# Pt. Mohan Lal S.D. College for Women Gurdaspur

## 2.6.1. Program Outcomes, Course Outcomes and Program Specific Outcomes

**Principal** 

Dr. (Mrs.) Neeru Sharma

## **Department of Computer Science**

## **Programme: Bachelor of Computer Applications (BCA)**

## **Program Outcomes:**

**PO1:** Understand the fundamental concepts of computers, software hardware and peripheral devices and evolution of computer technologies.

**PO2:** Understand to design, analyse and develop solutions and evaluate system components to meet specific need for local, regional and global and environmental systems.

**PO3:** Contribute to society in comprehending computing activities by writing reports, designing documentation, making effective presentation, and understand instructions.

**PO4:** Able to develop and implement ideas in multi- disciplinary environments using computing and management skills.

**PO5:** Ability to work in team and build leadership qualities.

**PO6:** Apply knowledge of computing and mathematics appropriate to the appropriate discipline.

**PO7:** Well, equipped with thorough knowledge of various software.

**PO8:** Use the knowledge of advance technologies for developing customized solutions via startups and entrepreneurship.

**PO9:** Apply domain knowledge and expertise for enhancing educational pursuits and research capability.

**PO10:** Understand the professional, ethical, legal, security, and social issues and responsibilities in computing profession.

**PO11:** Apply standard software engineering practices and strategies in software project development using open-source programming environment to deliver a quality of product for business success.

**PO12:** Work in the IT sector as system engineer, software tester, junior programmer, web developer, system administrator, software developer etc.

## **Program Specific Outcomes**

PSO1: Students will able to understand, analyse and develop computer programs in the areas related to algorithm, web design and networking for efficient design of computer-based system.

PSO 2: Apply standard software engineering practices and strategies in software project development using open-source programming environment to deliver a quality of product for business success.

PSO 3: Student will able to know various issues, latest trends in technology development and thereby innovate new ideas and solutions to existing problems.

#### **Course Outcomes**

**Course Name: Programming in C: (L-3, T-1, P-0)** 

CO1: To develop logics, algorthims and program

CO2: In-depth understanding of various concepts of C language.

CO3: Ability to read, understand and trace the execution of programs.

CO4: Skill to debug a program.

CO5: Skill to write program code in C to solve real world problems.

Course Name: Introduction to Computers and Information Technology (L-3, T-1, P-0)

CO1: Understanding the concept of input and output devices of Computers

CO2: Learn the functional units and classify types of computers, how they process information and how individual computers interact with other computing systems and devices.

CO3: Understand an operating system and its working, and solve common problems related to operating systems

CO4: Learn basic word processing, Spreadsheet and Presentation Graphics Software skills

CO5: Study to use the Internet safely, legally, and responsibly

**Course Name: Applied & Discrete Mathematics (L-3, T-1, P-0)** 

CO1: Explain different terms used in basic and discrete mathematics.

CO2: Represent data using various mathematical notions.

CO3: Describe various operations and formulas used to solve mathematical problems.

**Course Name: ENL-121 Communication Skills in English – I (L-4, T-0, P-0)** 

CO1: To introduce students to the theory, fundamentals and tools of communication.

CO2: To help the students for attaining important reading skills as well as writing skills such as report writing and notes taking etc.

CO3: To develop vital communication skills which are integral to their personal, social and professional interactions.

CO4: Students will become proficient in professional communication such as interviews, group discussions and office environments.

Course Name: Punjabi Compulsory (L-4, T-0, P-0)

CO1: This course connects the students to their roots.

CO2: To understand literary terms generally and concepts it develops confidence to read and write an analytical thinking.

CO3: Knowledge of Punjabi language helps them to think critically while studying Punjabi literature.

CO4: Students can express their views and ideas on various topics.

**Course Name: Introduction to Programming – C ++ (L-3, T-1, P-0)** 

CO1: Understanding of object-oriented programming principles and their application in C++.

CO2: Ability to design, develop, and debug C++ programs.

CO3: Experience with control statements, loops, arrays, strings, pointers and memory management and pointers in C++.

CO4: Awareness of coding standards, and software engineering principles to tackle real-world programming challenges and projects using C++.

**Course Name: Principles of Digital Electronics (L-3, T-1, P-0)** 

CO1: To comprehend the fundamentals of Boolean algebra, logic gates, and digital circuits.

CO2: To design and analyses combinational and sequential logic circuits using various tools and techniques.

CO3: Knowledge of digital communication principles, including encoding, modulation, and error detection/correction techniques.

CO4: Application of digital electronics in real-world scenarios

CO5: Understanding how digital electronics principles are applied in various fields such as computer architecture.

## **Course Name: Numerical Methods & Statistical Techniques (L-3, T-1, P-0)**

CO1: Apply numerical methods to solve mathematical problems, including root finding, numerical integration, and solving differential equations.

CO2: Implement algorithms for interpolation and curve fitting to analyze and model data.

CO3: Utilize statistical techniques for data analysis, including descriptive statistics, hypothesis testing, and regression analysis.

CO4: Evaluate the reliability and accuracy of numerical methods and statistical techniques through error analysis.

CO5: Apply numerical optimization techniques to solve real-world engineering and scientific problems.

## Course Name: ENI-122 Communication Skills in English – II (L-3, T-1, P-0)

CO1: To introduce students to the theory, fundamentals and tools of communication.

CO2: To help the students become the independent users of English language.

CO3: To develop in them vital communication skills which are integral to their personal, social and professional interactions.

#### Course Name: Punjabi Compulsory (L-4, T-0, P-0)

CO1: To enriches Mother Language among the students

CO2: The students know about vocabulary and basic grammar.

CO3: The students know how to study language and literature

#### Course Name: Drug Abuse: Problem, Management and Prevention (L-2, T-0, P-0)

CO1: Increased awareness and understanding of the physical, psychological, and social consequences of drug abuse.

CO2: Improved knowledge of different types of drugs, their effects, and potential risks associated with their use.

CO3: Enhanced skills in recognizing signs of drug abuse in oneself and others.

CO4: Development of coping strategies and refusal skills to resist peer pressure and avoid drug use.

CO5: Increased understanding of addiction as a chronic disease and the importance of seeking help for recovery.

## **Course Name: Computer Architecture (L-3, T-1, P-0)**

CO1: Understand the basic principles and components of computer architecture, including CPU, memory, and I/O systems.

CO2: Analyze and evaluate the performance of computer systems using metrics like throughput, latency, and speedup.

CO3: Design and implement basic digital logic circuits using techniques such as Boolean algebra and logic gates.

CO4: Explain the organization and operation of different types of memory systems, including cache memory and virtual memory.

CO5: Understand the fundamentals of instruction set architecture (ISA) and memory hierarchies on system performance.

CO6: Design and implement simple pipelined processors, IOP and DMA

#### Course Name: Database Management Systems (L-3, T-1, P-0)

CO1: Understand the basic concepts of database management systems (L2)

CO2: Apply SQL to find solutions to a broad range of queries (L3).

CO3: Apply normalization techniques to improve database design (L3)

CO4: Analyze a given database application scenario to use ER model for conceptual design of the database

#### **Course Name: Introduction to Python Programming (L-3, T-1, P-0)**

CO1: Understanding OOP concepts such as classes, objects, inheritance, and polymorphism.

CO2: Learning how to import and use modules and packages to extend Python's functionality.

CO3: Developing problem-solving skills and understanding basic algorithms and data structures commonly used in Python programming.

CO4: Applying Python skills to real-world projects, which reinforces learning and provides practical experience

## **Course Name: Data Structure and File Processing (L-3, T-1, P-0)**

CO1: To gain a comprehensive understanding of fundamental data structures such as arrays, linked lists, stacks, queues, trees, graphs, and hash tables.

CO2: To analyses the time and space complexity of algorithms related to various data structures.

CO3: Understanding of file handling techniques including reading from and writing to files, parsing structured and unstructured data from files

CO4: Proficiency in retrieving specific data from files efficiently using techniques like searching and sorting, including algorithms like binary search, quicksort, and merge sort.

CO5: Understanding of memory management techniques related to data structures and file processing, including dynamic memory allocation and deallocation, and avoiding memory leaks.

## **Course Name: Information Systems (L-3, T-1, P-0)**

CO1: To develop a comprehensive understanding of the fundamental concepts, theories, and principles of information systems

CO2: To learn techniques for analysing and designing business processes using information systems.

CO3: knowledge of the stages of the systems development life cycle, including requirements gathering, analysis, design, implementation, testing, deployment, and maintenance.

CO4: Understanding of TPS, Office Automation, MIS and business intelligence systems support decision-making system by providing valuable information and analysis.

## **Course Name: Internet Applications (L-3, T-1, P-0)**

CO1: To develop a comprehensive understanding of the foundational technologies that power the internet, including HTTP, HTML, CSS, JavaScript and web servers.

CO2: To acquire practical skills in web development, including designing, building, and deploying interactive web applications.

CO3: To integrate databases into web applications to store and retrieve data dynamically.

CO4: To gain knowledge of web services and APIs (Application Programming Interfaces) for integrating external services and data into web applications.

## **Course Name: System Software (L-3, T-1, P-0)**

CO1: Understanding of system software, including operating systems, compilers, assemblers, and device drivers.

CO2: Learn about the fundamental concepts of operating systems, including process management, memory management, file systems, input/output management, and security.

CO3: Theory and practice of compiler construction, design and implementation of assemblers and linkers.

CO4: Learn about various system software tools and utilities used for system administration, debugging, performance monitoring, and software development.

CO5: Techniques for optimizing the performance of system software, including runtime efficiency, memory usage, and disk I/O.

## **Course Name: Software Engineering (L-3, T-1, P-0)**

CO1: Develop a comprehensive understanding of software engineering principles, SDLC, methodologies, and best practices.

CO2: To gain knowledge of software project management principles, methodologies, and tools.

CO3: Acquire skills in software design, coding and testing techniques and quality assurance practices.

CO4: Learn about project planning, estimation, scheduling, risk management, and resource allocation.

#### Course Name: Web Technologies (L-3, T-1, P-0)

CO1: Attainment of proficiency in web technologies such as HTML5, CSS3, and JavaScript frameworks.

CO2: Demonstrated ability to create dynamic and responsive web applications using cutting-edge web development methodologies.

CO3: Application of advanced web technologies to craft engaging user interfaces and interactive web experiences.

CO4: Assessment of current trends and optimal strategies in web development to ensure scalability and performance enhancements.

CO5: Construction of intricate web applications integrating server-side scripting languages and database systems.

## **Course Name: Operating System (L-3, T-1, P-0)**

CO1: Understanding of fundamental concepts in operating systems, including processes, threads, scheduling, memory management, file systems, and I/O management.

CO2: Learn about process management, including process creation, scheduling, synchronization, and communication.

CO3: Gain knowledge of memory management techniques, including virtual memory, paging, segmentation, and memory allocation algorithms.

CO4: Explore operating system structures, kernel architecture, , system calls, and system initialization processes, CPU Scheduling and Process Scheduling.

CO5: Understand security threats and vulnerabilities and techniques for securing operating systems against malicious attacks and unauthorized access.

#### Course Name: JAVA Programming Language (L-3, T-1, P-0)

CO1: Understanding of fundamental programming concepts such as variables, data types, control structures (loops and conditionals), functions/methods, and object-oriented programming (OOP) principles.

CO2: Proficiency in using Java language features such as inheritance, polymorphism, and encapsulation.

CO3: Application of core Java concepts in developing basic applications and algorithms.

CO4: Evaluation of Java programming constructs to solve computational problems efficiently.

CO5: Development of a solid foundation in Java programming for further exploration of advanced topics.

## **Course Name: Computer Graphics (L-3, T-1, P-0)**

CO1: Understanding of the fundamental principles of computer graphics, including raster and random scan, rendering techniques, colour theory, and image processing.

CO2: To implement algorithms for basic rendering, shading, and transformations.

CO3: Learn techniques for Windowing and clipping, parallel projections and Perspective projection.

## Course Name: Computer Networks (L-3, T-1, P-0)

CO1: Able to comprehend the structure and function of network models such as the OSI model and the TCP/IP model.

CO2: Be familiar with commonly used network protocols and standards, including Ethernet, IPv4, IPv6, TCP, UDP, HTTP, DNS, SMTP, FTP, and others.

CO4: Understand the principles of routing and switching, including routing algorithms, routing protocols (e.g., RIP, OSPF, BGP), and switching techniques (e.g., VLANs, STP).

CO5: Basics of network security, including authentication, encryption, access control, firewalls, intrusion detection/prevention systems (IDS/IPS)

## Course Name: PROJECT (L-0, T-0, P-12)

CO1: Apply standard software engineering practices and strategies in software project development using open-source programming environment to deliver a quality of product for business success.

CO2: Understanding front-end and back-end to ensure building robust, scalable, and secure applications, optimizing performance, and ensuring data integrity and privacy.

## **Programme: Bachelor of Computer Science and Economics**

## **Program Outcomes:**

PO1: Understand the fundamental concepts of computers, software hardware and peripheral devices and evolution of computer technologies.

**PO2:** Understand to design, analyse and develop solutions and evaluate system components to meet specific need for local, regional and global and environmental systems.

## **Program Specific Outcomes**

PSO1: Students will able to understand, analyse and develop computer programs in the areas related to algorithm, web design and networking for efficient design of computer-based system.

## **English**

## Course Name- Gen English (Prose & Grammar) Credit-4, L-6

- CO1. This course helps in improvement in the skills of listening, speaking, reading and writing and develops creative writing skills.
- CO2. It also enables them to speak about the writers and learn correct grammatical form, appropriate vocabulary and correct word order.
- CO3: It enables students to speak about the poets and explain the style of the poem.
- CO4: Write letters in the correct format and language.

#### Course Name- Gen English (Poetry & making Connections) L-6

- CO1. The students learn correct appropriate vocabulary and correct word order.
- CO2. It develops creative Writing skills.
- CO3. It also enables them to speak about the writers.
- CO4. Students also familiar with the background of the academic writings.

Course Name Gen English (Poetry & Drama) L-6

- CO1: Critically understand and analyse poetry across a wide range of literary age and context.
- CO2. It enables students to speak about the poets and explain the style of the poem.
- CO3. It helps the students to understand the genre of drama.
- CO4. It helps them to understand the different types of play and drama.

## Course Name Gen English (Novel and One Act Plays) L-6

- CO1. They will be able to participate in role plays and mini-talks.
- CO2. Acquire a broad perspective of the novel as a literary genre and the relevant historical, geographical, and cultural identical backgrounds.
- CO3. Appreciate the working of various literary devices like irony in fiction.

## Punjabi

## ਲਾਜ਼ਮ**ੀ ਪ**ੰਜ**ਾਬ**ੀ ਪਹ**ਿਲਾ ਸਮ**ੈਸਟਰ ਪਗ਼ਰ**ਾਮ ਆਉਟਕਮ**

CO.1'ਦ**ੋ ਰ**ੰਗ' ਪ**ੁਸਤਕ ₹ਿੱਚ ਕਹ**ਾਣ**ੀਆ**ਂ ਪ੍ਯ੍ਯਨ ਦ**ਾ ਮ**ੌਕਾ

CO.2 ਸੰਸਾਰ ਦੀਆਂ ਪ⊮ਿੰਧ ਹਸਤੀਆਂ ਦੇ ₹ਿੱਚ ₹ਿੱਖ-₹ਿੱਖ ਲੇਖਕਾਂ ਦੇ ਜੀ₹ਨ ਨੂੰ ਜਾਨਣ ਦਾ ਮੌਕਾ

CO.3 ਭਾਸਾ ₹ੰ ਨਗੀਆਂ ਨਾਲ ਸੰ ਬੰ ਵਧਤ ਜਾਣਕਾਰੀ ਪਰਾਪਤ ਕਰਨਾ

CO.4ਪੰ ਜਾਬੀ ਭਾਸਾ ਦਾ ਵਨਕਾਸ ਤੇ ਵ₹ਕਾਸਦੇ ਬਾਰੇ ਜਾਣ

ਕਰਾੳੁੁਣਾ CO.5 ਪੈਰਾਂ ਰਚਨਾ ਸੰਬੰਧੀ ਜਾਣਕਾਰੀ ਹਾਵਸਲ ਕਰਨਾ

## ਲਾਜ਼ਮ**ੀ ਪ**ੰਜ**ਾਬ**ੀ ਸਮ**ੈਸਟਰ ਦ**ੂਜ**ਾ ਬ**ੀ.ਸ**ੀ.ਏ /ਬ**ੀ.ਐਸ.ਸੀ ਐਫ.ਡ**ੀ.ਆਊਟਕਮ ਪਰੋਗਰ**ਾਮ

CO.1 ਵਸਰ**ੋਮਣ**ੀ ਪ**ੰਜਾਬੀ ਕਹ**ਾਣ**ੀ ਭ**ਾਗ ਵ₹ਿੱਚ ₹ਿੱਖ-₹ਿੱਖ ਵ₹ਵਸਆ**ਂ ਨਾਲ ਸ**ੰਬ≎ਵਧਤ ਕਹ**ਾਣ**ੀ ਪ੍ਰਹਨ ਦ**ਾ ਮ**ੌਕਾ

CO.2 ਸ਼ਘੋਣ**ੀ ਪ**ੰਜਾਬੀ ਕਾਵ₹ ₹€ਿੱਚ ਗੁਰ ਆ**ਂ ਪ**ੀਰ**ਾ**ਂ ਨਾਲ ਸਬ**ੰ** ₹ਧਤ ਜਾਣਕ**ਾਰ**ੀ ਪ⊮ਪਤ ਕਰਨਾ

CO.3 ਸਬਦ ਰਚਨਾ ਦੇ ਬਾਰੇ ਜਾਣਕਾਰੀ ਦੇਣਾ

CO.4 ਸਬਦ ਸਲੇੀਆਂ ਤੋਂ ਜਾਣ ਕਰ₹ਾਉਣਾ

## ਬ**ੀ.ਏ ਤ**ੀਜ**ਾ ਸਮ**ੈਸਟਰ ਲ**ਾਜ਼ਮ**ੀ ਪ**ੰਜ**ਾਬ**ੀ ਆਊਟਕਮ ਪ**ਯੋਰ**ਾਮ**

- CO.1 ਸਵਭਆਚਾਰ ਅਤੇ ਪੰਜਾਬੀ ਸਵਭਆਚਾਰ ਨਾਲ ਜੁੜ੍ਨ ਦਾ ਮੌਕਾ
- CO.2 ਆਧੁਵਨਕ ਇਕਾਾਂਗੀ ₹ਿੱਚ ₹ਿੱਖ ₹ਿੱਖ ਵ₹ਵਸਆਂ ਨਾਲ ਸਤੰਬਤੰਵਧਤ ਜਾਣਕਾਰੀ ਪਰਪਤ ਕਰਨ ਦਾ ਮਰੌਕਾ
- СО.3 ਸੰਖੇਪ ਰਚਨਾ ਅਤੇ ਅਸਿੱੁਧ ਸਬਦ ਜੋੜ੍ਾਂ ਨੂੰ ਸਿੱੁਧ ਕਰਕੇ ਵਲਖਣ ਦਾ ਅਵਭਆਸ
- СО.4 ਮਲ ਵ₹ਆਕਰਵਨਕ ਇਕਾਈਆਂ ਦੀ ਪ∉ਰਭਾਸਾ ਅਤੇ ₹ਰਗਰੀਕਰਨ ਪੜ੍ਨ ਦਾ ਅ₹ਸਰ ਪਰਘਤ ਕਰਨਾ

## ਲਾਜ਼ਮ**ੀ ਪ**ੰਜ**ਾਬ**ੀ ਸਮ**ੈਸਟਰ ਚ**ੌਥਾ ਪਗ਼ਰ**ਾਮ ਆਉਟਕਮ**

CO1."ਮੇਰੀ ਜੀ₹ਨ ਗਾਥਾ" ਸ₹ੈ ਜੀ₹ਨੀ ਬਾਰੇ ਜਾਣਕਾਰੀ ਵਮਲੇਗੀ।

"CO2.ਫਾਸਲੇ "ਨਾਟਕ ਦੇ ₹ਸੇ ਅਤੇ ਕਲਾਤਮਕ ਪੰਿੱਖ ਬਾਰੇ

ਵਗਆਨ ਹ**ੋ₹ੇਗਾ CO3.ਲ**ੇਖ ਰਚਨ**ਾ ਫ਼ਕ₹ੇ**ਂ ਕ**ੀਤੀ ਜਾਂਦ**ੀ ਹ**ੈ**,

हिम्न स्थार सार्वे ता ।

CO4ਅ**ਸ**ਿੱੁਧ ਸਬਦਾਾਂ ਨੂੰ ਸਿੰੁੱਧ ਕਰਨਾ ਦਿੰ੍ਸਆ ਜਾ₹ੇਗਾ

CO5.ਗੁਰਮੁਖੀ ਵਲਪੀ ਬਾਰੇ ਜਾਣਕਾਰੀ ਵਮਲੇਗੀ।

## ਬ**ੀ.ਏ ਭ**ਾਗ ਪੰਜਵਾ**ਂ ਸਮ**ੈਸਟਰ ਲ**ਾਜ਼ਮ**ੀ ਪੰਜਾਬ**ੀ ਆਊਟਕਮ ਪਗ਼ਰ**ਾਮ

- CO.1 ਚੋਣ₹ੀਆਂ ਪੰਜਾਬੀ ਕਹਾਣੀਆਂ ਦੇ ਵ₹ਸਾ ₹ਸਤ / ਸਾਰ /ਅਤੇ ਕਹਾਣੀ ਕਲਾ ਨੂੰ ਜਾਣਣ ਦਾ ਮੌਕਾ
- CO.2 ੲਹੁ ਹਮਾਰਾ ਜੀ₹ਣਾ ਨਾ₹ਲ ₹₹ਿੱਚ ਵ₹ਸਾ ₹ਸਤ ਅਤੇ ਪਾਤਰ ਵਚਤਰਨ ਕਰਨ ਦਾ ਮਰੌਕਾ
- CO.3 ਪ<sup>ੈ</sup>ਰਾ ਰਚਨਾ ਅਤੇ ਸਰਲ ਅੰਗਰ**ੇਜੀ ਪ**ੈਰ**ੇ ਦ**ਾ ਪੰਜਾਬੀ ₹ਿੱਚ ਅਨੁ₹ਾਦ ਕਰਨਾ ₹ਸਿ**ੱ** ਖਣਾ

CO.4 ਪੰਜਾਬੀ ਧੁਨੀ ਵ₹ਉਂਤ ₹ਕਾਤਮਕ ਜੁਗਤਾਂ, ਕਾਰਕ ਤੇ ਕਾਰਕੀ ਸਬੰਧ ਜਾਨਣ ਦਾ ਅਫਸਰ ਪ⊮ਪਤ ਹ∂ਣਾ

## ਲਾਜ਼ਮ**ੀ ਪ**ੰਜ**ਾਬ**ੀ ਸਮ**ੈਸਟਰ ਛੇਵ**ਾਂ ਪੱਗਰ**ਾਮ ਆਉਟਕਮ**

CO1."ਮਿੰੱਧਕਾਲ**ੀ ਸ**ਾਵਹਤ "ਪ**ੁਸਤਕ ₹ਿੱਚ ਮ**ਿੱਧਕਾਲ**ੀ ਕ₹ੀਆ ਬ**ਾਰ**ੇ ਜਾਣਕ**ਾਰ**ੀ** ਵਮਲ**ੇ**ਗੀ।

CO2."ਧਰਤੀਆਂ ਦੇ ਗੀਤ" ਸਫਰਨਾਮੇ ₹ਿੱਚ ਉੱਥੋ**ਂ** ਦੇ ਲ*ੋਕ*ਾਂ ਬਾਰੇ ਗਿਆਨ ਪ⊮ਪਤ ਹ**ੋ**₹ੇਗਾ। CO3. ਸਾਵਹਤ ਦੇ ਰਪਾਂ ਦੀ ਜਾਣਕਾਰੀ ਵਮਲੇਗੀ।

