Name of Programme: M.Sc. (Chemistry)

Program Outcomes

PO 1: This programme brings together the graduates who wish to enhance their skills and gives them an opportunity to develop their careers in a particular direction.

PO 2: The programme provides in-depth knowledge of particular subject and arouses interest of the students towards research in that particular field.

PO 3: The programme tends to expertise students in practical work and experiments based on the same so that they can analyze the data effectively.

PO 4: The students will be able to exhibit the capability to study the social and ethical aspects as well as cognizance of ethical facets of research and development work.

PO 5: The masters of Science programme provides the candidate with understanding, general proficiency, and methodical abilities on an advanced level required in industry, consultancy, education, entrepreneurship or public administration etc.

Programme Specific Outcomes After the completion of program, students will have the following expertise:

PSO 1: Instrument handling.

PSO 2: Synthesis, separation and analysis of compounds employing laboratory and analytical techniques.

PSO 3: Analytical approach and problem solving skills by combining the different branches of chemistry.

PSO 4: Profound knowledge for the competitive exams and research in chemical sciences. **PSO 5:** Efficient to work in chemical/pharmaceutical industries. Course Outcomes It assesses the knowledge and abilities inculcated in the students by the end of subject teaching. Students will gain an understanding of:

Sem-I

Course I Inorganic Chemistry

CO1: Application of symmetry elements/operations to identify the symmetry of point group of different molecules

CO2: Application of Crystal Field Theory to understand the electronic spectra and magnetic properties/colour of coordination complexes

CO3: Enable to differentiate between different isomers of transition metal complexes on the basis of crystal field theory.

CO4: Application of basic background knowledge of LFT and CFT to draw conclusions from chemically related data for transition metal complexes

COURSE II Organic Chemistry

CO1: Predict the reaction mechanisms, rate of reaction by interpreting the given data

CO2: Predict the end products and stereochemistry of final products of a new reaction

CO3: Discuss the reaction mechanism of electrophillic/neucleophillic substitution reactions.

CO4: Learn reaction types and parameters to apply in the laboratory methods.

COURSE III Physical Chemistry – Thermodynamics

CO1: student will learn quantum chemistry and angular momentum.

CO2: Use of models for greater understanding of phenomena of thermodynamics

CO3: Solve subject related numeric problems.

COURSE IV A MATHEMATICS FOR CHEMISTS (For Medical Students)

CO1: Solve various problems of Trigonometry, vectors and Determinants

CO2: Solve various problems of Matrices

CO3: Solve various problems of Differential Calculus

CO4: Solve various problems of Integral Calculus, probability

COURSE-IV B BIOLOGY FOR CHEMISTS (For Non-Medical Students)

CO1: Enable students to deal with biology involved in chemistry.

CO2: Students came to know about – The Organization of Life, The Diversity of Life.

CO3: Students also learnt about the cell organization and classification of living things in this course.

COURSE-IV C COMPUTER FOR CHEMISTS

CO1: Learn about various applications of computers in chemistry.

CO2: Develop skills in Programs in C/fortran/basic- Language.

CO3: learn about use of computer in programmes.

LABORATORY COURSE (INORGANIC CHEMISTRY)

CO1: Gravimetric Estimation of two constituents when present together in a given complex.

CO2: Analysis of two cation-system using EDTA.

LABORATORY COURSE (ORGANIC CHEMISTRY)

CO1: To determine corrected melting points of an unknown organic compound

CO2: To synthesize various organic compounds.

CO3: Organic Lab.(i)Safety: Eye, Fire and Chemicals (ii) Glassware (iii) Non-glass equipment (iv) Heating devices (v) Cleaning Glassware

LABORATORY COURSE (PHYSICAL CHEMISTRY)

CO1: handling and use of viscometer in various determinations

CO2: Handling and use of Stalagmometer and pyknometer in various determinations

CO3: various experiments related to density, colloidal state and solubility.

Sem II

COURSE I INORGANIC CHEMISTRY

CO1: student will learn Electronic Spectra and Magnetic Properties of Transition Metal Complexes

CO2: learn about Metal (II) complexes

CO3: learn about metal clusters

COURSE II ORGANIC CHEMISTRY

CO1: understanding of Reaction Mechanism, Structure and Reactivity

CO2: concept of Addition to Carbon-Carbon Multiple Bonds

CO3: concept of Addition to Carbon-Heteroatom Multiple Bonds

CO4: concept and mechanism of Free Radical, pericyclic and elimination Reactions

COURSE III PHYSICAL CHEMISTRY

CO1: Non-equilibrium Thermodynamics

CO2: Macromolecules:

CO3: Surface Chemistry

CO4: Electrochemistry and Electrocatalysis

COURSE IV GROUP THEORY, SPECTROSCOPY AND DIFFRACTION METHODS

CO1: Symmetry And Group Theory In Chemistry

CO2: Microwave and vibrational Spectroscopy

CO3: Basic Principles Photoelectric Effect, Ionization Process

CO4: Magnetic resonance spectroscopy

LABORATORY COURSE (INORGANIC CHEMISTRY)

CO1: Prepare various metal complexes and determine their magnetic and electronic properties.

LABORATORY COURSE (ORGANIC CHEMISTRY)

CO1: Separation of the compounds and their identification through various steps,

CO2: derivative preparation,

CO3: checking the purity of components by melting point.

LABORATORY COURSE (PHYSICAL CHEMISTRY)

CO1: To determine the specific and molecular rotations of optically active substances.

CO2: instrument handling and data analysis related to Potentiometry:

CO3: experimentation involving Flame Photometry

SEM III

Course I Applications of SPECTROSCOPY

Techniques in Structure Elucidation of Organic Compounds

CO1: Illustrates spectroscopic techniques (NMR, IR, UV-VIS) and Mass spectrometry

CO2: Application of spectroscopic techniques (NMR, IR, UV-VIS) and Mass spectrometry for structure elucidation of compounds

CO3: Interpretation of data and draw the conclusion.

CO4: Enable to solve the combined structural problems of organic compounds

Course II ORGANOTRANSITION METAL CHEMISTRY

CO1: Compounds of Transition Metal-Carbon Multiple Bonds

CO2: Transition Metal Compounds with Bonds to Hydrogen

CO3: Transition Metal Complexes

CO4: Fluxional organometallic compounds and homogeneous catalysis

COURSE III HETEROCYCLIC CHEMISTRY

CO1: Nomenclature, general chemical behaviour of aromatic and non-aromatic heterocycles

CO2: synthesis, reactions and properties of 3-, 4-, 5- 6- member heterocyclic compounds containing N, O, S.

CO3: Synthesis of pharmaceutical compounds having heterocyclic ring with one or more heteroatom.

CO4: introduction, properties and synthesis and reactions of 1,2-Azoles and 1,3-Azoles

Course IV ENVIRONMENTAL CHEMISTRY

CO1: learn about the Chemical composition of water bodies and atmosphere.

CO2: learn about the Introduction and composition of atmosphere.

CO3: understanding the Industrial pollution.

LABORATORY COURSE (INORGANIC CHEMISTRY)

CO1: Colorimetric estimation of cations and anions.

CO2: Separation techniques (i) Ion exchange (ii) Solvent extraction (iii) Column and paper chromatography

LABORATORY COURSE (ORGANIC CHEMISTRY)

CO1: Preparation of the following organic compounds:

CO2: Studies of TLC, column chromatography and paper chromatography for organic mixture.

LABORATORY COURSE (PHYSICAL CHEMISTRY)

CO1: Instrument operation and handling of conductometer.

CO2: Perform various titrations to determine dissociation constant, equilibrium constant, solubility etc.

CO3: Perform data and results interpretation.

CO4: learn to Establish correlation between experimental results and various physical chemistry laws and theories.

Sem-IV

Course I BIOPHYSICAL CHEMISTRY

CO1: learn about the Biological cell, DNA and RNA in living systems.

CO2: learn about the Introduction and historical perspective of enzymes and enzymatic action.

CO3: understanding of the Kinds of Reactions Catalysed by Enzymes.

CO4: understanding about the Biological Macromolecules.

CO5: learn the concept of Bioenergetics and ATP cycle.

Course II ORGANIC SYNTHESIS – I

CO1: understanding of the concept of Organic synthesis by oxidation, reduction and rearrangements

CO2: knowledge of the Organolithium and organomagnesium compounds

Course III CHEMISTRY OF NATURAL PRODUCTS

CO1: Student will learn the Biosynthesis and synthesis of the Terpenoids and Carotenoids.

CO2: concept of Structure, stereochemistry, synthesis and biosynthesis of the alkaloids.

CO3: Student will learn the Isolation, structure determination and synthesis of steroids.

CO4: Concept of Synthesis and reactions of Pyrethroids and rotenones.

Course IV PHOTOCHEMISTRY AND SOLID STATE

CO1: understanding of the Photochemical reactions and determination of reaction mechanisms

CO2: concept of photochemistry of alkenes, carbonyl compounds, and aromatic compounds

CO3: knowledge of the solid state chemistry, electronic properties and band theory

LABORATORY COURSE (INORGANIC CHEMISTRY)

CO1: student will learn the analysis of water to determine its hardness, BOD/COD, residual Chlorines and how to remove the hardness of water

CO2: student will learn the various types of titrations like: oxidation-reduction titrations, precipitation titrations etc

LABORATORY COURSE (ORGANIC CHEMISTRY)

CO1: student will do the Extraction of organic compound from natural sources like, caffeine, casein, lycopene and hippuric acid

CO2: student will learn the methodology for the estimation of different compounds in solution

LABORATORY COURSE (PHYSICAL CHEMISTRY)

CO1: Learn Instrument operation of colorimeter, spectrophotometer, refractometer, potentiometer etc.

CO2: Data analysis

CO3: Learn practical demonstration of physical chemistry laws and equations.

CO4: Instrument Handling.

CO5: Learn and perform separation techniques of column and paper chromatography.

PROGRAMME OUTCOMES

M.A. (ENGLISH)

M.A. (English) takes two years of full-time study, divided into four semesters. It enables students to comprehend English language and literature at an advanced level. The complexities of the language and linguistics are also revealed. The programme fosters critical thinking skills, and students gain a deeper understanding of English language, literature, linguistics, and cultural studies. The M.A. (English) programme is comprised of 18 (eighteen) papers. Semesters

I and II will have four papers each (a total of eight papers, four of which will be compulsory and four of which will be optional); Semesters III and IV will likewise have five papers each (a total of ten papers, two of which will be compulsory and eight optional). One paper (paper XIII) will be designated for dissertation work. If a student does not wish to work on a dissertation, he or she can choose a paper titled "Research Methodology." In the second year, one further paper—"Skill Enhancement/Social Outreach"' (paper XVIII, Sem IV) focused on practical training is to be chosen. If a student does not want to take this practical skills paper, he or she can take the paper titled "Creative Writing and Soft Skills."

