Know the fundamental concepts in ring theory such as the concepts of ideals, quotient rings, integral domains, and fields. Learn in detail about polynomial rings, fundamental properties of finite field  extensions, and classification of finite fields. |
| Discrete Mathematics | Learn about partially ordered sets, lattices and their types. Understand Boolean algebra and Boolean functions, logic gates, switching circuits and their applications. Solve real-life problems using finite-state and Turing machines. Assimilate various graph theoretic concepts and familiarize with their applications. |

### Course Outcomes: B.Sc

### Subject: Physics

|  |  |  |
| --- | --- | --- |
| **Name of course/Paper** | | **Course outcome (should include one point for each unit of the paper)** |
| Physics - Mechanics,Oscillations and General Properties of matter | | I- Grasping the fundamentals of different types of frames and  transformation laws,different type of coordinate systems . |
| II - Understanding of rigid body motion including examples |
| III-Learn the fundamentals of oscillators including damped and forced and grasp the sigficant terms like quality factor and damping  factor |
| IV- Learn the effect of electric and magnetic field on a charge  particle |
| V - Learn the basics of properties of matter and laws for them  including elasticity,viscosity and surface tension |
| Physics- Electricity,Magnetism and Electromagnetic theory | | I - Students are expected to understand the use of mathematical operators-gradient,divergence and curl,understanding of different  theorems for complicated circuits |
| II - Have gained the elaborated knowledge about electrostatics and  laws governing the charge distribution. |
| III - study in depth about Polarisation,bound charges and boundary conditions,study of transient currentresponse of CR,LC,LR and LCR  circuits |
| IV - To realize the importance of Biot- Savert law and Ampere's law |
| V -capable to solve a variety of problems related to Faraday's law  and Maxwell's equations expected to understand displacement current as well |
| Physics- Thermodynamics  ,Kinetic theory and stastical physics | | I- become familiar with laws of thermodynamics and various  thermodynamical processes |
| II - clear understanding of thermodynamial relationship |
| III- understanding of maxwelliian distribution of speed and transport  phenomena in gases |
| IV - familiarize withthe statistical basis of thermodynamics |
| V - introduction to basic statistics- Maxwell-boltzman,bose-  Einstien,Fermi-dirac statistics |
| Physics- Waves  ,acoustics and optics | | I- Understanding of waves, their propagation ,phenomena related to  sound |
| II- understanding of geometrical optics,image formation ,aberrations  in images, optical instruments |
| III - Understanding of phenomena of interference and interferometer |
| IV- understanding of diffraction and diffraction grating |
| V- basic knowledge of LASER |
| Physics- Relativity, Quantum mechanics,atomic,Mole cular and Nuclear Physics | | I-students will be able to understand different frames of reference, cocept of relativity and its applications |
| II- capable to understand the origin of quantum theory and get the knowledge about wave properties of particles De Broglie waves and  its application |
| III- to find the solution of schrodinger equation for many  system,familiarize with different quantum numbers |
| IV- to understand the spectra of hydrogen atom ,alkali atoms and fine |
|  |  | structure of spectra |
| V- to understand different types of nuclear detectors,nuclear  reactions and different atomic models. |
| Physics- solid statePhysics,solid state devices and Electronics | | I- understanding of different crystal structure and parameters |
| II- understanding of electron model of metals,kronig-penny  model,semiconductors,magnetic theory and principles for substances |
| III- have a basic knowledge of semiconductor physics and devices |
| IV- application of semiconductor devices,rectifier,amplifier and  oscillators |
| V- understanding of basics of computers hardware and introduction  to programing |

### Course Outcomes:

**Name of Program: B.Sc. in Zoology B.Sc. – II**

### Paper-I: Anatomy and Physiology

1. Knowledge of the anatomical and physiological similarities and dissimilarities of vertebrate's animals by comparative study.

Paper-II Vertebrate Endocrinology, Reproductive Biology, Behavior, Evolution and Applied Zoology

1. Know about the endocrine glands, hormones and mechanism of their action.
2. Different evidences and theories of organic evolution.
3. The behavioral patterns in animals.
4. Economically important animal culture practices.