CO4. ਵ₹ਆਕਰਣ ਦੀਆਂ ਇਕਾਈਆਂ ਬਾਰੇ ₹ੇਰ₹ੇ ਸ਼ਹਤ ਜਾਣਕਾਰੀ ਵਮਲੇਗੀ।

## **Basic Punjabi**

ਮਢ**ੱਲੀ ਪ**ੰਜ**ਾਬ**ੀ ਸਮ**ੈਸਟਰ ਪਹ**ਿਲਾ ਬ**ੀ.ਏ /ਬ**ੀ.ਐਸ.ਸੀ /ਬੀ. ਕ**ਾਮ ਪਗ਼ਰ**ਾਮ ਆਊਟਕਮ

CO.1 ਪ $^{\circ}$ ਜਾਬੀ ਭ $^{\circ}$ ਸ $^{\circ}$  ਵਲਖਣ $^{\circ}$ ਤ $^{\circ}$  ਪੜ੍ਨ $^{\circ}$  हर्ਸ $^{\circ}$ ੱਖ $^{\circ}$ 

CO.3ਗਰਮਖੀ ਵਲਪੀ ਅਤੇ ਮਾਤਰਾ₹ਾਂ ਨਾਲ ਸਬੰਵਧਤ ਵਲਖਣਾ ਦਿੱਸਣਾ

CO.4 ਗੁਰਮੁਖੀ ਆਰਥੋਗਰਾਫੀ ਦੇ ਰਾਹੀਂ ਸ₹ਰ ਤੇ ਵ₹ਅੰਜਨਾਂ ਤੋਂ ਜਾਣ ਕਰਾਉਣਾ

CO.5 ਪੰਜਾਬੀ ਸਬਦ ਜੋੜ੍ਹ ਕਰਨੇ ਵਸਖਾਏ

CO.6 ₹ਬ<sup>°</sup> ਦ**ੀ**, ₹ਰਿੱੱਪ**ੀ**, ਅਧਿੰੱਕ ਦ**ੀ ₹ਰਤੋਂ ਨਾਲ ਸਬਦ ਬਣਾਉਣ**ੇ ₹**ਸ**ਿੱਖੇ,

ਸੰਿੱੁਧ ਸਬਦ ਜੋੜ੍ ਲਖ਼⊀ਾਏ **ਮੰੱੁਢਲੀ ਪ**ੰ**ਜਾਬ**ੀ ਸਮ**ੈਸਟਰ ਦੂਜ**ਾ **ਬੀ.ਸ**ੀ.ਏ

**/ਬ**ੀ.ਐਸ.ਸ**ੀ.ਐਫ.ਡ**ੀ ਆਊਟਕਮ ਪਗ਼ੋਰਾਮ CO.1 ਪੰਜਾਬੀ ਸਬਦ ਬਣਤਰ ₹ਿੱ

ਚ ਨ₹ੇਂ ਸਬਦਾਾਂ ਦਾ ਵਨਰਮਾਣ ਕਰਨਾ ਚੀਂ ਸਣਾ

CO.2 ਸ**ੰ**ਯ\_ਕਤ ਸਬਦ, ਦੋਜ**ਾਤੀ ਸਬਦ, ਹਮਸਰਤ ਸਬਦ**ਾਂ ਤ**ੋ**ਂ ਜਾਣ

ਕਰਾਣਾ CO.3 ਇਕ ₹ਚਨ ਬਹੁ ₹ਚਨ ਲਿੰਗ ₹ਚਨ, ਸਮਾਨਾਰਥਕ

ਸਬਦ ਬਣਾਉਣੇ ₹ਸਿੰੱਖੇ CO.4 ਰ**ੋਜਾਨਾ ₹ਰਤੀ ਜਾਣ ₹ਾਲ**ੀ ਪੰ

ਜਾਬੀ ਸਬਦਾਾ₹ਲ**ੀ ₹ਸ**ਿੱਖੀ

ਮ**ੁੱੁਢਲੀ ਪ**ੰਜ**ਾਬ**ੀ ਤ**ੀਜ**ਾ ਸਮ**ੈਸਟਰ ਆਊਟਕਮ ਪਗ਼ਰ**ਾਮ

CO.1 ਅੰਗਰ**ੇਜੀ ਤ**ੋਂ ਪੰਜਾਬੀ ₹ਿੱਚ ਅਨੁ₹ਾਦ ਕਰਨ ਦੀ ਕਲ**ਾ ₹ਸ**ਿੱਖਣਾ, ਪ**ੈਰ**ਾ ਰਚਨਾ ਵਲਖਣਾ

CO.2 ₹ਿੱਖ-₹ਿੱਖ ਵ₹ਵਸਆਂ ਨਾਲ ਸੰਬੰਵਧਤ ਕਵ₹ਤਾ₹ਾਂ ਪੜ੍ਹਨ ਦਾ ਮੌਕਾ

CO.3 ਲ**ੇ ਖਕ**ਾਂ ਦ**ੀਆ**ਂ ਕਹਾਣੀਆਂ ਪੜ੍ਹ ਦਾ ਅਫਸਰ ਪ⊮ਪਤ ਕਰਨਾ

CO.4 ₹ਿੱਖ ₹ਿੱਖ ਵ₹ਵਸਆਂ ਤੇ ਵਨਬਃੰਧ ਪੜ੍ਹਨ ਦਾ ਮੌਕਾ ਪਗਪਤ ਹੋਣਾ ਵਜ₹ੇਂ ਵਕ ਆਓ ਗਿਿੱਲਾਂ ਕਰ**ੀਏ, ਮਨਿ**ੱ ੁਖ ਕ**ੁਦਰਤ ਦੀ ਨ**ੇਔਲਾਦ।

## ਮ**ੁੱੁਢਲੀ ਪ**ੰਜ**ਾਬ**ੀ ਚ**ੌਥਾ ਸਮ**ੈਸਟਰ ਆਊਟਕਮ ਪੋਗਰ**ਾਮ**

CO.1 ਲ**ੇ ਖਕ**ਾਂ ਦ**ੀਆ**ਂ ਕਵ₹ਤਾ₹ਾਂ ਦ**ੀ ਪਸ**ੰਗ ਸਵਹਤ ਵ₹ਆਵਖਆ ਕਰਨੀ ह**ਸ**ਿੱਖਣੀ

CO.2 ਵ₹ਸਾ ₹ਸਤ ਅਤੇ ਸਾਰ ਵਲਖਣ ਦਾ ਮੌਕਾ

CO.3 ਕ₹ੀਆਂ ਦੇ ਜੀ₹ਨ ਬੁਾਰੇ ਅਤੇ ਰਚਨਾ ਬੁਾਰੇ

ਜਾਣਕਾਰੀ ਪਾਪਤ ਕਰਨਾ CO.4 ਲੇਖ ਰਚਨਾ ਅਤੇ ਅਸਿੰੱ ਪ

ਸਬਦਾਂ ਨੂੰ **ਸ**ਿੱੁਧ ਕਰਕੇ ਵਲਖਣ ਬ**ਾਰ**ੇ **ਨਿੰਂ ਖਣਾ ਮਢ**ੱਲੀ **ਪੰ** 

## ਜ**ਾਬ**ੀ ਭ**ਾਗ ਪ**ੰਜਵਾ**ਂ ਆਉਟਕਮ ਪਗ਼ੋਰ**ਾਮ

CO.1 ਲੋਕ ਕਾਵ₹ ਪੜ੍ਹ ਕੇ ਪੰਜਾਬੀ ਸਿੱਵਭਆਚਾਰ ਦਾ ਵਗਆਨ ਹੋ₹ੇਗਾ

CO.2 ਘੋੜ੍ੀਆਂ, ਸੁਹਾਗ, ਟਿੱਪੇ ਪੜ੍ਹਨ ਉਪਰੰਤ ਵ₹ਸਾਲ ਸਵਭਆਚਾਰ ਨਾਲ ਅਪਣਤ ਪੈਦਾ ਹੋ₹ੇਗੀ

CO.3 ਪੰਜਾਬੀ ਦੀਆਂ ਲ**ੋਕ ਖ**ੇਡਾਂ ਪਲੀ ਬ**ਿੱਵਚਆਂ ਦ**ੀ ਰ**ੁਚੀ ਤੋਂ ਜਾਣ ਹ**ੋਣਾ

CO.4 ਲ**ੋਕ ਖ**ਾਵਣਆ**ਂ ਬ**ਾਰ**ੇ ਵ₹ਸਥ**ਾਰ ਪ ਰ₹ਕ ਜਾਗਰ ਕ ਹ**ੋਣ**ਾ

## ਮ**ੁੱਢਲੀ ਪ**ੰਜ**ਾਬ**ੀ ਸਮ**ੈਸਟਰ ਛੇਵ**ਾਂ

CO1.ਪੰਜਾਬ ਦ**ੇ ਮ**ੇਫਲਆ**ਂ ਬ**ਾਰ**ੇ** ਜਾਣਕ**ਾਰ**ੀ

ਵਮਲ**ੇ** ਗੀ। CO2.ਪੰਜਾਬ ਦੇ ਵਤੳਹਾਰਾਂ ਨਾਲ ਜਾਣ ਪਛਾਣ

ਹੋ₹ੇਗੀ CO3ਪੰਜਾਬ ਦੇ ਲੋਕ ਕਾਵ₹ ਰਪ ਬਾਰੇ ਜਾਣਕਾਰੀ

ਵਮਲੇਗੀ।

CO4.ਪੰਜਾਬ ਦ**ੇ ਪ**ਹਰਹਾ₹ੇ ਅਤੇ ਖਾਵਣਆ**ਂ ਦ**ਾ ਗਿਆਨ ਪਗ੫ਤ ਕ**ੀਤਾ ਜਾ**₹ੇਗਾ।

## **Computer Science**

Course Name: Computers Fundamental &PC Software (L-3, T-0, P-0)

CO1: Understanding the concept of input and output devices of Computers

CO2: Learn the functional units and classify types of computers, how they process information and how individual computers interact with other computing systems and devices.

CO3: Understand an operating system and its working, and solve common problems related to operating systems

CO4: Learn basic word processing, Spreadsheet and Presentation Graphics Software skills

CO5: Study to use the Internet safely, legally, and responsibly

**Course Name: Programming in C: (L-3, T-0, P-0)** 

CO1: To develop logics, algorthims and program

CO2: In-depth understanding of various concepts of C language.

CO3: Ability to read, understand and trace the execution of programs.

CO4: Skill to debug a program.

CO5: Skill to write program code in C to solve real world problems.

Course Name: Computer Oriented Numerical Methods & Statistical Methods (L-3, T-0, P-0)

CO1: Apply numerical methods to solve mathematical problems, including root finding, numerical integration, and solving differential equations.

CO2: Implement algorithms for interpolation and curve fitting to analyse and model data.

CO3: Utilize statistical techniques for data analysis, including descriptive statistics, hypothesis testing, and regression analysis.

CO4: Evaluate the reliability and accuracy of numerical methods and statistical techniques through error analysis.

CO5: Apply numerical optimization techniques to solve real-world engineering and scientific problems.

Course Name: Data structure & Programming Language using – C ++ (L-3, T-0, P-0)

CO1: To gain a comprehensive understanding of fundamental data structures such as arrays, linked lists, stacks, queues, trees, graphs, and hash tables.

CO2: To analyse the time and space complexity of algorithms related to various data structures.

CO3: Understanding of file handling techniques including reading from and writing to files, parsing structured and unstructured data from files

CO5: Proficiency in retrieving specific data from files efficiently using techniques like searching and sorting, including algorithms like binary search, quicksort, and mergesort.

CO6: Understanding of object-oriented programming principles and their application in C++.

CO7: Ability to design, develop, and debug C++ programs.

CO8: Experience with control statements, loops, arrays, strings, pointers and memory management and pointers in C++.

CO9: Awareness of coding standards, and software engineering principles to tackle real-world programming challenges and projects using C++.

Course Name: Database Management Systems & Oracle (L-3, T-0, P-0)

CO1: Understand the basic concepts of database management systems (L2)

CO2: Apply SQL to find solutions to a broad range of queries (L3).

CO3: Apply normalization techniques to improve database design (L3)

CO4: Analyse a given database application scenario to use ER model for conceptual design of the database

**Course Name: Internet Technologies (L-3, T-0, P-0)** 

CO1: To develop a comprehensive understanding of the foundational technologies that power the internet, including HTTP, HTML, CSS, JavaScript and web servers.

CO2: To acquire practical skills in web development, including designing, building, and deploying interactive web applications.

CO3: To integrate databases into web applications to store and retrieve data dynamically.

CO4: To gain knowledge of web services and APIs (Application Programming Interfaces) for integrating external services and data into web applications.

## Math

Course Name: Algebra (L-4, T-0, P-0)

CO1: The course aims to provide basic knowledge of vectors and their property

CO2: Students understand the linear dependence and independence among vectors.

CO3: Students learn to find solution by linear equation by using matrices.

CO4: Students understand the relation between and coefficient of equation.

Course Name: Calculus (L-3, T-0, P-0)

CO1: The course provides basic ideas of the functions.

CO2: The students understand the concepts of limits and continuity.

CO3: The course provide knowledge regarding successive differentiation.

CO4: The students understand the concept of maxima and minima.

Course Name: Calculus and differential equations (L-4, T-0, P-0)

CO1: The course provides basic knowledge of degree and order by differential equation.

CO2: Students learn to develop relationship among different variables using differential equations.

CO3: Students understand the importance of differential equation in various fields.

CO4: Students learn the difference between homogeneous and non-homogeneous equations.

Course Name: Calculus 2 (L-3, T-0, P-0)

CO1: It helps to understand modern mathematics education.

CO2: This course in calculus is gateway to others more advances courses in mathematics.

CO3: It helps students to learn about integration.

CO4: It helps students to learn, to expand integration od third order.

**Course name: Analysis** 

CO1: This course provides the study of real numbers and their properties.

CO2: Students understand the concept of sets limit point, convergence of sequence and series.

CO3: Students will be able to understand behaviour of real numbers.

CO4: Students understand their applications of calculus in different fields.

**Course Name: Analytical Geometry** 

CO1: The course includes the study of conic sections.

CO2: Student understand sphere and cylindrical surface.

CO3: Students will be able to sketch the graphs of different conic sections.

CO4: Students can understand the forms of the surface recognition.

Course name: static and vector calculus

CO1: This course includes the study of differentiation of vectors.

CO2: Students understand the concept of gradient, divergence, curl and vector integration.

CO3: It helps students to represent vectors analytically and geometrically.

CO4: It helps students to compute scalar and vector product.

**Course Name: Solid geometry** 

CO1: It helps to understand the concept of sphere, cylinder. Cone and planes.

CO2: It helps to understand geometric terminology for angles, triangles.

CO3: It helps in developing the ability among students to trace the curve.

CO4: It helps students in developing the ability to differentiate between tangents and normal to the curve

**Course Name: Dynamics** 

CO1: This course helps the students to understand newtons law, SHM, work, power, energy.

CO2: It helps students to develop and understand the principle of dynamics.

CO3: It helps students to gain knowledge of external forces on a rigid body.

CO4: Students can relate these topics to the physics.

Course Name: Linear algebra

CO1: It helps students to learn the basis of ring.

CO2: Students develop the ability to understand vector space, linear span, basis.

CO3: It helps students to gain knowledge of linear transformation.

CO4: It helps students to gain knowledge of matrix relation.

**Course Name: Numerical Analysis** 

CO1: This course helps the student to apply numerical methods.

CO2: It helps students to apply numerical methods in solving problems.

CO3: It helps students to find and approximate solution.

CO4: It helps students to understand mean, medium and mode

## **Physics**

**Course Name: PAPER-A: MECHANICS (credit:3)** 

CO1: To understand Newton's laws of motion, force, mass, acceleration, and the relationship between force, mass, and acceleration.

CO2: Gain Knowledge of the causes of motion, including the concepts of force, momentum, impulse, and the relationship between force, mass, and acceleration as described by Newton's second law.

CO3: To Understand simple harmonic motion, oscillatory motion, pendulum motion, and the behaviour of systems governed by Hooke's law.

CO4: Development of analytical and problem-solving skills through the application of mathematical techniques, including vector algebra, calculus, and differential equations, to solve mechanics problems.

CO5: Ability to design and conduct experiments to investigate mechanical phenomena, collect and analyse data, and draw conclusions based on experimental results.

CO6: Ability to effectively communicate scientific concepts, experimental procedures, results, and conclusions related to mechanics, both orally and in writing, to diverse audiences.

**Course Name: PAPER-B: ELECTRICITY AND MAGNETISM (credit:2)** 

- CO1: Understanding of Mastery of the fundamental concepts of electric charge, Coulomb's law, electric fields, and the principle of superposition in the context of electrostatics.
- CO2: Knowledge of electric potential, voltage, and their relationship to electric fields, equipotential surfaces, and the calculation of electric potential due to various charge distributions.
- CO3: Understanding of Faraday's law of electromagnetic induction, Lenz's law, induced electromotive force (emf), and the generation of electric currents by changing magnetic fields.
- CO4: Proficiency in analysing AC circuits, including impedance, phase relationships between voltage and current, power in AC circuits, resonance, and the behaviour of RLC circuits.
- CO5: Understanding of electromagnetic waves, their properties, including wavelength, frequency, speed, and the relationship between electric and magnetic fields in propagating electromagnetic waves.

### **Course Name: PAPER-A: RELATIVITY AND ELECTROMAGNETISM (credit:3)**

- CO1: Understanding the principles of special relativity, including the concept of spacetime, Lorentz transformations, time dilation, length contraction, and relativistic momentum.
- CO2: Ability to analyse electromagnetism within the framework of special relativity, including the relativistic transformation of electric and magnetic fields, and the derivation of the electromagnetic field tensor.
- CO3: Proficiency in relativistic electrodynamics, including the Lorentz force law in the presence of electromagnetic fields, the electromagnetic stress-energy tensor, and the equations of motion for charged particles in electromagnetic fields.
- CO4: Knowledge of cosmological applications of relativity and electromagnetism, including the Big Bang theory, the expansion of the universe, cosmic microwave background radiation, and the large-scale structure of the cosmos.
- CO5: Introduction to quantum field theory and the electroweak interaction, which unifies electromagnetism with the weak nuclear force, and their implications for the Standard Model of particle physics.

#### Course Name: PAPER-B: VIBRATION AND WAVES (credit:2)

CO1: Understanding of the principles of oscillatory motion, including harmonic motion, simple harmonic oscillators, damped oscillators, and forced oscillations.

- CO2: Knowledge of wave propagation in various media, including mechanical waves (such as sound waves in solids, liquids, and gases), electromagnetic waves, and wave propagation in different boundary conditions.
- CO3: Understanding of the superposition principle and its application to the interference and diffraction of waves, including standing waves, beats, and the formation of interference patterns.
- CO4: Gain Knowledge of resonance phenomena, including the conditions for resonance, resonance frequency, quality factor (Q-factor), and the applications of resonance in various physical systems.
- CO5: Introduction to wave optics, including the principles of geometric optics, wavefronts, Huygens' principle, diffraction, polarization, and the behavior of light waves in optical systems.

#### Course Name: PAPER-A: STATISTICAL PHYSICS & THERMODYNAMICS (credit:3)

- CO1: Understanding of the fundamental principles of classical thermodynamics, including the laws of thermodynamics, entropy, enthalpy, heat capacity, and the relationships between thermodynamic variables.
- CO2: Gain Knowledge of the foundations of statistical mechanics, including the Boltzmann distribution, partition function, canonical ensemble, and the derivation of thermodynamic properties from statistical principles.
- CO3: Understanding of thermodynamic potentials, including the Helmholtz free energy, Gibbs free energy, internal energy, and their relationships to thermodynamic variables and equilibrium conditions.
- CO4: Proficiency in understanding fluctuations in thermodynamic systems, the fluctuationdissipation theorem, and the connection between fluctuations and response functions.
- CO5: Understanding of the thermodynamic properties of materials, including heat capacity, thermal expansion, compressibility, and their dependence on temperature, pressure, and composition.

## **Course Name: PAPER-B: OPTICS AND LASERS (credit:2)**

CO1: Understanding of the principles of geometrical optics, including ray tracing, reflection, refraction, Snell's law, image formation by lenses and mirrors, and the properties of optical systems.

- CO2: Proficiency in the principles of wave optics, including diffraction, interference, polarization, coherence, and the behavior of light waves in various optical systems.
- CO3: Understanding of laser fundamentals, including stimulated emission, population inversion, optical resonators, gain medium properties, and laser cavity design.
- CO4: Understanding of optical spectroscopy techniques, including absorption spectroscopy, emission spectroscopy, Raman spectroscopy, and their applications in chemical analysis, materials science, and biophysics.
- CO5: Knowledge of optical imaging systems, including lenses, microscopes, telescopes, cameras, and their design principles, aberrations, resolution limits, and applications in microscopy, astronomy, and remote sensing.

## **Course Name: PAPER- A : QUANTUM MECHANICS(credit:3)**

- CO1: Gain knowledge of the fundamental principles of quantum mechanics, including waveparticle duality, the wave function, probability interpretation, and the uncertainty principle.
- CO2: Understanding of the time evolution of quantum systems, including the Schrödinger equation, time-dependent and time-independent solutions, and the concept of unitary evolution in quantum mechanics.
- CO3: Knowledge of angular momentum in quantum mechanics, including orbital angular momentum, spin angular momentum, and their quantization, as well as the addition of angular momenta.
- CO4: Understanding of approximation methods in quantum mechanics, including perturbation theory, variational methods, and the WKB approximation, and their applications to solve complex quantum systems.
- CO5: Proficiency in understanding the role of measurement in quantum mechanics, including the collapse of the wave function, measurement postulates, and the interpretation of quantum mechanics.

#### Course Name: PAPER - B: ATOMIC AND MOLECULAR SPECTRA(credit:2)

- CO1: Understanding of the principles of atomic structure, including electron configurations, energy levels, angular momentum, and the quantization of atomic energy levels.
- CO2: Proficiency in the quantum mechanical description of atoms, including the Schrödinger equation for hydrogen-like atoms, atomic orbitals, and the solution of the hydrogen atom.

CO3: Understanding of spectroscopic notation and terms used to describe atomic energy levels, such as term symbols, angular momentum quantum numbers, and selection rules for transitions.

CO4: Understanding of fine and hyperfine structure in atomic spectra, including relativistic corrections, electron spin-orbit coupling, and interactions between nuclear and electronic

spins.

CO5: Knowledge of atomic transition probabilities, including Einstein coefficients, spontaneous

emission, stimulated emission, and the rate equations governing atomic transitions.

**Course Name: PAPER- A : CONDENSED MATTER PHYSICS(credit:3)** 

CO1: Proficiency in crystallography and the characterization of crystal structures, including

Bravais lattices, crystal systems, point groups, space groups, and the symmetry properties of

crystals.

CO2: Knowledge of crystal diffraction techniques, including X-ray diffraction, electron

diffraction, and neutron diffraction, and the interpretation of diffraction patterns in reciprocal

space.

CO3: Understanding of lattice dynamics and the quantization of vibrational modes in crystals,

including the concept of phonons, phonon dispersion relations, and the behavior of phonons

in different materials.

CO4: Proficiency in semiconductor physics, including carrier statistics, carrier transport, p-n

junctions, semiconductor devices (diodes, transistors), and the operation of semiconductor

devices in electronic circuits.

CO5: Knowledge of magnetism and magnetic materials, including magnetic ordering, magnetic

domains, ferromagnetism, antiferromagnetism, ferrimagnetism, and the behavior of

magnetic materials in external magnetic fields.

**Course Name: PAPER - B : ELECTRONICS (credit:2)** 

CO1: Proficiency in the characteristics, operation, and applications of semiconductor diodes,

including rectification, clipping, clamping, and voltage regulation circuits.

CO2: Knowledge of bipolar junction transistors (BJTs) and field-effect transistors (FETs),

including their operating principles, small-signal and large-signal models, biasing

techniques, and amplifier configurations.