Programme Specific Outcome:

SEMESTER I & II	
Compulsory Papers **Literary Movements**	• The paper examines some of the key literary movements that serve as the foundation for a critical engagement with literature's enormous corpus. • Movements such as classicism, romanticism, and realism serve as the foundation of critical terminology, and hence a basic awareness of these movements is required for a nuanced understanding of various forms of literary articulation. • Each movement has distinct aesthetic, cultural, and ethical beliefs and preferences.

	• The paper places significant emphasis on the historical and conceptual comprehension of diverse literary movements.
Approaches to Literary Criticism	• The purpose of the Paper is to familiarise students with various approaches to literature and the worldviews on which they are built. • Students should be able to relate literary books to their lives in terms of their own times and locations. • Each method has a claim to absolute meaning unless it is challenged by another equally compelling approach. • Each approach has its own well-argued theoretical foundation, a set of tried-and-tested tools, and a consistent methodology to assist the learner explore the text with accuracy.
Optional Papers **Cultural Studies**	• The aim of this foundational paper is to present the concept of culture to the students, emphasising its relationship with the discourses of religion,

	science, ideology, everyday life, and civilization. • The study aims to examine the evolutionary trajectory of claim by reading main essays and supplementary responses authored by renowned culture critics and theorists over the past two centuries.
Academic Writing	• The purpose of the paper is to raise understanding of the components and requirements of academic writing. • It is imperative that students comprehend the distinctions between academic and non-academic writing, particularly as they prepare to enter higher educational institutions. • The course will teach students how to convert a popular text into an academic text and vice versa. It will teach them how to summarise articles so that they can transform them into bulleted points for power point presentations.
SEMESTER III & IV	

Compulsory Paper: **Critical Theory**	• With changing power dynamics and a continued emphasis on representational politics, the approach of the Literature classroom has been reassessed. • Today, this eclectic discipline has been properly connected with the aims of literature study and is grouped under the banner of theory. • The course is intended to introduce an MA classroom to basic texts covering a variety of literary theory. • The works chosen illustrate a chronological evolution of literary analysis as well as ideological motivations that have influenced the practise of literary studies.
Optional Papers **Indian Writings (in English)**	• This paper strives to present a broad range of Indian writing in English, representing diverse genres and voices. • The course's goal is to introduce students to the wide range of Indian writing in English.

	• Furthermore, the selection of works will necessitate a detailed contextual study, as the genre has struggled with difficult themes of authenticity, language, nation, identity, and idiom.
World Literature	• This paper will assist students in understanding the notion of world literature. • It centres around classical and canonical ancient, mediaeval, and modern writings, and as such provides opportunity to re-map one's literary horizons on a worldwide scale. • It fosters a comparativist viewpoint and raises awareness of the greatest in international literature.
Writings from Punjab	• The course investigates narrative growth through texts from Punjab between the 15th and 19th centuries, attempting to incorporate distinctly "Punjabi" works in various genres dispersed over a 500-year period.

	• The study covers a wide range of topics, from *Gurbani* corpus to *Sufiana kaav* to *bhakti* literature. • Aside from familiarising students with representational texts, an attempt will be made to locate the paper within the greater socioeconomic matrix of mediaeval Punjab. • The course focuses on a brief overview of all key Punjabi writings.

BACHELOR OF COMMERCE

B.COM Ist Sem

After completing the course, the student shall be able to:

1. Subject: Punjabi
   - Showcase writers' innovative language use and literary sensibilities
   - Acquire a fundamental understanding of linguistics and basic grammar
   - Show mastery of language structure and semantics
   - Gain an insight of Punjabi culture via literary works
2. History and Culture of Punjab
   - Describe the history of our religion, customs, institutions, and government
   - Describe the social, political, religious, and economic conditions in which the people currently live
   - Describe the major events, turning points, and chronology of Punjab's history
   - Describe the various social and religious reforms that Punjab has undergone
3. Subject: English and Business Communication

- Become familiar with the language, forms, and genres of poetry, fiction, prose, film, and drama
- Master writing techniques to meet academic and professional needs
- Develop a natural accent and raise their general standard of pronunciation and writing

4. Subject: Interdisciplinary Psychology for Managers
    - Critically reflect on the psychology of management from contrasting perspectives in order better to manage, motivate and communicate effectively at the workplace
    - Research and apply ethical systems and concepts to the practice of psychology in management, both as an individual and a group.
    - Apply knowledge and skills to demonstrate autonomy
5. Subject: Business economics- I
    - Develop the ability to explain core economic terms, concepts, and theories
    - Explain the function of the market and prices as allocative mechanisms
    - Apply the concept of equilibrium to both microeconomics and macroeconomics
    - Identify key macroeconomic indicators and measures of economic change, growth, and development
    - Identify and discuss the key concepts underlying comparative advantage
6. Subject: Principles of Financial Accounting
    - Exemplify to prepare and analyse the financial statements and acquire the basic concept of accounting terms
    - Exposed to various methods of depreciation and insurance accounting and determine the basics concepts of financial accounting
    - Abridge the ability to prepare and analyse the branch account and acquire concept of departmental accounting
    - Build the ability to interpret hire purchase and instalment system
    - Exposed to various methods of depreciation and insurance accounting and demonstrate the concept of partnership accounts
7. Subject: Commercial Laws
    - Define basic terms, values and laws in the area of commercial law
    - Describe methods of applying principles and provisions of commercial law
    - Asses the correctness of applying specific laws to a specific case and choosing the most appropriate one

- Identify the relevant legal issues that arise on a given set of facts in the area of contract law.
- Select and apply a range of approaches to written communication, and apply the critical thinking

8. Subject: Principles and Practices of Management
    - Identify and apply appropriate management techniques for managing business
    - Acquire conceptual knowledge about the planning and decision making
    - Apply the concept of organising for the effective functioning of a management
    - Evaluate leadership style to anticipate the consequences of each leadership style
    - Demonstrate the techniques for controlling and coordination

B.COM IInd Sem

After completing the course, the student shall be able to:

1. Subject: Punjabi
    - Demonstrate literary sensibility and innovative use of language by writers
    - Understand of cultural aspects of Punjab through literary work
    - Obtain basic understanding of linguistics and basic grammar
    - Demonstrates knowledge of structure and semantics of language

2. Subject: History and Culture of Punjab
    - Demonstrate background of our religion, customs institutions, and administration
    - Demonstrate existing social, political, religious and economic conditions of the people
    - Demonstrate knowledge of the chronology, narrative, major events, and turning points of the history of Punjab
    - Understand various social and religious reforms of Punjab
3. Subject: English and Business Communication
    - Demonstrate written and oral skills appropriate for business communication
    - Get sensitized to the language, forms and types of poetry, fiction, prose, film and drama
    - Demonstrate students to master writing techniques to meet academic and professional needs

- Develop natural accent and improve their general standard of pronunciation

4. Subject: Interdisciplinary- E-commerce
    - Describe the key features of web-based e commerce from a managerial perspective
    - Critically assess a range of e-commerce applications
    - Assess the major opportunities, limitations, issues and risks of e commerce
    - Discuss the business issues and technologies surrounding e-commerce systems that underpin modern organisations
5. Subject: Business Economics- II
    - Develop the ability to explain core economic terms, concepts, and theories related to macroeconomics
    - Demonstrate the ability to employ the "economic way of thinking."
    - Exhibit the ability to collect, process, and interpret data, including statistical inference
    - Demonstrate the awareness of global, historical and institutional forces in shaping economies

6.Subject name: Corporate Accounting

- Recognize and appreciate the importance of accounting standards and its convergence with IFRS
- Demonstrate knowledge and understanding of fundamental concepts , principles and its application.
- Demonstrate the knowledge of preparation of Balance Sheet and Statement of P/L Account in accordance with schedule VI of the Companies Act 2013
- Demonstrating the accounting skills necessary to accumulate and summarize financial information for decision making

7. Subject: Business Laws
    - Demonstrate an understanding of the Legal Environment of Business
    - Obtain awareness about important legislations namely Sale of Goods Act, Consumer Act, Factories Act having impact on business
    - Demonstrate critical thinking through the use of law & cases
    - Understand consequences of applicability of various laws on business situations.

8. Subject: Human Resource Management

- Demonstrate and apply key management principles, models, and applications for effective managerial services
- Demonstrate empirical research approaches to planning and decision making
- Demonstrate entrepreneurial skills and abilities for sustainable entrepreneurship and business
- Understand International HR practices and the latest trend of E-HRM

B.COM IIIrd Sem

After completing the course, the student shall be able to:

1. Subject: Interdisciplinary Issues in Indian Commerce
    - Develop the ability to completely evaluate new ideas, research findings in evaluation to business and commerce related issues.
    - Recognize and understand the ethical and moral responsibility of the individuals and organization in society.
    - Evolve into a global citizen who understands the duties for the welfare of our society and country.
    - Ability to complete knowledge into performance makes business decision through capability to interact and motivate and understand concept, develop ideas and implement strategies.
2. Subject: Cost Accounting
    - Define the concepts of Cost Accounting systems
    - Acquaint themselves with the concepts of material issues and control, reconciliation of cost and financial accounting etc.
    - understand the various techniques of costing like Contract, Process, Standard and Marginal.
    - Exhibit knowledge on various emerging concept of cost accounting like cycling costing, Bench Marking etc.
3. Subject: Company Law
    - Explain the concepts in formation and incorporation of company under Company law 2013.
    - Obtain awareness about the statutory requirements in relation to memorandum of association, articles of association and prospectus.
    - Understand about types of directors and their responsibilities.

- Acquire basic Knowledge about Administration of Company Laws (including NCLT).