### Practical Work:

1. Anatomical study of different Invertebrates and Vertebrates animals by Museum Specimens and Slides.
2. Experience the Skeletal system by viewing the bones of vertebrates.
3. Life Cycle of Honey Bee and Silkworm.

### B.Sc. – III

**Paper -I: Ecology, Environmental Biology, Toxicology, Microbiology and Medical Zoology**

1. Know about the major ecosystems of world, characteristics of population, type of pollution and their regulation, conservation of natural resources.
2. Different type of chemical and biological toxicants, their effects and prevention.
3. Importance of Microorganism.
4. Study of Pathogenic animals, diseases and their symptoms and preventions.

### Paper-II: Genetics, Cell Physiology, Biochemistry, Biotechnology and Bio-techniques

1. Know about the Human Genetics
2. Physiological functions of cells.
3. Different Bio-molecules and their metabolism.
4. Different Genetical Engineering Techniques.
5. Different Bio-Instrumental techniques.

### Practical Work:

1. Blood group detection and RBC counting methods.
2. Estimation of Population Density.

### Course Outcomes: B.Sc.-I

**Subject: Botany Paper-I General Diversity of Microbes and Cryptogames**

1. The student will acquire the knowledge of general diversity of microbes, algae, fungi, Bryophyte and Pteridophyta.

### Paper-II Cell Biology and Genetics.

1. Knowledge of cell, cell organelle, genitive material, gene expression and genitive variation.

### B.Sc.-II

**Subject: Botany Paper-I Diversity of seed plants and their systematics.**

1. Diversity of gymnosperms and angiosperms.
2. Knowledge of Geological time scale and Fossils.

Paper-II Structure, development and reproduction in flowering plants.

1. The vegetative and reproductive structure and development of angiosperms.

### B.Sc.-III

**Paper-I Plant Physiology, Biochemistry and Biotechnology.**

1. To know the importance of plant water relation, nutrients, Photosynthesis, Respiration and other life supportive processes in plants.

### Paper-II Ecology and utilization of plants.

1. Knowledge about plants and environment and how plants are important and influence of our life.

### Course Outcomes: B.Com-I

**Subject: Commerce**

### (Accounting group)

**Paper – I Financial accounting**

Upon successful completion of this subject the student will be able to:

1. State the uses and users of accounting information.
2. Explain and apply accounting concepts and principles and conventions.
3. Record basic accounting transactions and prepare annual financial statements.
4. Analyses interpret and communicate.
5. The information contained in basic financial statement and explains the limitations of such statements.

**Paper - II Business communication**

Upon successful completion of this subject the student will be able to develop effective business communication skills among the students.

**Student Learning Outcomes -**

1. Apply business communication strategies and principles to prepare effective communication for business situations.
2. Utilize analytical and problem solving skills appropriate to business communication.
3. Communicate via electronic mail, internet and other technologies.
4. Deliver an effective oral business presentation.

### Management group

**Paper - I Business mathematics**

* + 1. Analyze real world scenario to recognize when simple and compound interest annuities, pay roll preparation, pricing, invoice preparation, trade discount, takes and depreciation are appropriate.
  + **2**. Formulate problems about the scenario creatively models.
  + **3.** Appreciate business mathematics concepts understand and be able to communicate the business concept and mathematics.
  + **4.** Work out simple and compound interest annuities.
  + **5**. Preparation of pay roll pricing, invoice trade discount taxes and depreciation problem in various situations.

**Paper – II Business regulatory framework**

This course is to provide a brief idea about the frame work of Indian business laws.

## Student Learning Outcomes -

1. Basic legal knowledge to commerce students.
2. Knowledge of special contracts.
3. Knowledge of Negotiable Instrument Act.
4. Knowledge of Consumer Protection Act.

### Economics group

**Paper – I Business environment**

* + Upon successful completion of this subject the student will be able to:
  + **1.** Define the term ethics.
  + **2**. Understand the concept of business ethics.
  + **3**. Identity the types of ethical issue.
  + **4**. Understand the problems in business ethics.
  + **5**. Appreciate the concept of work ethics
  + **6**. Apply the knowledge of ethics in real life situations.