- CO3: Familiarity with operational amplifiers, including ideal and practical op-amp characteristics, inverting and non-inverting amplifier configurations, summing amplifiers, integrators, differentiators, and applications in analog signal processing.
- CO4: Knowledge of combinational logic circuits (adders, subtractors, multiplexers, demultiplexers, encoders, decoders) and sequential logic circuits (flip-flops, registers, counters), and their applications in digital systems.

#### **Course Name: PAPER-A: RADIATION AND PARTICLE PHYSICS (credit:3)**

- CO1: Proficiency in understanding the fundamental forces of nature, including electromagnetic, weak, strong, and gravitational forces, and their description in the context of particle interactions.
- CO2: Knowledge of particle accelerators and detectors used in experimental particle physics, including linear accelerators, circular accelerators (synchrotrons, cyclotrons), and various types of particle detectors (ionization detectors, calorimeters, tracking detectors).
- CO3: Understanding of scattering experiments in particle physics, including elastic and inelastic scattering, deep inelastic scattering, electron-proton scattering, and the extraction of structure functions and Parton distributions from scattering data.
- CO4: Understanding of neutrino properties and oscillations, including neutrino masses, neutrino mixing, neutrino flavour oscillations, and experimental techniques for studying neutrino interactions.
- CO5: Familiarity with applications of particle physics technologies and techniques in other fields, including medical imaging (positron emission tomography, proton therapy), nuclear engineering, and materials science.

## Course Name: PAPER-B: NUCLEAR PHYSICS (credit:2)

- CO1: Proficiency in understanding nuclear reactions, including nuclear decay modes (alpha decay, beta decay, gamma decay), nuclear fission, nuclear fusion, and the principles of reaction kinematics and conservation laws.
- CO2: Knowledge of nuclear decay processes, including radioactive decay rates, decay constants, half-life, activity, decay chains, and the applications of radioactive isotopes in dating techniques and medical imaging.
- CO3: Understanding of nuclear reactions kinematics, including energy conservation, momentum conservation, center-of-mass frame, and the kinematics of scattering, capture, and breakup reactions.

CO4: Students gain Knowledge of radioactive decay processes used in radioactive dating techniques, including radiocarbon dating, potassium-argon dating, uranium-lead dating, and their applications in geology and archaeology.

## **Economic**

**Course Name: Micro- economic** 

CO1. Analyze supply and demand dynamics to predict market equilibrium in microeconomic

contexts.

CO2. Evaluate consumer behavior and its impact on pricing strategies in microeconomic

environments.

CO3. Demonstrate proficiency in applying microeconomic theories to real-world economic issues

and policy analysis.

CO4. Utilize mathematical and graphical tools to model and interpret microeconomic phenomena.

CO5. Critically assess market structures and their implications for resource allocation and

efficiency in microeconomic systems.

**Course Name: Macro-Economic** 

CO1. Analyze and interpret macroeconomic data to evaluate economic trends and policies.

CO2. Apply macroeconomic theories to understand and predict changes in national and global

economies.

CO3. Evaluate the impact of fiscal and monetary policies on macroeconomic indicators and

economic stability.

CO4. Demonstrate an understanding of the relationship between macroeconomic factors such as

inflation, unemployment, and economic growth.

CO5. Develop recommendations for policymakers based on a comprehensive analysis of

macroeconomic principles and real-world economic scenarios.

**Course Name: Indian Economy** 

CO 1. Analyze key economic policies and their impact on India's GDP growth and employment

rates.

- CO 2. Evaluate the role of entrepreneurship in driving innovation and economic development in India.
- CO 3. Critically assess the impact of globalization on India's economy, including trade agreements and foreign investment.
- CO 4. Examine the challenges and opportunities of sustainable development in the context of Indian economic growth.
- CO 5. Apply economic theories and models to analyze current economic trends and forecast future scenarios for India's economy.

## Course Name: International trade and public finance

- CO 1. Understand the principles of international trade and their impact on public finance.
- CO 2. Analyze the role of government policies in shaping international trade dynamics and fiscal strategies.
- CO 3. Evaluate the effects of globalization on public revenue, expenditure, and budgetary management.
- CO 4. Apply economic theories to assess trade agreements and their implications for fiscal policy.
- CO 5. Develop strategies for managing international trade challenges while maintaining fiscal stability and public welfare.

### **Course Name: Economics of Development**

- CO1. Analyze the role of economic policies in fostering sustainable development.
- CO2. Evaluate the impact of globalization on developing economies.
- CO3. Apply economic theories to understand poverty alleviation strategies.
- CO4. Critically assess the relationship between environment and economic development.
- CO5. Demonstrate knowledge of development indicators and their implications for policymaking.

#### **Course Name: Quantitative methods for economists**

- CO 1. Apply quantitative techniques to analyze economic data and make informed decisions.
- CO 2. Interpret and evaluate economic models using statistical tools and methods.
- CO 3. Develop proficiency in econometric analysis for forecasting and policy evaluation.

CO 4. Utilize mathematical models to understand and solve economic problems.

CO 5. Communicate complex economic concepts effectively through data visualization and

analysis.

PG DIPLOMA IN COMPUTER APPLICATIONS(PGDCA)

**Program Outcomes:** 

PO1: It will equip the students with skills required for designing, developing applications in

Information Technology.

PO2: Students will able to learn the latest trends in various subjects of computers & information

technology.

PO3: The PG Diploma is aimed at graduates with a computing background and provides a

detailed coverage of the key concepts and challenges in data and resource protection and

computer software security.

PO4: To give hands on to students while developing real life IT application as part of the study.

PO5: To train graduate students in basic computer technology concepts and information

technology applications.

PO6: Design and develop applications to analyse and solve all computer science related

problems.

PO7: Apply knowledge of computing and mathematics appropriate to the appropriate discipline.

PO8: Well, equipped with thorough knowledge of various software.

PO9: Ability to work in team and build leadership qualities.

PO10: Apply domain knowledge and expertise for enhancing educational pursuits and research

capability.

**Program Specific Outcomes (PSOs)** 

PSO1: To expose the students to open-Source technologies so that they become familiar with it and can seek appropriate opportunity in trade and industry.

PSO2: Able to provide socially acceptable technical solutions to real world problems with the

application of modern and appropriate programming techniques.

PSO3: Design applications for any desired needs with appropriate considerations for any

specific need on societal and industrial aspects.

**Course Outcomes** 

Course Name: PC Computing-I (MS Office) 2003 (L-3, T-0, P-2)

CO1. Understand the basic terminology of computers.

CO2. Understand the practical concepts of MS Word, MS Excel, MS PowerPoint, and MS

Access.

Course Name: PC Computing-II (Professional DTP) (L-3, T-0, P-2)

CO1. This course will equip participants with the basic knowledge of CorelDraw Graphics

Suite.

CO2. By the end of the course, students will be familiar with the CorelDraw workspace, tools,

panels, basic techniques and gain an insight into the techniques of creating and

manipulating vector (design) objects, shapes and colour fills.

CO3. They will also be able to work with artistic text for the creation of logos, labels and any

other one-page print design material.

CO4. With the help of the tools, you can add a great degree of dimensional effect and richness

to your drawings.

Course Name: Fundamentals of Computer & Operating Systems (L-3, T-0, P-2)

CO1. Appreciate the role of operating system as System software.

CO2. Understand the fundamental hardware components such as shells, kernal and the role of

each of these components

for Women, Gurdaspur

- CO3. Understand the functions of OS, application program, and memory management techniques
- CO4. Commands of UNIX and its implementation

## Course Name: Database Management System through Oracle-10g & System Analysis & Design (L-3, T-0, P-2)

- CO-1: Familiarization with various features and applications of Database Management system.
- CO-2: Acquire knowledge about database languages (DDL, DML, DCL)
- CO-3: Learn how to design a database by using different data models.
- CO-4: Understand the database handling during execution of the transactions along with concurrent access.
- CO-5: Ability to perform various types of SQL queries.

## Course Name: Network Concepts and Management (Hardware, Software, setting in LINUX/UNIX/NT environment (L-3, T-0, P-2)

- CO1. Identify and analyze various network hardware components, their functionalities, and how they interact within a network infrastructure.
- CO2. Demonstrate proficiency in installing, configuring, and maintaining network software across multiple operating systems including LINUX, UNIX, and Windows NT environments.
- CO3. Evaluate different network management strategies and tools to optimize network performance, security, and reliability.
- CO4. Implement effective network settings and protocols in LINUX, UNIX, and Windows NT environments to facilitate seamless communication and resource sharing.
- CO5. Apply troubleshooting techniques to diagnose and resolve network hardware, software, and configuration issues in diverse computing environments.

#### **Course Name: Programming in C (L-3, T-0, P-2)**

CO1. Understand the fundamentals of C programming.

- CO2. Students will acquire knowledge and skills of programming.
- CO3. Students will be able to develop logics which will help them to create programs,
- CO4. applications in C.
- CO5. Also, by learning the basic programming constructs they can easily switch over to any

CO6. other language in future.

Course Name: Introduction to Scripting Languages, Web Designing & Designing & Internet (L-3, T-0, P-2)

- CO1. Students will develop an understanding of the formalistic (aesthetic) aspects of design and visual communication.
- CO2. Students will demonstrate cross-platform (web, mobile, broadcast, print) storytelling skills.
- CO3. Students will demonstrate a consideration of audience and/or users in their production work.
- CO4. Students will become familiar with graphic.
- CO5. Students will implement techniques of information design to interactive media projects, with consideration of a particular purpose and audience. The design decisions should be informed by these factors

## **Programme: Master in Computer Science (M.Sc. (CS))**

## **Program Outcomes:**

- PO1. Mastery in designing and implementing efficient algorithms for solving complex computational problems.
- PO2. Proficiency in analyzing and optimizing computer systems and networks for enhanced performance and scalability.
- PO3. Understanding of foundational mathematical concepts and their applications in computer science.
- PO4. Ability to develop innovative software solutions using advanced engineering methodologies and tools.
- PO5. Expertise in designing, deploying, and managing cloud-based systems and services.

- PO6. Proficiency in designing and managing distributed database systems for efficient data storage and retrieval.
- PO7. Competence in programming using both core and advanced Java concepts for diverse application development.
- PO8. Mastery in developing networked applications and protocols for seamless communication over networks.
- PO9. Proficiency in designing and programming embedded systems for various applications.
- PO10. Comprehensive understanding of software systems, encompassing application-level and system-level perspectives.
- PO11. Adaptability to emerging technologies and paradigms in the field of computer science.
- PO12. Development of effective communication and collaboration skills for success in professional endeavours.

## **Program Specific Outcomes (PSOs)**

PSO1: Enrich the knowledge in the areas like Artificial Intelligence, Web Services, Cloud Computing, Paradigm of Programming language, Design and Analysis of Algorithms, Database Technologies Advanced Operating System, Mobile Technologies, Software Project Management and core computing subjects. Choose to study any one subject among recent trends in IT provided in the optional subjects.

PSO2: Students understand all dimensions of the concepts of software application and projects.

PSO3: Students understand the computer subjects with demonstration of all programming and theoretical concepts with the use of ICT.

Course Name: Programming in C (L-3, T-0, P-2)

CO1. Understand the fundamentals of C programming.

CO2. Students will acquire knowledge and skills of programming.

CO3. Students will be able to develop logics which will help them to create programs,

CO4. applications in C.

CO5. Also, by learning the basic programming constructs they can easily switch over to any

CO6. other language in future.

Course Name: Introduction to Scripting Languages, Web Designing & Designing & Scripting Languages, Web Designing & Designing &

Internet (L-3, T-0, P-2)

- CO1. Students will develop an understanding of the formalistic (aesthetic) aspects of design and visual communication.
- CO2. Students will demonstrate cross-platform (web, mobile, broadcast, print) storytelling skills.
- CO3. Students will demonstrate a consideration of audience and/or users in their production work.
- CO4. Students will become familiar with graphic.
- CO5. Students will implement techniques of information design to interactive media projects, with consideration of a particular purpose and audience. The design decisions should be informed by these factors

#### **Course Outcomes**

### **Course Name: Advanced Data Structures (L-4, T-0, P-0)**

- CO1. Mastery in fundamental data structure concepts.
- CO2. Proficiency in implementing advanced data structures.
- CO3. Application of data structures in real-world scenarios.
- CO4. Development of strong problem-solving skills.
- CO5. Enhancement of collaboration and communication abilities.

### Course Name: Advanced Computer Architecture (L-4, T-0, P-0)

- CO1. Understanding of digital system, its organization and architecture.
- CO2. Apply knowledge of digital electronics logic gate to combinational and sequential circuits.
- CO3. Knowledge of the basics of computer hardware and how software interacts with computer hardware.
- CO4. Apply concepts of assembly language in solving problems.
- CO5. Illustrate the concept of processing I/O organization and examine different ways of communicating with I/O devices and standard I/O interfaces.

### Course Name: Network Design & Performance Analysis (L-4, T-0, P-0)

- CO1. Understanding network design principles.
- CO2. Proficient analysis of network performance.
- CO3. Application of design and analysis skills in real-world scenarios.

- CO4. Development of critical thinking abilities.
- CO5. Enhancement of students' knowledge in network technologies.

### **Course Name: Discrete Structures (L-4, T-0, P-0)**

- CO1. Mastery of fundamental concepts in discrete mathematics, including sets, relations, functions, and logic.
- CO2. Proficiency in applying discrete mathematical principles to analyse and solve problems in computer science and related fields.
- CO3. Ability to comprehend and manipulate abstract structures such as graphs, trees, and algorithms.
- CO4. Development of critical thinking skills through rigorous logical reasoning and proof techniques.
- CO5. Enhancement of problem-solving abilities by translating real-world problems into mathematical models and solutions.

### **Course Name: Soft Computing (L-4, T-0, P-0)**

- CO1: Analyse and integrate various soft computing techniques in order to solve problems effectively and efficiently.
- CO2: Apply fuzzy logic and reasoning to handle uncertainty and solve engineering problems.
- CO3: Apply neural networks to pattern classification and regression problems.
- CO4: Apply genetic algorithms to combinatorial optimization problems.
- CO5: Apply these techniques in applications which involve perception, reasoning and learning.

### **Course Name: Theory of Computation (L-4, T-0, P-0)**

- CO1. Understanding theoretical concepts in automata theory and formal languages to benefit students.
- CO2. Application of computational complexity analysis techniques to enhance students' problem-solving skills.
- CO3. Proficiency in designing and analysing computational models for students' practical use.
- CO4. Development of critical thinking abilities among students through exploring decidability and undecidability.
- CO5. Enhancement of students' knowledge by studying advanced topics such as Turing machines and computational complexity classes.

### **Course Name: Image Processing (L-4, T-0, P-0)**

- CO1. Grasping the essential principles of image processing to ensure student understanding.
- CO2. Applying algorithms for image processing to analyse and improve digital images effectively.
- CO3. Demonstrating competence in implementing image processing techniques through programming.

- CO4. Cultivating critical thinking by assessing and refining image processing algorithms.
- CO5. Strengthening students' capacity to address practical challenges across different domains using image processing methods.

### Course Name: Design & Analysis of Algorithms (L-4, T-0, P-0)

- CO1. Achieving a thorough understanding of essential algorithmic concepts and techniques.
- CO2. Applying principles of algorithm design to create effective solutions for various computational challenges.
- CO3. Demonstrating adeptness in evaluating the efficiency of algorithms through rigorous analysis of time and space complexities.
- CO4. Cultivating critical thinking abilities by critically assessing and contrasting different algorithmic approaches.
- CO5. Strengthening problem-solving skills by translating practical problems into algorithmic frameworks and solutions.

### **Course Name: Cloud Computing (L-4, T-0, P-0)**

- CO1. Attaining a comprehensive understanding of the core principles and technologies underpinning cloud computing.
- CO2. Employing cloud computing principles to architect and implement scalable and robust cloud-based solutions.
- CO3. Demonstrating adeptness in utilizing cloud services and platforms to meet diverse computational requirements efficiently.
- CO4. Fostering critical thinking capabilities through the evaluation and comparison of various cloud computing architectures and methodologies.
- CO5. Strengthening problem-solving proficiencies by harnessing cloud computing resources to address real-world challenges spanning multiple domains.

#### Course Name: Distributed Database Systems (L-4, T-0, P-0)

- CO1. Achieving a thorough understanding of distributed database system principles and architectures for comprehensive comprehension.
- CO2. Applying distributed database concepts to design and implement scalable and fault-tolerant distributed database solutions.
- CO3. Proficiency in deploying and managing distributed database systems to meet the needs of modern data-intensive applications.
- CO4. Developing critical thinking skills through the evaluation and comparison of different distributed database models and algorithms.
- CO5. Enhancing problem-solving abilities by leveraging distributed database technologies to address real-world challenges in distributed computing environments.

**Course Name: Advanced Software Engineering (L-4, T-0, P-0)** 

- CO1. Mastering advanced software engineering methodologies and practices for comprehensive understanding.
- CO2. Applying advanced software engineering principles to design and develop robust and scalable software solutions.
- CO3. Proficiency in utilizing advanced software engineering tools and techniques to manage software development projects effectively.
- CO4. Developing critical thinking skills through the evaluation and comparison of different software engineering methodologies and approaches.
- CO5. Enhancing problem-solving abilities by addressing real-world software engineering challenges using advanced techniques and methodologies.

### **Course Name: System Software (L-4, T-0, P-0)**

- CO1. Obtaining a deep understanding of system software principles and operations to ensure comprehensive knowledge.
- CO2. Utilizing system software concepts to design and create effective operating systems, compilers, and device drivers.
- CO3. Demonstrating competency in implementing system software components to enhance system performance and reliability.
- CO4. Fostering critical thinking through the assessment and comparison of diverse system software architectures and methodologies.
- CO5. Enhancing problem-solving skills by addressing practical system software challenges using advanced strategies and techniques.

### **Course Name: Data Mining and Warehousing (L-4, T-0, P-0)**

- CO1. Mastering fundamental concepts and techniques in data mining and warehousing for comprehensive understanding.
- CO2. Applying data mining algorithms and methodologies to extract actionable insights from large datasets effectively.
- CO3. Proficiency in designing and implementing data warehouses to support decision-making and analytics needs.
- CO4. Developing critical thinking skills through the evaluation and optimization of data mining and warehousing techniques.
- CO5. Enhancing problem-solving abilities by addressing real-world data mining and warehousing challenges using advanced strategies and tools.

# Course Name: Concept of Core and Advanced Java (L-4, T-0, P-0)

CO1: Mastery of fundamental Java concepts including data types, control flow, and object-oriented programming principles.

CO2: Proficiency in using Java language features such as inheritance, polymorphism, and encapsulation.

CO3: Application of core Java concepts in developing basic applications and algorithms.

CO4: Evaluation of Java programming constructs to solve computational problems efficiently.

CO5: Development of a solid foundation in Java programming for further exploration of advanced topics.

### **Course Name: Network Programming (L-4, T-0, P-0)**

CO1: Students will understand the basic components of Network Programming

CO2: Students will understand how these components are used in different project on networks using client-server Technology.

CO3: Students will understand how to Transmit data over network.

CO4: Student will understand which is the best protocol for the Transmission of data which cause less failure on network.

CO5: Student will understand how to recover from the failure if any occurs on network.

### **Course Name: Advanced Web Technologies (L-4, T-0, P-0)**

CO1: Attainment of advanced proficiency in web technologies such as HTML5, CSS3, and JavaScript frameworks.

CO2: Demonstrated ability to create dynamic and responsive web applications using cutting-edge web development methodologies.

CO3: Application of advanced web technologies to craft engaging user interfaces and interactive web experiences.

CO4: Assessment of current trends and optimal strategies in web development to ensure scalability and performance enhancements.

CO5: Construction of intricate web applications integrating server-side scripting languages and database systems.

# **Course Name: Microprocessor and Its Applications (L-4, T-0, P-0)**

CO1: Comprehensive understanding of microprocessor architecture and its components.

CO2: Proficiency in programming microcontrollers and embedded systems for various applications.

CO3: Application of microprocessor concepts in designing and implementing hardware interfaces.

Pt. Mohan Lai S.D. College for Women, Gurdaspur CO4: Evaluation of different microprocessor architectures and their suitability for specific tasks.

CO5: Development of embedded systems solutions using microprocessor technologies to address real-world challenges.

### Course Name: Object Oriented Modelling, Analysis and Design (L-4, T-0, P-0)

CO1: Achieving a deep understanding of object-oriented principles and modelling strategies.

CO2: Demonstrating proficiency in analysing and designing software systems using object-oriented methodologies.

CO3: Applying object-oriented modelling tools and techniques to develop scalable and maintainable software solutions.

CO4: Evaluating design patterns and architectural strategies to optimize software design effectiveness.

CO5: Crafting robust and adaptable software systems through the application of object-oriented analysis and design principles.

# Department of Humanities Programme: Bachelor of Arts

### PROGRAM OUTCOMES

Pt Mohan Lal SD College offers three-year undergraduate degree program with a diverse range of disciplines such as English, Political Science, Hindi, Economics, History, Music, Fine Arts, Punjabi, Hindi, Home Science, Psychology, Physical Education, Fashion Designing and Computer.

The following program outcomes reflect the broad educational goals of BA degree.

# PO1: Knowledge and Understanding

Students will understand the fundamental concepts, theories, and principles in their chosen fields. They will use this knowledge to tackle complex problems in their respective disciplines. They will be able to make well-informed decisions after evaluating and synthesizing information from various sources.

#### **PO2: Effective Communication**

Students will be able to express themselves clearly in both writing and speaking. They will use the right methods and tools to share their views and ideas clearly. Additionally, they will also collaborate and work together with their peers effectively.

### PO3: Critical Thinking and Problem Solving

Students will enhance their critical thinking skills, enabling them to analyses complex problems, assess evidence and make well-founded decisions. They will apply critical thinking to address real-world challenges within their discipline. They will demonstrate creativity and innovation in problem- solving.

### PO4: Ethical and Social Responsibility

Students will learn about ethical and social responsibilities by applying these to their academic work. They will become awareness of social, cultural, and environmental issues and will actively engage in sustainable practices in their communities, bringing positive social change.

#### **PO5: Career Enhancement**

Students will Enhance skills and acquire knowledge required for higher studies and a progressive career in future.

### PO6 Enhancement of research capabilities

Research skills are essential for academic and professional success. The BA program equips students with the necessary tools to conduct thorough research, critically evaluate sources, and present findings effectively.

### **PO7: Development of interdisciplinary knowledge:**

Students are encouraged to explore different disciplines, fostering a well-rounded education that draws from various fields of study.

### **PO8: Life-long Learning:**

Cultivates the proficiency to engage in independent, life-long and progressive learning abilities in the broadest context of changing socio-politico-economic-cultural and technological scenario.

### **PO9: Depth of understanding:**

Demonstrate detailed knowledge and perspectives across disciplinary boundaries. Develop a detailed understanding of the current state of knowledge in one or more disciplines. Recognize the value, use and limits of multi-disciplinary learning. Cultivate an openness to consider and engage alternative research perspectives.

#### P10: Cognitive and Problem-Solving Skills:

The cognitive skills acquired therefore, will help the students to develop outlook regarding contemporary society, local, national and international. Students should be able to analyses complex issues and problems, evaluate evidence, and make informed decisions.

### P11: Cooperation:

Ability to work effectively and respectfully with diverse teams; facilitate cooperative or coordinated effort on the part of a group, and act together as a group or a team in the interests of a common cause and work efficiently as a member of a team.

### **P12: Multicultural Competence:**

Possess knowledge of the values and beliefs of multiple cultures and a global perspective; and capability to effectively engage in a multicultural society and interact respectfully with diverse groups.

#### **Program Specific Outcome**

### **PSO1: In-depth understanding of the subject matter:**

The students will have comprehensive knowledge and expertise in their chosen field of study, allowing them to become subject matter experts.

### **PSO2**: Advanced research and analytical skills:

The students will be equipped with advanced research methodologies and analytical tools, enabling them to critically analyze information, conduct independent research, and contribute to the existing body of knowledge in their field.

### **PSO3:** Effective communication and presentation abilities:

The students will have strong written and oral communication skills that they will effectively convey complex ideas, engage in meaningful discussions, and present their findings in a clear and compelling manner.