4. Subject: Business Mathematics and Statistics
    - Develop a sense of the role of mathematics, statistics and data analysis in business
    - Apply the principles, techniques and approaches for statistical inferences
    - Apply statistical concepts to business and economic models for predicting outcomes
    - Application of data analysis for informed decision making
5. Subject: Banking and Insurance
    - Develop a foundation in Banking and Insurance related areas.
    - Acquire practical knowledge, training in professional skills and ethics to build competencies in the area of banking and insurance
    - Develop their personalities along with commercial, communication, research, analytical and managerial skills in various theoretical and operational aspects and reforms in banking and insurance sector.
    - Relate to global challenges and be exposed to newer avenues in the banking, insurance and financial sector
6. Subject: Goods and Services Tax
    - Acquire knowledge of basic concepts of goods and service tax, CGST, SGCT, IGST, classification of goods and valuation rules.
    - Learn the basic procedures under GST incorporating the registration, filing of returns and payment of
    - Obtain knowledge of composition scheme under GST, Exemptions under GST, concept of supply of goods, nature of supply.
    - Learn about the customs law, valuation and baggage rules.

B.COM IVth Sem

After completing the course, the student shall be able to:

1. Subject: Interdisciplinary- Security Analysis and Portfolio Management
    - Identify the investment opportunities and the nature of investment decisions.
    - Interpret the investment environment and assess the procedural issues of the security markets.
    - Choose from a framework of risk and return for enabling an understanding of the theoretical tenets of investment analysis.

- Discuss and explore the relational and exploratory methods and influences considered by technical analysts.
- Organize the various instruments and their regulatory systems on the portfolio analysis.

2. Subject: Advanced Accounting
    - Demonstrate understanding of concepts underlying the accounting for course topics
    - Analyse accounting problems and apply appropriate accounting procedures to course topics
    - Use Codification to research issues related to course topics
    - Use Excel spreadsheets to organize and present information
    - Communicate accounting information clearly, concisely and accurately
    - Identify significant differences between U.S. and international accounting standards for covered topics

3. Subject: Auditing and Secretarial Practice
    - Articulate knowledge of fundamental audit concepts
    - Apply critical thinking skills and solve auditing problems through the use of case studies
    - Demonstrate the ability to undertake research on significant auditing issues and to keep up-to-date with developments in auditing theory and practice
    - Explain the legal framework under which Australian company audits are conducted and apply the professions code of conduct
4. Subject: Cost Management
    - Explain the various techniques of cost reduction and cost control
    - Differentiate between fixed, variable, semi-fixed and semi-variable cost concepts and analyse the relationship between the cost-volume and profit
    - Understand break-even sales price, break-even sales volume, the total contribution margin, the unit contribution margin, margin of safety, security ratio, profit margin concepts
    - Outline budgets and define budgeting and operating budgets concepts
5. Subject: Marketing Management

- Formulate a marketing plan that will meet the needs or goals of a business or organization.
- Develop an integrated marketing communications plan for a product, concept, good and/or service based on an identified market need or target.
- Formulate strategies for developing new and/or modified product, concepts, goods and services that respond to evolving market needs.
- Develop strategies for the efficient and effective placement/ distribution of products, concepts, goods, and services that respond to evolving markets.

6. Subject: Quantitative Techniques and Methods
    - Demonstrate a professional understanding of the basic mathematical and statistical techniques needed for quantitative analysis
    - Apply those techniques for solving complex management problems
    - Apply tools to analyse and critically evaluate different types of management problems
    - Demonstrate an appreciation of the vast array of quantitative techniques that still remain unexplored

B.COM Vth Sem

After completing the course, the student shall be able to:

1. Subject: Income Tax Law

- Understand the basic concepts in the law of income tax and determine the residential status of different persons
- Identify the five heads in which income is categorized and compute income under the heads 'Salaries' and 'Income from House Property'
- Compute income under the head 'Profits and gains of business or profession', 'Capital gains' and 'Income from other sources"

2. Subject: Management Accounting

- Understand the basic concepts of various terms related to management accounting
- Analyze the vertical financial statements with different analytical methods which helps students to know how to study the financial statements, make comparisons between current year and previous years and draw proper interpretations

- Carry out the study of financial statements in the form of ratio and such study is more expressive

3. Subject: Indian Economy

- Develop the capacity to identify, understand and solve the problems of society
- Result in comprehensive understanding of Indian Economy
- Understand government policies and programs sector-wise

4. Subject: Production and Operations Management

- Understand the knowledge on core features of the operations and production management function at the operational and strategic levels, specifically the relationships between people, process, technology, productivity and quality and how it contributes to the competitiveness of firms
- Students will develop an integrated framework for strategic thinking and decision making to analyse the enterprise as a whole with a specific focus on production delivery processes
- Sensitive to the impact on environments while dealing with production, use of technology and waste management

5. Subject: Entrepreneurship and Small Business

- Demonstrate knowledge of the legal and ethical environment impacting business organizations and exhibit an understanding and appreciation of the ethical implications of decisions
- Demonstrate an understanding of and appreciation for the importance of the impact of globalization and diversity in modern organizations
- Exhibit an ability to engage in critical thinking by analyzing situations and constructing and selecting viable solutions to solve problems
- Identify market opportunities and develop a business plan

6. Subject: Financial Markets and Services

- Analyse the Financial System, Banking and Non-Banking Institutions, Securities Markets and also the key terminology of Financial Market for employment opportunity

- Apply various types of financial services provided by Financial Institutions for investment advisor's perspective to the various kinds of investors, which will help in enhancing the skill in the area of finance for employment and entrepreneurship
- Analyse and frame out the profitability alternatives to mobilize funds from capital market and money market for client and company helping in enhancement of critical thinking and analysis skills.

B.COM VIth Sem

After completing the course, the student shall be able to:

1. Subject: Direct Tax Laws

    - Understand clubbing provisions, aggregate income after set-off and carry forward of losses, and deductions allowed under the Income Tax Act; and further to compute taxable income and tax liability of individuals and firms.
    - Discuss the various benefits/deductions under Chapter VI-A of the Income tax act, 1961.
    - Develop the ability to file online returns of income.

2. Subject: Financial Management

    - Demonstrate an understanding of the overall role and importance of the finance function.
    - Demonstrate basic finance management knowledge and communicate effectively using standard business terminology.
    - Compute cost of capital and develop innovative financial strategies
    - Analyse the capital structure decisions through relevant models

3. Subject: Issues in Financial Reporting

    - Integrate concept in international business concepts with functioning of global trade
    - Identify the criteria for determining a functional currency, the issue that shifts a gain or loss out of other comprehensive income, and the steps used to deal

with the financial statements of an organization operating in a hyperinflationary economy.

- Understand the arm's length principle, the concept of comparability and the transfer pricing methods in the OECD transfer Pricing Guidelines
- Explain alternative sources of finance and investment opportunities and their suitability circumstances

4. Subject: Social And Business Ethics

    - Understand the Business Ethics and to provide best practices of business ethics
    - Learn the values and implement in their careers to become a good manager.
    - Develop various corporate social Responsibilities and practise in their professional life
    - Imbibe the ethical issues in corporate governance and to adhere to the ethical codes

5. Subject: Operational Research

    - Understand the nature and basic concepts of operational research and its applications
    - Use basic operational research tools and techniques whenever necessary
    - Equips themselves with necessary mathematical and statistical tools and techniques
    - Formulate simple real-life problems as operational research problems and solving them using various tools and techniques

6. Subject: Sectoral Aspects of Indian Economy

    - Develop an understanding o related to different sectors of Indian Economy
    - Understand how planning and infrastructure support can develop an economy
    - Develop the conceptual framework of government policies and programmes
    - Acquaint themselves with latest data and will enhance analytical skills

MASTER OF COMMERCE

M.COM Ist Sem

After completing the course, the student shall be able to:

1. Subject: Managerial Economics

- Analyze economic information and develop the solution of micro and macro-economic Problems
- With the help of economic data, they can use them in various economic concepts and models and find out and compare the economic situations of the country
- Concretize economic problems to be analyzed and understand how theoretical framework and actual empirical conditions are connected
- Understand the role of international trade, international finance and exchange rates determination

2. Subject: Quantitative Methods for Business

- Solve problems using a variety of mathematical and statistical techniques relevant to a postgraduate business degree
- Engage in independent and reflective learning. Analyse problems, apply critical thinking, and draw conclusions based on business data
- Acquire familiarity with relevant mathematical and statistical terminology
- Identify ethical issues in business practice and statistical reporting

3.Subject: Modern Accounting Theory and Reporting Practices

- Understand the history of accounting standard-setting process and apply this history when explaining the current standard-setting environment
- Acquaint themselves with accounting knowledge based on generally accepted accounting principles
- Obtain critical thinking skills necessary to analyze and interpret accounting related transactions in accordance with generally accepted accounting principles, and the reports generated by the accounting system

- Use principles of revenue recognition to analyse, measure, and interpret accounting events

4. Subject: Organisation Theory and Behaviour

- Understand the conceptual framework of the discipline of OB and its practical applications in the organizational set up
- Understand the role of individual, groups and structure in achieving organizational goals effectively and efficiently
- Critically evaluate and analyse various theories and models that contributes in the overall understanding of the discipline
- Develop creative and innovative ideas that could positively shape the organizations
- Accept and embrace in working with different people from different cultural and diverse background in the workplace

5. Subject: Marketing Management

    - Develop a suitable marketing mix for the given product
    - Apply the three steps of target marketing: market segmentation, target marketing, and market positioning
    - Recommend a suitable pricing strategy for various stages of product life cycle
    - Evaluate different distribution channel options and their suitability for the company's product
    - Develop a suitable promotion mix (advertising, sales promotion, public relations, personal selling, and direct marketing etc.) for the product.