**Paper – II Business economics**

1. Upon successful completion of this subject the student will be able to:
2. **1.** Analyze the demand and supply condition and access the position of a firm.
3. **2.** Analyze operations of market under varying competitive conditions.
4. **3**. Analyze the local and global business environment.
5. **4**. Apply effective written and oral communication skills to business situation.

## B.Com-IInd Year Subject: Commerce Group-I

**Paper-I: Corporate accounting**

Upon successful completion of this course the student will be able to define basic term-

* 1. A comprehensive understanding of the advanced issue in accounting for assets liabilities and owners equity.
  2. The ability to account for a range of advanced financial accounting issues.
  3. The ability to prepare consolidated account for corporate group.
  4. An understanding of the principles of accounting for investments in associate.
  5. Strong verbal and written communication skills.

## Paper-II: Company law

Upon successful completion of this course the student will be able to define basic term-

1. Demonstrate comprehensive knowledge and understanding of social and economic policyconsiderations arising in this area.
2. Critically analyze complex problems in relation to the regulation of companies, apply the legal principles studies to these problems, evaluate competing arguments or solutions and present well supported conclusions both orally and in writing.
3. Read and study primary and secondary sources of company law with minimal staff guidance critically analyze, interpret, evaluate and synthesise information.

## Group-II

**Paper-I: Cost Accounting**

Upon successful completion of this course the student will be able to define basic term-

1. Explain the terminology, basic concepts and principles of Cost Accounting
2. Prepare cost of goods manufactured statement
3. Analyze transactions and prepare accounting entries for job Costing and Process costing.
4. Analyzing data & prepare cost of production reports for process costing.

## Paper-II : Principles of Business management

Upon successful completion of this course the student will be able to define basic term-

1. To facilitate students understanding of their own managerial skills.
2. Use effective communication skill to promote respect, trust and relationships.
3. Practice critical and creative thinking to emplane the decision making process.
4. Conduct research to identify new business trends and customer needs.

## Group-III : Applied Economics Paper-I: Business Statistics

Upon successful completion of this course the student will be able to define basic term-

It enables the students to gain understanding of statistical techniques as are applicable to business

## Student Learning Outcomes -

1. Studying statistics learn a general system of concepts for Statistical Analysis.
2. Demonstrate the ability to apply fundamental concepts in exploratory data analysis.
3. Apply and interpret basic summary and modeling techniques for deviate data define the concept of least squares estimation in liner regression.
4. Prepare index number.
5. Knowledge of Forecasting Method industry vs. Company Sales.

## Paper-II: Fundamentals of Entrepreneurship

Upon successful completion of this course the student will be able to define basic term-

1. Define basic term.
2. Identify the elements of success of entrepreneurial ventures.
3. Explain entrepreneurial project and its essential elements.
4. Consider the legal and financial conditions as well as the importance of the entrepreneurial infrastructure for starting a business venture.
5. Evaluate the effectiveness of different entrepreneurial strategies
6. Interpret their own business plan.

## Objective:

**B.Com-IIIrd Year Subject: Commerce Paper-I: Income Tax**

It enables the students to know the basics of income tax and its implications.

## Outcome:

Students can get the good basic practical knowledge of Income tax to develop the skill and techniques use in business and accounting.

## Paper-II: Indirect Taxes

Upon successful completion of their course a student will be able to-

* 1. Analyze indirect taxes such as central excise duty, customs duty, state excise duty etc.
  2. Learning the procedure of filing returns.
  3. Learning the computation of various indirect taxes.

## Paper-III: Management Accounting

**Objective:**

The course provides the students an understanding of the application of accounting techniques for management.

## Outcomes:

Students can get good basic knowledge with skill concept of accounting and managerial decision about entrepreneurship.

