DEPARTMENT OF BOTANY

Programme: B. Sc. (Botany)

Statements of programme Specific Outcomes (PSOs)

By the end of this course, the students will be able to:

1. Understand the basic concepts of lower group plants and morphology of higher groups.
2. Understand the evolution, Classification, anatomical details of higher group plants.
3. Analyze the cell organelles and application of genetics, molecular biology in plant breeding.
4. Identify the bacteria, viruses and plant pathogen.
5. Analyze metabolic activities of plants.
6. Understand the application of genetic engineering for the improvements of plants.
7. Understand the basic concepts of ecology.
8. Perform the procedure of laboratory technique in biochemistry, biotechnology and utilization of plants.

Statements of course outcomes (Cos)

B.Sc.Course: SEM-I Paper -1

Course Outcomes: By the end of this course, the students will be able to:

1. Understand the basic concept of bacteria, virus and mycoplasma.
2. Student will understand types of bacteria, viruses and mycoplasma.
3. Student will able to describe Classification and general characteristic of Algae.
4. Analyze economic importance of bacteria, virus and algae.
5. Student will describe life-cycle of micro organism and Algae.

B.Sc.Course: SEM-I Paper -2

Course Outcomes: By the end of this course, the students will be able to:

1. Compare lower group of plants with higher.
2. Students understand Fungi, Lichen, Plant diseases and Bryophytes.
3. Identify the different plant diseases.
4. Understand the Economic importance fungi, lichens and bryophytes.
5. Discuss the classification of fungi and Bryophytes.

B.Sc.Course: SEM-I Lab

Course Outcomes: By the end of this course, the students will be able to:

1. Student will understand working and precaution while handling microscope.
2. Understand the basic technique in lab e.g. Slide preparation and Section cutting.
3. Identify bacterial, cyanobacterial, algal, fungal,lichens and bryophytic plant.
4. Comparative study of lower groups and lower higher groups.
5. Understand and identify the algal, bryophyte, fungal, plant pathology and lichens under natural habitat.

B.Sc.Course: SEM-II Paper-1

Course Outcomes: By the end of this course, the students will be able to:

1. Explain the classification of pteridophyta and gymnosperm.
2. Describe the economic importance of pteridophyta and gymnosperm.
3. Discuss the alternation of generation pteridophyta and gymnosperm.
4. Criticize the concept of heterospory and seed habit.
5. Discuss morphology and anatomy of cycadeoidea.

B.sc. course: SEM II Paper -2

Course outcomes: By the end of this course, the students will be able to:

1. Understand the paleobotany and geological time scale.
2. Identify the different type of fossils.
3. Explain the morphology and modification of plants.
4. Compare the types of inflorescence and fruits.
5. Describe the parts of flower.
6. Student will describe vegetative and floral parts in scientific language.

B.Sc.Course: SEM-II Lab

Course Outcomes: By the end of this course, the students will be able to:

1. Describe the various parts of flower.
2. Identify the anatomy of plants material by making temporary mount.
3. Identify the different types of fossils.
4. Identify various Plant specimens.
5. Understand and identify the morphological characters of plants in natural environment.
6. Students will identify types of roots, stem, leaves, inflorescence, flower and fruits in the field visit.

B.Sc.Course: SEM-III Paper-1

Course Outcomes: By the end of this course, the students will be able to:

1. Describe general taxonomic rule of plant classification.
2. Discuss the principles of botanical nomenclature.
3. Criticize the classification of angiosperm.
4. Justify the merits and demerits of systems of classification.
5. Understand the fossil angiosperm sahanianthus.
6. Identify and describe different dicot and monocot families.

B Sc. Course: SEM-III Paper-2

Course Outcomes: By the end of this course, the students will be able to:

1. Describe the structure of plant cell and its organelles.
2. Analyze the morphology of chromosome organization.
3. Explain the plat cell-division and its significance.
4. Evaluate the biostatic formulas.
5. Understand the method of plants- breeding.

B Sc. Course: SEM-III LAB

Course Outcomes: By the end of this course, the students will be able to:

1. Preparation of herbarium.
2. Analyze the floral formula of monocot and dicot families.
3. Perform the procedure of cytological techniques.
4. Analyze the biostatistics data.
5. Understand and identify the plants under natural environment.

B Sc. Course: SEM-IV Paper-1

Course Outcomes: By the end of this course, the students will be able to:

1. Classify the meristimatic tissue and permanent tissue based on origin and position.

2. Compare the different theories of tissue.
3. Understand primary, secondary and anomalous, anatomical structure of plant parts.
4. Understand the various types of pollination mechanism.
5. Explain the types of ovules

B Sc. Course: SEM-IV Paper-2

Course Outcomes: By the end of this course, the students will be able to:

1. Describe the laws of mendelism.
2. Summarize the theories of linkage.
3. Design and construct the variation in chromosome structure and numbers.
4. Understand the concept of gene.
5. Discuss the types of mutations and its application in crop-improvement

B Sc. Course: SEM-IV LAB

Course Outcomes: By the end of this course, the students will be able to:

1. Perform double –stained permanent slide mounting.
2. Calculate the percent germination of pollen-grains.
3. Solve the mendel's law of inheritance trough color beads.
4. Solve interaction of genes from the given data.

B Sc. Course: SEM-V Paper-1

Course Outcomes: By the end of this course, the students will be able to:

1. Classify and describe about bimolecular.
2. Describe about the basic of Enzymes.
3. Understand plant water relation
4. Write about mineral nutrients.
5. Summarize the cycle of respiration and photosynthesis.

B Sc. Course: SEM-V Paper-2

Course Outcomes: By the end of this course, the students will be able to:

1. Define and explain about ecology branches and its significance.
2. Summarize the environmental factors.
3. Understand and explain the nitrogen cycle.
4. Compare the various phytogeographic regions of India.
5. Describe the types of ecosystem

B Sc. Course: SEM-V LAB

Course Outcomes: By the end of this course, the students will be able to:

1. Perform major and minor physiology.
2. Perform micro-chemical and bio-chemical test.
3. Understand ecological adaptations of plants.
4. Compare different types of soil

B Sc. Course: SEM-VI Paper-1

Course Outcomes: By the end of this course, the students will be able to:

1. Describe the plant growth and its growth regulators.
2. Describe the seed-dormancy and methods to break-dormancy.
3. Describe the plant-defense and role of secondary metabolites.

4. Discuss plant tissue culture technique and its application.
5. Discuss the advantages and disadvantages of genetic-engineering.

B Sc. Course: SEM-VI Paper-2

Course Outcomes: By the end of this course, the students will be able to:

1. Compare the various ecological successions.
2. Explain different types of environmental pollution and its management.
3. Understand about the renewable and non-renewable natural sources.
4. Analyze the principle , types, and application of instruments.
5. Explain morphology utilization and chemical-constituents of different plants.

B Sc. Course: SEM-VI LAB

Course Outcomes: By the end of this course, the students will be able to:

1. Perform principles and working of instruments.
2. Study and identify the types and characteristic of soil.
3. Study the physical and chemical properties of water.
4. Study the plants of ethanobotanical importance.
5. Understand and identify ethno-botanical plants under natural habitat.

DEPARTMENT OF CHEMISTRY

Programme: B Sc. (Chemistry)

Statement of Programme Specific Outcomes (PSOs)

By the end of this course, the students will be able to:

1. Interpret spectra of organic compound.
2. Perform qualitative and quantitative estimates.
3. Operate different instruments used in chemical analysis.
4. Synthesize organic as well as inorganic compounds.
5. Determine the rate, mechanism and kinetics of various chemical reactions.
6. Discuss various theories of chemical bonding.
7. Perform any job in quality control department of industry.
8. Participate and represent in seminars, workshops at national and international level.

Statement of Course Outcomes (COs)

B.Sc.Course: SEM-I Paper -1

By the end of this course, the students will be able to:

1. Understand atomic structure and different rules with reference to electronic configuration.
2. Discuss chemical bonds and different theories related to chemical bonding.
3. Explain the comparative account of S-block elements.
4. Summarize the hydrides oxides, peroxy acids of P-block elements.
5. Design the structure of diborane and borazine.

B.Sc.Course: SEM-I Paper -2

By the end of this course, the students will be able to:

1. Understand kinetics gas model different gas laws and ideal and real gases.
2. Analyze the structural difference between different states of matter.
3. Explain the surface tension viscosity and their applications.
4. Understand surface phenomenon and its application.
5. Understand the role of enzymes as a catalyst.
6. Understand the basic concepts of thermodynamics and thermo chemistry.

B.Sc.Course: SEM-I LAB

By the end of this course, the students will be able to:

1. Analyze viscosity given inorganic mixtures.

2. Determine viscosity and surface tension of given liquid.
3. Analyze cleansing action of different detergents.
4. Construct various crystal models.

B.Sc.Course: SEM-II Paper -1

By the end of this course, the students will be able to:

1. Understand hybridization and can construct models.
2. Explain different terms involved in organic reaction mechanism.
3. Write different stereo chemical formulae of organic compounds.
4. Write IUPAC names of alkenes and alkynes.
5. Define dines, alkynes and alkenes.

B.Sc.Course: SEM-II Paper -2

By the end of this course, the students will be able to:

1. Understand second law of thermodynamics, free energy and work function.
2. Define phase rules with its terms involved and application of phase rules.
3. Understand Rault's Law, Hery's law and Nernst's distribution law.
4. Understand conductance, its types and mobility of ions.
5. Explain transport no., methods for determination of transport no.
6. Compare between first, second and third order reactions and their method of determination of order of reaction.

B.Sc.Course: SEM-IILAB

By the end of this course, the students will be able to:

1. Identify different extra element and functional group from given organic compound.
2. Identify accurate and precise melting point of organic compound.
3. Determine heat of solution and ionization.
4. Construct phase diagram of three component system.

B.Sc.Course: SEM-III Paper -1

By the end of this course, the students will be able to:

1. Construct molecular or bital diagram of diatomic molecules.
2. Understand characteristic properties of first transition series elements.
3. Write the electronics configurations of Lanthanides and Actinides.
4. Classify second and third transmission series elements.

B.Sc.Course: SEM-III Paper -2

By the end of this course, the students will be able to:

1. Explain reactivity at ortho and para positions of benzene ring.
2. Compare SN1 and SN2 reactions.

3. Criticize use of BHC and DDT.
4. Classify different alcohols and phenols.
5. Summarize different mechanisms of carbonyl compounds.

B.Sc.Course: SEM-IIILAB

By the end of this course, the students will be able to:

1. Determine the percentage of acetic acid in a given commercial vinegar sample.
2. Calculate temporary and permanent hardness in given water sample.
3. Analyze given organic compound.
4. Prepare derivatives of given organic compound.

B.Sc.Course: SEM-IV Paper -1

By the end of this course, the students will be able to:

1. Differentiate simple salt, double salt and complexes.
2. Understand the isomerism in coordination compounds.
3. Analyze the redox cycle.
4. Explain the role of trace elements in biological processes.
5. Differentiate hard and soft acids and bases.

B.Sc.Course: SEM-IV Paper -2

By the end of this course, the students will be able to:

1. Compare first and second law of thermodynamics.
2. Understand the concepts of system of variable composition.
3. Understand the basic concepts of electrochemistry.
4. Write cell reactions to calculate electrode potential.
5. Understand dipole moment and its application.
6. Explain rotational spectra and its application

B.Sc.Course: SEM-IV LAB

By the end of this course, the students will be able to:

1. Understand importance of gravimetric estimation.
2. Separate binary mixture by chromatographic technique Rf values.
3. Operate conductometer and potentiometer.
4. Construct Born Habers Cycle and lattice energy of ionic solids.

B.Sc.Course: SEM-V Paper -1

By the end of this course, the students will be able to:

1. Understand chemistry of aliphatic and aromatic nitrogen containing compounds.
2. Justify the occurrence of heterocyclic compounds and identify in medicines.
3. Analyze the percentage composition of different elements like C, H, N, and X.
4. Explain the reactivity of different organosllic compounds.
5. Identify various electronic transitions occur in different organic compounds.

B.Sc.Course: SEM-V Paper -2

By the end of this course, the students will be able to:

1. Understand the failure of classical mechanics.
2. Criticize Bohr's model of an atom.
3. Derive Schrödinger wave equation in 1D and 3D box.
4. Compare bonding and non-bonding orbital.
5. Calculate the solution.
6. Understand the interaction of radiation with matter

B.Sc.Course: SEM-V LAB

By the end of this course, the students will be able to:

1. Perform quantitative estimation of glucose, amide and nitro group.
2. Verify Beer-lamberts law by colorimeter.
3. Determine molar mass by Rast's method.
4. Predict zero order reaction of iodination of acetone.