6. Subject: Management Information System

    - Relate the basic concepts and technologies used in the field of management information systems
    - Compare the processes of developing and implementing information systems
    - Outline the role of the ethical, social, and security issues of information systems
    - Translate the role of information systems in organizations, the strategic management processes, with the implications for the management
    - Apply the understanding of how various information systems like DBMS work together to accomplish the information objectives of an organization

7. Subject: Workshop on IT Applications in Commerce

    - Equip themselves to potentially rich & employable field of computer applications
    - Pursue higher studies in the area of Computer Science/Applications
    - Take up self-employment in Indian & global software market
    - Meet the requirements of the Industrial standards

M.COM IInd Sem

After completing the course, the student shall be able to:

1. Subject: Business Environment
    - Acquainted with business objectives, dynamics of business and environment, various types of business environment and its analysis
    - Recall and relate various concepts like business ethics, ethical dilemmas, corporate culture and ethical climate
    - Acquainted about development of various acts applicable to business in India
    - Describe and discuss Corporate Social Responsibility, Corporate Governance and Social Audit
2. Subject: Research Methodology in Commerce
    - Understand and comprehend the basics in research methodology and applying them in research/ project work
    - Select an appropriate research design and take up and implement a research project/ study
    - Enable them to collect the data, edit it properly and analyze it accordingly. Thus, it will facilitate students' prosperity in higher education
    - Develop skills in qualitative and quantitative data analysis and presentation
    - Demonstrate the ability to choose methods appropriate to research objectives
3. Subject: Financial Management and Policy
    - Demonstrate understanding of the finance function and also understanding of the goals of the finance manager
    - Identify the basic financial environment and institutions and perform analytical reviews of financial results, proposals, and plans
    - Identify funding sources, instruments, and markets and demonstrate knowledge of the value of money over time and its uses

- Demonstrate knowledge of a basic financial vocabulary and recognize the importance of ethics

4. Subject: Production and Materials Management

- Obtain detailed understanding and knowledge of production management and material requirements planning
- Acquire confidence and knowledge to train other professionals on best practices of production management and material requirements planning
- enhance their skill set, confidence and knowledge to apply advanced tools and techniques for better production management and material requirements planning
- Enhance foresight and attention to detail to audit processes to check for adherence to standards and efficiency
- Understand, experience and increase ability to increase client satisfaction through better quality products in the right quantities and at the right time

5. Subject: Operations Research

- Understand the nature and basic concepts of operational research and its applications
- Use basic operational research tools and techniques whenever necessary
- Equips themselves with necessary mathematical and statistical tools and techniques
- Formulate simple real-life problems as operational research problems and solving them using various tools and techniques

6. Subject: Business Policy and Strategic Management

- Critically analyze the internal and external environments in which businesses operate and assess their significance for strategic planning
- Apply understanding for the theories, concepts and tools that support strategic management in organizations
- Build understanding of the nature and dynamics of strategy formulation and implementation processes at corporate and business level
- Enhance their ability to identify strategic issues and design appropriate courses of action

7. Subject: Summer Training Report and Viva- Voces

- Acquire on job the skills, knowledge, and attitude, which are requisite to constitute a professional identity
- Demonstrate professional values and ethical standards
- Handle real life challenges by making effective decisions at the organisations
- Adapt effectively to changing conditions

M.COM IIIrd Sem

After completing the course, the student shall be able to:

1. Subject: Business Performance Measurement
    - Analyse the benefits of modern business performance measurement to an organisation
    - Analyse the features of an effective performance measurement system
    - Assess the relationship between corporate strategy and performance measurement systems
    - Differentiate between financial and non-financial performance measures
    - Examine different non-financial and financial performance measures used in performance measurement systems
    - Compare the use of 'leading' and 'lagging' performance measures in performance management systems
    - Differentiate between Key Performance Indicators (KPIs) and performance measures
2. Subject: Tax Planning and Management
    - Understand the basic concepts in the law of income tax and determine the residential status of different persons
    - Identify the five heads in which income is categorized and compute income under the heads 'Salaries' and 'Income from House Property'
    - Compute income under the head 'Profits and gains of business or profession', 'Capital gains' and 'Income from other sources"

- Understand clubbing provisions, aggregate income after set-off and carry forward of losses, and deductions allowed under the Income Tax Act; and further to compute taxable income and tax liability of individuals and firms
- Discuss the various benefits/deductions under Chapter VI-A of the Income tax act, 1961

3. Subject: Integrated Marketing Communication and Brand Equity

- Apply the key terms, definitions, and concepts used in integrated marketing communications
- Conduct and evaluate marketing research and apply these findings to develop competitive and positioning strategies and to select the target audience(s) for the IMC campaign plan
- Examine how integrated marketing communications help to build brand identity and brand relationship and create brand equity through brand synergy
- Choose a marketing communication mix to achieve the communications and behavioural objectives of the IMC campaign plans
- Develop an integrated cross-media strategy and creative message and concept to reach the target audience and deliver the brand promise through an IMC campaign

4. Subject: Marketing Research

- Identify marketing problem(s) to assist in decision making
- Choose the methodologies to acquire evidence in an ethical manner to address the marketing problem
- Retrieve primary and secondary data to solve the marketing problem
- Establish the methodological quality, reliability and validity of the data collected
- Integrate all types of relevant evidence towards finding solutions to the marketing problem
- Find solutions to the marketing problem based on the integrated relevant evidence

5. Subject: Bank Management

- Obtain awareness of the fundamentals of banking and knowledge of banking operations

- Analyse the Role and organization structure of Indian banking system
- Relate the Regulation of Indian Banking Act 1949 and their Progress & performance
- Acquaint the students with Bank Nationalization Process and its effects
- Apply the impart knowledge about functions, role and monitory policy of Reserve Bank of India

6. Subject: Insurance Management
    - Demonstrate knowledge of the legal and ethical environment impacting business organizations and exhibit an understanding and appreciation of the ethical implications of decisions
    - Demonstrate an understanding of and appreciation for the importance of the impact of globalization and diversity in modern organizations
    - Demonstrate an ability to engage in critical thinking by analysing situations and constructing and selecting viable solutions to solve problems
    - Discuss knowledge of current information, theories and models, and techniques and practices in all of the major business disciplines including the general areas of Accounting and Finance, Information Technologies, Management, Marketing, and Quantitative Analysis

M.COM IVth Sem

After completing the course, the student shall be able to:

1. Subject: Project Planning and Control

- Acquire deep understanding of project working model applied analytically as well as proactively to a wide range of situation
- obtain a comprehensive understanding of the challenges and corresponding success factors for project execution
- Acquire broad knowledge of methods and techniques to plan and conduct large projects, based on a systematic and evidence-based approach
- Analyse risk elements in projects and suggest how to deal with them. It will be necessary to be able to create an overview of different stakeholders' interests and responsibility in projects

2. Subject: Knowledge Management

- Improve the quality of management decision-making by ensuring that reliable and secure knowledge, information and data is available through the service lifecycle
- Enable the service provider to be more efficient and improve quality of service, increase satisfaction and reduce the cost of service by reducing the need to rediscover knowledge
- Ensure that staff have a clear and common understanding of the value that their services provide to customers and the ways in which benefits are realized from the use of those services
- Maintain a Service Knowledge Management System (SKMS) that provides controlled access to knowledge, information and data that is appropriate for each audience
- Gather, analyse, store, share, use and maintain knowledge, information and data throughout the service provider organization

3. Subject: Business Ethics and Corporate Governance
    - Understand the importance of ethics and corporate governance in the day-to-day working of organizations
    - Learn the issues involved in maintaining ethics and how to deal with such situations
    - Learn scope of business ethics in Compliance, finance, Human resources, marketing, production.
4. Subject: Advertising and Sales Management
    - Understand and analyse the relevant research in advertising and marketing communication
    - Design effective visual communication for various advertising approaches that combine the use of print, online/digital, and other multimedia communication
    - Develop advertising media buying and planning strategies
    - Create and defend the strategy and execution of an ad campaign for a client(s)
5. Subject: Services Marketing
    - Implement the best practices of the Services Marketing
    - Apply knowledge of Customer Relationship techniques in the corporate world
    - Analyse, interpret and solve problems in service recovery
    - Perform lifelong learning and professional development to enrich the services marketing strategies

6. Subject: Consumer Behaviour
    - Explain the basic concepts and models of consumer behaviour
    - Analyse the effects of psychological, socio-cultural and demographic factors on the consumer decision process with their results
    - Distinguish the relationship between consumer behaviour and marketing practices
    - Define the importance of consumer behaviour for businesses
    - Compare the relationship between consumer behaviour and other disciplines
    - Define the importance of group effects in consumer behaviour and explain the consumer purchasing decision process.

Bachelor of Computer Applications (BCA)

Programme Outcomes

At the end of the three year BCA program, the students will be able to:

PO1: Work effectively both as an individual and as a team leader on multi-disciplinary projects.
PO2:Inculcate the basic understanding of Computer and Computer Programming Languages in students so that they can have deep understanding about the system and its inner working details.
PO3:Design innovative methodologies for solving complex-real life problems for the betterment of society.
PO4:Apply standards of engineering practices and strategies to deliver quality software.
PO5:students can fully comprehend a variety of computer and technology-related fields, including Computer Graphics, Operating Systems and Data Structures.
PO6: Develop communication skills to effectively present technical information in oral and written reports.

Programme Specific Outcomes

BCA program prepares students to:

PSO1: Provide professional understanding in programming languages including C, C++, Java, and others, to pursue a career in the software industry, government sector, academia, research, and other areas where computer applications are deployed.

PSO2: The current technological era places a great demand on personnel to receive extensive hands-on training in the necessary practical approach. This Programme enables the students to solve the real world problems practically and enrich their skills in research and jobs.

PSO3: Student learns to articulate in English in group discussions and personal interviews.

PSO4:Pursue higher studies in the area of Computer Science and Applications.

PSO5: Enhancing logical ability and programming concepts by providing sufficient lab hours.

PSO6: Become knowledgeable, skilled, ethical, and responsible human resources.

Course Outcomes

BCA 1st Semester

BCA-16-101: English (Compulsory)-A

CO1: Giving students the ability to recognise the unique qualities of poetry, essays, and short stories and to connect the texts and circumstances to everyday life.

CO2: Appreciative analysis of poetry.

CO3: Note how poetry affects and raises the standard of living.

CO4: Become acquainted with the sentence structures.

CO5: Independent Lifelong Learning: The capacity of students to autonomously obtain information and knowledge.

BCA-16-102: Fundamentals of Mathematical Statistics

CO1: This paper evaluate the learning insights of concept of statistical analysis of the data to the students so that they can effectively and efficiently store the data inside the systems.

CO2: Understanding of the basic techniques of Statistical Methods. After completing this course students will be able to solve various Financial, Scientific and Engineering fields' problems.

CO3: Analyze statistical data using measures of central tendency, dispersion, and location.

CO4: This paper will recommend the students to research and experiment about the statistical details of the data and perform mathematical calculations of the data as well.

BCA-16-103: Computer Fundamentals and Computing Software

CO1: Familiarization with complete fundamentals and learning the packages commonly used in computing software.

CO2: Understand the computer basics, data representation, and computer memory.

CO3: Understand terminologies related to software, hardware, and computer organization.