## Paper-IV: Auditing

Upon successful completion of the requirements for this course student will be able to:

1. Discuss the need for an independent or external audit and describe briefly the development of the role of the assurance provider in modern business society.
2. Explain the regulatory environment in which the external auditor operator and apply rules standards and pronouncement to the conduct of a financial report audit and assurance engagements.
3. Perform and apply professional ethics including code of conduct to specific scenario.
4. Describe the various level of persuasiveness of different types of audit evidence.
5. Understand auditor's legal liabilities and to be able to apply case law is making a judgment whether auditors might be liable to certain parties.
6. The course aims to develop student cognitive skills, especially, analytical, appreciative and communication skill.

## Marketing Area

**Paper-I: Principles of Marketing**

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

1. Use an understanding of marketing and the market driven enterprise to differentiate market, enterprise.
2. Market economy as a foundation for future course work and employer selection.
3. Identify some of the basic approaches to formulating a market strategy in order to participate effectively when working with marketing policy coordinators.
4. Identify key stages of the market planning process in order to create marketing plan through development of key sections common to most plan.
5. Use knowledge of element of the marketing mix and the functional disciplines of marketing such as research and marketing communication in order to guide future course selections.
6. Use understanding of both the product marketing life cycle including professional role and responsibilities within the life cycle to guide marketing career and identify key stake holders in the business work place.

## Group-II International Marketing

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

1. Beware of the differences between domestic marketing and international marketing.
2. Understand how culture affects marketing abroad.
3. Understand the concept of global market.
4. Understand how business customs and motivations may very from country to country.
5. Develop presentation and writing skills.
6. Work as a team.

## Objectives:

This course is meant to acquaint the students with the basics of central excise duty.

## Outcomes:

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

1. Learning the computation of central excise duty.
2. Learning the procedure of filing return.

Course Outcomes:

**ch-,-@ch-,llh-@ch-dkWe- izzFke**

**vk/kkj ikB;dze**

iz”u i= & izFke fgUnh Hkk’kk

m}s”;%&

01- Hkk’kk & Kku dk fodkl

02- Hkk’kk dk “kq} iz;ksx djuk

03- lEizs’k.k dkS”ky c<kuk

**ch-,-@ch-,llh-@ch-dkWe- f}rh;**

**vk/kkj ikB;dze**

iz”u i= & izFke fgUnh Hkk’kk

m}s”;%&

01- fgUnh Hkk’kk ds fofo/k :iksa dk Kku

02- lkfgR; & laLd`fr ls tksMuk

03- O;kdjf.kd Kku dk fodkl

**ch-,-@ch-,llh-@ch-dkWe- r`rh;**

vk/kkj ikB;dze

iz”u i= & izFke fgUnh Hkk’kk

m}s”;%&

01- lEizs’k.k dkS”ky dh o`f}

02- lkfgR; laLd`fr ,oa lkekU; Kku iznku djuk

Course Outcomes:

**ch-,- & izzFke o’kZ ¼fgUnh lkfgR;½**

iz”u i= & izFke ¼izkphu fgUnh dkO;½

m}s”;%&

1- fgUnh lkfgR; ds HkfDrdky ,oa jhfrdky dk Kku

2- Hkk’kk] laLd`fr] fopkj] ekuork] dkO;&oSf”k’V; dk ifjp;

**ch-,- & izzFke o’kZ ¼fgUnh lkfgR;½**

iz”u i= & f}rh; ¼fgUnh dFkk lkfgR;½

m}s”;%&

1- fgUnh ds dFkk&txr dk ifjp;

2- dgkuh ,oa miU;kl fo|k ds ek/;e ls vuqHkwfr;ksa] laosnukvksa dk Lkk{kkRdkj

**ch-,- & f}rh; o’kZ ¼fgUnh lkfgR;½**

iz”u i= & izFke ¼vokZphu fgUnh dkO;½

m}s”;%&

1- vk/kqfud fgUnh dfork dk ifjp;

2- f}osnh ;qxhu] Nk;koknh] izxfroknh ,oa iz;ksxoknh dkO;&izo`fÙk;ksa dk Kku

**ch-,- & f}rh; o’kZ ¼fgUnh lkfgR;½**

iz”u i= & f}rh; ¼fgUnh fuca/k rFkk vU; x| fo|k,a½

m}s”;%&

1- ekuo eu dh vfHkO;fDr ds l”kDr ek/;e x| dk ifjp;