### **Course Outcome English**

### Course Name- Gen English (Prose & Grammar) Credit-4, L-6

- CO1. This course helps in improvement in the skills of listening, speaking, reading and writing and develops creative writing skills.
- CO2. It also enables them to speak about the writers and learn correct grammatical form, appropriate vocabulary and correct word order.
- CO3: It enables students to speak about the poets and explain the style of the poem.
- CO4: Write letters in the correct format and language.

#### **Course Name- Gen English (Poetry & making Connections)**

- CO1. The students learn correct appropriate vocabulary and correct word order.
- CO2. It develops creative Writing skills.
- CO3. It also enables them to speak about the writers.
- CO4. Students also familiar with the background of the academic writings.

### **Course Name Gen English (Poetry & Drama)**

CO1: Critically understand and analyses poetry across a wide range of literary age and context.

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- CO2. It enables students to speak about the poets and explain the style of the poem.
- CO3. It helps the students to understand the genre of drama.
- CO4. It helps them to understand the different types of play and drama.

### **Course Name Gen English (Novel and One Act Plays)**

- CO1. They will be able to participate in role plays and mini-talks.
- CO2. Acquire a broad perspective of the novel as a literary genre and the relevant historical, geographical, and cultural identical backgrounds.
- CO3. Appreciate the working of various literary devices like irony in fiction.

### **Course name Elective English (Poetry & Drama)**

- CO1. It improves English Pronunciation among students.
- CO2. It also enables them to speak about the writers, explain the background of the Drama.
- CO3. Provide students with an overview of how modernity was introduced in the twentieth century through drama.
- CO4. Examine Ibsen's A Doll's House as it focuses on issues related to women in patriarchal institutions such as marriage

### **Course name - Elective English (Poetry & New Directions)**

- CO1. Help students explore poetry.
- CO2. Show a new interweaving of the sacred and the secular subjects of poetry17th C.
- CO3. Enables them to recognize new words and texts.
- CO4. Learn about the new trends in English writing.

### **Course Name Elective English (Modern prose and New Directions)**

- CO1. Students will be able to express them in personal tone, collecting main idea and writing briefly.
- CO2. It also improves the skills of organizing the subject matter in relevant order while listening, speaking and writing.

- CO3. Students will develop the ability to interpret and critically evaluate the meaning, subtext, and cultural context of the texts they read.
- CO4. They will engage in discussions and written reflections to express their interpretations.

### Course Name- Elective English (Background of English Literature, Drama & Fiction)

- CO1. It enables to speak about the writers, explain the background of the story and to know the role of the characters.
- CO2. Students will reflect on their personal growth as readers and thinkers throughout the course.
- CO3. They will consider how their understanding of literature has evolved and how it connects to their own experiences.

# **Course name- English Honors (Prose)**

- CO1. Understand the range, significance, and scope of English Literature.
- CO2. Students should be able to apply critical and theoretical approaches to the reading and analysis of literary and cultural texts in multiple genres.
- CO3. To enable them to write and appreciate different types of prose.

### **Course Name English Honors (Poetry)**

- CO1. To introduce the students to the basic elements of poetry- to enrich the students through various perspectives readings in poetry.
- CO2. Develop an understanding of English poetry from the 19th and 20th centuries.
- CO3. critically understand and analyses poetry across a wide range of literary age and context.

#### **Course Name- English Honors (Drama)**

- CO1. Close reading of specific texts from Elizabethan drama and anti-sentimental comedy.
- CO2. It also enables them to speak about the writers, explain the background of the Drama.
- CO3. Understand antiquated vocabulary and structures.

# Punjabi

# ਲਾਜ਼ਮ**ੀ ਪ**ੰਜ**ਾਬ**ੀ ਪਹ**ਿਲਾ ਸਮ**ੈਸਟਰ ਪਗ਼ਰ**ਾਮ ਆਉਟਕਮ**

CO.1'ਦ**ੋ ਰ**ੰਗ' ਪੁਸਤਕ ₹ਿੱਚ ਕਹ**ਾਣ**ੀਆਂ ਪੁਸ਼ਨ ਦ**ਾ ਮ**ੌਕਾ

CO.2 ਸ**ੰਸ**ਾਰ ਦ**ੀਆ**ਂ ਪ⊮ਿੰਧ ਹਸਤੀਆਂ ਦ**ੇ ₹ਿੱਚ ₹ਿੱਖ-₹ਿੱਖ ਲ**ੇਖਕਾਾਂ ਦ**ੇ ਜੀ₹ਨ ਨੂੰ** ਜਾਨਣ ਦ**ਾ ਮ**ੌਕਾ

CO.3 ਭਾਸਾ ₹ੰ ਨਗੀਆਂ ਨਾਲ ਸੰ ਬੰ ਵਧਤ ਜਾਣਕਾਰੀ ਪਰਾਪਤ ਕਰਨਾ

CO.4ਪੰ ਜਾਬੀ ਭਾਸਾ ਦਾ ਵਨਕਾਸ ਤੇ ਵ₹ਕਾਸਦੇ ਬਾਰੇ ਜਾਣ

ਕਰਾੳੂੁਣਾ CO.5 ਪੈਰਾਂ ਰਚਨਾ ਸੰਬੰਧੀ ਜਾਣਕਾਰੀ ਹਾਵਸਲ ਕਰਨਾ

# ਲਾਜ਼ਮ**ੀ ਪ**ੰਜ**ਾਬ**ੀ ਸਮ**ੈਸਟਰ ਦ**ੂਜ**ਾ ਬ**ੀ.ਸ**ੀ.ਏ /ਬ**ੀ.ਐਸ.ਸੀ ਐਫ.ਡ**ੀ.ਆਊਟਕਮ ਪਰੋਗਰ**ਾਮ

CO.1 ਵਸਰ**ੋਮਣ**ੀ ਪ**ੰਜਾਬੀ ਕਹ**ਾਣ**ੀ ਭ**ਾਗ ₹ਿੱਚ ₹ਿੱਖ-₹ਿੱਖ ਵ₹ਵਸਆ**ਂ ਨਾਲ ਸ**ੰਬ≎ਵਧਤ ਕਹ**ਾਣ**ੀ ਪ੍ਰਹਨ ਦ**ਾ ਮ**ੌਕਾ

CO.2 ਸਮੇਣ**ੀ ਪ**ੰਜਾਬੀ ਕਾਵ₹ ₹**ਿੱ**ਚ ਗੁਰ ਆ**ਂ ਪ**ੀਰ**ਾ**ਂ ਨਾਲ ਸਬ**ੰ** ₹ਧਤ ਜਾਣਕ**ਾਰ**ੀ ਪ⊮ਪਤ ਕਰਨਾ

CO.3 ਸਬਦ ਰਚਨਾ ਦੇ ਬਾਰੇ ਜਾਣਕਾਰੀ ਦੇਣਾ

CO.4 ਸਬਦ ਸਲੇੀਆਂ ਤੋਂ ਜਾਣ ਕਰ₹ਾਉਣਾ

# ਬ**ੀ.ਏ ਤ**ੀਜ**ਾ ਸਮ**ੈਸਟਰ ਲ**ਾਜ਼ਮ**ੀ ਪ<sup>°</sup>ਜ**ਾਬ**ੀ ਆਊਟਕਮ ਪਗ਼ਰ**ਾ**ਮ

CO.1 ਸਵਭਆਚਾਰ ਅਤੇ ਪੰਜਾਬੀ ਸਵਭਆਚਾਰ ਨਾਲ ਜੁੜ੍ਨ ਦਾ ਮੌਕਾ

CO.2 ਆਧੁਵਨਕ ਇਕਾਾਂਗੀ ₹ਿੱਚ ₹ਿੱਖ ₹ਿੱਖ ਵ₹ਵਸਆਂ ਨਾਲ ਸੁੰਬੁੰਵਧਤ ਜਾਣਕਾਰੀ ਪ੍ਰਯੁਤ ਕਰਨ ਦਾ ਮੁੰਕਾ

СО.3 ਸੰਖੇਪ ਰਚਨਾ ਅਤੇ ਅਸਿੱੁਧ ਸਬਦ ਜੋੜ੍ਾਂ ਨੂੰ ਸਿੱੁਧ ਕਰਕੇ ਵਲਖਣ ਦਾ ਅਵਭਆਸ

СО.4 ਮਲ ਵ₹ਆਕਰਵਨਕ ਇਕਾਈਆਂ ਦੀ ਪਵਰਭਾਸਾ ਅਤੇ ₹ਰਗਰੀਕਰਨ ਪੜ੍ਹਨ ਦਾ ਅ₹ਸਰ ਪਰਪਤ ਕਰਨਾ

# ਲਾਜ਼ਮ**ੀ ਪ**ੰਜ**ਾਬ**ੀ ਸਮ**ੈਸਟਰ ਚ**ੌਥਾ ਪਗ਼ੋਰ**ਾਮ ਆਉਟਕਮ**

CO1."ਮੇਰੀ ਜੀ₹ਨ ਗਾਥਾ" ਸ₹ੈ ਜੀ₹ਨੀ ਬਾਰੇ ਜਾਣਕਾਰੀ ਵਮਲੇਗੀ।

"CO2.ਫਾਸਲ**ੇ "ਨਾਟਕ ਦ**ੇ ₹ਸ**ੇ ਅਤੇ ਕਲ**ਾਤਮਕ ਪੰਿੱਖ ਬ**ਾਰ**ੇ

ਵਗਆਨ ਹ**ੋ**₹ੇਗਾ CO3.ਲ**ੇ** ਖ ਰਚਨ**ਾ ਫ਼ਕ₹ੇ**ਂ ਕ**ੀਤੀ ਜਾਂਦ**ੀ ਹ*ੈ.* 

Pt. Mohan Lai S.D. College for Women, Gurdaspur ह**ਸ**ਿੱਖਾਇਆ ਜਾ₹ੇਗਾ।

СО4ਅਸਿੰਂੁਧ ਸਬਦਾਾਂ ਨੰ ਸਿੰਂੁਧ ਕਰਨਾ ਦਿੰੱ≀ਸਆ ਜਾ₹ੇਗਾ

CO5.ਗੁਰਮੁਖੀ ਵਲਪੀ ਬਾਰੇ ਜਾਣਕਾਰੀ ਵਮਲੇਗੀ।

# ਬ**ੀ.ਏ ਭ**ਾਗ ਪ**ੰਜਵ**ਾਂ ਸਮ**ੈਸਟਰ ਲ**ਾਜ਼ਮ**ੀ ਪ**ੰਜ**ਾਬ**ੀ ਆਊਟਕਮ ਪਗ਼ਰਾਮ

CO.1 ਚੋਣ₹ੀਆਂ ਪੰਜਾਬੀ ਕਹਾਣੀਆਂ ਦੇ ਵ₹ਸਾ ₹ਸਤ / ਸਾਰ /ਅਤੇ ਕਹਾਣੀ ਕਲਾ ਨੂੰ ਜਾਣਣ ਦਾ ਮੌਕਾ

CO.2 ੲਹੁ ਹੁਮਾਰਾ ਜੀ₹ਣਾ ਨਾਾ₹ਲ ₹₹ਿੱਚ ਵ₹ਸਾਾ ₹ਸਤ ਅਤੇ ਪਾਤਰ ਵਚਤਰਨ ਕਰਨ ਦਾ ਮਰੌਕਾ

CO.3 ਪ<sup>ੈ</sup>ਰਾ ਰਚਨਾ ਅਤੇ ਸਰਲ ਅੰਗਰ**ੇਜੀ ਪ**ੈਰ**ੇ ਦ**ਾ ਪੰਜਾਬੀ ₹ਿੱਚ ਅਨੁ₹ਾਦ ਕਰਨਾ ₹**ਸ**ਿੱ ਖਣਾ

CO.4 ਪੰਜਾਬੀ ਧੁਨੀ ਵ₹ਉਂਤ ₹ਕਾਤਮਕ ਜੁਗਤਾਂ, ਕਾਰਕ ਤੇ ਕਾਰਕੀ ਸਬੰਧ ਜਾਨਣ ਦਾ ਅਫਸਰ ਪ⊮ਪਤ ਹ`ਣਾ

# ਲਾਜ਼ਮ**ੀ ਪ**ੰਜ**ਾਬ**ੀ ਸਮ**ੈਸਟਰ ਛੇਵ**ਾਂ ਪੰਗਰ**ਾਮ ਆਉਟਕਮ**

CO1."ਮਿੰੱ ਧਕਾਲ**ੀ ਸ**ਾਵਹਤ "ਪੁਸਤਕ ₹ਿੱਚ ਮਿੰੱ ਧਕਾਲ**ੀ ਕ**₹ੀਆ ਬਾਰੇ ਜਾਣਕਾਰੀ ਵਮਲੇਗੀ। CO2."ਧਰਤੀਆਂ ਦੇ ਗੀਤ" ਸਫਰਨਾਮੇ ₹ਿੱਚ ਉੱਥੋ**ਂ** ਦੇ ਲ**ੋਕਾਂ ਬਾਰੇ ਵਗਆਨ ਪ⊮ਪਤ ਹ**ੋ₹ੇਗਾ। CO3. ਸਾਵਹਤ ਦੇ ਰਪਾਂ ਦੀ ਜਾਣਕਾਰੀ ਵਮਲੇਗੀ।

CO4. ਵ₹ਆਕਰਣ ਦੀਆਂ ਇਕਾਈਆਂ ਬ**ਾਰ**ੇ ₹ੇਰ₹ੇ ਸ਼ਹਤ ਜਾਣਕ**ਾਰ**ੀ ਵਮਲ**ੇ** ਗੀ।

# **Basic Punjabi**

# ਮਢ**ੱਲੀ ਪ**ੰਜ**ਾਬ**ੀ ਸਮ**ੈਸਟਰ ਪਹ**ਿਲਾ ਬ**ੀ.ਏ /ਬ**ੀ.ਐਸ.ਸੀ /ਬੀ. ਕ**ਾਮ ਪਗ਼ਰ**ਾਮ ਆਉਟਕਮ

CO.1 ਪ $^{\circ}$ ਜਾਬੀ ਭ $^{\circ}$ ਸ $^{\circ}$  ਵਲਖਣ $^{\circ}$ ਤ $^{\circ}$  ਪੜ੍ਨ $^{\circ}$  हर्ਸ $^{\circ}$ ੱਖ $^{\circ}$ 

CO.3ਗੁਰਮੁਖੀ ਵਲਪੀ ਅਤੇ ਮਾਤਰਾ₹ਾਂ ਨਾਲ ਸਬੰਵਧਤ ਵਲਖਣਾ ਦਿੱਸਣਾ

CO.4 ਗੁਰਮੁਖੀ ਆਰਥੋਗਰਾਫੀ ਦੇ ਰਾਹੀਂ ਸ₹ਰ ਤੇ ਵ₹ਅੰਜਨਾਂ ਤੋਂ ਜਾਣ ਕਰਾਉਣਾ

CO.5 ਪੰਜਾਬੀ ਸਬਦ ਜੋੜ ਕਰਨੇ ਵਸਖਾਏ

CO.6 ₹ਬੰਦੀ, ₹ਰਿੱਪੀ, ਅਧਿੱਕ ਦੀ ₹ਰਤੋਂ ਨਾਲ ਸਬਦ ਬਣਾਉਣੇ ₹ਸਿੱਖੇ, ਸਿੱੁਧ ਸਬਦ ਜੋੜ੍ ਵਲਖ₹ਾਏ

ਮ**ੱ**ੁਢਲੀ ਪ**ੰਜ**ਾਬ**ੀ ਸਮ**ੈਸਟਰ ਦੂਜ**ਾ ਬੀ.ਸ**ੀ.ਏ /ਬ**ੀ.ਐਸ.ਸ**ੀ.ਐਫ.ਡ**ੀ ਆਊਟਕਮ ਪਗ਼ਰ**ਾਮ

CO.1 ਪੰਜਾਬੀ ਸਬਦ ਬਣਤਰ ₹ਿੱਚ ਨ₹ੇਂ ਸਬਦਾਾਂ ਦਾ ਵਨਰਮਾਣ ਕਰਨਾ ਦਿੰਸਣਾ CO.2 ਸੰਯੁਕਤ ਸਬਦ, ਦੋਜਾਤੀ ਸਬਦ, ₹ਮਸਰਤ ਸਬਦਾਾਂ ਤੋਂ ਜਾਣ ਕਰਾਣਾ CO.3 ਇਕ ₹ਚਨ ਬਹੁ ₹ਚਨ ₹ਲੰਗ ₹ਚਨ, ਸਮਾਨਾਰਥਕ ਸਬਦ ਬਣਾਉਣੇ ₹ਸਿੰਖੇ CO.4 ਰੋਜਾਨਾ ₹ਰਤੀ ਜਾਣ ₹ਾਲੀ ਪੰਜਾਬੀ ਸਬਦਾ₹ਲੀ ₹ਸਿੰਖੇ

CO.1 ਅੰਗਰ**ੇਜੀ ਤ**ੋਂ ਪੰਜਾਬੀ ₹ਿੱਚ ਅਨੁ₹ਾਦ ਕਰਨ ਦੀ ਕਲ**ਾ ₹ਸ**ਿੱਖਣਾ, ਪ**ੈਰ**ਾ ਰਚਨਾ ਵਲਖਣਾ

CO.2 ₹ਿੱਖ-₹ਿੱਖ ਵ₹ਵਸਆਂ ਨਾਲ ਸੰਬੰਵਧਤ ਕਵ₹ਤਾ₹ਾਂ ਪੜ੍ਹਨ ਦਾ ਮੌਕਾ CO.3 ਲ**ੇਖਕ**ਾਾਂ ਦ**ੀਆ**ਂ ਕਹ**ਾਣ**ੀਆਂ ਪੜ੍ਹ ਦਾ ਅਫਸਰ ਪ⊮ਪਤ ਕਰਨਾ

CO.4 ₹ਿੱਖ ₹ਿੱਖ ਵ₹ਵਸਆਂ ਤੇ ਵਨਬੰਧ ਪੜ੍ਹਨ ਦਾ ਮੌਕਾ ਪਰਘਤ ਹੋਣਾ ਵਜ₹ੇਂ ਵਕ ਆਓ ਗਿਿੱਲਾਂ ਕਰ**ੀਏ, ਮਨ**ਿੱ ੁਖ ਕ**ੁਦਰਤ ਦੀ ਨ**ੇਔਲਾਦ।

# ਮ**ੁੱੁਢਲੀ ਪ**ੰਜ**ਾਬ**ੀ ਚ**ੌਥਾ ਸਮ**ੈਸਟਰ ਆਊਟਕਮ ਪਗ਼ਰ**ਾਮ**

CO.1 ਲ**ੇ ਖਕ**ਾਂ ਦ**ੀਆ**ਂ ਕਵ₹ਤਾ₹ਾਂ ਦ**ੀ ਪਸ**ੰਗ ਸਵਹਤ ਵ₹ਆਵਖਆ ਕਰਨੀ ह**ਸ**ਿੱਖਣੀ CO.2 ਵ₹ਸਾ ₹ਸਤ ਅਤੇ ਸਾਰ ਵਲਖਣ ਦਾ ਮੌਕਾ

CO.3 ਕ₹ੀਆਂ ਦੇ ਜੀ₹ਨ ਬਾਰੇ ਅਤੇ ਰਚਨਾ ਬਾਰੇ ਜਾਣਕਾਰੀ ਪ⊮ਪਤ ਕਰਨਾ CO.4 ਲੇਖ ਰਚਨਾ ਅਤੇ ਅਸਿੰੱੁਧ ਸਬਦਾਂ ਨੂੰ ਸਿੰੱੁਧ ਕਰਕੇ ਵਲਖਣ ਬਾਰੇ ਲਿਿੱਖਣਾ **ਮਢੱਲੀ ਪੰ** ਜਾ**ਬੀ ਭਾਗ ਪੰਜਵਾਂ ਆਉਟਕਮ ਪੰਗਰਾਮ** 

CO.1 ਲੋਕ ਕਾਵ₹ ਪੜ੍ਹ ਕੇ ਪੰਜਾਬੀ ਸਿੱਵਭਆਚਾਰ ਦਾ ਵਗਆਨ ਹੋ₹ੇਗਾ

CO.2 ਘੋੜ੍ੀਆਂ, ਸੁਹਾਗ, ਟਿੱਪੇ ਪੜ੍ਹਨ ਉਪਰੰਤ ਵ₹ਸਾਲ ਸਵਭਆਚਾਰ ਨਾਲ ਅਪਣਤ ਪੈਦਾ ਹੋ₹ੇਗੀ

CO.3 ਪੰਜਾਬੀ ਦੀਆਂ ਲ**ੋਕ ਖ**ੇਡਾਂ ਪਲੀ ਬ**ਿੱਵਚਆਂ ਦ**ੀ ਰ**ੁਚੀ ਤੋਂ ਜਾਣ ਹ**ੋਣਾ

CO.4 ਲ**ੋਕ ਖ**ਾਵਣਆ**ਂ ਬ**ਾਰ**ੇ ਵ₹ਸਥ**ਾਰ ਪ ਰ₹ਕ ਜਾਗਰ ਕ ਹ**ੋਣ**ਾ

# ਮ**ੁੱਢਲੀ ਪ**ੰਜ**ਾਬ**ੀ ਸਮ**ੈਸਟਰ ਛੇਵ**ਾਂ

CO1.ਪੂੰ ਜਾਬ ਦੂੰ ਮੂੰਵਲੂਆਂ ਬਹਾਰੂੰ ਜਾਣਕਹਾਰੂੀ

ਵਮਲ**ੇ** ਗੀ। CO2.ਪੰਜਾਬ ਦੇ ਵਤੳਹਾਰਾਂ ਨਾਲ ਜਾਣ ਪਛਾਣ

ਹੋ₹ੇਗੀ CO3ਪੰਜਾਬ ਦੇ ਲੋਕ ਕਾਵ₹ ਰਪ ਬਾਰੇ ਜਾਣਕਾਰੀ

ਵਮਲੇਗੀ।

CO4.ਪੰਜਾਬ ਦ**ੇ ਪ**ਹਰਹਾ₹ੇ ਅਤੇ ਖਾਵਣਆ**ਂ ਦ**ਾ ਗਿਆਨ ਪਰਪਤ ਕ**ੀਤਾ ਜਾ**₹ੇਗਾ।

# **Elective Punjabi**

# ਬ**ੀ.ਏ ਭ**ਾਗ ਪਹ**ਿਲਾ ਸਮ**ੈਸਟਰ ਚੋਣਵ**ੀ**ਂ ਪ**ੰਜ**ਾਬ**ੀ ਆਊਟਕਮ ਪਰੋਗਰ**ਾਮ

CO.1 ਕਾਵ₹ ਰੰਗ ਕਿਤਾਬ ਦੇ ₹ਿੱਚ ₹ਿੱਖ-₹ਿੱਖ ਵ₹ਵਸਆਂ ਨਾਲ ਸੰਬੰਵਧਤ ਕਵ₹ਤਾ₹ਾਂ ਪ੍ਲ੍ਹ ਦਾ ਅ₹ਸਰ ਪ⊮ਪਤ

CO.2 ਵਪੰਜਰ ਨਾ₹ਲ ਪੜ੍ਨ ਨਾਲ 1947 ਦੇ ₹ਾਪਰੇ ਦੁਖਾਾਂਤ ਨਾਲ ਸਬੰਵਧਤ ਵਗਆਨ ਹੋਣਾ

CO.3 ਭਾਰਤੀ ਕਾਵ₹ ਸਾਸਤਰ ₹ਿੱਚ ਧੁਨੀ ਸੰਪਰਦਾਇ, ਰਸ , ਅਲੰ ਕਾਰ ਦੇ ਬਾਰੇ ਜਾਣਕਾਰੀ ਪ⊮ਪਤ ਕਰਨਾ

CO.4 ਅਰਥ ਵ₹ਵਗਆਨ ਨ**ਾਲ ਸਬ**ੰਵਧਤ ਸਫ**ੋਟ ਅਤ**ੇ ਅਪ**ੋਹ ਵਸਧ**ਾ**ਂਤਾਂ ਨ**ੰ ਪੜ੍ਯ ਦਾ ਮ**ੌਕ**ਾ ਪਯਪਤ ਹ**ੋ**ਣਾ