BCA-16-104: Problem Solving Through C

CO1: Develop algorithms, flowcharts, pseudo-codes, and computer programs for solving real- world problems and write programs in "C" language to solve these.
CO2: Understanding programming language concepts like control structures, reading a set of data, stepwise refinement, function and arrays.

CO3: Perform debugging and testing of programs in C language.

CO4: Build the foundation for learning other computer programming languages.

BCA 2nd Semester

BCA-16-201: English (Compulsory)-B

CO1: Giving pupils the ability to recognize the unique qualities of poetry, essays, and short stories and to connect the texts and circumstances to everyday life.

CO2: Appreciative analysis of poetry.

CO3: Note how poetry affects and raises the standard of living

CO4: Become acquainted with the sentence structures

CO5: Independent Lifelong Learning: The capacity of students to autonomously obtain information and knowledge

BCA-16-202: Computer Organization

CO1: Understanding of the basic organization of computer system and system maintenance.

CO2: Establish relationship between computer hardware and software

CO2: Understand the internal structure of computer and functionalities of different computer memory types.

CO3: This paper demonstrates system components, circuit design, logical design, structure of instruction, computer arithmetic, processor control, assembly programming and methods of performance enhancement.

CO4: Demonstrates the way the hardware components operate and how they are connected together to form the computer system

BCA-16-203: Fundamentals of Web Programming

CO1: Ability to build and publish web sites using HTML, DHTML, CSS, JavaScript and Dreamweaver.

CO2: Demonstration to the students about website development which will highly increase their opportunities to work in industries.

CO3: Create websites using Adobe Dreamweaver software.

BCA-16-204: Object Oriented Programming using C++

CO1: Ability to write C++ programs using the more esoteric language features, utilize Object Oriented techniques to design C++ programs, use the standard C++ library, and explore advanced C++ techniques.

CO2: Implement programs with code reusability using inheritance

CO3: Implement stream classes, I/O operations, and exception handling.

BCA 3rd Semester

BCA-16-303: Information System Design and Implementation

CO1: Knowledge about the various aspects of Information Systems along with their analysis and design.

CO2: Learner will be aware about pre requisite of software development and associated paradigms.

CO3: Design the information system using various information-gathering tools and structured analysis tools.

CO4: Understand the important concepts of information system design and system development life cycle.

BCA-16-304: Computer Oriented Numerical Methods

CO1: Understanding of the essential techniques of Numerical Methods. After completing this course students will be able to solve various Scientific and Engineering fields'

problems.

CO2: Work numerically on the ordinary differential equations using different methods through the theory of finite differences.

CO3: Extends the critical and analytical strategies in students so that students can pursue their carrier in research and development field.

BCA-16-305: Data Structures

CO1: Knowledge regarding various data structures and the basic operations performed using them. At the end of course, students ought to have complete knowledge of data structures, thus should be able to use them for solving real world problems.
CO2: Students can compare about application of various data structure like stacks, queues, tree, graph, linked list etc. related to different operations.
CO3: Choose and apply searching and sorting techniques based on different data structures.
CO4: This paper is highly recommended to learn and implement logics in computer science. It also illustrates the various concepts related to data storage in computers.

BCA 4th Semester

BCA-16-401/BCA-16-402: Punjabi-B/ History & Culture of Punjab–B

BCA-16-403: Software Project Management

CO1: Understanding of important concepts and terms related to various phases during the development of a software project.

CO2: Perform feasibility analysis, including, Market, Technical, Financial, and Economic analysis.
CO3: Analyze the techniques for Project planning, scheduling, execution, and cost control.

BCA-16-404: Operating System Concepts and Linux

CO1: This paper demonstrates about the importance of computer system resources and the role of operating system in their management policies to get a better understanding about the concept of various Process Management Techniques under different operating systems available.

CO2: This course helps students to identify use and formulate the file and process management policies with LINUX.
CO3: The paper gives detailed description about the process and functions of operating system in order to schedule manage and control the processes going inside the system.

BCA-16-405: Database Management System

CO1: Understanding of the underlying concepts of database management system and getting skilled in implementing them using Database software.

CO2: Given that database techniques like data warehousing and data mining are essential to all forms of business, it offers potential for further study and development in this area.

CO3: Create indexes, joins, views, and sequences

CO4: Apply the PL/SQL concepts like cursor management, exceptional handling, trigger creation

BCA 5th Semester

BCA-16-501: Computer Networks

CO1: Acquisition of knowledge about computer network related hardware and software using a layered architecture.

CO2: Understanding of the concepts of network security, wireless and various emerging network technologies.

CO3: Analyze, specify and design the topological and routing strategies for an IP based networking infrastructure.

CO5: This Course will help students to get proper information about many network devices and compare their uses so that students can use them in real world also.

CO 4: Students will thoroughly elaborate the transmission media and compare different LAN, MAN and WAN topologies.

BCA-16-502: Discrete Mathematical Structure

CO1: Acquisition of knowledge of Logic, Relations and Functions, Algebraic Functions and Graph Theory.

CO2: This summarizes the concepts to the students in many competitive exams that act as a base for reasoning, quantitative techniques and graph theory as well.

CO3: Perform different traversal methods on trees and graphs.

CO4: Use recurrence relations to obtain solutions to recursive problems.

BCA-16-503: Java Programming

CO1: Understand the concepts of Object-Oriented programming

CO2: Knowledge about all the programming concepts of JAVA programming language.

CO3: The Specialization of this will increase the opportunities for students to get jobs in the field of programming, website and software development, software testing etc.

CO4: This programme enables students to implement the constructs and structure of the Java Programming Language in the creation of Java Applets.

BCA-16-504: Web Application Development using PHP

CO1: Ability to do web programming using PHP and MySQL. It would enable them to develop websites and other web based applications.
CO2: Compile and run a simple web application
CO3: This paper illustrates information about the data base connectivity along with the given front end website or software so that the students can learn about the data transfer procedures form front-end to back-end and vice-versa.

BCA 6th Semester

BCA-16-601: E-Commerce

CO1: Understanding of the process of electronic commerce and familiarization with the technology involved in it.
CO2: Enumerate the technological resources at the disposal of e-commerce enterprises.
CO3: Describe the steps that need to be taken to establish an online store.
CO4: Compare different B2C, C2C, and B2B e-commerce trade arrangements.
CO5: Explain the connection between supply chains and procurement in B2B e-commerce.

BCA-16-602: Application Development using VB.Net

CO1: Ability to develop applications using event driven programming with VB.net (as front end) and accessing database at back end.

CO2: Describe the basic structure of a Visual Basic.NET and use the main

features of the Integrated Development Environment (IDE).

CO3: Demonstrate and integrate variables, constants, lists, and loops with VB.

NET controls by using procedures and functions.

BCA-16-603: Computer Graphics and Multimedia Applications

CO1: Basic knowledge of computer graphics concepts and algorithms. The student will also learn about essential concepts used in developing multimedia applications.
CO2: Identify the real-world applications of computer graphics and multimedia.
CO3: This helps students to get through the techniques of creating many Graphical Scenes and Scenes with Motion also which greatly helps them to create different live projects and work under various MNCs.
CO4: Select and use different multimedia file formats based on the given requirements

BCA-16-605: Major Project and Seminar

CO1: Use Visual Basic.Net to create forms that can carry out various tasks.
CO2: Put the database connection in place
CO3: Apply the phases of software development to create a VB.NET software application for practical issues (requirement analysis, design, coding, testing, implementation) CO4: Put together a project presentation and report.

B.Sc./B.A Computer Science (Elective)

Programme Outcomes

PO 1: This programme inculcates the basic understanding of Computer and Computer Programming Languages in students so that they can have complete knowledge about the system and its inner working details.

PO 2: This programme aware the students about the high use of Computers in various fields and Job opportunities in this field.

PO 3: This programme makes the students well versed with the computing environment and the various concepts, topics and subjects related to computer science.

PO 4: This programme enables the students to have the complete understanding of various branches of Computer Science and Technology such as Operating Systems, Database Management System and Data Structures.

Programme Specific Outcomes

PSO 1: A B.Sc. graduate with Computer Science Elective course will have the ability to:

- Acquire knowledge in core areas of Computer Science such as
- Data Structures and Programming Languages
- Databases, Operating Systems
- Computer Architecture
- E-commerce applications and developing web-based applications

PSO 2: Apply problem-solving skills and the knowledge of computer science to solve real world problems

PSO3: The programme specifically provides in depth knowledge of computer to students so that they can build their carrier in this field and take subsequent advantages from the programme course work.

PSO4: The present era of technology is highly demanding the employees with thorough practical training in their required practical approach. This Programme enables the students to solve the real-world problems practically and enrich their skills in research and jobs.

Course Outcomes

B.Sc./B.A 1st Semester

Paper-CS01 (Theory-A) Computer Fundamentals

CO1: This paper demonstrates fundamental information about computer and its working. A number of devices that can be attached with a machine now a day are also discussed.

CO2: Compare and contrast the operating systems and computer languages.

CO3: Understand terminologies related to software, hardware, and computer organization.

CO4: Understand the basics of computer networks and data communications.

Paper –CS02 (Theory-B) PC Software

CO1: Able to create word documents and animated presentations.

CO2: Work with windows menu and advanced windows features.

CO3: Work with analysis of graph based

CO4: Implement data base analysis using various formulas

B.Sc./B.A 2nd Semester

Paper – CS03 (Theory-A) Operating System Concepts

CO1: This paper makes the students eligible for operating system programming fundamentals.

CO2: Compare and contrast various algorithms used for management of memory, CPU scheduling, file handling, and I/O operations.

CO3: Classify various Operating System methods for resource allocation and deadlock management.

CO4: Understand the concept of memory management techniques.

Paper –CS04 (Theory-B) C Programming

CO1: This paper demonstrates programming skills to the students who are beginning their course work in various computer programming languages

CO2: This language is being accepted as universal programming language that elaborate the understanding of programming language in students.

CO3: Select appropriate data types and control structures for solving a given problem.

CO4: Illustrate the representation of arrays, strings, functions, structures, unions and usage of string operations.

B.Sc./B.A 3rd Semester

Paper CS05 (Theory A) Computer Organization

CO1: This paper allows students to analyze the internal circuitry of the processor and memory in detail explaining about process creation, performance of various calculations, number system, number conversions and K- Mapping techniques.