2- ekuo fparu dh fodkl izfØ;k dks le>uk

**ch-,- & r`rh; o’kZ ¼fgUnh lkfgR;½**

iz”u i= & izFke ¼tuinh; Hkk’kk ,oa lkfgR;] NÙkhlx<+h½

m}s”;%&

1- NÙkhlx<+h lkfgR; dk ifjp;

2- {ks=h; Hkk’kk dks izksRlkgu

**ch-,- & r`rh; o’kZ ¼fgUnh lkfgR;½**

iz”u i= & f}rh; ¼fgUnh lkfgR; dk bfrgkl rFkk dkO;kax foospu½

m}s”;%&

1- fgUnh lkfgR; ds bfrgkl dk lE;d Kku djkuk

2- fgUnh Hkk’kk ds fofo/k :iksa dk Kku

3- dkO;kax foospuA

# **Course Outcomes: Name of Programme: M.Sc. in Zoology M.Sc. Ist Sem**

**Paper-I: Biosystemic and taxonomy**

* 1. Gain the knowledge about concept and theory of classification.
  2. Types of taxonomy.

## Paper-II: Structure and Function of Invertebrates

1. Classification characters, different Invertebrate phylum Invertebrate animals.
2. Life Cycle of different Invertebrate animals.

## Paper-III: Population Genetics and Evolution

1. Life origin.
2. Study of Animal Evolution due to destabilizing forces.
3. Speciation and Study of Fossils.

## Paper IV: Techniques of Biology

* Different Instruments Principle and Separation Techniques.

## Lab Course –I

* Practicals based on Paper I and II

## Lab Course –II

* Practicals based on Paper III and VI

## M.Sc. IInd Sem

**Paper-I: Comparative Anatomy of Vertebrates**

* Study of different Systems Fish, Amphibian, Reptilian, avis and Mammals.

## Paper-II: Physiology of Vertebrates

* Study of Physiology of Vertebrates.

## Paper-III: Molecular Cell Biology

* Cell structures and Biotechnology

## Paper IV: Quantitative Biology

* Theory and practical knowledge of Computer and Biostatics

## Lab Course –I

* Practicals based on Paper I and II

## Lab Course –II- Practicals based on Paper III and VI

Course Outcomes:

**,e-,- ¼fganh lkfgR;½ izFke lsesLVj**

**iz”u i= & izFke ¼vkfndky ,oa iwoZ e/;dky½**

**mn~ns”;%&**

1. fganh lkfgR; ds vkfndky ,oa HkfDrdky dh jpukdkjksa dk v/;;u
2. mDr dkyksa dh leLr i`’BHkwfe;ks dk v/;;u

**iz”u i= & f}rh; ¼izkphu ,oa e/;dkyhu dkO;½**

**mn~ns”;%&**

1. izkphu ,oa e/;dkyhu dkO; dk v/;;u
2. yksd tkxj.k dk Hkko fodflr djuk

**iz”u i= & r`rh; ¼Nk;kokn ,oa iwoZorhZ dkO;½**

**mn~ns”;%&**

1. uohu HkkoHkwfe ,oa oSpkfjd xfr”khyrk dk izlkj
2. vk/kqfrdrk] bgykSfddrk fo”otuhurk ,oa oSKkfud n`f’Vdks.k dk fodkl

**iz”u i= & prqFkZ ¼ukVd] ,dkadh ,oa pfjrkRed d`fr½**

**mn~ns”;%&**

1. x| dh fo/kkvksa ds ek/;e ls ekuo&thou ds fofo/k i{kksa dk mn~?kkVu
2. ,sfrgkfld] lkekftd] lkaLd`frd ewY;ks dk fodkl

**,e-,- ¼fganh lkfgR;½ f}rh; lsesLVj**

**iz”u i= & iape ¼mRrj e/;dky ,oa vk/kqfud dky½**

**mn~ns”;%&**

1. fganh lkfgR; ds jhfrdky] vk/kqfud dky ,oa Nk;koknksRrj dky dk O;kid v/;;u
2. leLr i`’BHkwfe;ks izo`fRRk;ksa ,oa izfrfuf/k jpukdkjksa dk ifjp;