# ਬ**ੀ.ਏ ਭ**ਾਗ ਦੂਜ**ਾ ਸਮ**ੈਸਟਰ ਚੋਣਵ**ੀ**ਂ ਪ**ੰਜ**ਾਬ**ੀ ਆਉਟਕਮ ਪਰੋਗਰ**ਾਮ

CO.1 ਪੰਜਾਬੀ ਸਾਵਹਤ ਦੇ ਇਵਤਹਾਸ ਨੂੰ ਜਾਨਣ ਦਾ ਮ**ੌਕਾ** 

CO.2 ਸ**ੰ**ਸਾਰ ਦ**ੀਆ**ਂ ਪ**ਸ਼**ਿੱਧ ਕਹ**ਾਣ**ੀਆਂ ਪੜ੍ ਦ**ਾ ਅਫਸਰ ਪ**ਾਪਤ

CO.3 ਦਫਤਰ**ੀ ਅਤੇ ਘਰ**ੇਲ ₹ਚਿੰੱਠੀ ਪਿੰੱਤਰ ਵਲਖਣ ਦਾ ਮ**ੌਕ**ਾ ਅਵਭਆਸ, ਵ₹ਸਰ**ਾਮ ₹ਚ**ੰਨ ਲਗਾਉਣ**ੇ** 

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CO.4 ਕੋਸਕਾਰੀ ਅਤੇ ਪੰਜਾਬੀ ਕੋਸਕਾਰੀ ਨੂੰ ਜਾਨਣ ਤੇ ਸਮਝਣ ਦਾ ਮੌਕਾ

ਬ**ੀ.ਏ ਭ**ਾਗ ਤ**ੀਜ**ਾ ਸਮ**ੈਸਟਰ ਚ**ੋਣਵ**ੀ**ਂ ਪੰਜ**ਾਬ**ੀ ਆਊਟਕਮ ਖਰੋਗਰ**ਾਮ** 

Co1."ਸਜੇਲਣੀ ਪੰਜਾਬੀ ਕਾਵ₹ "ਪੁਸਤਕ ਤੋਂ ਮਿੱਧਕਾਲੀ ਸਾਵਰਤ ਤੋਂ ਜਾਣ ਕਰ₹ਾਇਆ ਜਾ₹ੇਗਾ Co2."ਪੰਜਾਬੀ ਕਹਾਣੀ ਦੀ ਸਾਰਕਾਰ"ਪੁਸਤਕ ₹ਿੱਚ ਕਹਾਣੀਆਂ ਪੜ੍ਹਨ ਦੀ ਚੇਟਕ ਉਤਪੰਨ ਹੋ₹ੇਗੀ Co3.ਸਾਵਰਤ ਆਲੋਚਨਾ ਨਾਲ ਸਬੰਧਤ ਮਲ ਸੰਕਲਪਾਂ ਬਾਰੇ ਜਾਣਕਾਰੀ ਵਮਲੇਗੀ

CO4.ਸਾਵਰਤ ਦੇ ਰਪਾਾਂ ਦ**ੀਆ**ਂ ਪਵਰਭਾਸਾਾ₹ਾਂ, ਪੁਕਰਤੀ ਅਤ**ੇ ਤ**ਿੱਤਾਂ ਬਾਰ**ੇ ਜਾਣਕ**ਾਰ**ੀ** ਵਮਲ**ੇ** ਗੀ **ਬੀ.ਏ** ਭਾਗ ਚੌਥਾ ਸਮੈਸਟਰ **ਚੋਣਵੀਂ ਪੰਜਾਬੀ ਆਊਟਕਮ ਪਰੋਗਰਾਮ** 

CO1.ਪੰ ਜਾਬੀ ਸਾਵਹਤ ਦਾ ਇਵਤਹਾਸ ਬਾਰੇ ਵ₹ਸਥਾਰ ਪ ਰ₹ਕ ਜਾਣਕਾਰੀ ₹ਮਲੇਗੀ। CO2.ਪੰ ਜਾਬੀ ਸਵਭਆਚਾਰ ਅਤੇ ਸਵਭਆਚਾਰ ਬਾਰੇ ਗਿਆਨ ਹਾਸਲ ਕੀਤਾ ਜਾ₹ੇਗਾ CO3.ਵ₹ਸਰਾਮ ₹ਚੰ ਨਹ ਾਂ ਵਕ₹ੇਂ ਲਗਾਏ ਜਾਂਦੇ ਹਨ, ₹ਸਿੰੱ₹ਖਆਇਆ ਜਾ₹ੇਗਾ।

CO4.ਪੰਜਾਬੀ ਭ**ਾਸ**ਾ ਅਤੇ ਗ**਼ਰਮ**ੁਖ**ੀ ਵਲਪੀ ਬਾਰ**ੇ ਜਾਣਕ**ਾਰ**ੀ ह€ਿੱਤੀ ਜਾ₹ੇਗੀ।

ਬ**ੀ.ਏ ਭ**ਾਗ ਪ**ੰਜਵ**ਾਂ ਚ**ੋਣਵ**ੀਂ ਪੰਜ**ਾਬ**ੀ ਆਉਟਕਮ ਪਗ਼ਰਾਮ

CO.1 ਪੰਜਾਬੀ ਕਾਵ₹ ਸੰਗ਼ਗ਼ ਪੜ੍ਹਨ ਤ**ੇ ਔਖ**ੇ ਅਰਥਾਂ ਦੇ ਸਰਲ ਅਰਥ ਕਰਨ ਦਾ ਗ਼ਿਆਨ ਹ**ੋਣ**ਾ

CO.2 'ਆਧੁਵਨਕ ਪੰਜਾਬੀ ₹ਾਰਤਕ 'ਪੁਸਤਕ ਨਾਲ ਵਨਬੰਧ ਦਾ ਵ₹ਸਾ ਤੇ ਰੁਪਕ ਪਿੱਖੋਂ ਜਾਣਕਾਰੀ ਫਮਲੇਗੀ।

CO.3 ਪੰਜਾਬੀ ਨਾਟਕ 'ਚੰਦਨ ਦੇ ਓਹਲੇ' ਪੜ੍ਨ ਉਪਰੰਤ ਸਮਾਜ ਦੇ ਲੋਕਾਂ ਦੀ ਫਫਤਰਤ ਤੋਂ ਜਾਣ ਹੋਣਗੇ। CO.4 ਕਾਵ₹ ਸੰਗਰਵਹ ਰਾਹੀ ਕਵ₹ਤਾ ਪੜ੍ਹਨ ਦੀ ਚੇਟਕ ਲਿੱ ਗੇਗੀ।

ਬ**ੀ.ਏ ਭ**ਾਗ ਛੇਵਾਂ ਚੋਣਵ**ੀ**ਂ ਪ**ੰ**ਜ**ਾਬ**ੀ ਆਊਟਕਮ ਪਗ਼ਰਾਮ

Pt. Mohan Lai S.D. College for Women, Gurdaspur CO1.ਚੰ ਦਨ ਦੇ ਓਹਲੇ "ਨਾਟਕ ਪੜ੍ਹਨ ਦਾ ਮੌਕਾ। CO2.ਆਧੁਵਨਕ ਪੰਜਾਬੀ ਸਾਵਹਤ ਦੇ ਬਾਰੇ ਜਾਣਕਾਰੀ ਵਮਲੇਗੀ । CO3.ਵ₹ਹਾਰਕ ਆਲ`ਚਨਾ ਫ਼ਕ₹ੇਂ ਕਰਨੀ ਹੈ?ਫ਼ਸਿਿੱ ਖਣ ਦਾ ਮੌਕਾ

# CO4 ਸਾਵਰਤ ਦੇ ਅਲਿੱ ਗ -ਅਲਿੱ ਗ ਰ ਪਾਂ ਬਾਰੇ ਜਾਨਣ ਦਾ ਮੌਕਾ

## History

### **Course Name (History of India up to c.1000)**

- CO1. Student learns about source of ancient Indian history.
- CO2. Understands Harrappan civilization.
- CO3. Understands the Vedic period society polity and religions.
- CO4. They will be able to analyses the Rise of Buddhism and Jainism, maurya empire.
- CO5. Students learns about the establishment of Gupta Empire.

### Course Name (History of India) From C1000 - A.D.1707

- CO1. Students learns about the invasion of Mehmood Ghazani and battles of Muhammad ghauri .
- CO2. Student acquire knowledge of establishment of the sulcate of Delhi.
- CO3. Student acquire the Knowledge of khalji's and taimur Invasions.
- CO4. Students acquire knowledge of the vijaynagar kingdom.
- CO5. Students understand the features of Mughal administration and Maratha administration.

#### Course Name (History of India 1707 AD-1947)

- CO1. Students acquire knowledge about foundation of British rule
- CO2. Students acquire knowledge of agriculture, rise of modern industry, socio religious movements.
- CO3. Students acquire knowledge about swadeshi movement and Jallianwala Bagh.
- CO4. Students acquire about non -cooperation, the phase of civil disobedience and quit India movement.
- CO5. Students acquire knowledge about the causes of partition of the India.

#### Course Name (History of the Punjab 1469AD to 1799)

- CO1. Students learn about the sources of Punjab history.
- CO2. Students acquire knowledge about the socio religious condition of the Punjab 1500A.D.
- CO3.Students understand the Manji system and masand system.

- CO4. Students understand the causes of the martyrdom of guru Arjan dev and Guru tegh Bahadur.
- CO5. Students acquire knowledge about the repression and conciliation by the Mughal governors.

### Course Name (History of the world 1500 to 1956 A.D)

- CO1. Students learn about the causes of Renaissance and reformation.
- CO2. Student acquires knowledge of imperialism and industrial revolution.
- CO3. Students acquires knowledge of causes, results and effects of First World War.
- CO4. Students acquire knowledge of causes of Russian revolution.
- CO5. Students acquire knowledge of internal and foreign policy of Hitler.

### Course Name (History of the Punjab 1799-1966)

- CO1. Students acquire knowledge about the establishment and expansion of Ranjit Singh's Kingdom.
- CO2. Students understand the military administration of maharaja Ranjit Singh.
- CO3. Students clear doubts about the first Anglo Sikh war and second Anglo Sikh war.
- CO4. Students acquire knowledge about the causes of the gurudwara reform movement and major morchas.
- CO5. Students understand about the communal politics of Punjab and the condition of Punjab after the independence.

#### **Political Science**

#### **Course Name Principles of Political Science**

- CO:1 Understanding the Meaning, Nature and Scope of Political Science.
- CO:2 Ability to analyze the Relationship of Political Science with Economics, History, Sociology and Psychology.
- CO:3 Students will be able to comprehend and compare various Political Theories.

## **Course Name Modern Political Theory**

- CO:1 It enable the students to apply theoretical frameworks to contemporary Political systems, Political Culture and Political Socialization.
- CO:2 Understanding of key concepts such as Power, Authority and Legitimacy.
- CO:3 The course should cultivate students' ability to critically analyze Political Theories.

#### **Course Name Indian Constitution**

CO:1 Understand and Significance of the Indian Constitution's drafting and adoption.

CO:2 Identify and evaluate the fundamental rights and duties enshrined in the Indian

Constitution.

CO3: Evaluate the role of Constitutional bodies such as the Election Commission, Governor, state Legislature.

### **Course Name Indian Political System**

CO:1 Understand the nature, ideologies and performance of political parties in India.

CO:2 Students will be able to understand Determinants of voting Behavior and Electoral Reforms and Emerging trends in India.

CO:3 Evaluate the basic principles and determinants of Indian Foreign Policy, non-alignment and globalization.

### **Course Name Comparative Political Systems**

CO:1 Comparing the political systems of the UK and the USA.

CO:2 Analyzing the structures of Government and, including the roles and powers of key institution such as the executive, legislative and judicial branches.

CO:3 Comparing the mechanisms of checks and balances and separation of powers in both political systems.

#### **Course Name International Politics**

CO:1 Students should gain a solid grasp of major approaches and concepts in international politics.

CO:2 Students should acquire knowledge about major issues in international politics such as Global Environment, International Terrorism, and Emerging world order.

CO:3 understanding the different organizations: UNO, SAARC, EU and NIEO. Students are involved to understand and engage with the complex and dynamic world of international relations.

# Sociology

#### **Course Name fundamentals of Sociology**

CO1: Understanding the basic concepts and theories of sociology.

CO2: Analyzing social structures and institutions.

CO3: Examining the dynamics of social interaction and relationships.

CO4: Identifying patterns of social inequality, including race, class, gender, and sexuality.

### **Course Name Society in India**

CO1: The course aims to provide an outline of institutions and Society in India.

CO2: Appreciating the complexity and richness of Indian society.

CO3: Understanding the diverse cultural, religious, and linguistic landscape of India.

CO4: Developing empathy and cultural sensitivity towards different communities and groups within Indian society.

### **Course Name Social change in India**

CO1: This course aims to provide Knowledge of changes in Indian society. It also gives knowledge of factors, processes and challenges of social change.

CO2: Acquiring skills to contribute positively to social change and development initiatives in India.

### **Course Name Social thought.**

CO1: The course introduces the students to classic sociological thinkers, whose work has shaped the discipline of sociology.

CO2: Develop the ability to articulate complex sociological concepts and theories effectively through written and oral communication.

CO3: Analyze and critique sociological theories in terms of their historical context, assumptions, strengths, and limitations.

CO4: Evaluate how sociological theories contribute to our understanding of contemporary social issues and dynamics.

#### Course Name Social Research and scientific methods

The course is general introduction to the methodologies of sociological research and provide student elementary knowledge of the complexities of research. It emphasizes on methods of date Collection, qualitative and quantitative research and Coding.

CO1: Developing skills in sociological inquiry, including observation, analysis, and interpretation.

CO2: Critically evaluating research methods and data in sociology.

CO3: Applying sociological perspectives to contemporary social issues and problems.

CO4: Cultivating a sociological imagination to understand individual experiences within broader social context

# **Computer Applications**

Course Name: Introduction to Computers and Information Technology (L-3, T-1, P-0)

CO1: Understanding the concept of input and output devices of Computers

CO2: Learn the functional units and classify types of computers, how they process information and how individual computers interact with other computing systems and devices.

CO3: Understand an operating system and its working, and solve common problems related to operating systems

CO4: Learn basic word processing, Spreadsheet and Presentation Graphics Software skills

CO5: Study to use the Internet safely, legally, and responsibly

**Course Name: Programming in C: (L-3, T-1, P-0)** 

CO1: To develop logics, algorithms and program

CO2: In-depth understanding of various concepts of C language.

CO3: Ability to read, understand and trace the execution of programs.

CO4: Skill to debug a program.

CO5: Skill to write program code in C to solve real world problems.

Course Name: Fundamentals of Computer & Operating Systems (L-3, T-0, P-2)

CO1: Appreciate the role of operating system as System software.

CO2: Understand the fundamental hardware components such as shells, kernel and the role of each of these components

CO3: Understand the functions of OS, application program, and memory management techniques

CO4: Commands of UNIX and its implementation

Course Name: Database Management System through Oracle-10g & System Analysis & Design (L-3, T-0, P-2)

- CO1: Familiarization with various features and applications of Database Management system.
- CO2: Acquire knowledge about database languages (DDL, DML, DCL)
- CO3: Learn how to design a database by using different data models.
- CO4: Understand the database handling during execution of the transactions along with concurrent access.
- CO-5: Ability to perform various types of SQL queries.

## **Course Name: Internet Applications (L-3, T-1, P-0)**

CO1: To develop a comprehensive understanding of the foundational technologies that power the internet, including HTTP, HTML, CSS, JavaScript and web servers.

CO2: To acquire practical skills in web development, including designing, building, and deploying interactive web applications.

CO3: To integrate databases into web applications to store and retrieve data dynamically.

CO4: To gain knowledge of web services and APIs (Application Programming Interfaces) for integrating external services and data into web applications.

### **Course Name: Internet Applications (L-3, T-1, P-0)**

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CO4: To gain knowledge of web services and APIs (Application Programming Interfaces) for integrating external services and data into web applications.

### **Course Name: Data Processing (L-3, T-1, P-0)**

`CO1: Able to differentiate between various types of data, such as numerical, categorical, ordinal, and nominal.

CO2: Knowledge of basic statistical methods for data analysis, including descriptive statistics

CO3: Data processing techniques to real-world problems and interpret results.

# **Computer Science**

### Course Name: Computers Fundamental &PC Software (L-3, T-0, P-0)

CO1: Understanding the concept of input and output devices of Computers

CO2: Learn the functional units and classify types of computers, how they process information and how individual computers interact with other computing systems and devices.

CO3: Understand an operating system and its working, and solve common problems related to operating systems

CO4: Learn basic word processing, Spreadsheet and Presentation Graphics Software skills

CO5: Study to use the Internet safely, legally, and responsibly

### **Course Name: Programming in C: (L-3, T-0, P-0)**

CO1: To develop logics, algorthims and program

CO2: In-depth understanding of various concepts of C language.

CO3: Ability to read, understand and trace the execution of programs.

CO4: Skill to debug a program.

CO5: Skill to write program code in C to solve real world problems.

# Course Name: Computer Oriented Numerical Methods & Statistical Methods (L-3, T-0, P-0)

CO1: Apply numerical methods to solve mathematical problems, including root finding, numerical integration, and solving differential equations.

CO2: Implement algorithms for interpolation and curve fitting to analyse and model data.

CO3: Utilize statistical techniques for data analysis, including descriptive statistics, hypothesis testing, and regression analysis.

CO4: Evaluate the reliability and accuracy of numerical methods and statistical techniques through error analysis.

CO5: Apply numerical optimization techniques to solve real-world engineering and scientific problems.

**Course Name: Data structure & Programming Language using – C ++ (L-3, T-0, P-0)** 

CO1: To gain a comprehensive understanding of fundamental data structures such as arrays, linked lists, stacks, queues, trees, graphs, and hash tables.

CO2: To analyse the time and space complexity of algorithms related to various data structures.

CO3: Understanding of file handling techniques including reading from and writing to files, parsing structured and unstructured data from files

CO5: Proficiency in retrieving specific data from files efficiently using techniques like searching and sorting, including algorithms like binary search, quicksort, and mergesort.

CO6: Understanding of object-oriented programming principles and their application in C++.

CO7: Ability to design, develop, and debug C++ programs.

CO8: Experience with control statements, loops, arrays, strings, pointers and memory management and pointers in C++.

CO9: Awareness of coding standards, and software engineering principles to tackle real-world programming challenges and projects using **C**++.

Course Name: Database Management Systems & Oracle (L-3, T-0, P-0)

CO1: Understand the basic concepts of database management systems (L2)

CO2: Apply SQL to find solutions to a broad range of queries (L3).

CO3: Apply normalization techniques to improve database design (L3)

CO4: Analyze a given database application scenario to use ER model for conceptual design of the database

# **Economic**

**Course Name: Micro- economic** 

CO1. Analyze supply and demand dynamics to predict market equilibrium in microeconomic contexts.

CO2. Evaluate consumer behavior and its impact on pricing strategies in microeconomic environments.

Pt. Mohan Lai S.D. College for Women, Gurdaspur CO3. Demonstrate proficiency in applying microeconomic theories to real-world economic issues and policy analysis.

CO4. Utilize mathematical and graphical tools to model and interpret microeconomic phenomena.

CO5. Critically assess market structures and their implications for resource allocation and efficiency in microeconomic systems.

**Course Name: Macro-Economic** 

CO1. Analyze and interpret macroeconomic data to evaluate economic trends and policies.

CO2. Apply macroeconomic theories to understand and predict changes in national and global economies.

CO3. Evaluate the impact of fiscal and monetary policies on macroeconomic indicators and economic stability.

CO4. Demonstrate an understanding of the relationship between macroeconomic factors such as inflation, unemployment, and economic growth.

CO5. Develop recommendations for policymakers based on a comprehensive analysis of macroeconomic principles and real-world economic scenarios.

**Course Name: Indian Economy** 

CO 1. Analyze key economic policies and their impact on India's GDP growth and employment rates.

CO 2. Evaluate the role of entrepreneurship in driving innovation and economic development in India.

CO 3. Critically assess the impact of globalization on India's economy, including trade agreements and foreign investment.

CO 4. Examine the challenges and opportunities of sustainable development in the context of Indian economic growth.

CO 5. Apply economic theories and models to analyze current economic trends and forecast future scenarios for India's economy.

Course Name: International trade and public finance

CO 1. Understand the principles of international trade and their impact on public finance.

CO 2. Analyze the role of government policies in shaping international trade dynamics and fiscal strategies.

CO 3. Evaluate the effects of globalization on public revenue, expenditure, and budgetary management.

CO 4. Apply economic theories to assess trade agreements and their implications for fiscal policy.

CO 5. Develop strategies for managing international trade challenges while maintaining fiscal stability and public welfare.

### **Course Name: Economics of Development**

CO1. Analyze the role of economic policies in fostering sustainable development.

CO2. Evaluate the impact of globalization on developing economies.

CO3. Apply economic theories to understand poverty alleviation strategies.

CO4. Critically assess the relationship between environment and economic development.

CO5. Demonstrate knowledge of development indicators and their implications for policymaking.

### **Course Name: Quantitative methods for economists**

CO 1. Apply quantitative techniques to analyze economic data and make informed decisions.

CO 2. Interpret and evaluate economic models using statistical tools and methods.

CO 3. Develop proficiency in econometric analysis for forecasting and policy evaluation.

CO 4. Utilize mathematical models to understand and solve economic problems.

CO 5. Communicate complex economic concepts effectively through data visualization and analysis.

### **Fine Arts**

### **Course NAME: Still life**

CO1. Composition: How the objects are arranged within the frame, considering balance, harmony, and focal points.

CO2. Lighting: The use of light and shadow to create depth, form, and atmosphere within the scene.

CO3. Detail: The level of intricacy and accuracy in depicting the textures, surfaces, and forms of the objects.

CO4. Mood: The overall feeling or atmosphere evoked by the arrangement, color, and lighting of the still life.

CO5. Interpretation: The artist's unique perspective or message conveyed through the choice of objects, their arrangement, and the overall presentation.

### **Course name: letter writing**

CO1.Expression of Creativity: Collage making allows individuals to express their creativity by combining different elements such as images, texts, and materials to create a unique composition.

CO2. Storytelling: Collages can be used to tell a story or convey a message through the arrangement of images and texts, creating a narrative or conveying emotions.

CO3.Exploration of Concept: Collage making can serve as a tool for exploring and visualizing abstract concepts or themes, allowing individuals to experiment with different visual representations.

CO4.Personal Reflection: Creating collages can be a reflective process, allowing individuals to explore their thoughts, memories, and emotions through the selection and arrangement of visual elements.

CO5.Collaboration and Communication: Collage making can facilitate collaboration and communication in group settings, enabling participants to share ideas, perspectives, and experiences through the collaborative creation of visual compositions.

### **Course name Collage making**

CO1 Effective Communication: Letter writing allows for clear, structured communication, ensuring that the message is conveyed accurately.

CO2.Documented Record: Letters provide a tangible record of communication, which can be referenced in the future for clarification or legal purposes.

CO3.Personal Touch: Letters can convey emotion and personality, adding a personal touch that may be lacking in digital communication.

CO4.Formal Communication: Letters are often used for formal communication, such as business correspondence, official notices, or legal matters, lending a sense of importance and credibility to the message.

CO5.Establishing Relationships: Sending letters can help build and maintain relationships, whether personal or professional, by showing thoughtfulness and effort in communication.

**Course name: Portrait making** 

CO1 Accurate Representation: The portrait effectively captures the likeness and features of the subject, providing a realistic portrayal.

CO2.Expressive Interpretation: The artist may infuse their style and interpretation into the portrait, conveying emotions or personality traits beyond mere physical appearance.

CO3Emotional Impact: A well-executed portrait can evoke strong emotions in viewers, whether through empathy, admiration, or reflection.