CO2: Understand the number system, codes and internal structure of computer

CO3: This paper demonstrates the way the hardware components operate and how they are connected together to form the computer system

CO4: Design combinational circuits like half adder/full adder, encoder/decoder, MUX/DEMUX

Paper CS06 (Theory B) Object-oriented programming using C++

CO1: Understand key features of the object-oriented programming CO2: Implement C++ programs with constructors and destructors

CO3: Develop programs involving polymorphism using operator overloading, method overloading, and virtual functions

CO4: C++ inculcates all the required concepts, methodologies and structure oriented

B.Sc./B.A 4th semester

Paper CS07 (Theory A) Database Concepts

CO1: This paper also organizes the design and implementation of databases and generates opportunity for students to become data managers.

CO2: Describe the fundamental elements of relational database management systems

CO3: Design ER models to represent simple database application scenarios

CO4: Understand the basic concepts and techniques of normalization, database security, concurrency, and recovery.

CO5: Explain the concepts of distributed databases

Paper CS08 (Theory B) Data Structures

CO1: Students learn to categorize various data structure like stacks, queues, tree, graph, linked list etc. related to different operations.

CO2: This paper is highly necessary to learn and implement logics in computer science.

CO3: Understanding various concepts related with data storage in computers, searching and sorting techniques

CO4: Students prepare criteria to analyse and compare algorithms for efficiency.

B.Sc./B.A 5th semester

Paper CS09 (Theory) Project Management

CO1: Understand project characteristics and various stages of a project development

CO2: Understand feasibility analysis, including, Market, Technical, Financial, and Economic analysis

CO3: Implement the techniques of planning in real world problems

CO4: Proficiency in writing technical reports

Paper CS10 (Theory) Relational Database Management System

CO1: Understand the concept of relational database theory and concepts of SQL

CO2: Learn the creation and manipulation of data in database.

CO3: Create indexes, joins, views, and sequences

CO4: Apply the PL/SQL concepts like cursor management, exceptional handling, trigger creation

B.Sc./B.A 6th semester

Paper- CS11 (Theory) E-Commerce

CO1: This paper demonstrates the applicability of E-commerce on business models and strategy.

CO2: This subject opens job opportunity in business organizations.

CO3: Explain the process that should be followed in building an E-commerce presence.

CO4: Identify the key security threats in the E-commerce environment.

Paper- CS12 (Theory) Web programming

CO1: This paper is highly recommended for the provision of demonstration to the students about website development and software development which will highly increase their opportunities to work in industries.

CO2: Students will get through the internal knowledge of back-end and front-end processes using which they will be able to design their own websites or software.

CO3: This course is the combination of many server side and client side programming languages like CSS, Java Script, and PHP for the successful establishment of Website or Software.

Post Graduate Diploma in Computer Applications (PGDCA)

Programme Outcomes

At the end of the one-year PGDCA program, the students will be able to:

PO1: This one-year programme formulates the development of computing and practical skills in students to enhance their introductory knowledge of using the systems efficiently.

PO2: Design and evaluate window-based, web-based, database applications with appropriate societal, cultural, and environmental considerations.

PO3: This programme will enable the students to work in environment where systems are being highly used and they can use their skills to ensure the better productivity.

PO4: Understand and commit to ethics, cyber regulations, responsibilities, and norms of professional computing practices.

PO5: The main objective of this programme is to demonstrate students with basic knowledge of Computer, PC Computing, Data Base Management System, and Internet.

PO6: Communicate effectively with the computing community, and with society at large, about computing activities through reports, design documentation, and presentations.

PO7: The students from various degree programme of other fields can construct thorough advantages from this programme and use their computer practical knowledge along with their degree course.

Programme Specific Outcomes

PGDCA program prepares students to:

PSO1: This programme specifically prepares the students for this competitive world where computers are playing a vital role and it is necessary for all the employees to have thorough knowledge of computers.

PSO2: Along with the basic concepts of Computer, this programme provides students with the practical knowledge of MS- Office, PC Computing, Oracle, and HTML also.

PSO3: This programme will specifically help the students to garb jobs in IT Sector and make themselves ICT enabled to work in various Organizations, Companies, Banks and MNCs.

Course Specific Outcomes

PGDCA 1st Semester

PGD-1101: Computer Fundamentals

CO1: Students with their current level of computer understanding are able to learn the basics of computers.

CO2: Perform arithmetic on binary, decimal, hexadecimal, and octal numbers.

CO3: Compare and Contrast various operating systems like DOS, Windows, Linux.

CO4: Students also learn about various accounting related operations in MS Excel and presentation skills using MS PowerPoint which makes them able to work in field of Office Automation and Desktop Publishing as well.

PGD-1102: Computer Programming using C

CO1: C Programming acts as the base of Programming Languages which will maximize interest of students in Programming Field.

CO2: Use functional and logical concepts of C Programming in problem-solving.

CO3: Define data types according to given problem requirements.

CO4: Use the concepts of functions, arrays, pointers, strings, structures, and unions.

PGD-1103: DataBase Management System

CO1: Describe the fundamental elements of relational database management systems.

CO2: Perform relational algebra.

CO3: Design ER models to represent simple database application scenarios.

CO4: Improve the database design by normalization.

CO5: Understand the basic concepts and techniques of database security, concurrency, and recovery.

CO6: This paper also delivers the design and implementation of databases and generates opportunity for students to become data managers, Data base administrators and get jobs in any kind of business house.

PGD-1104: Data Communication and Networks

CO1: Understand the functions of each layer in the OSI and TCP/IP model.

CO2: Students will formulate knowledge about the transmission media and to realize and compare different LAN, MAN and WAN Topologies.

CO3: Describe the functions of the data link layer and explain its protocols.

CO4: Classify the routing protocols and analyze how to assign the IP addresses for the given network.

CO5: Describe functions of Application layer and Presentation layer paradigms and protocols.

CO6: This paper will motivate students to get proper information about many Network Devices and their uses so that students can use them in Real World also.

PGDCA 2nd Semester

PGD-2101: Object-Oriented Concepts Using Java

CO1: Understand the concepts of Object-Oriented programming.

CO2: Develop computer programs based on the basic concepts of the Java programming language.

CO3: Apply the concepts of arrays, strings, inheritance, packages, and multithreading in problem-solving.

CO4: Create Java Applets.

CO5: Build the foundation for learning advanced Java programming concepts.

PGD-2102: Web Technologies

CO1: Understand the basic terminology related to web technologies.

CO2: Create static webpages using HTML.

CO3: Use CSS in web development.

CO4: Design dynamic websites using Javascript and PHP.

PGD-2103: Software Engineering

CO1: Analyze software engineering methods and practices, and their applications.

CO2: Identify the characteristics of software process models such as the waterfall and evolutionary models.

CO3: Identify software requirements and prepare the SRS documents.

CO4: Perform software verification and validation including static analysis, and reviews.

CO5: Compare and contrast software testing approaches such as unit testing and integration testing.

CO6: Describe software measurement and software risks.

CO7: Identify and apply software quality control metrics.

PGD-2104: Computer Based Accounting

CO1: Demonstrate an understanding of accounting theory.

CO2: Communicate effectively using standard accounting terminology.

CO3: Apply accounting procedures using computer software.

CO4: Prepare computerized accounting reports.

PGD-2107: Project Work

CO1: Work with various tools for developing a website CO2: Create dynamic websites using HTML, CSS, PHP.

CO3: Write the code for connecting the website with a DBMS.

Name of Programme: B.Sc. (Non-Medical)/ (Computer Science)

Programme Outcomes

PO 1 Critical Thinking: The programme aims to give knowledge with facts and figures related to various subjects in pure sciences such as Physics, Chemistry, Mathematics, and Computer Science.

PO 2 Lifelong learning: Enable the students to understand the basic concepts, fundamental principles, and the scientific theories related to various scientific phenomena and their relevance in the day-to-day life.

PO 3 Logical experimentation: The learners acquire the abilities in handling scientific instruments, scheduling and executing the experiments in laboratories and to draw logical inferences from the scientific experiments.

PO 4 Creative thinking: They become capable of thinking creatively, to propose innovative ideas in clarifying facts and figures and providing new solution to the problems.

PO 5 Interdisciplinary approach: To give them knowledge about developments in any science subject and how interdisciplinary approach helps in providing better solutions and new ideas for the sustainable developments.

PO 6 Scientific aptitude: The programme targets to develop scientific aptitude among the students to make them open- minded, critical and curious in order to deal with all aspects related to life.

PO 7 Self-reliant: To make them capable of applying their acquired knowledge and able to work on their own hence make themselves self-reliant and self-sufficient.

Program Specific Outcomes (Physics)

PSO 1: To comprehensively study about simple harmonic motion and different types of oscillators. To understand the basic concepts of wave motion and its propagation through different media.

PSO 2: To understand the basic laws of symmetry of space and time. Also, to study the system under central forces.

PSO 3: To study the concepts of General theory of relativity and special theory of relativity and to implement them to study various phenomena.

PSO 4: To assimilate the concept of Electric and Magnetic fields and their applications.

PSO 5: To study the basis of Statistical and Quantum mechanics and their applications to various physical processes.

PSO 6: To study the applications of Interference and diffraction of light.

PSO 7: To understand the basic concepts of atomic and molecular spectra and to apply them to study spectra of one electron and many electron atoms as well as Raman Spectroscopy.

PSO 8: To give a brief introduction of different types of Laser, their working and applications.

PSO 9: To introduce the concept of crystal lattice and lattice dynamics.

PSO 10: To understand basic electronic devices and their applications in different electronic circuits.

Course Outcomes (Semester-I)

Paper: Mechanics-I

CO 1: Students will be able to classify different coordinate systems and apply the knowledge to find various physical quantities in different co-ordinate system.

CO 2: Students will be able to reduce two body problem into one body problem using concept of reduced mass.

CO 3: Students will be able to understand motion of a body under central forces and apply the concept to planetary motion.

CO 4: Students understand the concept of inertial/ non-inertial frames apply the concept to explain some phenomenon in daily life.

CO 5: Students will understand elastic collisions in lab and C.M systems and will apply the concept to understand Rutherford scattering.

Paper: Vibrations, Waves and Electromagnetic theory-I

CO 1: Students will recall the concept of simple Harmonic Motion and compare free, damped and forced oscillators.

CO 2: Students will be able to apply the concept of damped and forced oscillators to electrical devices.