B.Sc.Course: SEM-VI Paper -1

By the end of this course, the students will be able to:

1. Discuss the crystal field theory of coordination compounds.
2. Interpret electronic spectra of transition metal complexes.
3. Understand the difference between thermodynamics and kinetic stability of metal complexes.
4. Understand the different instrumental and separation techniques used in chemistry.
5. Compare different types of silicon.

B.Sc.Course: SEM-VI Paper -2

By the end of this course, the students will be able to:

1. Determine structure of organic compounds on the basis of NMR spectroscopy.
2. Understand the importance and role of formation of enolate ions.
3. Explain the importance of biomoleclues such as carbohydrate, proteins and fats.
4. Understand cleansing action and differentiate between soap and detergent.
5. Understand preparation and application of polymers, synthetic dyes and synthetic drugs

B.Sc.Course: SEM-VI LAB

By the end of this course, the students will be able to:

1. Prepare inorganic complexes.
2. Predict the geometry of complexes and determine its magnetic properties.
3. Identify the solvent to be used for the separation of binary mixtures.
4. Separate the binary mixtures and identify the organic compounds in the mixture.

DEPARTMENT OF COMMERCE

Programme: B Com.

Statement of Programme Specific Outcomes (PSOs)

By the end of the programme, the student will be able to

1. Understand the basic concepts of the commerce, management, accounting of & economics.
2. Analyze relationship among commerce, trade industry, services, management and administration.
3. Perform all accounting activities and can handle type of business very well.
4. Understand application of knowledge of commerce in business service sector industry, marketing, finance entrepreneurship development etc.
5. Develop communication skills and computer awareness and rules of income tax act.
6. Think about commercial and professional way or point of view.
7. Self-employment confidences develop.
8. Understanding legal issue/ law relating to banking and insurance sector.

Statements of Course Outcomes (COs)

Course: Financial Accounting.

By the end of the course, the student will be able to

1. To understand the principles of accounting and its concepts.
2. Compare between higher purchase and installment system and prepare here the purchase account.
3. Describe the types of cooperative societies and prepare trading and provident laws account and balance sheets.
4. Explain the meaning joint venture accounts and right methods of the joint venture accounting.
5. Design the numerical on centralize and decentralized method.

Course: Business Organization

By the end of the course, the student will be able to

1. Discuss nature and the scope of business and classify the business activities.
2. Identify the meaning of the sole partnership one Person Company, private company and Joint Stock Company.
3. Justify the function of the organization, principles of the organization and the types of the organization.
4. Compose internal consistence of the business organizations and key managerial personal (KMP)
5. Summaries the qualities powers responsibilities of chairman and chief executive officer.
6. Paraphrase ecommerce and e business and e banking.

Course: Company Law

By the end of the course, the student will be able to

1. Understand the background of the new company act 2013 and explain kinds of company.
2. Define memorandum of association and articles of association.
3. Determine private placement and prospectus and misrepresentation in prospectus.
4. Write the meaning and nature of capital share and capital.
5. Identify the difference between share and debenture and owned capital and debt capital.
6. Explain membership in a company and its procedure and analyze the meaning of directors and concepts.

Course: Business Economics

By the end of the course, the student will be able to

1. Understand the nature and scope of the business economics and their responsibilities.
2. Describe the law of the demand and Geffen's paradox and methods of demands for costing.
3. Evaluate the concept of production function and law of variable proportions and isoquant curves.
4. Design the theory of the population and the criticize it.
5. Describe law of the supply and its criticism and evaluate concept of cost
6. Write down the theory of the revenue.

Course: Statistics and Business Mathematics

By the end of the course, the student will be able to

1. Write the meaning, scope, function and limitation of statistics.
2. Calculate mean, median, and mode and geometric mean and the moronic mean.
3. Evaluate mean, division, standard and deviation and quartile deviation.
4. Solve sequence, Karl, persons and co-efficient of sequence.
5. Calculate of ratio, proportion percentages, simple and compound, interest and profit loss.

Course: Business Management

By the end of the course, the student will be able to

1. Understand the principles of business management and its scope and significance.
2. Explain the process of business management and functions of business management.
3. List the characteristics and the importance and planning and decision making.
4. Discuss the meaning of delegation of authority and coordination and controlling
5. Justify the recent traits in management.

Course: Secretarial Practice

By the end of the course, the student will be able to

1. Describe the procedure of incorporation of the companies and conversion of companies.
2. Explain the types and characteristics of company meeting and meetings of committee of directors.
3. Classify report writing, concept of secretarial audit and e-governance, e-filling.
4. Analyse key managerial personal procedures for appointment of additional directors.
5. Write down the managerial remuneration and provisions regarding resignation.

Course: Business Economics II

By the end of the course, the student will be able to

1. Describe market structures and firm and industry and pricing of products.
2. Classify perfect and imperfect competition, markets and monopoly and monopolistic competition.
3. Explain theories of distribution, theories of rent theories of wages and theory of interest
4. Write down the relationship of dynamic theory of profit and innovation theory of profit.
5. Paraphrases the concept of business cycle and national income
6. Criticize theory of profit

Course: Business law

By the end of the course, the student will be able to

1. Aware of various laws relating to the business laws, meaning, evaluation , significance
2. Identiry the law relating to sell of goods acts 1930, the Indian partnership act 1932.
3. Determining law relating to negotiable instrument act 1881.
4. Understanding the law relating to the consumer protection act 1986 information technology act 2000 and cyber law.

Course: Monetary Economics

By the end of the course, the student will be able to

1. Understand the meaning of money, evolution, theory of money.
2. Analyse the cause inflation and deflation , role of monetary policy and fiscal policy
3. Understand money market and policies, impact, recent changes/trends.
4. Describe the concept of public finance, taxation and types of taxation.

Course: Financial Accounting

By the end of the course, the student will be able to

1. Understand consignment accounts theory and numerical.
2. Solve and understand branch accounts excluding foreign branch theory and numerical.
3. Determine flotting of Joint stock company and capital structure, theories and numerical
4. Understand final accounts of joint stock companies and theories and numerical.

Course: Business communication and management

By the end of the course, the student will be able to

1. Understand the concept of communication and types
2. Analyse the concept of business communication and its principles and roles of public relation management.
3. Understand technology management information system and business communication
4. Perform procedures as per ms office, aided communication.

Course: Financial Accounting

By the end of the course, the student will be able to

1. Analyse the final accounts of banking companies' preparation of accounts as per banking companies registered act 1949.
2. Solve the final accounts of general insurance companies theory and numerical.
3. Calculate the valuation of goodwill
4. Liquiditators final statement of account only theory and numerical preparations.

Course: Skill development

By the end of the course, the student will be able to

1. Understanding of the basic of personality meaning of skill
2. Determine the communication skills and the personality development.
3. Analyze techniques in personality development
4. Understanding of interpreneurship skill development.
5. Meaning of entrepreneurship and type.

Course: Income Tax

By the end of the course, the student will be able to

1. Understanding the concept of income tax
2. Solve a numerical under the head of income from salary
3. Solve a numerical under the head of income from house property
4. Calculate the numerical of income from other sources

Course: Monetary economics 2

By the end of the course, the student will be able to

1. Discuss the evolution, meaning, function of commercial banks
2. Understanding the concept of e banking and core banking
3. Understanding the meaning of customer banks and customer relationship
4. Discuss meaning, objectives, functions, the role of the central bank

Course: Financial Accounting IV

By the end of the course, the student will be able to

1. Understand the accounting procedure of amalgamation and absorption
2. Compare between reconstruction and reorganisation of companies
3. Analyse and understand the single entry system and double entry system of accounting
4. Prepare final accounts of electricity gas and water supply companies
5. Calculate the valuations of shares by net assets method and yields method

Course: Cost Accounting

By the end of the course, the student will be able to

1. Understand the difference between cost accounting and financial accounting
2. Prepare the profit, reconciliation statement
3. Define job costing the process costing
4. Determine contract, and costing its elements and features and contracts costing
5. Classify normal loss and abnormal loss and normal gain and abnormal gain.

Course: Management Process

By the end of the course, the student will be able to

1. Understand the objective of economics planning and strategy of india development plans
2. Discuss concept of economic growth and economic development
3. Understand the causes of the population explosion and relations of it with unemployment
4. Compare between urban and rural unemployment.
5. Determine the meaning of public revenue and public expenditure

Course: Indian Economics

By the end of the course, the student will be able to

1. Understand the objectives of economic Planning and strategy of India's development plans
2. Discuss the concept of economic growth and economic development
3. Understand the causes of population expansion and relation of it with unemployment
4. Compare between urban and rural unemployment
5. **Determine the meaning of public revenue and public expenditure.**

Course: Marketing Management

By the end of the course, the student will be able to

1. Understand the traditional and modern concept of marketing
2. Compare between industrial market and service market
3. Understand the issues and challenges of pricing policy
4. Define branding, packaging and product life cycle
5. Discuss techniques of product, promotion advertising and E-marketing.

Course: Business finance

By the end of the course, the student will be able to

1. Classify the source of business finance
2. Calculate economic order quantity and virus inventory levels
3. Calculate the assignment of working capital requirement
4. Understand the difference between debtors management and creditors management
5. Define operating financial leverages.

Course: Financial Accounting V

By the end of the course, the student will be able to

1. Prepare the consolidated balance sheet and profit and loss account
2. Solve simple problem on involving company only
3. Understand introduction of insurance claims and construct practical problem on loss of stock
4. Explain meaning, needs, objectives of investment accounts, solve simple problem on investment.
5. Prepare the statement of profit prior to incorporation

Course: Management Accounting

By the end of the course, the student will be able to

1. Compare difference between cost accounting and management accounting
2. Calculate the break- even point analysis
3. Prepare cash budget and flexible budget
4. Explain the meaning, importance and limitation of ratio analysis
5. Calculate ratio, acid test ratio, inventory turnover ratio
6. Prepare statement showing changes in working capital and fund show statement

Course: Advanced Statistics

By the end of the course, the student will be able to

1. Prepare correlation, Karl, Person's coefficient of correlation in vicariate frequency, table.
2. Evaluate regression analysis, coefficient of regression for a biraviate frequency table
3. List the uses of IN types of I No methods of Index number
4. Calculate simple problems on tend, short term variation, irregular variation
5. Solve simple problem on measurement of trend.

Course: Indian Economy

By the end of the course, the student will be able to

1. Understand the nature, role of agriculture in Indian economy
2. Explain the NABAARD (National Bank for Agriculture and Rural Development)
3. Analyze Indian Industry and industrial policy 1991
4. Describe Indian Service sector, growth of services sector in India government's reforms n various conditions
5. Justify foreign trade, Multinational Corporation, world trade organization.

Course: Human resource Management

By the end of the course, the student will be able to

1. Understand the definition, objectives, function, scope, importance of human resource management
2. Compare the career planning and manpower planning
3. Explain the labour welfare and collective bargaining.
4. Describe human resource planning and accounting

Course: Indirect taxes

By the end of the course, the student will be able to

1. Understand the concept of central excise laws
2. Determine the customs laws
3. Analyse the service tax, provision of law and procedure
4. Understand the basic concepts, value added tax on sale or purchase of goods.