**iz”u i= & ‘k’B ¼e/;dkyhu dkO;½**

**mn~ns”;%&**

1. e/;dkyhu dkO; dk v/;;u
2. yksd eaxy HkkoukRed ,drk ,oa lkaLd`frd ijaijk ls tksM+uk

**iz”u i= & lIre ¼iz;ksxoknh ,oa izxfroknh dkO;½**

**mn~ns”;%&**

1. izxfrokn ,oa iz;ksxokn ds izeq[k gLrk{kjksa dk v/;;u
2. ledkyhu HkkofHkO;atuk ,oa f”kYixr uohurk ls ifjp;

**iz”u i= & v’Ve ¼miU;kl fuca/k ,oa dgkuh½**

**mn~ns”;%&**

1. miU;kl] fuca/k ,oa dgkuh ls ifjp;
2. lkfgR; lekt&laLd`fr dk v/;;u
3. vkapfydrk ls ifjp; djkuk

**,e-,- ¼fganh lkfgR;½ r`rh; lsesLVj**

**iz”u i= & izFke ¼lkfgR; ds fl)kar rFkk vkykspuk “kkL=½**

**mn~ns”;%&**

1. Hkkjrh; ,oa ik”pkR; dkO;”kkL= ls ifjp;
2. izeq[k fl)karks dk ifjp;
3. lkfgfR;d le> fodflr djuk

**iz”u i= & f}rh; ¼Hkk’kk foKku½**

**mn~ns”;%&**

1. Hkkf’kd O;oLFkk dk Kku
2. Hkk’kk ds fofo/k vk;keksa dk v/;;u

**iz”u i= & r`rh; ¼dkedkth fgUnh ,oa i=dkfjrk ½**

**mn~ns”;%&**

1. fgUnh ds fofo/k :iksa dk v/;;u
2. fgUnh i=dkfjrk ds mn~Hko vkSj fodkl dk v/;;u
3. Hkk’kk es n+{krk mRiUu djuk

**iz”u i= & prqFkZ ¼Hkkjrh; lkfgR;½**

**mn~ns”;%&**

1. Hkkjrh; lkfgR; ds Lo:Ik ls ifjp;
2. fgUnhrj Hkk’kkvks ds lkfgR; ls ifjp;
3. rqyukRed v/;;u djuk

**,e-,- ¼fganh lkfgR;½ prqFkZ lsesLVj**

**iz”u i= & iape ¼fgUnh vkykspuk rFkk leh{kk “kkL=½**

**mn~ns”;%&**

1. fganh vkykspuk dh izeq[k izo`fRr;ks dks le>uk
2. O;kogkfjd leh{kk dk Kku

**iz”u i= & ‘k’B ¼fgUnh Hkk’kk½**

**mn~ns”;%&**

1. fgUnh dh ,sfrgkfld i`’BHkwfe ,oa muds fofo/k miHkk’kkvksa@cksfy;ksa dk Kku
2. fgUnh dh fofo/k :iksa dk Kku
3. nsoukxjh fyfi vkSj ekudhdj.k dh izfØ;k dks le>uk

**iz”u i= & lIre ¼ehfM;k ys[ku ,oa vuqokn½**

**mn~ns”;%&**

1. ehfM;k ds fofo/k ek/;eksa muds Lo:Ik ,oa pqukSfr;ks dks le>uk
2. vuqokn ds Lo:Ik ,oa O;ogkj dks le>uk

**iz”u i= & v’Ve ¼tuinh; Hkk’kk vkSj lkfgR; ¼NRrhlx<+h ½½**

**mn~ns”;%&**

1. NRrhlx<+h lkfgR; ds mn~Hko vkSj fodkl dks le>uk
2. NRrhlx<+ ds Hkk’kk] cksyh ,oa laLd~fr ls ifjp;
3. NRrhlx<+h ds Hkkf’kd Lo:Ik ,oa O;kdjf.kd fo”ks’krkvksa ls ifjp;A