CO4.Client Satisfaction: If the portrait is commissioned, the satisfaction of the client is a key outcome, reflecting their vision and meeting their expectations.

CO5.Artistic Growth: For the artist, creating a portrait offers an opportunity for skill development and artistic growth, whether through experimenting with techniques or refining their style.

**Course name: Art history** 

Co1.Cultural Understanding: Art history provides insights into various cultures, societies, and historical periods through the study of artistic expression, styles, and techniques.

CO2. Critical Thinking Skills: Analyzing artworks fosters critical thinking by encouraging students to interpret, evaluate.

CO3. Visual Literacy: Art history cultivates visual literacy, helping individuals to understand and communicate through visual means, which is valuable in fields such as media, design, and advertising.

CO4.Historical Context: Studying art history reveals the socio-political, economic, and cultural contexts in which artworks were created, shedding light on historical events, ideologies, and values.

CO5.Creativity and Inspiration: Exposure to a diverse range of artistic styles and movements can inspire creativity and innovation in various fields, from visual arts to literature, music, and beyond.

Course name:2D&3D design

CO1 Expressive Versatility: Both 2D and 3D design offer artists the ability to express themselves in diverse ways. While 2D design focuses on creating images on a flat surface, such as paintings

or drawings, 3D design allows artists to sculpt and manipulate forms in space, giving rise to sculptures, installations, and mixed media works.

CO2. Spatial Understanding: Engaging with both 2D and 3D design enhances an artist's spatial awareness. In 2D design, artists explore composition, perspective, and color theory to create visually engaging artworks. In contrast, 3D design involves understanding volume, mass, and spatial relationships to create sculptures or installations that interact with the viewer in physical media.

CO3 Technical Skills Development Practicing both 2D and 3D design requires honing specific technical skills. In 2D design, artists develop proficiency in drawing, painting, and graphic design software. In 3D design, they learn techniques such as modeling, carving, casting, and assemblage, often using materials like clay, wood, metal, or digital software.

CO4. Narrative Possibilities: Both 2D and 3D design offer rich narrative potential. Artists can use imagery, symbolism, and composition to convey stories, emotions, or concepts in 2D artworks. In 3D works, artists can create immersive environments or interactive installations that invite viewers to explore narratives from multiple angles, often incorporating elements of performance or participation.

CO5. Professional Opportunities: Mastery of both 2D and 3D design opens up various career paths in the fine arts and beyond. Artists proficient in 2D design may pursue careers as illustrators, graphic designers, or animators, while those skilled in 3D design may find opportunities in sculpture, product design, architecture, virtual reality, or animation industries. Additionally, many artists combine both disciplines, leveraging their versatility to create innovative and multidimensional works of art.

### **Course name: western art history**

CO1.Improved Observation Skills: Practicing full life drawing trains the artist to observe and capture details of the human form accurately, leading to enhanced observational skills.

CO2.Understanding Anatomy: By studying and drawing live models, artists develop a deeper understanding of human anatomy, including proportions, muscle structure, and movement

CO3.Enhanced Rendering Skills: Drawing from life allows artists to work on rendering various textures, shading, and lighting effects realistically, leading to improved technical skills.

CO4.Expressive Gestures and Poses: Capturing live models enables artists to convey the energy, emotion, and personality of the subject through dynamic poses and gestures.

**Course name: landscape painting** 

CO1.Personal Expression: Landscape painting can serve as a means of expressing one's emotions, thoughts, and perceptions of nature. The outcome may reflect the artist's unique perspective and interpretation of the landscape they're portraying.

CO2. Connection with Nature: Engaging in landscape painting allows artists to immerse themselves in nature, fostering a deeper connection with the environment. The outcome of such painting can capture the beauty, serenity, or power of natural landscapes, serving as a reminder of the artist's connection to the natural world.

CO3.Skill Development: Landscape painting requires mastering various techniques, such as composition, color theory, and perspective. The outcome of practicing landscape painting can showcase the artist's growth and development in these skills over time.

CO4.Cultural Preservation: Landscape paintings often depict scenes of historical or cultural significance. The outcome of painting such landscapes can contribute to the preservation of cultural heritage by immortalizing important landmarks, traditions, or events.

### **Course name: full life study**

CO1.Evolution of Styles: Western art history showcases the evolution of artistic styles over time, from ancient civilizations like the Greeks and Romans, through the Renaissance, Baroque, Rococo, Neoclassicism, Romanticism, Realism, Impressionism, Cubism, Surrealism, and beyond. Each period contributed unique techniques, themes, and aesthetics to the artistic canon.

CO2.Cultural Expression: Art has been a vital form of cultural expression in the West, reflecting societal values, beliefs, and ideologies. From religious themes dominating medieval art to the celebration of humanism in the Renaissance, and the critique of industrialization in modern art, Western art has served as a mirror to the culture of its time.

CO3.Innovation and Experimentation: Western art history is marked by periods of innovation and experimentation, where artists challenged traditional norms and pushed the boundaries of creativity. This includes the revolutionary techniques of artists like Leonardo da Vinci, the abstract experimentation of Wassily Kandinsky, and the avant-garde movements of the 20th century.

CO4.Artistic Movements and Schools: Throughout history, artists have gathered into movements or schools, sharing common goals, philosophies, and styles. These movements, such as Impressionism, Cubism, Surrealism, and Abstract Expressionism, often emerged as responses to societal changes, technological advancements, or shifts in cultural paradigms.

# **Psychology**

### Course Name: basic psychological process

CO1: To make Students understand the nature and method of Psychology.

CO2: To make Students understand the concept of motivation and emotions.

CO3: Students can analyze the theories of learning and types of statistics.

### **Course Name: psychological process**

CO1: To familiarize Students with the concept of psychophysics, intelligence and personality.

CO2: To introduce students with the theories of intelligence, techniques of assessment.

CO3: To make students understand the meaning, merits, demerits, characteristics of variability.

### Course name: biological bases of behavior

CO1: To make students understand the concept of neurons and nervous system.

CO2: To make students understand the of synapse and its outcomes.

CO3: To make students understand the structure and function of senses.

### Course name: experimental psychology

CO1: To make students understand the concept of memory, forgetting, sensation, perception, attention.

CO2: To familiarize Students with the nature of thinking, problem solving and concept formation.

CO3: To familiarize Students with the concept of correlation and its types.

#### Course name: practical examination of psychology

CO1: To familiarize students with span of attention.

CO2: To give practical knowledge of role of set-in perception.

CO3: To familiarize students with the concept of recall and recognition method.

Course name: abnormal and clinical psychology

CO1: To familiarize students with the concept of abnormalities and DSM 5 classification.

CO2: To give knowledge about causes of abnormal behavior.

CO3: To familiarize students with the concept of stress and its management techniques.

CO4: To give knowledge about cognitive behavior therapy.

CO5: To familiarize students with the concept of anxiety and personality disorder.

#### Hindi

#### Course name: Adhunik Kavita, Vyakaran Tatha Anuvad

CO1: This course aims to develop knowledge about modern kavis and their Kavya, poetry and vyakarana. The translation from Hindi to English and English to Hindi is also taught.

#### Course name: Gadh Sahitya Vyakaran Tatha Patarkarita

CO1: This course aims to provide knowledge of gadh Sahitya include history of gudh Sahitya: Kahani, Nibandh and Ekaki. Students develop analytical approach through this literature.

#### Course name: Madhyayugin Kavya, Itihass, Vyakaran Evam Kavyang

CO1: This course help you understand the mediaeval period of Hindi itihaas i.e "Madhyeyugian Kavya" in context of socio-cultural and political condition of the contemporary period, develop approach of hindi linguistics and vyakarana.

CO2: This paper also provide knowledge about the ancient Hindi poets and their field work.

#### Course name: Upnyas, Natak, Sidhantik, Vyakaran, Bhaktika

CO1: Under this course students get knowledge about history of upanyas and Natak Reading upnyas and Natak students gets information about the social, political and economic structure, customs rituals and social evils of the contemporary period. They also get the information about second Yug of Hindi sahitya i.e Bhaktikal.

#### Course name: Vashish Kavi Evam Kaya Sidhant, Kamkaji Hindi Tatha Ritikal

CO1: It provides understanding of the history of development of Hindi Kavya and the features of Ritika in context of socio-cultural and political conditions of that period.

#### Course name: Langhu Vidhyan, Adhunik Kal Nibandh Likhan That Parbhashik Shbdavali

CO1: In this paper students learn features of Adhunik Kal in context of socio-cultural and political condition of the period. With paribhashik shbdavali the students get the information of the some specific hindi words used in official work.

#### Home Science

Course name: Family Resource Management and hygiene (L-3,T-0,P-2)

CO1: Students will demonstrate an understanding of food safety principles.

CO2: Students will be able to analyze nutritional needs for different Populations.

CO3: Students will promote healthy eating habits by creating balanced meal plans that incorporate a variety of nutrient-dense foods.

CO4: Students will be able to interpret food labels accurately, identify key nutritional information.

CO5: Students will apply their knowledge by designing and implementing hygiene protocols in food preparation settings.

Course name: Clothing and textile (L-3, T-0,P-2)

CO1: Students should be able to identify different types of fabrics, understand their properties.

CO2: Students should develop practical skills in garment construction, including pattern making, cutting, sewing, and finishing techniques.

CO3: Students should understand fundamental principles of fashion design, including color theory, silhouette, texture.

CO4: Students should be aware of advancements in textile technology, sustainable practices in textile production, and innovative techniques in fabric design.

CO5: Students should be able to analyze current fashion trends, consumer preferences, and market demands

Course name: Food nutrients and child development (L-3, T-0, P-2)

CO1: Students should demonstrate an understanding of the specific nutritional needs of children from infancy through adolescence.

CO2: Students should be able to assess the nutritional status of children using various methods such as dietary assessments, growth charts and biochemical markers.

CO3: Students should comprehend how nutrition influences physical growth, brain development, cognitive function, and immune system health in children.

CO4: Students should develop strategies to promote healthy eating habits and positive food choices among children and their families.

CO5: Students should learn preventive measures and interventions to address common nutritional disorders in children such as malnutrition, obesity, and micronutrient deficiencies.

#### Music

#### **Course name: Theory Fundamental of Indian Music**

CO1: Student has learnt and understood the definition of the radical musical phrases and is able to effectively communicate the same.

CO2: Gained qualitative knowledge on the study of important melodic terminology, which was successfully displayed.

CO3: The students attained erudition of musical instrument such as the Tanpura and Sitar and skillfully illustrated their various section.

Course name: Fundamental of Indian Music Theory: Bio-graphics of Musicians, Composers, gharanas, Punjabi folk & contribution of folk Music in Gurmat Sangeet.

CO1: The student has learnt and understood the definition of the radical musical phrases and is able to effectively communicate the same.

CO2Gained qualitative knowledge on the study of important melodic terminology, which was successfully displayed.

CO43The Students attained erudition of musical instrument such as the Tanpura and Sitar and skillfully illustrated their various sections.

Course Outcomes Course: Theory (Fundamental of Indian Music). Theory: Musicology & Study of Ragas & Talas.

CO1: Students have acquired knowledge and understood the musical reference found in the epic Mahabharata.

CO2: Gained proficiency in the comparative study of the two major notation system, which has provided them with virtual understanding of two methods.

CO3: Achieved discernment on the classification of instruments – such as (a) String instruments, (b) Drum instruments, (c) Wind instruments, and (d) Percussion instruments.

CO4: Imbibed erudition of importance of Raga Lakshanas and are able to apply the same to the definition of Ragas.

CO5: They have understood the assets and flaws of the performing musicians which they employ to their advantage during performances.

#### **Physical Education**

#### Course name physical education semester 1 and 2 (L: 3 T:0 P:0)

CO1 Physical education helps students develop strength, endurance, flexibility, and cardiovascular fitness through various activities and exercises.

CO2 The Olympics promote international cooperation, understanding, and friendship among nations. Athletes, spectators, and officials from diverse backgrounds come together to participate in a spirit of fair play and mutual respect

CO3The human body could include understanding its anatomical structure, physiological functions, biochemical processes, and their interrelationships within the context of health and disease.

CO4 Doping in sports could include understanding the ethical, legal, and health implications of doping, recognizing prohibited substances and methods, and implementing strategies for prevention and detection within the sports industry.

CO5 Communicable disease in one point could be: Understanding the epidemiology, transmission routes, prevention strategies, and public health implications of communicable diseases.

#### Course name physical education semester 3 and 4

CO1. Learning can be summarized as the knowledge, skills, and competencies that a learner is expected to gain by the end of a course or program.

CO2. Factors affecting sports performance in psychology can be described as understanding how psychological factors such as motivation, anxiety, focus, confidence, and goal-setting impact an athlete's performance in sports.

CO3. Yoga can be summarized as developing a holistic understanding of yoga philosophy, asanas (postures), pranayama (breath control), meditation, and relaxation techniques to enhance physical, mental, and spiritual well-being.

CO4 Different human body systems is to gain a comprehensive understanding of their structure, function, interconnections, and how they contribute to overall health and well-being.

CO5 Effective treatment and rehabilitation lead to reduced pain, improved function, and a quicker return to sports activities.

### Course name physical education 5 and 6

CO1. Muscular contraction is to understand the physiological mechanisms involved in muscle contraction, including the role of actin, myosin, calcium ions, and ATP in the sliding filament theory, as well as how different types of muscle contractions contribute to movement and force generation in the human body.

CO2. Sports training is to equip individuals with the knowledge, skills, and techniques necessary to design and implement effective training programs that optimize athletic performance, prevent injuries, and enhance overall physical fitness and sports-specific skills.

CO3. Different types of tournaments is to understand the structures, formats, rules, and strategies associated with various tournament styles, including single-elimination, double-elimination, round-robin, and knockout tournaments, and how these formats impact competition and outcomes in different sports and games.

CO4. Kinesiology is to develop a deep understanding of human movement, biomechanics, anatomical structures, physiological principles, and motor control, with applications in sports performance, rehabilitation, ergonomics, and physical education.

CO5. Therapeutic exercise is to equip learners with the knowledge and skills to design and implement exercise programs that promote rehabilitation, improve functional abilities, prevent injuries, and enhance overall health and well-being for individuals with various musculoskeletal, neurological, cardiopulmonary, or metabolic conditions.

#### **FDGC**

**Course Name: - fashion designing and garment construction theory** 

**CO1** .Understanding of garment construction techniques and principles.

**CO2.** Proficiency in pattern making and drafting.

**CO3.** Ability to interpret and follow fashion sketches and technical drawings.

**CO4.** Knowledge of different types of fabrics, their properties, and suitability for specific designs.

**CO5.** Competence in using sewing machines and other equipment for garment construction.

**Course Name :- Scale drawing and garment construction practical** 

**CO1.** Proficiency in creating accurate scale drawings of fashion designs, including technical flats and fashion illustrations.

CO2. Skill in using measurement tools and techniques to take accurate body measurements for

garment construction.

CO3. Competence in translating design concepts into actual garments through pattern making and

cutting.

**CO4.** Understanding of fabric manipulation techniques such as draping and pleating.

CO5. Ability to construct garments using various sewing techniques, including seams, hems, and

closures.

Course Name Pattern making and garment construction

**CO1.** Mastery of pattern drafting techniques to create basic and advanced garment patterns.

CO2. Understanding of garment construction principles and techniques, including seam

allowances, darts, and grain lines.

**CO3.** Proficiency in interpreting and manipulating commercial patterns for custom designs.

**CO4.** Ability to draft and adjust patterns to fit different body shapes and sizes.

**CO5.** Skill in transferring patterns onto fabric and cutting accurately.

Course Name: -The history of costumes of India and the world

**CO1.** Understanding of the historical context and cultural significance of traditional costumes in

India and around the world.

**CO2.** Knowledge of the evolution of fashion and costume trends throughout different historical

periods.

**CO3.** Familiarity with various traditional garments, accessories, and adornments from different

regions and cultures.

**CO4.** Appreciation for the diversity and richness of costume traditions across different societies.

CO5. Ability to analyze and interpret visual representations, such as paintings, sculptures, and

photographs, to understand costume history.

Course Name: An advanced designing and construction

- **CO1.** Mastery of advanced design concepts and techniques for creating innovative and original garment designs.
- **CO2.** Proficiency in incorporating wrapping and draping methods into garment construction to achieve unique silhouettes and shapes.
- **CO 3.** Skill in experimenting with different fabric manipulation techniques, such as pleating, folding, and **twisting**, to create dynamic textures and structures.
- **CO4.** Ability to conceptualize and execute complex garment designs that showcase creativity and technical skill.
- **CO5.** Understanding of garment construction principles and techniques, including pattern making, cutting, and sewing, tailored to advanced

# PROGRAM OUTCOMES Master of Arts (Punjabi) ਐਮ.ਏ ਪ**ੰਜ**ਾਬੀ ਪੰਗਰ**ਾਮ ਆ**ੳਟਕਮ

# ਐਮ.ਏ ਪੰਜਾਬੀ ਦੇ( ਪਰੋਗਰਾਮ ਆਊਟਕਮ)

PO1.ਐਮ. ਏ ਪ<sup>°</sup>ਜ**ਾਬੀ ਕਰਨ ਤ**ੋ**ਂ ਬਾਅਦ ਐਮ.ਫ਼ਲ, ਯ**.ਜ**ੀ.ਸ**ੀ ਕਰ

ਸਕਦ**ੇ ਹ**ੈ। PO2.ਪ**ੰਜ**ਾਬੀ ਦੇ ਵਕਸੇ ਅਖ**਼ਬਾਰ ਦੇ ਸ**ੰਪ**ਾ**ਦਕ, ਨਿਊਜ

ਵਰਪ**ੋਰਟ ਬਣ ਸਕਦ**ੇ ਹ**ੋ।PO3.ਵ₹ਦੇਸ ₹**ਿੱਚ ਪੜ੍ਹਾਉਣ ਦਾ ਮੌਕ**ਾ**।

PO4.ਰ**ੇਡੀਓ ਜ**ਾ ਟੀ₹ੀ ਚਨਲ**ਾ**ਂ ₹ਿੱਚ ਬੈਕ ਸ**ਾਈਡ ਜ**ਾ**ਂ ਫਰ**ੰਟ ਤੇ ਕ**ੰ**ਮ ਕਰਨ ਦਾ ਮੌਕ**ਾ**।

P05. ਪ<sup>°</sup> ਜ**ਾਬ ਸਕ ਲ हम**ਿੱ ਵਖਆ ਦਫਤਰਾਂ ह₹ਿੱ ਚ ਨੂੰ ਕਰ**ੀਆ**ਂ।

PO6.ਅਨੁ₹ਾਵਦਕ ਦੀ ਨੂੰ ਕਰ**ੀ**।

PO7.ਸਰੋਮਣ**ੀ ਗ**ੁਰਦ**ੁਆਰ**ਾ ਪਬ**ੰ** ਧਕ**ੀ ਕਮੇਟੀ, ਅੰ** ਜ਼ਿਤਸਰ ਦੇ ਅਧ**ੀਨ ਸਕ ਲ ਤੇ ਕ**ਾਲਜਾ**ਂ ₹ਿੱਚ ਅਵਧਆਪਕ ਤੇ** ਕਲਰਕ ਦੀ ਨੂੰ ਕਰ**ੀ**।

PO8.ਗ\_ੁਰਦੁਆਵਰਆਂ ₹ਵਿੰੱਚ ਕਥਾਾ₹ਾਚਕ ਤੇ ਕਲਰਕ ਦੀ ਨੂੰ ਕਰ**ੀ**।

PO9 ਪੰਜਾਬੀ ਭਾਸਾ ਦੇ ਚੰਗੇ ਟਾਈਪ ਰਾਈਟਰ ਬਣ ਸਕਦੇ ਹੋ।

PO10.ਐਮ. ਏ ਤ`ਂ ਬਾਅਦ ਉੱਚ ₹₹ਵਦਆ ਪਰਘਤ ਕਰਕ` ਸਕ ਲਾਂ, ਕਾਲਜਾਂ ਤੇ ਯੂਨੀ₹ਰਵਸਟੀਆਂ ₹₹ਿੱਚ ਅਵਧਆਪਕ ਲਿੱਗਣ ਦਾ ਮੌਕਾ।

PO11.ਪਰ ਫ ਰ**ੀਡਰ ਬਣ ਸਕਦ**ੇ ਹ**ੈ**।

PO12.ਐਮ. ਏ ਕਰਨ ਤੇ ਆਪਣ**ੇ ਅਮ**ੀਰ **ਸ**ਿੱ ख़ਆਚ**ਾ**ਰ, ਭ**ਾਸਾ** ਦੇ

₹ਰਸੇ ਤੋਂ ਜਾਣ ਹਣ

ਦਾ ਮੌਕਾ ਵਮਲੇਗਾ।

PO14.ਅਜ**ੋਕੇ ਸਮ**ੇਂ ₹ਵਿੱਚ ਮ**ੋਬਾਇਲ ਤੇ ਕ**ੰਵਪਊਟਰ ₹ਿੱਚ ਪ**ੰਜ**ਾਬੀ ਭ**ਾਸ**ਾ ਨਾਲ ਸਬ**ੰ**ਵਧਤ ਨੌਂ ਕਰ**ੀ**ਆ PO15.ਟ**ੀ. ₹ੀ ਤੇ ਰਡ**ੀਓ ₹ਿੱਚ ਅਨਾਉ**ਂਸਰ ਬਣ ਸਕਦੇ ਹ**ੋ।

# ਐਮ.ਏ ਪ**ੰਜ**ਾਬ**ੀ ਦੇ (ਪੰਗਰ**ਾਮ ਸਪ**ੇਸ**ੀਫ਼ਕ ਆਊਟਕਮ)

PSO1.ਭਾਸਾ ₹ਭਾਗ ਪੰਜਾਬ ₹ਿੱਚ ਪੰਜਾਬੀ ਦੀਆਂ ਬ**ੇਸ**ੁਮਾਰ ਨੂੰ ਕਰੀਆਂ।

PSO2.ਪੂੰ ਜ**ਾਬੀ ਭ**ਾਸਾ ਦੇ ਫ਼₹ਦ₹ਾਨ ਬਣ ਸਕਦੇ ਹ**ੋ** ।

PSO3.ਅਜ**ੋਕ**ੇ ਸਮੇ**ਂ ₹ਿੱਚ ਮ**ੋਬ**ਾਇਲ ਤ**ੇ ਕੰ₹ਪਊਟਰ ₹ਿੱਚ ਪੰਜ**ਾਬ**ੀ ਭ**ਾਸ**ਾ ਨਾਲ ਸਬੰ₹ਧਤ ਨੌਂ ਕਰ**ੀ**ਆਂ ।

PSO4.ਸੋਸਲ ਮੀਡਰੀਆ ₹ਵਿੰੱ ਪੰਜਾਬੀ ਭਾਸਾ ਦਾ ਉਚਾਰਨ ਕਰ ਗਏ ਧਾਂਕ ਜਮਾ ਸਕਦੇ ਹੋ । ਚ ਸਥੁ ਗ**ੁਰਮਹਤ ਕ**ਾਹਵ-1

- CO.1 ਧਾਰਵਮਕ ਸਾਵਹਤ ਪੜ੍ਹਨਾ ਆਸਾਨ
- CO.2 ਗੁਰਬਾਣੀ ਦਾ ਸਿੱੁਧ ਉਚਾਰਨ
- CO.3 ਧਾਰਵਮਕ ਸਾਵਹਤ ਨਾਲ ਜੁੜ੍ਨਾ ਆਸਾਨ
- CO.4 ਪਰਮਾਤਮਾ ਦੇ ਅਗੰਮ ਸਰ ਪ ਬਾਰੇ ਵਗਆਨ