M COM PROFESSIONAL 7

By the end of the course, the student will be able to

1. Acquaint the students with the practical approach of auditing and income tax
2. Application of management accounting in decision making
3. Techniques of accounting as per the requirement and accounting procedure
4. Analysis relationship among commerce trade industry services and administration
5. Think about commercial and professional way or point of view
6. Understanding the legal issue to banking insurance and industrial sector
7. Advance and detailed knowledge and cost accounting management accounting financial accounting and auditing and income tax

Course: Advance auditing and income tax I

By the end of the course, the student will be able to

1. acquaint the students with the practical approach of auditing and income tax
2. Understand objects and importance of auditing
3. Compare different types of audit
4. Understand the audit sampling
5. Solve profit and loss account and construct balance sheet

Course: Advance financial accounting I

By the end of the course, the student will be able to

1. Create awareness among the students about advance accounting issues and practices
2. Understand nature and functions of advance financial accounting
3. Discuss nature meaning and objectives of accounting standards
4. Solve repossession (partial and complete repossession)
5. Understand departmental accounts

Course: Advance Cost Accounting 1

By the end of the course, the student will be able to

1. Understand objects aims functions, scope, advantages, and limitations of cost accounting
2. Solve single output/ unit costume
3. Design tender/ quotation/estimation of costing
4. Calculate reconciliation of profit/ loss of cost and financial books

Course: Advance Management accounting 1

By the end of the course, the student will be able to

1. Understand origin and growth, meaning scope and limitations and functions of management accounting
2. Describe financial market, money market, capital market ,corporate debt market etc
3. Solve working capital requirement
4. Calculate methods of ranking investment proposals
5. Understand analysis of financial statement

Course: Advance Auditing and Income Tax II

By the end of the course, the student will be able to

1. Understand qualification and disqualification, appointment of auditor and special qualities of auditor
2. Calculate valuation and verification of assets and liabilities
3. Describe vouching of impersonal ledger
4. Understand meaning and importance of investigation
5. Solve income from house property

Course: Advance financial Accounting II

By the end of the course, the student will be able to

1. Understand accounting organisation –ICAI, ICFAI, ICSI
2. Describe social accounting and human resource accounting
3. Solve valuation of goodwill ad shares
4. Calculate ascertainment of profit under single entry system
5. Design accounts for non profit making organisations

Course: Advance cost accounting II

By the end of the course, the student will be able to

1. Understand cost concept analysis and cost behaviour
2. Solve process costing
3. Calculate machine hour rate

Course: Advance Management Accounting

By the end of the course, the student will be able to

1. Understand capitalization concept, consequences of errors in capitalisations
2. Explain budget and budgetary control]
3. Solve flexible and master budget
4. Calculate capital budget and investment of surplus funds

Course: Advance Auditing and Income tax 3

By the end of the course, the student will be able to

1. Understand audit and share capital
2. Explain cost and management audit
3. Perform audit report
4. Solve statement of income from business and profession

Course: Advance financial accounting3

By the end of the course, the student will be able to

1. Understand the financial statement analysis
2. Describe agricultural form accounting'
3. Solve profit prior to incorporation
4. Calculate reorganization and reconstruction of companies
5. Design the statement of liquidation of companies

Course: Advance cost accounting2

By the end of the course, the student will be able to

1. Understand organization and management of cost department
2. Describe cost report and cost report and cost statement
3. Solve marginal costing
4. Calculate job batch and contract costing

Course: Advance management accounting 3

By the end of the course, the student will be able to

1. Understand financial statement
2. Explain SEBI, capital market, stock exchange
3. Solve return on capital employee
4. Calculate fund flow analysis
5. Calculate cash flow analysis

Course: Advance Auditing and Income tax 4

By the end of the course, the student will be able to

1. Understand audit of divisible profit and dividend ascertainment of profit
2. Describe civil and criminal liabilities of auditor
3. Explain features of government audit
4. Describe audit of insurance companies
5. Solve capital gain and income from other sources

Course: Advance financial accounting4

By the end of the course, the student will be able to

1. Explain accounting system of financial accounting
2. describe pay role accounting computerised accounting inflation accounting etc
3. Solve final accounting of joint stock companies
4. Calculate holding accounts
5. Design accounts of banking

Course: Advance Cost Accounting 4

By the end of the course, the student will be able to

1. Describe role of cost in capital investment decision
2. Solve standard costing and variance analysis as a tool for management
3. Calculate integrated cost accounts
4. Understand uniform costing inter-firm comparison
5. Design cost volume profit analysis

Course: Advance Management Accounting 4

By the end of the course, the student will be able to

1. Understand management accounting
2. Discuss management audit, social audit, performance audit, human resource audit etc
3. Solve financial leverages- operating financial and combined leverages
4. Calculate ratio analysis

DEPARTMENT OF COMPUTER SCIENCE

Programme: B Sc. (Computer Science)

Statement of Programme Specific Outcomes (PSOs)

By the end of this course, the students will be able to:

1. Demonstrate understanding of the principles and working of the hardware and software aspects of computer systems.
2. Design, implements, test, and evaluate a computer system, Component or algorithm to meet desired needs and to solve a computational problem.
3. To Enhance skills and adapt new computing technologies for attaining professional excellence and carrying research

Statement of Course Outcomes (COs)

B.Sc.Course: SEM-I Paper -1(Programming in C)

By the end of this course, the students will be able to:

1. To illustrate the flowchart and design an algorithm for a given problem. They understand the basic concept of programming structure.
2. Students learnt the knowledge of fundamentals of writing C program which include data types, keywords, tokens, variables, and operators. Develop conditional and iterative statements to write C programs
3. To solve user defined functions with real time problems
4. Students developed their concepts to write C program that uses Pointers, Arrays, and Strings.
5. Understand the knowledge of user defined data types that include structure and union to solve problems.
6. Students can write the programs which includes file concept to show input and output of files in C

B.Sc. Course: SEM-I Paper -2(Fundamentals of IT)

By the end of this course, the students will be able to:

1. Bridge the fundamental concepts of computers with the present level of knowledge of the students.
2. Familiarize operating systems, programming languages, peripheral devices, networking, multimedia and internet
3. Understand binary, hexadecimal and octal number systems and their arithmetic.
4. Understand how logic circuits and Boolean algebra forms as the basics of digital computer
5. Demonstrate the building up of Sequential and combinational logic from basic gate.

B.Sc.Course: SEM-II Paper -1(Object Oriented Programming Using 'C++')

By the end of this course, the students will be able to:

1. To understand the object oriented methodology which involves elements and features of object oriented programming.

2. Students developed the concept of class, object and structure of class which includes definition of class members and also they learned how to write the programs using class.
3. Students learnt the basic concept of constructor and destructor. Also they were able to overload the unary and binary operators using the concept of operator overloading.
4. Understand how to reuse code by implementing the OOPs Inheritance concept in C++. Also they got knowledge of dynamic objects.
5. Students were able to understand how inheritance and virtual functions implement dynamic binding with polymorphism.
6. Students learnt how to use exceptional handling in C++ programs

B.Sc. Course: SEM-II Paper -2(System Analysis and Design)

By the end of this course, the students will be able to:

1. Identify various types of information systems concepts and terminologies
2. Discuss the initial phase of system Development Life Cycle (SDLC) using analytical tools and quantitative technique used to identify problem
3. Define problem and opportunities that initiate projects
4. Evaluate information systems projects to identify various aspects of feasibility of these projects
5. Apply at least one specific methodology or tool for analyzing business situation by modeling using a formal technique

B.Sc. Course: SEM-III Paper -1(Data Structures)

By the end of this course, the students will be able to:

1. Analyze run-time execution of previous learned sorting methods, including selection, merge sort, heap sort and Quick sort and also calculate the complexity of all sorting and searching methods.
2. Select appropriate data structures as applied to specified problem definition.
3. Implement operations like searching, insertion, and deletion, traversing mechanism etc. on various data structures and design applications based on it.
4. Students will be able to implement Linear and Non-Linear data structures.
5. Implement appropriate sorting/searching technique for given problem of real time system.
6. Design and implementation of advance data structure using Linear and Non Linear data structure.
7. **Determine and analyze the complexity of given** Algorithms.

B.Sc. Course: SEM-III Paper -2(Operating systems)

By the end of this course, the students will be able to:

1. Describe and explain the fundamental components of a computer operating system
2. Measure, evaluate, and compare OS components through instrumentation for performance analysis
3. Define, restate, discuss, and explain the policies for scheduling, deadlocks, memory management, synchronization, system calls, and file systems.
4. Describe and extrapolate the interactions among the various components of computing systems.
5. Design and construct the following OS components: System calls, Schedulers, Memory management systems, Virtual Memory and Paging systems.

B.Sc. Course: SEM-IV Paper -1(Java Programming)

By the end of this course, the students will be able to:

1. **K**nowledge of the structure and model of the java programming language
2. Use the java programming language for various programming technologies
3. **Develop software in java programming language.**
4. Evaluate user requirement for software functionality required to decide whether java programming language can meet user requirements
5. Propose the use of certain technologies by implementing them in the java programming language to solve the given problem

B.Sc. Course: SEM-IV Paper -2 (Linux Operating System)

By the end of this course, the students will be able to:

1. Select appropriate Linux operating system commands to make the effective use of the environment to solve problems
2. **Write efficient, effective scripts with documentation**
3. Understanding the basic set of Communication utilities commands and other commands which are used in Linux systems.
4. Design an applications using Vi Editor which is provided to the user by Linux and it would also help to manage the system related commands.
5. To learn Graphical user Interfaces like KDE and GNOME. .
6. How to provide security to the data by using user authentication and authorization commands like managing user account ,providing user name and password and grant the user

B.Sc. Course: SEM-V Paper -1 (Visual Basic Programming)

By the end of this course, the students will be able to:

1. Demonstrate knowledge of programming terminology and how applied using Visual Basic (e.g., variables, selection statements, repetition statements, etc.)
2. Develop a Graphical User Interface (GUI) based on problem description.
3. Develop and debug applications using Visual Basic 6.0 (or version required for the course) that runs under Windows operating system.

4. Develop the programs which are based on events that retrieve input from a file as opposed to input only provided by user.
5. Design and Implement Visual Basic applications using Different Menus (Menu Editor).

B.Sc. Course: SEM-V Paper -2 (Database Management System)

By the end of this course, the students will be able to:

1. Students learnt the fundamental elements of traditional file processing system, objective of database system.
2. Students learnt the basic concept of different data models which includes Hierarchical, Network, and E-R and Relational model.
3. Students are able Design E-R model to represent simple database application
4. Students developed the concept of how to convert E-R model into relational tables and how to perform relational operation on tables through relational algebra.
5. Students developed the concept of functional dependency and improve the database design by the concept of Normalization.

B.Sc. Course: SEM-VI Paper -1 (Compiler Construction)

By the end of this course, the students will be able to:

1. Students learnt the major concept areas of language translation and compiler design
2. Students got an awareness of the function and complexity of compilers.
3. Students were able to understand the role of Lexical analyzer, its design, and implementation. Students got knowledge of context free grammars, Derivation and parse trees.
4. Students are able to identify the similarities and differences among various parsing techniques and grammar transformation techniques

B.Sc. Course: SEM-VI Paper -2 (SQL and PL/SQL)

By the end of this course, the students will be able to:

1. Understand the basics of SQL and construct queries using PI/SQL efficiently and apply features for creating database applications.
2. Compare and Contrast SQL databases with each other and Relational Database Systems
3. Understand the concept of integrity constraints and value constraints to reduced redundancy of data occurs in database applications.
4. Students are able to learn the concepts like functions, triggers and stored procedure.
5. Compare SQL with PL/SQL and integrate the concept of procedural language with SQL to build advance applications.

DEPARTMENT OF ELECTRONICS

Programme: B Sc. (Electronics)

Statement of Programme Specific Outcomes (PSOs)

By the end of this programme, the students will be able to:

1. Understand the basic concepts of electronics components, network theorem, digital electronics, semi conductor devices, amplifier, theory, AD circuits, basic circuits, design using circuit maker software and their application
2. Analyze different parameters of various circuits
3. Understand the use of electronics in the field of computer science.
4. Perform and testing of different electronics components and circuits.
5. Analyze the different characteristics of the circuits.
6. Understand the application of Electronics in domestic appliances
7. Analyze the relationship between analogue and digital circuits.

Statement of Course Outcomes (COs)

B.Sc.Course: SEM-I Paper -1 (electronics components, network theorem)

By the end of this course, the students will be able to:

1. Identify the different electronics components used in electronic circuits.
2. Understand different concepts of electronics and network theorem.
3. Understand different concepts of semiconductor materials and devices.
4. Determine various characteristics of diodes and transistors.

B.Sc.Course: SEM-I Paper –2 (Fundamental of Digital Electronics)

By the end of this course, the students will be able to:

1. Understand the concepts of digital electronics
2. Understand the basic working of different logic gates and laws of Boolean Algebra for simplification of circuits.
3. Understand the concepts of K-maps and designing of logic circuits.
4. Understand and design different controlling circuits used in digital electronics.

B.Sc.Course: SEM-I LAB

By the end of this course, the students will be able to:

1. Perform the calculations on combination of basic components such as resistors and capacitor
2. Work on network theorems
3. Analyze the characteristics of different diodes and BJT
4. Perform the binary addition of more than 3 bits
5. Simplify and summarize the given logical circuits.
6. Convert the number in various number systems.
7. Explain the basics and universal gates.