CO 3: Students will be able to evaluate the normal mode of oscillations for coupled oscillators. Normal co-ordinates and normal modes of vibration, Inductance coupling of electrical oscillators.

CO 4: Students will understand and will be able to apply the concept of impedance matching for propagation of wave through different media.

Paper: Electricity and Magnetism-I

CO 1: Students will recall the basic ideas of vector calculus and will be able to apply it to vector fields.

CO 2: Students will understand the concept and evaluate Electric field and potential difference due to different types of distribution of charges.

CO 3: Students will be transform the Electric and magnetic fields and related quantities in different inertial fields.

CO 4: Students will understand and apply the concept of electrical images to find electric field.

CO 5: Students will be able to understand the concept of polarization in dielectrics.

Semester-II

Paper: Mechanics-II

CO 1: Students will be able to understand the special theory of relativity.

CO 2: Students will understand about Rigid Body motion, Euler's equations, precession and elementary gyroscope.

CO 3: Students will learn the concept of stationery universal frame of reference and ether, Michelson-Morley experiment and its results.

CO 4: Students will study the Lorentz transformations, Twin paradox and Relativistic Doppler effect.

CO 5: Students will understand the concept of Minkowski space and four vector formulism.

Paper: Vibrations, Waves and Electromagnetic theory-II

CO 1: Students will learn about Wave equation and its solution.

CO 2: Students will understand the Reflection and Transmission of transverse and longitudinal waves.

CO 3: Students will know about the Physical interpretation of Maxwell's equations.

CO 4: Students will study the Reflection and transmission of EM waves at a boundary of two dielectric media for normal and oblique incidence.

Paper: Electricity and Magnetism-II

CO 1: Students will study the concept of current and current electricity, Ohm's Law and its failure.

CO 2: Students will understand the behaviour of various substances in magnetic field, B-H curve and energy loss in hysteresis.

CO 3: Students will learn about Hall Effect and its applications.

CO 4: Students will understand Faraday's Law of EM induction and its various phenomenon.

CO 5: Students will study the concept of Mutual inductance and reciprocity theorem. Self-Inductance for solenoid.

Semester-III

Paper: Statistical Physics and Thermodynamics-I

CO 1: Students will understand about the basic laws of statistical physics and its scope.

CO 2: Students will be able to explain the Concept of microstate, macrostate and Phase space.

CO 3: Students will compare the basic approaches of Maxwell Boltzmann, Bose Einstein and Fermi Dirac statistics.

CO 4: Students will develop Maxwell Thermodynamics relations and their applications in different processes.

Paper: Optics and Lasers-I

CO 1: Students will learn about interference of light by division of amplitude and wave front.

CO 2: Students will apply the concept of interference of light in non-reflecting thin films and optical devices.

CO 3: Students will learn about Diffraction of light. Fresnel and Fraunhofer diffraction.

CO 4: Students will learn to find the resolving power of microscope and telescope, diffraction grating.

CO 5: Students will understand concept of polarization and apply it to produce and analyze polarized light.

CO 6: Students will be explain about construction and application of Nicol prism, Quarter and Half wave plate.

Paper: Quantum Physics-I

CO 1: Students will understand about the formalism of Wave mechanics, Normalization and Probability interpretation of wave function.

CO 2: They will explain the concept of wave particle duality.

CO 3: The students will illustrate the applications of Uncertainty principle.

CO 4: Students will define the fundamental postulates of wave mechanics.

CO 5: Students will learn to solve the problems in one and three dimension using Schrodinger Wave equation.

Semester-IV

Paper: Statistical Physics and Thermodynamics-II

CO 1: Students will learn about the concept of entropy and its application to explain various natural phenomena.

CO 2: Students will review the Laws of thermodynamics and its applications to thermodynamic effect.

CO 3: Students will learn to derive the Maxwell's thermodynamical relations and applications.

CO 4: Students will study the thermodynamical treatment of Joule-Thomson effect and use of Joule-Thomson effect for liquification of helium.

Paper: Optics and Lasers-II

CO 1: Students will understand the fundamentals of Laser and learn about various processes involved in LASER action.

CO 2: Students will study the concept of broadening Collisional broadening, Doppler broadening & Natural broadening and Mechanism of Luminescence.

CO 3: They will learn the principle, Construction and working of different lasers: Ruby laser, Nd:YAG laser, He-Ne and Carbon dioxide laser.

CO 4: They will also study the detailed concept of Optical fibers and their use in communication system, Medical applications.

Paper: Quantum Physics-II

CO 1: Students will understand the one electron atomic spectra, and explain their fine structure.

CO2: Students will learn concept of Vector model of atom.

CO 3: Students will understand the concept of LS, JJ Coupling schemes. Lande's-g factor will be introduced to them.

CO4: Students will explain spectra of many electron systems e.g. of Helium and Alkaline Earth Spectra.

CO5: Students will learn about Production of X-rays and their Spectra.

CO6: Students will learn about Rotational, Vibrational, electronic energy levels and spectra of molecules.

Semester-V

Paper: Condensed Matter Physics-I

CO 1: Students will understand about the basics of crystal structure and symmetries operation in two and three dimensional crystals.

CO 2: Experimental methods for crystal structure studies will be demonstrated to the students.

CO 3: Students will be able to understand various reciprocal lattice, construction of Brillouin Zone in Two and three dimensions.

CO 4: Concept of Phonons will be explained to the students. Moreover, they will be able to calculate the density of modes of vibrations.

CO 5: Students will understand about the basic concepts of band theory and compare between conductors, semi-conductors and insulator using Kronig-Penny model.

Paper: Electronics and Solid State Devices-I

CO 1: Students will study the concept of current and voltage sources, Thevenin's theorem, Norton's theorem.

CO 2: Students will understand the construction, working and uses of CRO.

CO 3: Students will study about the junction diodes and their applications.

CO 4: Students will learn the applications of diode as clippers, rectifiers, and filter circuits.

CO 5: Students will explain about different transistors and the characteristics of their different configurations.

CO 6: Students will construct h-parameters and outline their use for Common Emitter amplifier analysis.

Paper: Nuclear and Particle Physics-I

CO 1: Students will recall about the constituents of nucleus and various properties of nucleus.

CO 2: Students will classify various modes of decay of radioactive nuclides and the laws governing the radioactive decay.

CO 3: Students will compare between different types of nuclear reactions, their reaction cross section and conservation laws followed by them.

CO 4: They will be explained different Nuclear models- Liquid drop model and shell model.

CO 5: Students will learn the concept of Radioactivity and its applications in various fields.

Semester-VI

Paper: Condensed Matter Physics-II

CO 1: Students will study the concept of Lattice Dynamics.

CO 2: Students will understand how to classify magnetic materials and Langevin theory of dia and paramagnetism.

CO 3: Students will learn the concept of Liquid crystals it various types, properties and applications.

CO 4: Students will study the concept of Superconductivity and its applications.

CO 5: Students will study the basic ideas of materials at nanoscale and their classification. They will also learn the various applications of nanomaterials in day-to-day life.

Paper: Electronics and Solid State Devices-II

CO 1: Students will study the structure and working of JEFT and MOSFET.

CO 2: They will understand the concept of feedback and use of negative feedback in amplifiers.

CO 3: They will understand Barkausen condition for sustained oscillations as well as construction and working of different types of oscillators.

CO 4: Students will learn about Operational Amplifier, its characteristics and its various applications.

CO 5: Students will study the Analog and digital circuits, AND, OR, NOT gates, NAND NOR gates as universal gates, XOR and XNOR gates.

CO 6: They will also study Analog and digital communication systems, Sky-wave communication, and mobile communication.

Paper: Nuclear and Particle Physics-II

CO 1: Students will learn the Interaction of nuclear radiation with matter, Bethe Bloch formula, Range and energy straggling, Bremsstrahlung, production of Cerenkov radiation.

CO 2: Students will study Gamma-ray interaction with matter, photoelectric effect, Compton scattering, pair production.

CO 3: Students will learn the detectors for nuclear radiation, Gas-filled detectors, Ionization chamber, proportional counter, G.M. counter, Scintillation detector and Photomultiplier tube.

CO 4: Students will understand Particle interactions, Classification of elementary particles, properties, decay modes of leptons and mesons, Antiparticles, charge conjugation.

CO 5: Students will study the concept of the quark model, colour quantum number and gluons.

CO 6: Students will learn about particle accelerators: Cockcroft-Walton accelerator, Van-de Graaff generator, Tandem accelerator Linear accelerator, Cyclotron. Brief account of Syncrhrotron, Accelerator facilities available in India.

ECONOMICS

PS 01: Students are able to get knowledge of micro level problems and forecast the future course of changes through knowledge of policies and programs being run by the Government.
PS 02: Develop skills to find a solution to the problems like mobilization and utilize scarce resources available in the country.
PS 03: To gain knowledge regarding public finance, international trade and various international institutions working for international development.
PS 04: To visualize the practical problems related with the economy and able to make and understand policies to solve these real-world problems.
PS 05: Develop skills for self-employment, to improve economic standard of living of the masses.

Course Outcomes: ECONOMICS

Sr. No.	Class	Semester	Paper	Course outcomes
1	B.A.	I	Micro Economics	At the end of first semester, students are able to identify the theories and principles of microeconomics including consumer's behaviour, producer's behaviour, price theory, market structure and factor distribution. Moreover, they can apply those principles to analyse real world economic issues. Conclusively, the subject microeconomics enables students to understand how resources

				are produced and consumed by individuals and businesses.
2	B.A.	II	Macro Economics	Macroeconomics helps students to differentiate between micro economics and macroeconomics concepts. At the end of the semester, students are able to understand and utilize the study the functioning of aggregate measure of economic activity, macroeconomic equilibrium, money and financial institutions, monetary and fiscal policies, inflation and trade cycles
3	B.A.	III	Public Finance and International Economics	This paper gives knowledge to the students regarding the basics of public finance and international trade. The first two units basically related with public finance related with public expenditure and public revenue. Next two units are concerned with basic theories of international trade and commercial policies, balance of payments and determination of foreign exchange rates.
4	B.A.	IV	Quantitative Methods	Quantitative methods are widely used in studies of several problems of research related with human life. The paper is classified between maths and statistics. Students learn different types of averages and dispersion. Analysis of time series depicts past behaviour and future trends of problem under study. Index numbers are constructed to understand the changing pattern of prices of different goods and estimate purchasing power, changing value of money etc.
5	B.A.	V	Development Economics	This paper is basically related with growth and development. Various development theories such as Lewis model, Nurksey's theory and Harrod Domar models have been discussed in detail.
6	B.A.	VI	Indian Economy	This paper gives basic knowledge to the students regarding features and characteristics of the Indian Economy. It also includes performance and problems of industrial development, Indian tax structure, external trade and balance of payments, and objectives, strategy and performance of Indian planning.