# ਪੰਜਾਬੀ ਸੂਫ਼ੀ ਕਾਹਵ-2

- CO.1 ਸ ਫੀ ਕਾਵ₹ ਕੀ ਹੈ? ਜਾਨਣ ਦਾ ਮੌਕਾ
- CO.2 ਸ ਫ**ੀ ਸ**ਾਵਹਤ ₹**ਿ**ੱ ਚੋ**ਂ** ਮ**ਾਸਲਮ**ਾਨ ਧਰਮ ਬਾਰ**ੇ** ਜਾਨਣ ਦ**ਾ ਮ**ੌਕਾ
- CO.3 ਸਫ**ੀ ਦ**ੇ ਸ**ੰ** ਕਲਪ ਤ**ੋ**ਂ ਜ**ਾ**ਣ ਹ**ੋਣ**ਾ
- CO.4 ਪੰਜਾਬੀ ਸ ਫੀਕਾਰਾਂ ਬਾਰੇ ਜਾਨਣ ਦਾ ਮੌਕਾ

# ਸਾਹਿਤ ਹਸਧਾਂਤ ਅਤੇ ਕਾਰਵ ਸਾਸਤਰ-3

- CO.1 ਸਾਵਹਤ ਦ*ੇ ਵਸਧ*ਾ**ਂਤਾਂ ਤ**ੋਂ ਜਾਣ ਹ**ੋਣ**ਾ
- CO.2 ਵਕਸੇ ₹ੀ ਸਾਵਰਤ ਰੂ ਪੂ ਦੀ ਆਲੋਜ਼ਨਾ ਵਕ₹ੇਂ ਕਰਨੀ? ਜਾਨਣ ਦਾ ਮੌਕਾ
- CO.3 ਭਾਰਤੀ ਕਾਵ₹ ਸਾਸਤਰ ਦੇ ਸੰਕਲਪਾਂ ਬਾਰੇ ਵਗਆਨ
- CO.4 ਕਾਵ₹ ਸਾਸਤਰਾਂ ਦੀ ਪੁਰਾਤਨਾ ਦਾ ਵਗਆਨ

Pt. Mohan Lai S.D. College for Women, Gurdaspur

# ਲੋਕਧਾਰਾ ਤੇ ਪੰਜਾਬੀ ਲੋਕਧਾਰਾ-4

- CO.1 ਲੋਕਧਾਰਾ ਕੀ ਹੈ? ਜਾਨਣ ਦਾ ਮੌਕਾ
- CO.2 ਆਪਣੇ ਸਿੱਵਭਆਚਾਰ ਬਾਰੇ ਵ₹ਸਾਲ ਵਗਆਨ ਦਾ ਮੌਕਾ
- CO.3 ਕਲਚਰ ਨਾਲ ਜੁੜ੍ਨ ਦਾ ਮੌਕਾ
- CO.4 ਲੋਕਧਾਰਾ ਦੇ ਵਨਕਾਸ ਦੇ ਵ₹ਕਾਸ ਬਾਰੇ ਵਗਆਨ।

# ਤੁਲਨਾਤਮਕ ਭਾਰਤੀ ਸਾਹ**ਿਤ: ਹਸਧਾ**ਂਤ ਦੇ ਹਵ**ਿ**ਾਰ-5

- CO.1 ਤੁਲਨਾਤਮਕ ਵਸਧਾਂਤ ਬਾਰੇ ਜਾਣਨ ਦਾ ਮੌਕਾ
- CO.2 ਦ**ੋ ਸ**ਾਵਹਤ ਰ ੫ਾ**ਂ ਦ**ਾ ਤ**ੁਲਨਾਤਮਕ ਅਵਧਐਨ ਵਕ₹ੇ**ਂ ਕਰਨਾ, ह**ਸ**ਿੱਖਣ ਦ**ਾ ਮ**ੌਕਾ।
- CO.3 ਰਾਸਟਰ**ੀ ਤ**ੇ ਅੰਤਰਰਾਸਟਰ**ੀ ਸ**ਾਵਹਤ ਰ੫ਾਂ ਦਾ ਤੁਲਨਾਤਮਕ ਅਵਧਐਨ ਬਾਰ**ੇ ਜਾਣਨ ਦ**ਾ ਮ**ੌਕਾ।**CO.4ਪਐਟੀਕਲ

₹ਰਕ ਕਰਨ ਦਾ ਮੌਕਾ

# ਆਧ੍ਹਾਨਕ ਪ**ੰਜ**ਾਬ**ੀ ਕਹਵਤ**ਾ-6

- CO.1 ਆਧੁਵਨਕ ਪੰਜਾਬੀ ਕਾਵ₹ ਪੜ੍ਹਨ ਦਾ ਮੌਕਾ
- CO.2 ਆਧੁਵਨਕ ਅਤੇ ਮਿੱਧਕਾਲੀ ਕਾਵ₹ ਦਾ ਅੰਤਰ- ₹ਿੱਖਰੇ₹ਾਂ ਜਾਨਣ ਦਾ ਮੌਕਾ
- CO.3 ਕਵ₹ਤਾ ਦੇ ਖ*ੇਤਰ* ₹ਿੱਚ ਸਬਦ ਭ**ੰ**ਡਾਰ ₹ਿੱਚ ₹ਾਧ**ਾ**
- CO.4 ਕ₹ੀ ਵਕ₹ੇਂ ਸਾਵਹਤ ਰਚਦਾ ਹੈ, ਜਾਨਣ ਦਾ ਮੌਕਾ

# ਪੰਜਾਬੀ ਨਾਵਲ-7

CO.1 ਪੰਜਾਬੀ ਨਾ₹ਲ ਦੇ ਵਨਕਾਸ ਦੇ ਵ₹ਕਾਸ ਬਾਰੇ ਜਾਣਨ ਦਾ ਮੌਕਾ

CO.2 ਆਪਣ**ੀ - ੀ ਅਨ**ੁਸਾਰ ਨ ਦਾ ਮੌਕਾ

ਆਪਣ**ੀ ਰਚ ਨ**ਾ₹ਲਾ**ਂ ਨ**ੰਚਣ

CO.3 ਨਾ₹ਲ ਸਾਵਹਤ ਰ**ਾਹ**ੀ**ਂ** ਆਪਣ**ੇ ਚ**ੋਗ**ੇ**ਰਦੇ ਨੂੰ ਜ**ਾਨਣ ਦਾ ਮੌਕ**ਾ CO.4 ਨਾ₹ਲ ਦੀ ਕਹ**ਾਣ**ੀ ਨੂੰ ਵਕ₹ੇਂ ਬੁਵਣਆ ਜ**ਾ**ਂਦਾ ਹੈ, ह**ਸ**ਿੱਖਣ ਦਾ ਮੌਕਾ

# ਪ**ੰਜ**ਾਬ**ੀ ਭ**ਾਸ**ਾ ਅਤੇ ਭ**ਾਸ**ਾ ਹਵਹਗਆਨ-8**

- CO.1 ਪੰਜਾਬੀ ਭਾਸਾ ਦੇ ₹ਆਕਰਨ ਸਤੰਕਲਪਾਾਂ ਨੰਜਾਣਣ ਦਾ ਮੌਕਾ
- CO.2 ਪੰਿੱਛਮੀ ਭ**ਾਸਾ ਦੇ ₹₹ਆਕਰਣ ਨ**ਿਪ੍ਹਾਨ ਦਾ ਮ**ੌ**ਕਾ

Pt. Mohan Lai S.D. College for Women, Gurdaspur CO.3 ਭਾਸਾ ਦੇ ਅਲਿੰਗ- ਅਲਿੰਗ ਨਯਮਾਂ ਨੂੰ ਜਾਨਣ ਦਾ ਮੌਕਾ CO.4 ਪਿੰਛਮੀ, ਨਹੁੰਦੀ ਤੇ ਪੰਜਾਬੀ ਭਾਸਾ ਦੇ ਅੰਤਰ ਬਾਰੇ ਜਾਨਣ ਦਾ ਮੌਕਾ

# ਪੁਕਾਸ਼ੀ ਪੰਜਾਬੀ ਸਾਚਿਤ 10

CO1.ਪਰ₹ਾਸੀ ਪੰਜਾਬੀ ਸਾਵਹਤ ਪੜ੍ਹਨ ਦਾ ਮੌਕਾ।

CO2.ਪੁਕਾਸੀ ਸਾਵਰਤ ₹ਿੱਚੋ`ਂ ਪੁਕਾਸੀਆਂ ਦੀਆਂ ਵ₹ਡੰਬਨਾ₹ਾਂ ਜਾਨਣ ਦਾ ਮੌਕਾ

CO3.ਭਾਰਤ ₹ਿੱਚ ਰਵਹ ੰਦਆਂ ਵ₹ਦੇਸਾਂ ₹ਿੱਚ ਭਾਰਤੀਆਂ ਦਾ ਭ -ਹਰ₹ਾ ਬਾਰੇ ਜਾਨਣ ਦਾ ਮੌਕਾ

CO4.ਪੁਕਾਸੀਆਂ ਦੂਾ ਆਪਣੇ ਸਵਭੂਆਚਾਰ ਤੂੰ ਸ਼ਿੰਟੀ ਪਤ੍ੀ ਸ਼ੁਖ਼ਿੱਚ ਨੂੰ ਜਾਨਣ ਦਾ ਮੌਕਾ

# Programme: Diploma in food production Program outcomes:

**PO1:** Implementing practices to ensure food safety and prevent contamination during production process.

**PO2:** Maintaining consistent quality standards for food products through proper handling, storage, and processing methods.

**Po3:** Promoting environmentally sustainable practices in food production, such as reducing waste and conserving resources.

**PO4:** Optimizing production processes to increase efficiency and reduce costs while maintaining quality standards.

**PO5:** Ensuring compliance with food safety regulations, industry standards, and certifications.

**PO6:** Developing new food products or improving existing ones to meet consumer demands and market trends.

**PO7:** Supply Chain Management: Managing the supply chain effectively to ensure timely and efficient delivery of raw materials and finished products.

**po8:** Ensuring a safe and healthy work environment for employees while promoting productivity and skill development.

**PO9:** Providing information to consumers about food production practices, ingredients, nutritional content, and labelling.

**PO10:** Implementing strategies to minimize food waste and manage waste streams responsibly, such as recycling or composting.

**PO11** Establishing systems to track and trace food products throughout the production and distribution chain for quality control and recall purposes.

Pt. Mohan Lal S.D. College for Women. Gurdaspur **Ppo12:** Engaging with local communities, stakeholders, and consumers to promote transparency, gather feedback, and support community initiatives related to food production and sustainability.

#### **Program specific outcomes:**

**PSO1:** Students will acquire proficiency in culinary techniques such as food preparation, cooking methods, and presentation. They will learn how to work with various ingredients, create recipes, and produce high-quality dishes that meet industry standards.

**PSO2:** Students will understand the importance of food safety practices and hygiene standards in the food industry. They will learn about proper handling, storage, and sanitation procedures to prevent foodborne illnesses and ensure food quality and freshness.

**PSO3:** Students will develop skills in kitchen organization, inventory management, cost control, and menu planning. They will learn how to effectively manage resources, optimize workflow, and contribute to the efficient operation of a food service establishment.

#### **COURSE OUTCOME**

**COURSE NAME: COOKERY (L-2, T-0, P-2)** 

**CO1:** Students will demonstrate proficiency in fundamental culinary techniques

**CO2:** Menu Planning and Recipe Development. Students will be able to create menus, plan meals,

Co3: Food Safety and Sanitation: Students will understand and implement proper food safety practices

**Co4:** Students will acquire knowledge about various ingredients, their characteristics, seasonality, sourcing, and quality standards.

**CO5:** Students will foster creativity and innovation in culinary arts by experimenting with flavors, textures, and techniques to develop unique dishes.

Course name: LARDER (L-1, T-0, P-3)

**CO1:** Students will be able to showcase their skills in preparing various dishes.

**CO2:** Students will understand and adhere to food safety protocols, ensuring the safe handling and storage

**CO3:** Students will develop the ability to innovate and create new recipes or variations using larder ingredients, promoting culinary creativity and resourcefulness.

**CO4:** Students will master techniques such as knife skills, garnishing, plating.

**CO5:** Students will effectively collaborate with other kitchen staff, demonstrating communication Skills and learn teamwork.

Course name: HYGIENE AND NUTRITION (L-3, T-0, P-0)

**CO1:** Students will demonstrate an understanding of food safety principles.

**CO2:** Students will be able to analyses nutritional needs for different populations.

**CO3:** Students will promote healthy eating habits by creating balanced meal plans that incorporate a variety of nutrient-dense.

**CO4:** Students will be able to interpret food labels accurately, identify key nutritional information.

**CO5:** Students will apply their knowledge by designing and implementing hygiene protocols in food preparation settings.

Course name: COMMODITIES AND COSTING (L-3, T-0, P-0)

Col: Students will gain a comprehensive understanding of different commodities.

**CO2:** Students will be able to analyse cost structures within the food industry, including direct and indirect costs.

**CO3:** Students will develop proficiency in costing techniques

**CO4:** Students will learn how to optimize procurement strategies by evaluating suppliers, negotiating contracts, managing inventory levels.

**CO5:** Students will be able to forecast financial performance by creating budgets, conducting variance analysis, identifying cost-saving opportunities.

# **Program outcomes for cosmetology:**

# **Program Outcomes:**

**PO1**. Technical Proficiency: Students will demonstrate mastery in a variety of cosmetology techniques including hair cutting, styling, coloring, chemical treatments, skincare, makeup application, and nail care.

**PO 2.** Safety and Sanitation Practices: Students will adhere to strict safety and sanitation protocols to ensure the well-being of clients and practitioners in salon settings.

**PO3.** Client Communication and Consultation: Students will develop effective communication skills to consult with clients, understand their preferences, and deliver personalized beauty services.

**PO4**.Product Knowledge and Application: Students will gain a comprehensive understanding of beauty products, tools, and equipment, and how to select and apply them appropriately for different treatments.

**PO5** Creative Expression: Students will demonstrate creativity and artistic expression in designing hairstyles, makeup looks, nail art, and other beauty treatments, while also staying informed about current trends.

**PO6**. Anatomy and Physiology: Students will acquire knowledge of the anatomy and physiology of the skin, hair, and nails, as well as common health conditions that may affect these areas.

**PO7** Ethical and Professional Conduct: Students will adhere to ethical standards, maintain professionalism, respect client confidentiality, and comply with legal and regulatory requirements in the cosmetology industry.

**PO8**. Business Management Skills: Students will learn basic business principles, including salon management, customer service, retail sales, marketing, and financial management.

**PO9** Continuing Education: Students will understand the importance of ongoing learning and professional development to stay updated on industry trends and techniques.

**PO10** Teamwork and Collaboration: Students will work effectively in team settings, collaborating with peers and industry professionals to deliver high-quality beauty services

#### **Program specific outcomes for Cosmetology:**

**PSO1**. Proficiency in Techniques: Graduates will demonstrate mastery in a range of cosmetology techniques including hair cutting, styling, coloring, chemical treatments, skincare, and makeup application.

**PSO2**. Client Interaction and Satisfaction: Graduates will effectively communicate with clients to assess their needs, provide tailored recommendations, and ensure satisfaction with services rendered, fostering client loyalty and positive word-of-mouth referrals.

**PSO3**. Safety and Sanitation Compliance: Graduates will adhere to strict safety and sanitation protocols to maintain a clean, hygienic environment, ensuring the well-being of both clients and practitioners and complying with industry standards and regulations.

**PSO4**. Professionalism and Business Acumen: Graduates will exhibit professionalism in all aspects of their work, including punctuality, appearance, and ethical conduct. They will also demonstrate an understanding of basic business principles relevant to the cosmetology industry, such as customer service, retail sales, and appointment management.

#### **Course Outcomes**

#### Course Name: Fundamental knowledge of Cosmetology

**CO1**. Foundational Understanding of Anatomy and Physiology: Students will demonstrate a basic comprehension of human anatomy and physiology relevant to cosmetology, including the structure and function of the skin, hair, and nails, enabling them to understand how various treatments and products interact with the body.

**CO2**. Knowledge of Cosmetology Tools and Equipment: Students will be familiar with the use and maintenance of common cosmetology tools and equipment such as scissors, razors, brushes, styling implements, and electrical appliances, ensuring safe and effective use in practice.

**CO3.** Understanding of Chemical Processes and Product Chemistry\*\*: Students will gain insight into the chemical processes involved in cosmetology treatments such as hair colouring, perming, and chemical relaxing, as well as the chemistry of cosmetics and skincare products, enabling them to make informed decisions regarding product selection and application techniques.

**CO4.** Introduction to Industry Standards and Regulations: Students will develop an awareness of industry standards, regulations, and licensing requirements governing cosmetology practices, ensuring compliance with legal and ethical guidelines and laying the groundwork for professional integrity and accountability.

#### **Course Name: Hair& Beauty Treatment**

**CO1**. Proficiency in Hair Styling Techniques: Students will demonstrate proficiency in a variety of hair styling techniques including blowouts, curling, straightening, braiding, and updos, enabling them to create a diverse range of looks for clients with different hair typesand preferences.

**CO2.** Skill in Hair Colouring and Chemical Treatments: Students will develop the skills necessary to perform hair colouring techniques such as highlights, lowlights, balayage, and ombre, as well

as chemical treatments including perms and relaxers, ensuring they can meet clients' colour and texture transformation needs safely and effectively.

CO 3. Expertise in Skincare and Makeup Application: Students will acquire expertise in skincare techniques such as cleansing, exfoliation, masking, and moisturizing, as well as makeup application skills including foundation matching, contouring, eyeshadow blending, and lipstick application, enabling them to enhance clients' natural beauty and address specific skin concerns.

CO 4. Client Consultation and Communication Skills: Students will develop the ability to conduct thorough client consultations, including assessing skin and hair condition, understanding client preferences and lifestyle factors, and recommending appropriate treatments and products. They will also enhance their communication skills to effectively convey information, address client concerns, and ensure satisfaction with services rendered.

#### Course Name: Yoga & Hair

- CO 1. Integration of Yoga Principles into Haircare Practices: Students will learn how to incorporate principles of yoga such as mindfulness, breathing techniques, and relaxation exercises into haircare routines to promote overall well-being and enhance the client's experience.
- CO 2. Understanding the Scalp-Hair Connection: Students will gain knowledge about the relationship between scalp health and hair condition, learning how yoga practices can improve scalp circulation, reduce stress-related hair loss, and promote healthy hair growth.
- CO 3. Yoga-Based Scalp Treatments: Students will develop skills in performing yoga- inspired scalp treatments, including massages, acupressure techniques, and aromatherapy, to nourish the scalp, stimulate hair follicles, and alleviate scalp conditions such as dryness, dandruff, and inflammation.
- CO 4. Client Education and Wellness Promotion: Students will learn how to educate clients about the benefits of integrating yoga practices into their haircare routines, empowering them to take a holistic approach to hair health and overall wellness. They will also develop strategies for promoting mindfulness and stress reduction techniques that contribute to healthy hair growth and vitality.

#### **Course Name: Hair styling & Shaping.**

CO 1. Proficiency in Hair Cutting Techniques: Students will develop proficiency in a variety of hair cutting techniques including precision cuts, layering, graduation, and texturizing, enabling them to create tailored hairstyles that suit clients' face shapes, hair types, and personal preferences.

CO 2. Mastery of Hair Styling Skills: Students will master a range of hair styling techniques such as blowouts, curling, straightening, braiding, and updos, allowing them to transform hair into diverse and fashionable looks for various occasions and clientele.

CO 3. Understanding of Face Shapes and Hair Design Principles: Students will gain an understanding of facial anatomy and hair design principles, learning how to analyze clients 'face shapes and features to determine the most flattering haircuts and styles that enhance their natural

beauty.

CO4. Creativity and Innovation in Hair Design: Students will cultivate creativity and innovation in hair design, exploring trends, experimenting with new techniques, and developing their signature

styles to offer clients unique and personalized hair services.

**Course Name: Makeup** 

CO 1. Technical Proficiency in Makeup Application: Students will develop technical proficiency in makeup application techniques, including foundation matching, contouring, highlighting,

eyeshadow blending, eyeliner application, eyebrow shaping, lipstick application, and blush

placement, ensuring the ability to create a variety of looks for different occasions and clientele.

CO 2. Understanding of Facial Anatomy and Skin Type: Students will gain an understanding of facial anatomy and various skin types, learning how to assess clients' skin conditions and concerns

to select appropriate products and techniques that enhance their natural features while addressing

specific skincare needs.

CO 3. Knowledge of Makeup Products and Tools: Students will acquire knowledge about different makeup products, tools, and their uses, including brushes, sponges, palettes, primers, foundations,

concealers, powders, eyeshadows, eyeliners, mascaras, lipsticks, and setting sprays, ensuring

proficiency in product selection, application, and hygiene practices.

CO 4. Creativity and Artistry in Makeup Design: Students will cultivate creativity and

artistry in makeup design, exploring color theory, texture, and trends to develop their

signature styles and offer clients unique and personalized makeup services for various

events and media platforms.

Course Name: Chemical and physical work

CO 1. Understanding of Chemical Processes: Students will develop a comprehensive understanding of chemical processes involved in cosmetology treatments, including haircoloring,

Pt. Mohan Lai S.D. College for Women. Gurdaspur perming, relaxing, and chemical hair treatments, as well as the underlying principles of chemical reactions and their effects on hair structure and texture.

CO 2. Proficiency in Chemical Formulation and Application: Students will acquire proficiency in formulating and applying chemical treatments safely and effectively, including accurate measurement, mixing, timing, and application techniques to achieve desired results while minimizing damage to the hair and scalp.

CO 3. Knowledge of Product Chemistry and Safety Precautions: Students will gain knowledge about the chemistry of cosmetology products, including hair dyes, bleaches, relaxers, and other chemical agents, as well as safety precautions and regulations governing their use to ensure client safety and compliance with industry standards.

CO 4. Understanding of Physical Properties and Styling Techniques: Students will learn about the physical properties of hair, such as elasticity, porosity, texture, and density, and how they influence styling techniques and product selection. They will also develop skills in using heat styling tools, such as flat irons, curling iro

# **Department of Sciences**

# **Programme: Bachelor of Science (Medical/ Non-Medical)**

# **Program Outcomes:**

**PO1:** Students should possess a strong understanding of fundamental medical sciences such as anatomy, physiology, biochemistry, pharmacology, pathology, and microbiology.

**PO2:** Graduates should have a deep understanding of the core concepts, theories, and principles within their chosen scientific discipline.

**PO3:** Graduates should be proficient in designing and conducting scientific experiments, collecting, and analysing data, and drawing valid conclusions from empirical evidence.

**PO4:** Graduates should be proficient in accessing, evaluating, and synthesizing information from various sources, including scientific literature, databases, and digital resources.

**PO5:** Graduates should demonstrate an understanding of ethical principles and practices in scientific research and professional conduct, including issues related to integrity, objectivity, and social responsibility.

**PO6:** Graduates should be able to work effectively as part of interdisciplinary teams, demonstrating leadership, cooperation, and respect for diverse perspectives and expertise.

**PO7:** Graduates should recognize the importance of continuous learning and professional development, staying abreast of advancements in their field and adapting to new technologies and methodologies throughout their careers.

**PO8:** Graduates should be able to apply their scientific knowledge and skills to real-world problems, making meaningful contributions to society, industry, healthcare, environmental sustainability, or other relevant areas.

**PO9:** Graduates should be well-prepared either to pursue further education at the graduate level or to enter the workforce in positions related to their field of study, demonstrating the competence and confidence needed for success in their chosen career paths.

**PO10:** For students intending to enter the workforce directly after completing their Bachelor of Science program, the curriculum should include practical experiences, internships, or clinical rotations to prepare them for entry-level positions in healthcare or biomedical research.

**PO11:** Graduates should have a solid understanding of fundamental biomedical sciences such as microbiology, immunology, pharmacology, pathology, and biochemistry.

**PO12:** Graduates should recognize the importance of lifelong learning and staying abreast of advancements in medical sciences.

#### **Program Specific Outcomes**

PSO1: Identify, classify, and describe the diversity of animal life, including their evolutionary relationships, adaptations, and ecological roles.

PSO 2: The students completing the course is able to understand different branches of Botany such as systematics, evolution, ecology, developmental Biology, physiology, biochemistry, morphology, anatomy, reproduction in plants etc.

PSO 3: Evaluate the impact of human activities on biological systems and propose strategies for conservation, sustainability, and environmental stewardship.