B.Sc.Course: SEM-II Paper -1 (Semiconductor Device)

By the end of this course, the students will be able to:

1. Describe working, characteristics and applications of semiconductor devices.
2. Understand and describe special high power semiconductor.
3. Analyze different parameters and relation between the different terms related to amplifier.
4. Classification of different amplifier and analyze the concepts of different types of amplifier.

B.Sc.Course: SEM-II Paper -2 (Advance digital electronics)

By the end of this course, the students will be able to:

1. Understand the concepts of different logic family and comparison of different parameters of logic family.
2. Understand the concept of sequential logic circuits and study of different sequential circuit with reference to storage.
3. Understand different counting circuits and their applications.
4. Understand different digital storage devices, memory, and their classification with expansion.

B.Sc.Course: SEM-II LAB

Course Outcomes: By the end of this course, the students will be able to:

1. Understand and analyze the characteristics of JFET, MOSFET and high power devices.
2. Explain the working of UJT and Oscillator.
3. Explain the combinational and sequential logic circuits.
4. Explain the working of transistor as a switch.
5. What is power amplifier?explain the class A ,class B push-pull amplifier

B.Sc.Course: SEM-III Paper -1(OP-AMP and power supply)

By the end of this course, the students will be able to:

1. Understand and compare different amplifier
2. Analyze the different parameters of OP-AMP
3. Understand the application of OP-AMPs for positive and negative feedback concept.
4. Understand the concept of unregulated and regulated power supply
5. Understand the IC regulator, different regulator and their performances.

B.Sc.Course: SEM-III Paper -2 (Electronics circuit design).

By the end of this course, the students will be able to:

1. Understand the concepts and ideas of designing circuit using computers.
2. Understand circuit maker software
3. Analyze different parameters of simple circuit and setting of different parameters using circuit maker
4. Understand the concept of virtual instrumentation and advance virtual instrumentation.

B.Sc.Course: SEM-III LAB

By the end of this course, the students will be able to:

1. Explain the OP-AMP as linear and non-linear device.
2. Understand the working of regulated and unregulated power supply.
3. Identify the circuit symbols and components of circuit maker software.
4. Design and perform the different amplifier circuit maker.

B.Sc.Course: SEM-IV Paper -1 (Analog& digital Techniques)

By the end of this course, the students will be able to:

1. Describe OPAMP as different types of RC, AC ASCILLATORS
2. Understand OP AMP as multi vibrators
3. Design and explain A to D and D to A convertors.
4. Describe the positive and negative feedback and advantages of positive feedback.

B.Sc.Course: SEM-IV Paper -2(Electronic Instrumentation)

By the end of this course, the students will be able to:

1. Classify the transducers and description of their characteristics.
2. Summarize the LM 35 transducer and its application
3. Understand working and block diagram of biomedical instruments.
4. Understand the block diagram for electronic system.
5. What is the lux meter using LDR
6. Explain the term of man instrumentation EEG,ECG
7. Explain term of pizoelectric term.

B.Sc.Course: SEM-IV LAB

By the end of this course, the students will be able to:

1. Understand working of Op AMP as vien bridge and phase shift
2. Describe different types of ADC, DAC and sample and hold circuit
3. Summarize the transfer characteristics of different transducers
4. Compare the accuracy of digital multi meters.

B.Sc. Course: SEM-V Paper -1 (Electronics Communication)

By the end of this course, the students will be able to:

1. Understand the basics of electronics communication and types of communication
2. Describe different propagation modes of signals
3. Understand the concept of digital communication
4. Understand fiber optics communication system and concept of modern communication system.

B.Sc.Course: SEM-V Paper -2 (Fundamental of Microprocessor)

By the end of this course, the students will be able to:

1. Understand and describe 8085 microprocessor
2. Describe different modes of operation of 8085 microprocessor
3. Understand different instruction set of microprocessor
4. Understand the need of interfacing and different modes of data transfer
5

B.Sc.Course: SEM-V LAB

By the end of this course, the students will be able to:

1. Perform communication system practical using PC/ microcontroller
2. Perform ASK and FSK using OPAMP
3. Perform simple assembly language program using instruction of 8085 microprocessor

4. Understand and study the PPI 8255

B.Sc.Course: SEM-VI Paper -1 (Programming in C)

By the end of this course, the students will be able to:

1. Understand the basic of C language
2. Understand different syntax, keywords and operators used in C
3. Understand different control statement related to C programming
4. Understand the concepts of advanced data types
5. Understand the concept of file structure in C language.

B.Sc.Course: SEM-VI Paper -2 (Microcontroller 8051)

By the end of this course, the students will be able to:

1. Understand basics of 8051 microcontroller
2. Understand different instruction and addressing modes of microcontroller
3. Understand the concept of subroutines and simple programming
4. Describe interfacing of different I/D devices with personal computer
5. Draw and explain each block of 8051microcontroller.
6. Draw and explain keyboard interfacing with 8051 microcontroller.

B.Sc.Course: SEM-VILAB

By the end of this course, the students will be able to:

1. Perform simple programmes based on I/D functions and operators
2. Perform to understand the concept of file operations in C
3. Perform program related structures
4. Perform ADC and DAC interface with microcontroller applications.

DEPARTMENT OF ENGLISH

Programme: B. A. Comp. English

Statement of Course Outcomes (COs)

B.A. Course : SEM - I

By the end of this course, the students will be able to:

1. Read properly to understand the prose and grasp new words along with its proper usage.
2. Know the important and famous poets of English and comprehend their major poems.
3. Comprehend the themes of the poems and to read them with proper pronunciations.
4. Understand the underlying use of grammar in the construction of the sentences.
5. Encourage the students for self introduction in English and to perform other basic conversations like greetings, inviting.

B.A. Course: SEM - II

By the end of this course, the students will be able to:

1. Read and comprehend the meaning of the selected prose and to use the words correctly.
2. Describe the poems of the famous poets.
3. Understand the meaning of one-act-play.
4. Summarize the meaning, theme and structure of the given text.
5. Solve various grammar exercises like transformation of sentences.
6. Converse in English while making request, offers and talking about past events.

B.A. Course : SEM - III

By the end of this course, the students will be able to:

1. Read more fluently with better pronunciation and to comprehend the meaning of the prose.
2. Recite the poems with rhythm and intonation to understand the theme.
3. Identify the names of literary figures of English and appreciate their major works.
4. Make correct use of various punctuations and will be able to do the grammatical exercises based on narration.
5. Make notes of essays, lectures etc. and to write down the summery of given text and to write letters.
6. Perform basic speaking activities like inviting people, accepting and refusing invitation and exchanging greetings.

B.A. Course : SEM - IV

By the end of this course, the students will be able to:

1. Read fluently to get familiarized with new words and comprehend the theme of the text.
2. Get familiar with the cultures, traditions of the outside world.
3. Study of interchanging tenses, voice and to comprehend the unseen passage.
4. Write journalistic reports and to summarize news articles.
5. Recite poems and to make an apology and respond it in English.

B.A. Course : SEM - V

By the end of this course, the students will be able to:

1. Read fluently to acquaint with the names and works of leading figures of English.
2. Recite the poems with proper pronunciations and pauses to get the theme.
3. Write an inventory report and an advertisement copy.
4. Write and express their (students') views on social and economical issues in the form of essays.
5. Communicate in English while making enquiries of some common day to day situations.
6. Enact or perform their favorite mother tongue in English.

B.A. Course : SEM - VI

By the end of this course, the students will be able to:

1. Identify the key figures (Prose writers and poets) of English and to study the different structures of stories, prose and poetry.
2. Write the theme of the text in own words.
3. Compose their Curriculum Vitae (CV) for jobs and to compose the mail.
4. Write the paragraph in own words on the basis of given points.
5. Narrate the jokes in English, share experiences of visited hospitals.
6. Participate in group discussions and to perform role in play.

Programme: B Sc Comp. English

B.Sc.Course: SEM -I

By the end of this course, the students will be able to:

1. Write an application for the various posts in the various companies or institutions.
2. Comprehend the unseen passage and to answer them to enhance the comprehensive skills.
3. Change the sentences in active to passive and passive to active voice.

B.Sc.Course: SEM -II

By the end of this course, the students will be able to:

1. Criticize the character of the village school master.
2. Understand the paragraph and to develop the skills of comprehension.
3. Justify the existence of democracy in the country.
4. Identify the various factors in composing curriculum vitae.

Programme: B. Com. Comp. English

B. Com Course: Sem I

Course Outcomes: By the end of this course, the students will be able to:

1. Read and understand the well known Indian and English writers.
2. Analyze the various themes.
3. Understand the difference between synonyms and antonyms and expand their vocabulary.
4. Summarize the unseen passage.
5. Suggest a word for many.
6. Write job application, complaint and enquiry letters.

B. Com Course: Sem II

Course Outcomes: By the end of this course, the students will be able to:

1. Read and understand renowned international writers and poets in English.
2. Correct the common errors in sentences.
3. Write sales letters, inviting quotations and placing orders.
4. Write an essay on social or economic or political or environmental issues.
5. Change the degree of compariosion.

B. Com Course: Sem III

Course Outcomes: By the end of this course, the students will be able to:

1. Read and understand the prose and poetry.

2. Transform the sentence
3. Comprehend the unseen passage
4. Draft the letters like claims and adjustment
5. Write the minutes of the meeting.

Programme: BA ELT

BA ELT Course: Study of Poetry - SEM I

Course Outcomes: By the end of this course, the students will be able to:

1. Understand the themes and poets in poetry.
2. Evaluate and comprehend literary importance.
3. Discuss various paraphrase and terms in literature.
4. Criticize and evaluate literary genres.

BA ELT Course: Study of Poetry - SEM II

Course Outcomes: By the end of this course, the students will be able to:

1. Know the peculiar qualities of poetry writing
2. Identify and define the poetry through background studies.
3. Analyze and construct literary terms through compound sentences
4. Explain and understand figure of speeches in literature.

BA ELT Course: Study of Prose - SEM III

Course Outcomes: By the end of this course, the students will be able to:

1. Enlist the faces and phases of human behavior and development.
2. Summarize the stages of historical developments in the history of literature.
3. Perform and write situation with literary terms.
4. Develop his sense of novel and its genre.

BA ELT Course: Study of Prose - SEM IV

Course Outcomes: By the end of this course, the students will be able to:

1. Appreciate the fundamental qualities of humans by story knowing.
2. Compose his own literary task with support of background.
3. Design an outstanding about literary terms.
4. Identify and categorize novel, drama, poetry and its application in human psychology.

BA ELT Course: Study of Drama - SEM V

Course Outcomes: By the end of this course, the students will be able to:

1. Compare and differentiate human tendency in various contexts.
2. Determine and know happiness Vs unhappiness and pleasure afterwards.
3. Develop a habit of dialogue delivery in drama as per emotions.
4. Paraphrase and criticize the old words with new vocabulary.

BA ELT Course: Study of Drama - SEM VI

Course Outcomes: By the end of this course, the students will be able to:

1. Comprehend to classify the term 'anti-hero'.
2. Evaluates the genre of comic and tragic in dramatic sense.
3. Evaluates an importance of background through literature.

4. Understand comedy of variety of types as per literature.

DEPARTMENT OF HINDI

Programme: B.Sc. (Hindi)

Statement of Programme Specific Outcomes (PSOs)

By the end of this programme, the students will be able to

1. Acquire new light of knowledge from the collected stories.
2. Gain knowledge about present system and life through the stories.
3. Awake the social consciousness through practical and progressive poems.
4. Attain the knowledge about various elements of essay and will learn art of writing essays on different topics.
5. Understand the value of diction and vocabulary in the process of translation.
6. Be introduced to the poems of "Bhakti kaal'.

Statement of Course Outcomes (COs)

B.Sc. Course: SEM-I

By the end of this course, the student will be able to

1. Know about the reality and morality of life through the stories.
2. Acquaint with the views and poems of experimental poets and their progressive views.
3. Understand about the current issues through essays.
4. Learn about the importance of constant communication through letter-writing.
5. Role of proverbs and idioms in increasing the beauty of language.

B.Sc. Course: SEM-II

By the end of this course, the student will be able to

1. Gain introduction to the poignant sides of life through stories.
2. Get introduced with new poems, gazals and patriotic poems.
3. Understand the importance of Glossary in the process of translation.
4. Learn essay writing through the practice of writing essays on current issues.
5. Learn to write correct Hindi through error- correction exercises.