				The course aims to develop analytical understanding of the students by the exposing them to basic problems related with Indian Economy.

Attainability:

Students after completing graduation in Economics can go for PG in Economics, can go for teaching in economics and also compete for various competition exams such as IES, IRS, IAS, CAT, MAT and various Banking exams. Several students of the department are already teaching in reputed schools and colleges.

HISTORY

The student who has taken admission in program of B.A. with History as an elective subject of study expected to achieve following outcomes:

- Understand the basic themes, concepts and the scope of Indian History.
- Think and argue historically and critically in writing and discussion.
- Critically recognise the social, political, economic and cultural aspects of History.

Course Outcomes: HISTORY

Sr. No.	Class	Semester	Paper	Course Outcomes
1	B.A.	I	Ancient History of India up to 1200 A.D.	In this paper students learn about the history of ancient India like Harappa and Vedic civilization, Maurya and Gupta period with the help of maps.
2	B.A.	II	Medieval History of India 1200-1750	In this paper students learn about the processes of state formation in the Delhi Sultanate and Mughal Empire. Map of Historical Places help the students to understand about Medieval History.
3	B.A.	III	History of Modern India 1750-1966	Through this paper students learn about the British administrative reforms of various governor generals of British India. They also learn socio-religious movements, India's freedom struggle, partition along with the map of historical places.
4	B.A.	IV	History of the Punjab 1469-1966	In this course students learn about the Sikh History, annexation of Maharaja Ranjit Singh's Punjab into British Punjab, British

				Administration and his agrarian policies in Punjab. They also learn reform movements in Punjab, partition of Punjab, rehabilitation and resettlement in Punjab.
5	B.A.	V	World History 1500-1870	Through this paper students learn world history. It helps them to familiarised with feudalism, renaissance, American and French revolutions, unification of Italy and Germany with the help of maps.
6	B.A.	VI	World History 1871-1991	This paper enables the students to learn about 19th to 20th centuries world. They learn about partition of Africa, diplomatic development in Europe, world wars, great depression in Europe and America continents and post war foundations in world.

Attainability:

After doing graduation in History subject the students can go for further studies in M. A. History in Universities of Punjab and other states of India, they can also choose professional course like B. Ed. In this course students can choose History subject as one among the two teaching subjects. They can also compete for various competitive exams such as IAS and like this.

POLITICAL SCIENCE

Sr. No.	Class	Semester	Paper	Course Outcomes
1	B.A.	I	Political Theory I	This paper helps students to get an analysis of different political ideas, concepts and various ideologies. Students try to differentiate between the socialist, Marxist and liberal viewpoints about State while emphasizing on State's sovereignty.
2	B.A.	II	Political Theory II	This paper provides students with tools to engage with some key political issues of present times which relates to their rights and duties both directly and indirectly. By highlighting flaws and inconsistencies, generating new ideas and debates, Political Culture tend to develop thereby giving rise to Social Change.

3	B.A.	III	Indian Government and Politics	This paper provides students with a basic knowledge of the fundamental elements and institutions of government, politics and processes in India at both the centre and state levels. It helps students in forming their viewpoints about nature of the composition of government in addition to their powers and role.
4	B.A.	IV	Indian Politics	The students get an understanding of the working of the Indian political system with reference to political parties, the party system, elections, and voting behaviour. It helps in analysing economic development, adoption of social welfare programs, foreign policy and diploma, educational and skill development, rule of law and justice and security and defence.
5	B.A.	V	Comparative Political Systems (UK and USA)	It provides a broad overview of the field of comparative politics and helps students in examining some key approaches. The major part of the paper: origin and working of two political systems- UK and USA, helps students in understanding how the concepts of comparative politics can be used to understand real world politics.
6	B.A.	VI	International Politics: Theory and Practice	It helps students in examining key issues in contemporary global history from an international politics perspective. It provides an insight into ways to achieve international co-operation, avoid conflicts and war, economic interdependence, besides the global challenges faced all-over and diplomacy and negotiation.

Attainability:

Students after completing graduation in Political Science can pursue degree in Masters, PhD in Political Science research, policy analysis, can opt for Civil Services preparation and other competitive exams related to public office, can handle some self and non-self-designed district, state and national level projects and can also engage themselves with NGOs and other political organizations.

PROGRAMME OUTCOMES

B. A. (ENGLISH)

SEMESTER I & II	
Compulsory English	• The abilities necessary to analyse literature are developed throughout the course of this study. • The students' capabilities in imaginative writing are improved as a result. • The fundamentals of grammar are examined in great detail as well. • The ability to translate is also developed during this course.
Elective English	• The paper endeavours to elucidate diverse genres of literary works. • The analysis and criticism of literature serve to enhance the understanding and appreciation of literary works. • By delving into the intricacies of a text, students are able to uncover deeper meanings, explore the author's intentions, and evaluate the artistic and intellectual merits of Comprehension of the style and language employed in literary works. • Upon the culmination of the course, the students will possess the necessary skills and knowledge to pursue advanced studies in the field of language and literature.

SEMESTER III & IV

Compulsory English	• This study aims to enhance the proficiency in literary analysis. • The development of students' creative writing abilities is enhanced. • Detailed coverage is provided on basic grammatical principles. • Translation skills are further developed.
Elective English	• This paper provides an overview of diverse literary forms. • Criticism and analysis of literature that improves A comprehension of the language and style of literary works • Upon successful course completion, students ought to be qualified to enroll in specialised language and literature programmes.

SEMESTER V & VI	
Compulsory English	• This paper aims to enhance the reader's ability to critically analyse works of literature. • The acquisition of this particular educational intervention has been shown to significantly augment the aptitude for creative writing among student populations. • In-depth coverage is provided on fundamental concepts of grammar. • The acquisition of translation skills is also refined and perfected.

Elective English	• This paper elucidates diverse genres of literature. • The analysis and critique of literature serves to enhance its understanding and appreciation. The comprehension of the style and language employed in literary works. • Upon the conclusion of the course, students will possess the necessary skills and knowledge to pursue advanced studies in language and literature.

Gujrawala Guru Nanak Khalsa College, Ludhiana

UG Program Outcome (Arts stream):

UG Program Outcome (Arts stream): The Bachelor of Arts requires three years of full time study consisting of six semesters. The College offers nine arts subjects during the degree: English, Punjabi, History and Culture of Punjab, History, Political Science, Physical Education, Economics, Music and Hindi. Bachelor of Arts degree is focused on increasing a students' knowledge and critical thinking in accordance to the syllabus and curriculum prescribed by the affiliating Panjab University, Chandigarh. These courses aim to prepare students with a sound knowledge and skills to connect across geographical, disciplinary, social and cultural boundaries, understand the importance of ethical behaviour and lifelong learning habits thus creating in them the realisation of human values, sense of social service thereby making them responsible citizens of the country with creative ability and critical temper.

Program Specific Outcome (Punjabi):

A student, who has taken admission in program of B.A. with Punjabi as Compulsory or Elective subject of study is expected to achieve following outcomes:

1. To develop a bonding with the mother tongue of the student.

2. The student gets to know and understand his/her native language in a far better way.
3. The student gains the knowledge and understanding of the various intricacies of the grammar and literature of Punjabi.
4. The student gains the knowledge and understanding of the rich folk and cultural heritage of Punjab.
5. The program connects the students to their roots.
6. Knowledge of Punjabi language helps them to think critically while studying Punjabi literature. They are able to relate pleasure of literature and real life

Course outcome (Punjabi):

Course	**Knowledge**	**Skill Overall**	**Behavior Change**
B.A	Human Values, Historical perspective of life, knowledge of culture	Stage Conducting skills, Event management, performing Arts skill on and off the stage.Etc.	Leadership qualities , Social work, Thought Changing process, Exposure to social Organizations
B.Sc	Knowledge of Culture, refreshing of mind due to different type of knowledge	Skill of language certainly improves cognition process	Student learns to fight with adversities
B.Com	Course knowledge in Mother - Tongue	Field work performance enhancement, making advertisements. Drafting office notices.	How to fight with odds in life
B.C.A	Enrichment of cultural values	Proof reading skills Language proficiency	Shaping a positive personality
M.A	Drama, linguistics, Culture, fiction, poetry etc.	Literary journalism, Teaching Literature skills, Theatrical	Leadership Qualities, personality Development. Life

			changing Thought Process

Programme Outcomes M.A. (Punjabi):

M.A. (Punjabi) requires two years of full time study consisting of four semesters. It enables the student to comprehend Punjabi language and literature with an advanced level of proficiency. It connects the students to their cultural roots and they get a comprehensive idea of their rich cultural and folk heritage. The intricacies of the language and linguistics are also revealed. The programme initiates the ability of critical thinking and the students get to understand Punjabi language, literature, linguistics and culture in a better way.

Programme Specific Outcome:

1. Examine the relationship of literature with history, society, culture and human behaviour and the evolving cross-cultural concerns.
2. 2. Inculcate skills of contextualizing and interpreting literary works and effectively communicating the same.
3. 3. Develop skills of comprehending socio-psychological changes and portraying them creatively in any literary form.
4. 4. Use research methods and tools for academic research and excellence.
5. 5. Research theoretical concepts and literary theories/approaches with specification. Different school of literary approaches are taught so that our students can learn about learn about international phenomenon of criticism.

Course Outcomes:

1. The students acquire in depth knowledge of Punjabi language and literature.
2. The postgraduates will be acquainted with the philosophical, historical, folk and ideological tradition and thinking of their respective subjects.
3. The program also empowers the post-graduates to appear for various competitive examinations or choose the any post graduate or research programme of their choice.
4. The M. A. program enables the students to acquire the knowledge with human values framing the base to deal with various problems in life with courage and humanity.
5. The students will be ignited enough through the knowledge of the special PG programme to think and act over for the solution of various issues prevailed in the human life to make this world better than ever.

6. Through the PG programme the students will come know about research in their respective subject.
7. Students get knowledge of various research methods and can realize the importance of research to find solutions of a specific issue.

Post Graduate Diploma in Mass Communication