Programme: B.Com. (Hindi)

Statement of Programme Specific Outcomes (PSOs)

By the end of this programme, the students will (be able to)

1. Acquire knowledge; develop the language competence and aptitude from the collected stories.
2. Develop the feeling of humanity, compassion, ethics and the awareness of national values through the study of selected essays, satires, One Act Plays and memoirs.
3. Understand the meanings of Hindi Idioms and phrases and will be able to use it properly according to the context.
4. Understand the importance of Hindi glossary.
5. Study the art of letter writing and able to increase their imagination.
6. Acquire the goals of language teaching for intellectual development.
7. Practice the language to gain competence in it.

Statement of Course Outcomes (COs)

B.Com.Course: SEM-I

By the end of this course, the student will be (able to)

1. Learn about essay writing through the study of medieval and modern essays of Hindi.
2. Comprehend the substance of stories through its detailed study.
3. Discover about the devotion, morals and principles of human life by the study of 'Bhakti-kaleen' poems of Hindi
4. Develop the sense of patriotism through the study of patriotic poems.
5. Understand the importance of glossary in the process of translation.
6. Develop the creativity and imagination through "'Kalpana-Vistar'.

B.Com.Course: SEM-II

By the end of this course, the student will be (able to)

1. Learn about 'Sansmaran' (memoirs)
2. Know about the style/art of satirizing through the study of 'vyang' (satire)
3. Learn about the meaning of 'Ekaki' (One Act Plays).
4. Comprehend the qualities of compassion, ethics and patriotism through the study of various Hindi poem.

B.Com.Course: SEM-III

By the end of this course, the student will be (able to)

1. Develop the sense of courage to face the adverse situation in life through the study of various essays.
2. Learn about memoirs
3. Know about conservations of environment through the study of environmental essays.
4. Learn about One Act Play with reference to the study of One Act Play 'Pratirodh'.
5. Introduced to the poems of 'Bhakti-kaalin" poets.
6. Introduced to the elements of biography and interviews in literature.

B.Com.Course: SEM-IV

By the end of this course, the student will be (able to)

1. Learn about theatre acting through the study of One Act Plays and Dramas of Hindi language.
2. Introduced to the genre of stories through the study of stories inspired by real life (Non-fiction).
3. Gain knowledge of the nature poems in Hindi
4. Understand and familiarize with famous patriotic poems of Hindi language.
5. Develop the aptitude of journalism.

DEPARTMENT OF HOME- ECONOMICS

Programme: B.A. (Home- Economics)

Statement of Specific Outcomes (PSOs)

By the end of this Programme, the students will be able to:

1. Introduce to the students the job opportunities in Home-Economics.
2. Develop the ability to improve the nutritional quality of food.
3. Develop marketing skills
4. Improve their knowledge about consumer rights and responsibilities.
5. Know about consumer perfection act.
6. Prepare various types of regional recipes and stitches.
7. Understand the biological and psychological development.
8. Develop creative ability among the students.

Statement of Course Outcomes (Cos)

B.A. Course SEM-I (Family Resource Management)

Course Outcomes: By the end of this course, the students will be able to:

1. Create awareness among the students about the management in family.
2. Develop their knowledge and skills regarding principles and methods of interior decoration.
3. Train the students for self employment
4. Make the best use of waste.

B.A. Course SEM-II (Family Resource Management)

Course Outcomes: By the end of this course, the students will be able to:

1. Improve knowledge about housing needs.
2. Create awareness in consumer about rights and responsibilities.
3. Improve their knowledge about different types of furniture and its care.
4. Prepare cloth using various types of embroidery stitches and block printing and painting.

B.A. Course SEM-III (Nutrition and Dietetics)

Course Outcomes: By the end of this course, the students will be able to:

1. Improve their knowledge about dimensions of health.
2. Aware about the health.
3. Learn about the structure, composition of nutritional contribution of food.
4. Understand the concept of diet.
5. Prepare regional recipes.

B.A. Course SEM-IV(Nutrition and Dietetics)

Course Outcomes: By the end of this course, the students will be able to:

1. Know about the balanced diet.
2. Familiarize the students about the role of nutritional quality of food.
3. Develop marketing skills to enhance employability.
4. Know about the nutritional management in common diseases

B.A. Course SEM-V(Child Development)

Course Outcomes: By the end of this course, the students will be able to:

1. Introduce the field of child development and its concept, scope, dimensions and interrelationship.
2. Sensitize the students to intervene in the field of child development.
3. Understand the biological and psychological foundation of development.
4. Appreciate sequential ages of development during the childhood.
5. Sensitize students about childhood behavioral problems.

B.A. Course SEM-V(Child Development)

Course Outcomes: By the end of this course, the students will be able to:

1. Understand and appreciate the importance of parents-child development
2. Develop creative ability about the cognitive development.
3. Know the Factors affecting emotional development.

DEPARTMENT OF MARATHI

Programme: B Com. (Compulsory Marathi)

Statement of Programme Specific Outcomes (PSOs)

By the end of this course, the students will be able to

1) Effective communication through Marathi in a variety of situations
2) Role of Marathi Language in national and social development.
3) Extension of Marathi language to functional uses
4) Development of linguistic skills in Marathi
5) Exposure to some key Marathi works and authors; understanding of varieties of language use and literary types

Statement of Course Outcomes (COs)

B.Com. Course: SEM-I

By the end of this course, the students will be able to:

1) Development of effective communication skills
2) Promotion of ethical education and a holistic approach to society.
3) Development of practical life skills
4) Enhanced understanding of national and social issues

B.Com. Course: SEM-II

By the end of this course, the students will be able to:

1) Effective use of language in business situations
2) Development of writing skills for effective communication
3) Use of some technological tools to enhance language competence
4) Inspire to become an independent entrepreneur.

B.Com. Course: SEM-III

By the end of this course, the students will be able to:

1) Introduction of environmental science and media in Marathi
2) Understanding of key Marathi writers and their roles in social awareness
3) Role of Marathi writings in social awakening.

B.Com. Course: SEM-IV

By the end of this course, the students will be able to:

1) Advanced writing skills in Marathi
2) Understanding of cultural values of Maharashtra in literature
3) Understanding of creative writing as a means of expression
4) Practical skills of using Marathi more effectively

Programme: B Sc. (Compulsory Marathi)

Statement of Programme Specific Outcomes (PSOs)

By the end of this course, the students will be able to:

1) Usefulness and diversity of Marathi language
2) Distinction between Marathi literature and non-fiction writing
3) Functional Marathi, including the use of appropriate and grammatical forms
4) Various language skills in Marathi

Statement of Course Outcomes (COs)

B.Sc. Course: SEM-I

By the end of this course, the students will be able to:

1) Usefulness and importance of Marathi language.
2) The distinction between prose and verse literature
3) Introduction to select authors and poets
4) Formal letter writing, translation and summary writing.

B.Sc. Course: SEM-II

By the end of this course, the students will be able to:

1) Reflections of rural and urban life in Marathi
2) Introduction to Saint literature in Marathi
3) Introduction to scientific texts in Marathi
4) Introduction to the right to information regulations
5) Idioms, proverbs and phrases in Marathi language

Programme: B A. (Compulsory Marathi)

Statement of Programme Specific Outcomes (PSOs)

By the end of this course, the students will be able to:

1) Relationship between education in mother tongue and literature
2) Varieties of language, including dialects, language change etc.
3) Types of literature in Marathi and various styles and techniques of expression
4) Language enrichment in Marathi
5) Functional and practical uses of Marathi, including in business and formal situations
6) Marathi Grammar; writing techniques and skills

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Statement of Course Outcomes (COs)

B.A. Course: SEM-I

By the end of this course, the students will be able to:

1) The deployment of Marathi language.
2) The differences between prose and verse literature
3) Evolution of Marathi from ancient to modern
4) Basic concepts in Marathi linguistics
5) Basics of communication and translation

B.A. Course: SEM-II

By the end of this course, the students will be able to:

1) The differences between ordinary and literary use of language
2) Introduction to some keywriters.
3) Functional and practical Marathi
4) Introduction to key poetic texts
5) Letters writing and preparing summaries.

B.A. Course: SEM-III

By the end of this course, the students will be able to:

1) Introduction to Marathi prose writing
2) Impact of the social transmigration on Marathi language and literature.
3) Introduction to religious and social themes in Saint literature
4) Poetic types like Arya and Shlok
5) Aspects of documentation, formal record keeping and writing for the media.

B.A. Course: SEM-IV

By the end of this course, the students will be able to:

1) Nature and features of narrative literature
2) Social contribution of Marathi writings
3) Study of scientific works in Marathi
4) Introduction to the twentieth century poetry.
5) Translation, conducting interviews, functional Marathi

B.A. Course: SEM-IV

By the end of this course, the students will be able to:

1) Introduction to important authors of modern times
2) Introduction of ideologies of Marathi literary trends
3) Study of rebel feminist literature
4) Writing of business communication, announcements, minutes, etc

Programme: B A(Marathi Literature)

Statement of Programme Specific Outcomes (PSOs)

By the end of this course, the students will be able to–

1) The relation between language and literature
2) Introduction and practice of subjects covered in the study of literature
3) The ancient and medieval versions of Marathi and the types of literature involved.
4) Historical trends in literature including Saint literature, Bakhar, Mahanubhava prose, the ancient novel and drama etc
5) Study of principal types of the novel and the drama.
6) Introduction to modern trends like the Dalit and the feminist literature.
8) Introduction to linguistics

Statement of Course Outcomes (COs)

B.A. Course: SEM-I

By the end of this course, the students will be able to–

1) Understood the notion of literature
2) Introduction to literature types
3) The history of the story
4) Introduction to the poetry
5) Introduction to the novel

B.A. Course: SEM-II

By the end of this course, the students will be able to–

1) Difference between Applied Arts and Fine Arts, Introducing the essential qualities of fine arts.
2) Understand the characteristics of literature as a fine art
3) Comparative study of novels and plays
4) Introduction to the early theater and the history of drama.
5) Introduction to representative dramatists and plays
6) One act plays; experimentation in drama forms.

B.A. Course: SEM-III

By the end of this course, the students will be able to–

1) Introduction to medieval Marathi literature
2) The philosophy and inspirations of Saint literature
3) Study of the language of the saints; spiritual democracy established by the saints
4) Introduction to important saints of 16-17th centuries: Saint Tukaram, Charak Bhakti

B.A. Course: SEM-IV

By the end of this course, the students will be able to–

1) Introduction to the modern Marathi poetry
2) Types of Poetry and Practice of Poetry and Features.
3) Introduction to poetic elements: Identity of words, sounds, images, symbols etc.
4) Role and contribution of modern poetry of Kusumagraj
5) Study of Kusumagraj's poetry, language style, images and themes

B.A. Course: SEM-V

By the end of this course, the students will be able to–

1) Introduction to MahanubavaPanth; the work of Chakradhar
2) Dalit literature, Study of the inspiration of Dalit literature.
3) Evolution of Dalit literature, expressions of pain and suffering in Dalit literature.
4) Introduction to Linguistics

B.A. Course: SEM-VI

By the end of this course, the students will be able to–

1) History of Marathi literature
2) Nature and characteristics of Saint literature: legendary work of Saint Dnyaneshwar
3) Bhakti literature: nature and historical importance.
4) Introduction to Shahiri literature, Study of important masters, Practice of Shahiri Literature.

DEPARTMENT OF MATHEMATICS

Programme: B Sc. (Mathematics)

Statement of Programme Specific Outcomes (PSOs)

By the end of the course, the students will be able to:

1. Understand the basic concepts of Algebra and Trigonometric and calculus
2. Define Advanced calculus, sequence and series and differential Equations
3. Prepare for competitive exams like MPSC, UPSC, GATE, NET, CAT.
4. Analyze and grasp abstract ideas to apply them to important practical problems.
5. Develop strong analytical skills and a broad-based background in the mathematical sciences to join Indian industry.

Statement of Course Outcomes (COs)

B.Sc.Course: SEM-IPaper -1 (*Algebra & Trigonometry)*

By the end of this course, Students will be able to:

1. Find Rank & solve the system of linear equations by using Matrices..
2. Understand the concept of Eigen value & Eigen vectors and method to find it.
3. Solve polynomial equation in one variable by using various method such as Cardon& Ferrari.
4. Understand the basic concept of complex analysis.
5. Understand the basic concept of Group Theory.

B.Sc. Course: SEM-I Paper -2 (*Calculus)*

By the end of this course, Students will be able to:

1. Understand the concept of limit, continuity and differentiability of function of onevariable.
2. Successive differentiation and Lebinitz's theorem.
3. Understand the concept series expansions (Maclaurin& Taylor Series).
4. Find limits of indeterminate forms by using L'Hospital Rule.
5. Understand the concept of partial differentiation, Euler's theorem, Jacobians.
6. Solve definite integrals.

B.Sc. Course: SEM-II Paper -1 (*Geometry, Differential & Difference Equations)*

By the end of this course, Students will be able to:

1. Understand the concept of Geometry (line, Plane, Circle, Sphere, cone, cylinder).
2. Solve first order exact differential equation, first order linear differential equation.
3. Study Bernoulli's differential equation.
4. Study higher order linear differential equation.
5. Study Difference equation.

B.Sc. Course: SEM-II Paper -2*(Vector Calculus & Improper Integrals)*

By the end of this course, Students will be able to:

1. Understand the concept of vector calculus (Gradient, Divergence, Curl).
2. Understand the concept of line Integral, work done, conservative vector field.
3. Use double integration to find area.
4. Solve problems on vector Integration (Surface Integral, Volume Integral).
5. Evaluate Improper Integrals.

B.Sc. Course: SEM-III Paper -1 *(Advanced Calculus, Sequence & Series)*

By the end of this course, Students will be able to:

1. Understand Mean Value Theorems, Limit & continuity of functions of two variables.
2. Understand the concept of Minima & maxima of functions of two variables.
3. Understand the concept of sequence.
4. Understand the concept of series.

B.Sc. Course: SEM-III Paper -2 *(Differential Equations & Group Homomorphism)*

By the end of this course, Students will be able to:

1. Understand Bessel's & Legendre's functions with their properties.
2. Understand the concept of Laplace Transform & Inverse Laplace Transform.
3. Solve Ordinary and Partial Differential Equations using Laplace transform
4. Understand the concept of Fourier Transform
5. Understand the concept of Group.

B.Sc. Course: SEM-IV Paper -1 *(Partial Differential Equations & Calculus of Variation)*

By the end of this course, Students will be able to:

1. Solve simultaneous differential equations.
2. Form partial differential equations of first order.
3. Use suitable method to find solution of partial differential equations of first order.
4. Solve linear partial differential equations of higher order.
5. Study calculus of variation.

B.Sc. Course: SEM-IV Paper -2 *(Mechanics)*

By the end of this course, Students will be able to:

1. Understand the concepts of equilibrium of coplanar forces, virtual work, and catenary.
2. Understand the concept of radial & transverse velocity, radial & transverse acceleration.
3. Understand the concept of simple harmonic motion.
4. Understand Mechanics of a system of particles.
5. Study equations of motion.

B.Sc. Course: SEM-V Paper -1 (*Analysis)*

By the end of this course, Students will be able to:

1. Understand the concept of Fourier series.
2. Understand the concept Riemann-Stieltjes integral.
3. Understand fundamental theorem of calculus.
4. Understand basic concept of analytic functions.
5. Study Mobius transformation.

B.Sc. Course: SEM-V Paper -2 (*Metric Spaces, Complex Integration & Algebra)*

By the end of this course, Students will be able to:

1. Examine countable and uncountable sets.
2. Understand the concept Metric spaces.
3. Understand the concept of Ring.
4. Study complex integration.

B.Sc. Course: SEM-VI Paper -1 (*Abstract Algebra)*

By the end of this course, Students will be able to:

1. Understand the concept of Group Automorphism.
2. Give examples of vector spaces.
3. Understand the concept of linear transformation.
4. Link linear transformations with matrices.
5. Study inner product spaces.

B.Sc. Course: SEM-VI Paper -2 (Special Theory of Relativity)

By the end of this course, Students will be able to:

1. Study Newtonian Relativity, Galilean Transformation.
2. Understand failure of Newtonian Relativity.
3. Study Einstein's Theory of Relativity, Lorentz Transformation.
4. Study Tensors, Riemannian metric, metric tensor.
5. Study Maxwell's equations of electromagnetic theory, equivalence of mass and energy
6. $E = mc2.$

B.Sc. Course: SEM-VI Paper -2 *(Optional)*(Discrete Mathematics and Elementary Number Theory)

By the end of this course, Students will be able to:

1. Distinguish between equivalence relation and partial order relation.
2. Understand Boolean algebra.
3. Study basic concept of Number Theory.
4. Understand Greatest Integer Function, Quadratic Residues and Reciprocity.
5. Study the Diophantine equations $ax + by = c$, the equations $x2 + y2 = z2 \wedge x4 + y4 = z4.$

B.Sc. Course: SEM-VI Paper -2 *(Optional)* (Differential Geometry)

By the end of this course, Students will be able to:

1. Study curve in space, its parametric representation, curvature of curve.
2. Understand the concept of Envelopes, developable surfaces.
3. Study curves on a surface, normal curvature.
4. Study differential equation of Geodesic, Curvature of Geodesic, Gaussian curvature

DEPARTMENT OF MICROBIOLOGY

Programme: B Sc. (Microbiology)

Statements of Programme Specific Outcomes (PSOs)

By the end of this course, the students will be able to:

1. Understand the contributions of various scientist in microbiology and scope of various branches of it
2. Understand and describe various kinds of prokaryotic and eukaryotic microbes and their positive negative interactions
3. Explain and describe importance of organic compounds and its chemistry found in living cells
4. Understand and explain various processes of metabolism of carbohydrates amino acids and vitamin in body
5. Explain and write DNA, RNA and protein structure and their formation in body
6. Understand and explain the concept of disease development, spread, control and eradication from society
7. Understand the basic concepts of gene and their regulation of action
8. Explain and write various industrial fermentations and bioinstrumentation.

Statements of Course Outcomes (COs)

B.Sc.Course: SEM-I Paper- I (History & Microbial physiology)

By the end of this course, the students will be able to:

1. Understand the contributions of eminent scientists in the development of microbiology
2. Understand the ultra structure of bacterial cell
3. Compare the differences in bacterial cell with plant cell and animal cell
4. Justify various scopes of microbiology
5. Classify the bacteria on the basis of various parameters.

B.Sc. Course: SEM-I Paper- II (Microbial diversity)

By the end of this course, the students will be able to:

1. Compare prokaryotic organism with eukaryotic organism
2. Understand the importance of methane producing bacteria
3. Write the method of reproduction in algae fungi and protogea
4. Describe the history of discovery of virus
5. Understand and compare the characteristics properties of virus with other microbes
6. Understand various kinds of positive and negative interactions of different microbes
7. Study microbial diversity of various locations

B.Sc. Course: SEM-I LAB

By the end of this course, the students will be able to:

1. Understand the working and mechanism of different equipments and tools used in microbiology practical
2. Prepare various nutrients media for cultivating microbes in laboratory
3. Perform the staining technique of various bacteria
4. Demonstrate the presence of bacteria in environment.
5. Design an experiment to isolate specific bacteria in pure form from sample
6. Determine the sensitivity of specific bacteria to given antibiotics

B.Sc. Course: SEM-II Paper- I (Microbial physiology)

By the end of this course, the students will be able to:

1. Understand the basic nutritional requirements of bacteria
2. Describe various types of nutrient media for cultivation and isolation of bacteria
3. Explain typical growth curve of bacteria
4. Understand the factors that responsible for bacterial growth
5. Understand and define different physical methods used for microbial control
6. Understand and define various chemical reagents used for controlling microbial growth
7. Explain mechanism of bacterial cell injury by an anti-microbial agent like anti-biotic.

B.Sc. Course: SEM-II Paper- II (Microbial Techniques)

By the end of this course, the students will be able to:

1. Understand and explain basic principles and different kinds of microscope
2. Explain the process of different staining techniques
3. Understand and compare various types of stains and dyes
4. Analyze the determination of specific nutrients by bacteria

B.Sc. Course: SEM-II LAB

By the end of this course, the students will be able to:

1. Enumerate bacterial load in the food sample in quality unit
2. Cultivate bacteria in the lab by using aerobic & anaerobic techniques
3. Demonstrate antimicrobial power of heavy metal ion against any bacteria
4. Demonstrate effect VV radiations of bacterial growth.

B.Sc. Course: SEM-III Paper- I (Chemistry of organic Constituents and Enzymology)

By the end of this course, the students will be able to:

1. Understand the classification of organic compounds like carbohydrates
2. Understand the chemistry of digffernt kinds of carbohydrates
3. Describe importance of vitamins to human body and their deficiency syndrome
4. Compare DNA and RNA
5. Understand the mechanism of enzyme.

B.Sc. Course: SEM-III Paper- II (Industrial Microbiology)

By the end of this course, the students will be able to:

1. Understand and describe scope of industrial microbiology
2. Understand and operate fomenters in various industries
3. Explain and write the process of commercial production and ethanol Vitamin B2 Beer, Wine Penicillin etc.
4. Perform the methods and harvesting and product recovery in industrial fermentations
5. Work out the maintenance of ferment or plant.

B.Sc. Course: SEM-III LAB

By the end of this course, the students will be able to:

1. Design practical experiments to identify carbohydrates from given sample
2. Demonstrate enzyme activity by bacteria
3. Understand the techniques to estimate proteins, RNA, DNA from given sample
4. Design an experiment to produce ethanol by fermentation technique
5. Demonstrate application of feast in baking industry

B.Sc. Course: SEM-IV Paper- I (Metabolism)

Course outcomes: By the end of this course, the students will be able to:

1. Understand the general strategy of metabolism
2. Understand and explain various metabolic processes operating in living cell
3. Understand the mechanism by which energy is generated in human body
4. Explain and describe the process of protein formation in living cell
5. Explain and describe the process of replication of DNA

B.Sc. Course: SEM-IV Paper- II (Applied Microbiology)

Course outcomes: By the end of this course, the students will be able to:

1. Understand and explain the significance of bacteriological analysis of drinking water
2. Understand and describe various methods applied for treatment of water and waste water
3. Explain the methods for disposal of industrial wastes
4. Understand the role of microbes of soil in various important processes
5. Describe and explain the applications of bacteria and fungi in bio fertilizers
6. Understand the mechanism of food spoilage
7. Describe the techniques used for food preservation

B.Sc. Course: SEM-IV LAB

Course outcomes: By the end of this course, the students will be able to:

1. Understand the techniques to isolate microbes from water and waste water(sewage)
2. Understand and demonstrate chlorination of water
3. Demonstrate the technique to find out the alkalinity of water sample
4. Design the experiment to find out quality of raw material
5. Find out microbial load in given drinking water sample.

B.Sc. Course: SEM-V Paper- I (Medical Microbiology)

Course outcomes: By the end of this course, the students will be able to:

1. Understand and explain the stages of infections diseases
2. Describe various modes by which infections spread in community
3. Describe various methods that can be adopted to control spread of infection in community
4. Understand and explain various hospital borne, air borne and water-borne diseases
5. Understand how to educate the people about taking care of health
6. Understand the role of drugs in disease control.

B.Sc. Course: SEM-V Paper- II (Molecular Biology & Bioinstrumentation)

Course outcomes: By the end of this course, the students will be able to:

1. Understand and describe various concepts – related with genre and its regulation
2. Understand and explain various processes by which gene transfer occurs amongst microbes
3. Explain the causes of gene mutation and their effect on cell
4. Understand and explain the principles, methodology and application of various bio instruments like spectrophotometer, electrophoresis, chromatography, centrifuge etc

B.Sc. Course: SEM-V LAB

Course outcomes: By the end of this course, the students will be able to:

1. Understand the techniques for isolation of DNA and RNA from living cell
2. Understand and describe liver function test by estimating creatinine from patient's serum
3. Analyze proper chromatography technique to find out unknown organic compounds from sample
4. Understand and design the experiment to diagnose pathogenic organism from patient.

B.Sc. Course: SEM-VI Paper- I (Immunology)

Course outcomes: By the end of this course, the students will be able to:

1. Understand and describe human body's resistance mechanism against disease
2. Understand and write the role of human body's various organs in natural resistance.
3. Understand the properties, structure and importance of antibiotics in immunity
4. Understand various mechanism by which antibiotic destroys antigens
5. Describe and explain the reasons, classes and development of allergy in humans.

B.Sc. Course: SEM-VI Paper- I (Biotechnology)

Course outcomes: By the end of this course, the students will be able to:

1. Understand the tools and techniques of genetic engineering
2. Understand and describe DNA, fingerprinting and its application in forensic science
3. Understand the methods of production of health related compounds by biotechnology
4. Understand and write application of biotechnology in agriculture
5. Explain and describe the advantages /disadvantages of genetic engineering for humans
6. Understand the production and importance of genetically modified food

B.Sc. Course: SEM-VI LAB

Course outcomes: By the end of this course, the students will be able to:

1. Understand and analyze the experiment to diagnose sexually transmitted disease
2. Understand and describe the detection of typhoid
3. Analyze the production of bio-fertilizer
4. Analyze the production of soyasauce
5. Understand and explain various experiments to diagnose diseases.

DEPARTMENT OF PHYSICS

Programme: B Sc. (Physics)

Statement of Programme Specific Outcomes (PSOs)

By the end of this course, the students will be able to:

1. Demonstrate, solve and an understanding of major concepts in all disciplines of physics.
2. Solve the problem and also think methodically, independently anddraw a logical conclusion.
3. Employ critical thinking and the scientific knowledge to design, carry out, record and analyze the results of Physics experiments.
4. Create an awareness of the impact of Physics on the society, and development outside the scientific community.
5. To inculcate the scientific temperament in the students and outside the scientific community.
6. Use modern techniques, decent equipments and Phonics software"s

Statement of Course Outcomes (COs)

B.Sc.Course: SEM-I Paper -1(Properties of Matter and Mechanics)

By the end of this course, the students will be able to:

1. Know Elastic and Plastic properties of material
2. To study relationship between Y, η and K
3. To determine Young's Modulus of Cantilever
4. To study Torsional Pendulum and Maxwell Needle
5. To streamline and turbulent flow of liquid
6. To know coefficient of viscosity
7. To study Bernoulli's theorem and its applications
8. To know Poiseuilli's formula
9. To know about surface tension property of water
10. To know surface energy by Jaeger's method
11. To understand Newton's Laws of motion
12. To gain the knowledge of motion in central force field
13. To know the center of mass system

B.Sc.Course: SEM-I Paper -2(Electrostatics, Time Varying fields and Electric Current)

By the end of this course, the students will be able to:

1. To study Coulombs law in vacuum in vector form,
2. To understand terms electric field intensity, electric potential, electric field intensity

3. To study electric dipole and its property
4. To understand conservative nature of electric field
5. To know what is dielectric material
6. To know difference between polar and non-polar molecule
7. To study Claussius-Mossitti equation
8. To study capacitance property of capacitor
9. To study working and application of transformer
10. To use complex number in studying a. c. current
11. To study LR, CR, LCR circuit using j-opertator method

B.Sc. Course: SEM-II Paper -1(Oscillations, Kinetic theory of gases and Thermodynamics)

By the end of this course, the students will be able to:

1. To get acquainted with linear and angular S.H.M.
2. They study forced oscillation with one degree of freedom
3. Study differential equation of forced oscillation
4. They know how transportation takes place in gases
5. Understand Van der wall's equation
6. Study Carnot's cycle
7. Study laws of thermodynamics
8. Know Maxwell's equation and its application

B.Sc. Course: SEM-II Paper -2(Gravitation, Astrophysics, Magnetism, Magneto statics)

By the end of this course, the students will be able to:

1. Know Kepler's law of Planetary motion
2. Study Gravitational field and Gravitational potential
3. They know about gravitational self energy
4. To measure distance of planet
5. Measure mass of sun and planet
6. Know concepts of cosmological theories
7. Study diamagnetic, paramagnetic and ferromagnetic properties
8. Study concept of magnetic field, Lorentz force equation,
9. They know magnetic dipole moment, angular momentum and gyro magnetic ratio,

B.Sc. Course: SEM-III Paper -1(Sound Waves, Applied Acoustics, Ultrasonic and Power Supply)

By the end of this course, the students will be able to:

1. They understand waves, group velocity, phase velocity, their relation, standing waves, harmonics, quality of sound,
2. Know about human ear construction and its response, limit of human audibility, intensity and loudness of sound, musical instruments and musical scale
3. Understand transducers and their characteristics, recording and reproduction of sound.

4. Understand acoustic of building, reverberation Sabine's formula, factors affecting acoustics of building and requirement of good acoustics.
5. Understand ultrasonic waves, production and their properties, piezoelectric effect and generator.
6. Understand magnetostriction effect and oscillators, applications of ultrasonic waves.
7. Understand half wave and full wave bridge rectifiers, filters
8. Understand difference between regulated and unregulated power supply, line and load regulation, voltage stabilization, working of zener diode as voltage regulator, IC regulator and voltage regulation.

B.Sc. Course: SEM-III Paper -2(Physical Optics and Electromagnetic Waves)

By the end of this course, the students will be able to:

1. Understand phenomenon of interference of light, Newton's ring arrangement and its applications.
2. Understand Michelson's interferometer, Fabry- Parrot interferometer and its applications.
3. Understand phenomenon of diffraction of light, Fresnel and Fraunhoffer diffraction.
4. Understand Rayleigh's criteria of resolution and resolving power of grating
5. Introduction to polarization phenomenon, to understand Brewster's law, scattering of light and blue colour of sky.
6. Understand uniaxial and biaxial crystals, positive and negative crystals, ordinary and extra ordinary rays.
7. Understand Nicol prism, its construction and application.
8. Understand double refraction, construction of half and quarter wave plate
9. Introduction to electromagnetic spectrum,

B.Sc. Course: SEM-IV Paper -1 (Solid State Physics, X-ray and Laser)

By the end of this course, the students will be able to:

1. Introduction to crystal structure, periodicity, lattices, and its types and basis lattice planes
2. Understand Bravais lattices, packing fraction, coordination number, inter planar distances.
3. Introduction to X-rays, students understand discrete and continuous X-ray spectra and its main features, characteristics of X-ray spectra
4. Understand Duane- Hunt law, X-ray emission spectra, Mosley law and its importance and applications.
5. Understand Lau's theory of X-ray diffraction, Bragg's law and Bragg's diffraction conditions for direct and reciprocal lattice, Laue's pattern
6. Students understand Bragg's spectrometer and it's applications
7. Students are introduced to Laser, Einstein's relation, absorption, spontaneous and stimulated emission
8. They understand population inversion, optical pumping, characteristics of laser beam, three level, four level laser system.

B.Sc. Course: SEM-IV Paper -2(Solid State Electronics and Molecular Physics)

By the end of this course, the students will be able to:

1. Students are introduced to light emitting diode, solar cell, photovoltaic cell
2. Understand graphical analysis in CE mode, hybrid parameters, equivalent circuit at low frequency in CE mode, thermal runaway, stabilization, heat sink, stability factor and bias stabilizing circuits.
3. Students understand construction and working principle of JFET, difference between BJT and JFET, characteristics of JFET, it's parameters, and use of JFET as an amplifier and advantages of JFET over BJT.
4. Students are introduced to MOSFET, it's types, construction and working. Characteristics of MOSFET and special features of MOSFET.
5. Students understand quantization of vibrational and rotational energies, types of molecules based on inertia, rigid diatomic molecules, intensity distribution in rotational levels.
6. Understand diatomic molecules as harmonic oscillator, rotational- vibrational spectraand Born-Oppenheimer approximation.
7. Students are introduced to Raman effect, classical and quantum explanation , its experimental set-up.
8. Understand Raman spectra and molecular structure, applications of Raman effect, electronic spectra, dissociation energy, Frank- Condon principle.

B.Sc. Course: SEM-V Paper -1(Atomic Physics, Free Electron Theory)

By the end of this course, the students will be able to:

1. Revise Bohr's model, Somerfield model and Chadwick model to study structure of atom
2. Understand Vector atom model
3. Understand and Differentiate between Normal and Anomalous Zeeman Effect
4. Understand Stark effect
5. Understand electrical and thermal conductivity
6. Understand Fermi energy and Fermi temperature
7. Understand band theory of solids
8. Differentiate between conductor, semiconductor and insulator
9. Understand Boltzmann's entropy relation
10. Differentiate between accessible and inaccessible estates
11. Differentiate between macro and micro states
12. Distinct between mean, r.m.s. and most probable values
13. Understand and apply Bose-Einstein statistics to black body radiation
14. Understand and apply Fermi- Dirac Distribution to free electrons in metal

B.Sc. Course: SEM-V Paper -2(Quantum Mechanics, Nanomaterials, Nanotechnology)

By the end of this course, the students will be able to:

1. Explain failure of Classical Mechanics
2. Understand development of Quantum Mechanics
3. Understand and explain particle duality
4. Understand concept of wave packet and uncertainty principle
5. Understand difference between bulk material and nonmaterial
6. Understand 0D, 1D, 2D and 3D dimensions of nanomaterial
7. Understand bottom up and top down approaches of synthesis of nonmaterial
8. Understand and apply methods of synthesis of nanomaterial
9. Determine size of nanoparticles
10. Understand to characterize nonmaterial by SEM and TEM

B.Sc. Course: SEM-VI Paper -1(Relativity, Nuclear Physics and Biophysics)

By the end of this course, the students will be able to:

1. Understand frame of reference
2. Understand Galilean and Lorentz transformation
3. Explain postulates of special theory of relativity
4. Study Velocity addition theorem
5. Understand Mass –Energy relation
6. Explain Liquid drop model
7. Understand chain reaction and Nuclear reactors
8. Understand and differentiate between α, β and γ decay
9. Understand principles of ECG, EEG, ERG, EMG and Sonography and their application
10. Understand basic principles of colorimeters, spectrophotometer, pH meter and their application

B.Sc. Course: SEM-VI Paper -2(Electronics, Fiber Optics, Communication and Digital Electronics)

By the end of this course, the students will be able to:

1. Understand and classify amplifiers
2. Understand Oscillators, its types and applications
3. Understand principle of optical fiber
4. Differentiate between types of optical fibe
5. Understand applications of Optical fiber
6. Understand communication and modulation
7. Understand and differentiate between amplitude and frequency modulation
8. Understand advantages and disadvantages of amplitude and frequency modulation
9. Understand Unitary system
10. Apply logic gates
11. Verify De-Morgan's Theorem

DEPARTMENT OF SOCIOLOGY
PROGRAMME: BA (SOCIOLOGY)
Statement of Programme Specific Outcomes (SPOs)
By the end of this course, the students will be able to:
1. Understand the various sociological concepts and basic theories

2. Understand the ideas inculcated in western and Indian sociological thoughts

3. Understand the praxis of sociological thoughts

4. Understand the social problems of Indian society with relation to its structure and culture.

Statement of Course Outcomes (COs)
Course: Sociology: An Introduction
Course Outcomes: By the end of this course, the students will be able to:
1. Understand the meaning of sociology and its relationship with other social sciences

2. Understand the basic concepts in sociology

3. Understand the meaning, process and agencies of socialization

4. Understand the meaning, functions, destruction of social structures.

Course: Sociology: Themes and Perspectives
Course Outcomes: By the end of this course, the students will be able to:
1. Understand the concepts of culture and its relationship with individual.

2. Understand the concepts and mechanism of social lenience and control

3. Understand the concepts of social stratification as well as mobility

4. Understand the major sociological perspectives.

Course: Foundation of Sociological Thoughts
Course Outcomes: By the end of this course, the students will be able to:
1. Understand the emergence of sociology as a discipline

2. Understand the basic sociological thoughts of Compte, Spencer, Cooley, Durkhom, Marx and Weber.

3. Understand the praxis of basic sociological thoughts

Course: Indian Sociological Tradition
Course Outcomes: By the end of this course, the students will be able to:
1. Understand the theoretical roots of caste and social changes within it

2. Understand the sociological ideas regarding Indian social structures

3. Understand the views of Ambedkar, Shriniwas, Mukherjee and Dubey

4. Understand the gender in Indian society in the view of tarabai Shinde and Fule .

Course: Indian Society: The structural Issue
Course Outcomes: By the end of this course, the students will be able to:
1. Understand the caste structure, inequality and constitutional provisions

2. Understand the family structure, related issues viz dowry, domestic violence etc.

3. Understand the tribal's problems and social change within them.

4. Understand the rural community related problem.

Course: Current social problems in India
Course Outcomes: By the end of this course, the students will be able to:
1. Understand the current societal problems like education, displacement etc.

2. Analyze the nature, causes and consequences of these problems.

3. Explain the measures to put a check on them.

DEPARTMENT OF SOCIOLOGY
PROGRAMME: MA (SOCIOLOGY)
Statement of Programme Specific Outcomes (SPOs)
By the end of this course, the students will be able to:
1. Understand various sociological perspectives and its praxis

2. Understand the research methods in sociology and its praxis

3. Understand and get the ability of analysis of various social issues

4. Understand the various structural and cultural issues of society and its measures

5. Understand various social processes and its consequences on society.

Statement of Course Outcomes (COs)
Course: Classical Sociological Thinking
Course Outcomes: By the end of this course, the students will be able to:
1. Understand the intellectual and historical background of emergence of sociology

2. Understand the basic ideas and perspectives of Compte, Spencer, Durkheim.

3. Describe concept of profound thinkers

4. Try to understand the praxis of these ideas.

Course: Classical theoretical Foundation
Course Outcomes: By the end of this course, the students will be able to:
1. Understand the ideas of founders of sociology

2. Understand the logic behind the ideas of Marx, Weber and Simmel.

3. Understand the basic of conflict and functunal perspectives

4. Try to understand the praxis of these ideas.

Course: Orientation in Sociological Theory
Course Outcomes: By the end of this course, the students will be able to:
1. Understand the various perspectives in sociological theory

2. Understand the differences, relationship and limitations of these perspectives

3. Understand structuralism, functionalism, and phenomenology and conflict theory.

Course: Recent Trends in Sociological Theory
Course Outcomes: By the end of this course, the students will be able to:
1. Understand the critical, post-structuralist , post-modern and other recent theories.

2. Understand the development of sociological theory with logic behind it.

3. Understand the recent theoretical concepts in sociology.

Course: Introductory Sociology
Course Outcomes: By the end of this course, the students will be able to:
1. Introduce the concepts of sociology to interdisciplinary students.

2. Understand the basic ideas of culture, socialization, group etc.

3. Understand the sociology and relations to other social sciences.

Course: Sociology: Social Psychology
Course Outcomes: By the end of this course, the students will be able to:
1. Understand the meaning of social psychology and its relationship to sociology

2. Understand the concept of self and its various aspects.

3. Understand social attitudes and prejudices and its construction

4. Understand the social psychology of propaganda, crowd and public opinion

Course: Quantitative Methods in Social Research.
Course Outcomes: By the end of this course, the students will be able to:
1. Understand the meaning of quantitative social research and its scientific orientation

2. Understand the process of social research and its stages

3. Understand the methods of data collection and its analysis

4. Perform the statistical operation with help at SPSS

5. Understand the various issues like, plagiarism, ethics involved in research.

Course: Qualitative Methods in Social Research
Course Outcomes: By the end of this course, the students will be able to:
1. Understand the qualitative social research and its difference with quantitative research

2. Understand the methods in qualitative research

3. Understand the process of analysis and interpretation in qualitative research

4. Perform the analytical operation on Alosti and Nvivo

Course: Sociology of Social Movements
Course Outcomes: By the end of this course, the students will be able to:
1. Understand the subject matter of social movements and its various theories

2. Understand the bases and issues of social movements with context to change and transformation

3. Understand the ideological issues of social movements in India.

4. Understand the various agents and processes in social movements.

Course: Social Movements in India
Course Outcomes: By the end of this course, the students will be able to:
1. Understand the social movements in India

2. Understand the traditional and new social movements in India.

3. Understand the consequences of social movements.

Course: Gender and society
Course Outcomes: By the end of this course, the students will be able to:
1. Understand the basic concepts of social construction

2. Understand the various feminist theories

3. Understand the gender inequality and aspects

4. Understand the strategies to overcome gender inequality

Course: Sociology of Social Stratification
Course Outcomes: By the end of this course, the students will be able to:
1. Understand the meaning of social stratification

2. Understand the various theoretical perspectives of social stratification

3. Understand the role of social stratification, identity and culture

4. Understand the social mobility with reference to social stratification.

Course: Sociology of Change and developments
Course Outcomes: By the end of this course, the students will be able to:
1. Understand the concepts of its theories and factors of social change

2. Understand the processes of social change in contemporary India

3. Understand the concept of development and its approaches

4. Understand the structures, culture and its relationship to development

Course: Perspectives in Indian society
Course Outcomes: By the end of this course, the students will be able to:
1. Understand the Indological and textual perspectives

2. Understand the structural-functional perspectives

3. Understand the Marxist perspectives

4. Understand the subaltern perspectives

Course: Sociology of Education
Course Outcomes: By the end of this course, the students will be able to:
1. Understand the subject matter and its significance

2. Understand the traditional perspectives of education

3. Understand the new theoretical perspectives of education

4. Understand the relationship of education with society

Course: Education and society in India
Course Outcomes: By the end of this course, the students will be able to:
1. Understand the socio-historical context of education in India

2. Understand the equality of educational opportunity in India

3. Understand the issues in education in India

Course: Rural Society in India
Course Outcomes: By the end of this course, the students will be able to:
1. Understand the meaning characteristics of rural society and rural-urban issues

2. Understand the concepts of village society and its structure and culture

3. Understand the village institution

4. Understand the issues in rural development and programmes

Course: Rural Society in Indian issues and problems
Course Outcomes: By the end of this course, the students will be able to:
1. Understand the rural society and Agrarian problems in India

2. Understand the problems of poverty and unemployment in India

3. Understand the government policies and rural problems

4. Understand the changing market condition and rural crisis.

Course: Field Study Report
Course Outcomes: By the end of this course, the students will be able to:
1. Understand the procedures of research in sociology

2. Perform the research activities in field

3. Understand the field issues of research

4. Perform the report writing in standard format

DEPARTMENT OF ZOOLOGY

Programme: B Sc. (Zoology)

Statement of Programme Specific Outcomes (PSOs)

By the end of this course, the students will be able to:

1. Students are able to understand the basic concept of cell biology, environmental biology, genetics, physiology, taxonomy and applied zoology.
2. Understand the application of biological sciences in aquaculture, sericulture, vermin-culture, pearl-culture and apiculture.
3. Perform procedures as per laboratory standards in the area of physiology, cell biology, environmental biology, genetics, entomology, Biotechnology fisheries.
4. Gain knowledge about research methodology i.e. skills of micro technique which consists of preservation of tissue and specimens, their staining techniques.

Statement of Course Outcomes (COs)

B.Sc. Course: SEM-I Paper -1(Life and Diversity of Animals – Non-chordates (Protozoa to Annelida)

By the end of this course, the students will be able to:

1. Students get knowledge about unity and diversity of life on the earth.
2. Students will be able to identify and classify non-chordates on the basis of their peculiar characteristics . - students will be able to understand phylum wise structural features, morphology, anatomy, physiology, habit and Habitat.
3. Students will be able to explain how organisms function at different level of grade of Organization like cellular, tissue, organ and organ system.
4. They will be able to give examples of the physiological adaptation, development, behavior of different forms of life.
5. Students understand economical importance of non-chordates as well as life cycle of pathogenic organisms.

B.Sc. Course: SEM-I Paper -2 (Environmental Biology)

By the end of this course, the students will be able to:

1. Students get knowledge and understand about different strata of atmosphere.
2. Students able to understand /recognize biological, chemical, physical components of earths system.
3. Students will also understand how natural system human designed system work together and conflict with each other.
4. Students understood about environmental issues like water pollution, Air pollution, soil pollution and noise pollution.
5. Students able to understand and gain knowledge about renewable and non-renewable energy sources.

B.Sc.Course: SEM-I LAB

By the end of this course, the students will be able to:

1. Studied museum specimen (classification and structural features.
2. Learn about estimation of Dissolved oxygen and carbon dioxide PH and hardness of water studied pond ecosystem
3. Learn about dissection and perform mounting of biological material.

B.Sc. Course: SEM-II Paper -1 (: Life and Diversity of Animals – Non-chordates) (Arthropoda to hemichordata)

By the end of this course, the students will be able to:-

1. Students understood role of insect vectors in spreading diseases, mode of infection and symptoms.
2. Students also understood economic importance of Mollusca's.
3. Students understood affinities of hemichordates with different phyla.
4. Students get knowledge about indirect development through various larval stages.

B.Sc. Course: SEM-II Paper -2(Cell Biology)

By the end of this course, the students will be able to:-

1. Students will be able to understand structure and functions of cell and cell organelles .
2. Students will understand the structures and purposes of basic components of prokaryotic and eukaryotic cells and cell organelles
3. Students will understand how these cellular components are used to generate and utilize energy in cells
4. Students will understand types of cell division that is mitosis and meiosis
5. Students will apply there knowledge of cell biology to study environmental or physiological responses of cell

B.Sc.Course: SEM-II LAB

By the end of this course, the students will be able to:-

1. Studied museum specimen (classification and structural features)
2. Studied permanent slides of larva of different animals and sections through different organs
3. Perform cell biology experiments, mounting and studied dissection.

B.Sc. Course: SEM-III Paper -1 (Life and diversity of Animals – Chordates) (Protochordata to Amphibia

By the end of this course, the students will be able to:-

1. Students are able to understand diversity of earlier chordate from protochordata to amphibian.
2. Students are also studied about growth and development, evolution of different system of chordates.
3. Students also get knowledge about adaptations, parental care and sexual dimorphism in chordates

B.Sc. Course: SEM-III Paper -2 (Genetics)

By the end of this course, the students will be able to:-

1. Students are able to understand Mendel's laws of inheritance, basic concepts of gene, transmission of hereditary characters.
2. Students also understand about interaction of genes. -Students also understand concept of lethal genes, chromosomal disorder and syndrome caused due to abnormal chromosomal no.
3. Students also understand about population genetics and application of genetics

B.Sc.Course: SEM-III LAB

By the end of this course, the students will be able to:-

1. Studied museum specimen of chordates (classification and structural features)
2. Observed and studied permanent slides of developmental biology and sections through different organs
3. Perform genetic experiments and studied karyotype of genetic traits

B.Sc. Course: SEM-IV Paper -1 (Life and Diversity of Animals – Chordates(Reptilia, Aves and Mammals)

By the end of this course, the students will be able to:-

1. Students understand about classification of reptiles, Aves and mammals based on structural variation.
2. Get knowledge about Biting mechanism in snakes ,adaptations in aves and mammals.
3. Get information about modern evolution theories, genetic basis of evolution
4. Understand comparative study of development of heart and aortic arches in birds, Aves and mammals.
5. Study different aspects of chick development

B.Sc. Course: SEM-IV Paper -2 (Molecular Biology and Immunology)

By the end of this course, the students will be able to:-

1. Understand detail structure of DNA and RNA as a genetic material ,structure of gene.
2. Students are able to understand different processes like replication, transcription, protein synthesis.
3. Able to understand concept of immunity, types of antigen antibody and their interaction
4. Get information about types of immune response and about immune deficiencies.

B.Sc.Course: SEM-IV LAB

By the end of this course, the students will be able to:-

1. Studied classification and identification of chordates
2. Studied skeleton of rabbit and fowl
3. Studied permanent slides of chick embryology and permanent slides.
4. Perform staining and immunology and molecular biology experiments

B.Sc. Course: SEM-V Paper -1 (General Mammalian Physiology I)

By the end of this course, the students will be able to:-

1. It gives knowledge about structural features and functions of different systems like digestive, respiratory and circulatory.
2. General properties of enzymes, enzyme activity.
3. Digestive glands, respiratory pigments, respiration mechanism and in detail circulatory system.

B.Sc. Course: SEM-V Paper -2 (Aquaculture and Economic entomology)

By the end of this course, the students will be able to:

1. This paper gives knowledge about-application of zoology and economic importance of zoology like fresh water aquaculture, prawn culture, pearl culture, apiculture, sericulture, and lac culture.
2. Gives information about economic entomology and methods of pest control

B.Sc. Course: SEM-V LAB

By the end of this course, the students will be able to:

1. Perform physiology experiments i.e. estimation of carbohydrates, proteins, fats and vitamins.
2. Perform counting of red blood cells and white blood cells.
3. Studied histological slides
4. Perform mounting,
5. Collection and identification of local fishes.
6. Studied different insect pests.

B.Sc. Course: SEM-VI Paper -1 (General Mammalian Physiology II)

By the end of this course, the students will be able to:

1. Get knowledge about nerve and muscle physiology,
2. Studied in detail structure and function of different endocrine glands.
3. Understood reproductive system, causes of infertility in male and female.

B.Sc. Course: SEM-VI Paper -2 (Bio-techniques ,micro techniques, Biotechnology, Bioinformatics and Biostatistics)

By the end of this course, the students will be able to:

1 Students are able to understand methods of separation of biomolecules ,micro techniques(different staining methods
2 Understand importance and role of bioinformatics
3 Understand application of statistics in biology and biotechnology

B.Sc. Course: SEM-VI LAB

By the end of this course, the students will be able to:

1. Detection of urea albumin sugar and creatinine in urine.
2. Perform biotechnology experiments and microtechnique methods.
3. Perform and studied application of bioinformatics and biostatistics.
4. Observed histological slides.