#### **Course Outcomes Of Botany**

#### **Course Name: Diversity of Microbes**

CO1: Students should gain a comprehensive understanding of the vast diversity of microbes, including bacteria, archaea, fungi, protists, and viruses. This includes their classification, evolutionary relationships, and ecological roles.

CO2: Understanding the ecological roles microbes play in various environments, including their roles in nutrient cycling, symbiotic relationships, and microbial communities.

CO3: Exploring the diverse applications of microbes in industry and biotechnology, such as food production, biofuel production, bioremediation, and pharmaceuticals.

CO4: Students should be able to classify microbes into different taxonomic groups based on their morphological, physiological, and molecular characteristics.

CO5: Encouraging students to engage in research and inquiry projects related to microbial diversity, which may involve literature reviews, experimental design, data collection, analysis, and presentation.

#### **Course Name: Diversity of Cryptogams**

CO1: Students should gain a comprehensive understanding of the diversity of cryptogams, including their classification, morphology, anatomy, and life cycles.

CO2: Students should develop the ability to identify different groups of cryptogams based on key morphological features. This may involve practical sessions where students learn how to use keys and microscopy techniques to identify specimens.

CO3: Depending on the course focus, students may learn about the applied aspects of cryptogams, such as their economic importance (e.g., as food sources, in biotechnology, or as indicators of environmental quality) or their roles in human health (e.g., as pathogens or sources of pharmaceutical compounds).

CO4: Students may learn about the conservation status of cryptogams and the principles of conservation biology as they apply to non-flowering plants. This could include discussions on threats to cryptogam diversity and strategies for their conservation and sustainable management.

CO5: Students should understand the evolutionary relationships between different groups of cryptogams and their relationships to other plant groups. This may involve learning about phylogenetic trees and molecular techniques used in cladistic analyses.

#### **Course Name: Cell Biology**

CO1: Students should be able to demonstrate a comprehensive understanding of the structure and function of various cellular components, including organelles, membranes, and cellular macromolecules.

CO2: Students should be able to explain key cellular processes such as cell division, metabolism, signal transduction, and cellular communication.

CO3: Students should be familiar with common experimental techniques used in cell biology, including microscopy, cell culture, molecular biology techniques, and biochemical assays.

CO4: Students should be able to integrate knowledge from cell biology with other disciplines such as genetics, biochemistry, physiology, and developmental biology.

CO5: Students should be able to apply their understanding of cell biology to real-world situations, such as disease mechanisms, drug development, and biotechnological applications.

#### **Course Name: Genetics**

CO1: Understanding of the fundamental principles of genetics, including Mendelian inheritance, molecular genetics, and population genetics.

CO2: Ability to apply genetic principles to solve problems related to inheritance patterns, genetic diseases, and genetic variation.

CO3: Knowledge of the structure and function of DNA, RNA, and proteins, and their roles in gene expression and regulation.

CO4: Awareness of ethical, legal, and social issues surrounding genetics, including genetic testing, genetic engineering, and personalized medicine.

CO5: Preparation for further study or careers in genetics-related fields, such as medicine, biotechnology, agriculture, or genetic counselling.

#### Course Name: Structure, Development and Reproduction in Flowering Plants

CO1: Students will demonstrate a comprehensive understanding of the anatomical structures of flowering plants, including roots, stems, leaves, flowers, and reproductive organs.

CO2: Students will be able to explain the functional significance of various anatomical features in flowering plants, such as adaptations for photosynthesis, water uptake, nutrient transport, and reproduction.

CO3: Students will describe the key developmental processes in flowering plants, including embryogenesis, germination, growth patterns, and differentiation of tissues and organs.

CO4: Students will apply their knowledge of plant structure, development, and reproduction to address practical issues in agriculture, horticulture, conservation, and biotechnology.

CO5: Students will recognize and discuss ethical considerations related to plant research, including genetic modification, conservation of plant diversity, and the implications of plant reproductive strategies for ecosystem health and human well-being.

**Course Name: Diversity of Seed Plants and their Systematics** 

CO1: Students should be able to demonstrate a thorough understanding of the principles of plant taxonomy, including the classification and nomenclature of seed plants.

CO2: Students should develop the ability to identify different groups of seed plants based on their morphological characteristics, using taxonomic keys and other identification tools.

CO3: Depending on the course structure, students may have the opportunity to develop fieldwork skills, including plant collection, observation, and documentation.

CO4: Students should understand the principles and methods of plant systematics and phylogenetics, including the use of molecular data in reconstructing evolutionary relationships.

CO5: Students should gain an awareness of the importance of conserving plant diversity and understand the threats facing seed plants and their habitats.

#### **Course Name: Plant Physiology**

CO1: Students should be able to describe the structure of different plant organs (roots, stems, leaves, flowers) and understand how their specialized structures contribute to their functions.

CO2: Students should be familiar with the fundamental metabolic processes in plants, including photosynthesis, respiration, and transpiration. They should understand the biochemical pathways involved and how these processes are regulated.

CO3: Students should be able to explain the processes of plant growth and development, including cell division, differentiation, and morphogenesis. They should understand how hormones and environmental factors influence plant growth.

CO4: Students should understand how plants respond to various environmental factors such as light, temperature, water availability, nutrients, and biotic factors. They should be able to explain the mechanisms underlying these responses.

CO5: Students should gain an appreciation of the importance of plant physiology in agriculture, ecology, biotechnology, and environmental conservation. They should understand the relevance of plant physiology to addressing global challenges such as food security and climate change.

#### **Course Name: Biochemistry and Biotechnology**

CO1: Integration of knowledge from biology, chemistry, physics, and mathematics to understand complex biochemical and biotechnological concepts and phenomena.

CO2: Students should gain a comprehensive understanding of the structure, function, and properties of various biomolecules including proteins, nucleic acids, carbohydrates, and lipids.

CO3: Students should be able to comprehend the major metabolic pathways involved in cellular processes such as glycolysis, Krebs cycle, and oxidative phosphorylation, as well as biosynthetic pathways like nucleotide and amino acid synthesis.

CO4: Mastery of laboratory techniques commonly used in biochemistry and biotechnology such as gel electrophoresis, PCR (Polymerase Chain Reaction), DNA cloning, protein purification, chromatography, and various spectroscopic methods.

CO5: Understanding the practical applications of biotechnology in areas such as medicine, agriculture, environmental science, and industry, including genetic engineering, biopharmaceutical production, and bioremediation.

#### **Course Name: Ecology**

CO1: Students will demonstrate an understanding of fundamental ecological principles, including population dynamics, community interactions, ecosystem structure and function, and the flow of energy and matter through ecosystems.

CO2: Students will develop an understanding of the importance of biodiversity, including the factors that influence it, the threats to biodiversity, and strategies for conservation.

CO3: Students will gain awareness of major global environmental issues, such as deforestation, loss of freshwater resources, ocean acidification, and loss of coral reefs, and understand their ecological implications.

CO4: Students will be able to apply ecological concepts to real-world scenarios, such as land management, restoration ecology, conservation planning, and sustainable resource management.

CO5: Students will recognize the interdisciplinary nature of ecology and its connections to other fields, such as biology, chemistry, geology, sociology, economics, and policy studies.

#### **Course Name: Economic Botany**

CO1: Students will learn about economically important plant families, including their botanical characteristics, distribution, and economic significance.

CO2: Students will explore various plant products used by humans, such as food, fiber, medicine, fuel, and construction materials, and understand their production, processing, and utilization.

CO3: Students will analyse the economic importance of plants in various industries, including agriculture, pharmaceuticals, cosmetics, and biotechnology, and evaluate their potential for sustainable utilization and development.

CO4: Students will gain insights into ethnobotanical knowledge systems, including traditional uses of plants by indigenous communities for food, medicine, and cultural practices.

CO5: Students will be able to effectively communicate economic botany concepts and research findings to diverse audiences, including policymakers, stakeholders, and the public, and engage in outreach activities related to plant conservation and sustainable use.

#### **Course outcomes Of Zoology**

Course Name: - ZOO-IA:- CELL BIOLOGY

**CO1**: Mastery of the fundamental principles of cell biology, including cell structure, organelle function, cellular compartments, and the roles of cellular components in various cellular processes.

**CO**2: Proficiency in understanding cellular membranes, membrane structure, membrane transport mechanisms (diffusion, facilitated diffusion, active transport), membrane potential, and the regulation of membrane transport processes.

**CO3**: Knowledge of cellular energetics, including ATP production, cellular respiration, glycolysis, the citric acid cycle, oxidative phosphorylation, and the regulation of metabolic pathways

**CO4:** Understanding of the cell cycle, including interphase, mitosis, and cytokinesis, as well as the regulation of cell cycle progression, checkpoints, and the molecular mechanisms underlying cell division.

**CO5**: DNA Replication and Repair: Proficiency in understanding DNA replication, including DNA polymerases, replication origins, replication forks, and the mechanisms of DNA repair, including base excision repair, nucleotide excision repair, and mismatch repair.

#### Course Name: - ZOO-IB: -Biodiversity -I(Protozoa to Annelida

**CO1:** -Proficiency in understanding the ecological roles and interactions of protozoa and annelida in diverse ecosystems, including their roles as consumers, decomposers, predators, and ecosystem engineers.

**CO2:** - Knowledge of the habitat distribution and adaptations of protozoa and annelida to various environments, including freshwater, marine, terrestrial, and parasitic habitats.

**CO3:** Understanding of the life history strategies, reproductive biology, development, and life cycles of protozoa and annelida, including asexual and sexual reproduction, larval forms, and metamorphosis.

**CO4:** - Familiarity with the physiological mechanisms, sensory adaptations, locomotion, feeding strategies, and behavioral patterns of protozoa and annelida in response to environmental cues and stimuli.

**CO5:**Proficiency in understanding the ecological and evolutionary significance of protozoa and annelida, including their contributions to nutrient cycling, food webs, biodiversity, and ecosystem functioning.

#### **Course Name: - ZOO-IIA: -Ecology**

**CO1:** Mastery of fundamental ecological principles, including population dynamics, community interactions, ecosystem structure and function, biogeochemical cycles, and ecological succession.

**CO2:** Proficiency in understanding the diversity of ecosystems, including terrestrial, aquatic, and marine ecosystems, and their dynamics, including energy flow, nutrient cycling, and disturbance regimes.

**CO3:** Knowledge of species interactions in ecosystems, including predation, competition, mutualism, parasitism, and their ecological consequences for population dynamics, community structure, and ecosystem stability.

**CO4:** Understanding of population ecology principles, including population growth models, density-dependent and density-independent factors, life history strategies, and population regulation mechanisms.

**CO5:** Proficiency in understanding community ecology concepts, including species diversity, species interactions, trophic dynamics, niche theory, and the factors influencing community assembly and diversity patterns.

**Course Name: -** ZOO-IIB: -Biodiversity- II (Arthropoda to Hemichordata)

**CO1:** Familiarity with the physiological mechanisms, sensory adaptations, locomotion, feeding strategies, and behavioral patterns of arthropods, mollusks, echinoderms, and hemichordates in response environmental cues and stimuli.

**CO2:** Proficiency in understanding the ecological and evolutionary significance of arthropods, mollusks, echinoderms, and hemichordates, including their contributions to nutrient cycling, food webs, biodiversity, and ecosystem functioning.

**CO3:** Knowledge of biodiversity patterns, distributional trends, threats, and conservation status of arthropods, mollusks, echinoderms, and hemichordates species, including habitat loss, pollution, climate change, and invasive species.

**CO4:** Understanding of sampling methods, field identification techniques, and laboratory procedures used to study arthropods, mollusks, echinoderms, and hemichordates biodiversity, including microscopy, taxonomic keys, and molecular techniques.

**CO5:-**Proficiency in understanding biotic interactions involving arthropods, mollusks, echinoderms, and hemichordates, including predation, parasitism, symbiosis, commensalism, mutualism, and their ecological consequences for host populations and communities

**Course Name: -** ZOO-IIIA: -Evolution

**CO1:** Mastery of the fundamental principles of evolutionary theory, including natural selection, genetic drift, gene flow, mutation, speciation, adaptation, and the mechanisms of evolutionary change.

**CO2:** Proficiency in understanding the historical development of evolutionary thought, including the contributions of key figures such as Charles Darwin, Alfred Russel Wallace, and others, and the historical context in which evolutionary theory emerged.

**CO3:** Knowledge of empirical evidence supporting the theory of evolution, including fossil records, comparative anatomy, embryology, biogeography, molecular genetics, and experimental studies of evolutionary processes.

**CO4:** Understanding of evolutionary patterns and processes, including macroevolutionary patterns (speciation, extinction, adaptive radiation) and microevolutionary processes (gene flow, genetic drift, natural selection) operating at various spatial and temporal scales.

**CO5:** Proficiency in understanding phylogenetic methods, molecular phylogenetics, cladistics, and the construction of phylogenetic trees to infer evolutionary relationships among organisms and reconstruct evolutionary histories

**Course Name: - ZOO-IIIB: - Biodiversity (Chordates)** 

**CO1:** Understanding of conservation biology principles and strategies for preserving chordate biodiversity, including threats to chordate populations, habitat loss and fragmentation, invasive species, climate change, and the design and management of protected areas.

**CO2:** Proficiency in understanding human impacts on chordate biodiversity, including habitat destruction, pollution, overexploitation, hunting and poaching, introduction of non-native species, and the ethical considerations of human-chordate interactions.

**CO3:** Familiarity with fieldwork techniques for studying chordate biodiversity, including species identification, ecological surveys, behavioral observations, population sampling, and data collection in natural habitats.

**CO4:** Knowledge of physiological adaptations in chordates to extreme environments, including adaptations to temperature extremes, high pressures, low oxygen levels, and other environmental stressors.

**CO5:** Understanding of biogeographic patterns, distributional trends, and evolutionary history of chordates, including endemism, dispersal mechanisms, geographic barriers, and the role of historical events in shaping chordate distributions.

Course Name: - ZOO-IVA: - Biochemistry

**CO1:** Knowledge of membrane structure and function, membrane transport mechanisms, membrane signaling, and the roles of membrane proteins and lipids in cell communication and cellular processes.

**CO2:** Understanding of molecular biology principles, including DNA replication, repair, recombination, and the molecular mechanisms underlying genetic variation, mutation, and gene regulation.

**CO3:** Proficiency in understanding cell signaling pathways, including receptor-ligand interactions, second messenger systems, protein phosphorylation cascades, and the regulation of cellular responses to extracellular signals.

**CO4:** Knowledge of biochemical regulation mechanisms, including feedback inhibition, enzyme regulation, metabolic control, and the coordination of metabolic pathways in response to cellular and environmental cues.

**CO5:** Understanding of biochemical evolution principles, including molecular evolution, phylogenetic analysis, comparative genomics, and the diversity of biochemical adaptations among organisms.

Course Name: - ZOO-IVB: - Animal Physiology

**CO1:** Mastery of fundamental physiological principles, including homeostasis, cell signaling, membrane transport, metabolism, and physiological regulation at the cellular, tissue, organ, and organismal levels.

**CO2:** Proficiency in understanding cellular physiology processes, including membrane potential, ion channels, action potentials, neurotransmission, muscle contraction, and cellular respiration.

**CO3:** Knowledge of nervous system structure and function, including neuron anatomy, synaptic transmission, sensory processing, motor control, and the integration of neural signals in the brain and spinal cord.

**CO4:** Understanding of endocrine system function, including hormone synthesis, secretion, and action, endocrine feedback mechanisms, hormonal regulation of metabolism, growth, reproduction, and stress responses.

**CO5:** Proficiency in understanding muscle structure, excitation-contraction coupling, muscle types (skeletal, cardiac, smooth), muscle mechanics, energetics of muscle contraction, and the regulation of muscle function.

Course Name: - ZOO-VA: - Developmental Biology

**CO1:** Understanding of embryonic development from fertilization to the formation of the primary germ layers (ectoderm, mesoderm, endoderm), establishment of body axes, and formation of embryonic structures and organs.

**CO2:** Proficiency in understanding organogenesis and tissue differentiation processes, including the development of specific organs and tissues such as the nervous system, heart, limbs, muscles, and gastrointestinal tract.

**CO3:** Knowledge of stem cell biology principles, including stem cell types, stem cell niches, stem cell fate determination, and the role of stem cells in tissue regeneration, repair, and disease.

**CO4:** Understanding of developmental genetics and genomics approaches used to study gene function and regulation during development, including forward and reverse genetics, gene knockout/knockdown, CRISPR/Cas9 gene editing, and transcriptomic analysis.

**Course Name: - ZOO-VB: - Genetics** 

**CO1:** Understanding of Mendelian Genetics: Mastery of Mendelian principles of inheritance, including segregation, independent assortment, dominance, and excessiveness, and their application to the inheritance of traits in organisms.

**CO2:** Molecular Basis of Inheritance: Proficiency in understanding the molecular mechanisms of inheritance, including DNA structure and replication, transcription, translation, genetic code, and the flow of genetic information from DNA to RNA to protein.

**CO3:** Chromosome Structure and Function: Knowledge of chromosome structure and organization, including chromatin packaging, chromosome morphology, centromeres, telomeres, and the roles of chromosomes in gene regulation and inheritance.

**CO4:** Genetic Variation and Mutation: Understanding of genetic variation within populations, including mutation, recombination, and genetic polymorphisms, and their roles in generating genetic diversity and evolutionary change.

**CO5:**-Genetic Mapping and Linkage Analysis: Proficiency in understanding genetic mapping techniques, including linkage mapping, genetic linkage analysis, and the use of genetic markers to map genes and identify chromosomal regions associated with traits.

Course Name: - ZOO-VIA: -Option- ii: Economic Entomology

**CO1:**-Mastery of the economic importance of insects in agriculture, forestry, public health, veterinary medicine, and other sectors, including their roles as pests, beneficial organisms, pollinators, and vectors of diseases.

**CO2:-**Proficiency in identifying and classifying insect pests, including insect morphology, life stages, and diagnostic features, using taxonomic keys, field guides, and other identification resources.

**CO3:-**Knowledge of the types of damage caused by insect pests to crops, including direct feeding damage, vectoring of plant pathogens, contamination of harvested products, and reduction in crop yield and quality.

**CO4:-**Understanding of integrated pest management principles and strategies for managing insect pests in agricultural and urban settings, including cultural, biological, chemical, and mechanical control methods.

**CO5:-**Proficiency in pesticide application techniques, pesticide formulations, and pesticide safety practices to minimize risks to human health, non-target organisms, and the environment during pest control operations.

#### Course Name: - ZOO-VIB: - Option- ii: Economic Entomology II

**CO1:-**Knowledge of mechanisms of insecticide resistance in pest populations, including genetic, physiological, and behavioral resistance mechanisms, and strategies for monitoring and managing resistance development.

**CO2:-**Understanding of biological control principles and practices, including the use of natural enemies (predators, parasitoids, pathogens) to suppress pest populations and the conservation of natural enemies in agricultural ecosystems.

**CO3:-**Proficiency in understanding host-plant resistance mechanisms in crop plants, including plant traits (morphological, physiological, biochemical) that confer resistance to insect pests and strategies for breeding resistant crop varieties.

**CO4:-**Knowledge of cultural and physical control methods for managing insect pests, including crop rotation, habitat manipulation, trap crops, exclusion barriers, mechanical barriers, and sanitation practices.

**CO5:-**Understanding of chemical ecology principles, including insect chemical communication (pheromones, allelochemicals), host-plant selection, insect-plant interactions, and the use of semi chemicals in pest management strategies.

#### **Course Name: (INORGANIC CHEMISTRY-I)**

**CO1:** Students should have a comprehensive understanding of atomic structure, including the organization of electrons within atoms, periodic trends, and the behavior of different elements in the periodic table.

CO2: Knowledge of the properties, reactions, and applications of key groups of inorganic compounds, including main group elements, transition metals, coordination compounds, and organometallic complexes.

**CO3:** Understanding of thermodynamic principles applied to inorganic systems, including entropy, enthalpy, Gibbs free energy, and their relationship to equilibrium constants and reaction rates.

**CO4:** Understanding of coordination compounds, including the structures of metal complexes, ligand field theory, crystal field theory, and the role of coordination chemistry in catalysis, bioinorganic chemistry, and materials science.

**CO5:** Understanding of the applications of inorganic chemistry in various fields, including materials science, catalysis, environmental chemistry, pharmaceuticals, and industrial processes.

#### **Course Name: (ORGANIC CHEMISTRY-I)**

**CO1:** Familiarity with spectroscopic techniques used in the characterization of organic compounds, including infrared (IR), nuclear magnetic resonance (NMR), mass spectrometry (MS), and UV-Vis spectroscopy, and interpretation of spectral data.

**CO2:** Overview of the principles of polymer chemistry, including polymerization reactions, polymer structure and properties, polymer characterization techniques, and the applications of polymers in materials science and industry.

**CO3:** Understanding of the concept of aromaticity and the properties of aromatic compounds, including benzene and its derivatives, as well as electrophilic aromatic substitution reactions.

**CO4:** Proficiency in naming organic compounds according to the rules of systematic nomenclature (IUPAC) and common names, including alkanes, alkenes, alkynes, cyclic compounds, and functional groups.

**CO5:** Knowledge of conjugated systems, delocalized pi electrons, and molecular orbital theory as applied to the stability and reactivity of conjugated molecules and aromatic compounds.

**CO6:** Understanding of the applications of organic chemistry in various fields, including pharmaceuticals, agrochemicals, materials science, biochemistry, and environmental chemistry.

#### Course Name: (PHYSICAL CHEMISTRY-I)

**CO1:** Mastery of the principles of thermodynamics, including the laws of thermodynamics, entropy, enthalpy, free energy, and their applications to chemical systems in equilibrium and non-equilibrium states.

**CO2:** Knowledge of quantum mechanics principles applied to atoms and molecules, including wave functions, quantum numbers, Schrödinger equation, particle-in-a-box model, and the hydrogen atom.

**CO3:** Knowledge of phase equilibria, phase diagrams, phase transitions, vapor-liquid equilibrium, and the application of thermodynamics to the study of phase behavior in chemical systems.

**CO4:** Understanding of catalytic processes, reaction mechanisms, catalytic cycles, catalyst characterization, and the role of catalysts in accelerating chemical reactions and improving reaction selectivity.

**CO5:** Introduction to molecular dynamics simulations, statistical thermodynamics, molecular interactions, Monte Carlo methods, and their applications to complex chemical systems.

**CO6:** Ability to effectively communicate scientific concepts, experimental results, and conclusions related to physical chemistry, both orally and in writing, to diverse audiences.

#### **Course Name: (INORGANIC CHEMISTRY-II)**

**CO1:** Students should have a comprehensive understanding of atomic structure, including the organization of electrons within atoms, periodic trends, and the behaviour of different elements in the periodic table.

**CO2:** Knowledge of the properties, reactions, and applications of key groups of inorganic compounds, including main group elements, transition metals, coordination compounds, and organometallic complexes.

**CO3:** Understanding of thermodynamic principles applied to inorganic systems, including entropy, enthalpy, Gibbs free energy, and their relationship to equilibrium constants and reaction rates.

**CO4:** Understanding of coordination compounds, including the structures of metal complexes, ligand field theory, crystal field theory, and the role of coordination chemistry in catalysis, bioinorganic chemistry, and materials science.

**CO5:** Understanding of the applications of inorganic chemistry in various fields, including materials science, catalysis, environmental chemistry, pharmaceuticals, and industrial processes.

#### Course Name: (PHYSICAL CHEMISTRY-II

**CO1:** Mastery of the principles of thermodynamics, including the laws of thermodynamics, entropy, enthalpy, free energy, and their applications to chemical systems in equilibrium and non-equilibrium states.

**CO2:** Knowledge of quantum mechanics principles applied to atoms and molecules, including wave functions, quantum numbers, Schrödinger equation, particle-in-a-box model, and the hydrogen atom.

**CO3:** Knowledge of phase equilibria, phase diagrams, phase transitions, vapor-liquid equilibrium, and the application of thermodynamics to the study of phase behavior in chemical systems. **CO4:** Understanding of catalytic processes, reaction mechanisms, catalytic cycles, catalyst characterization, and the role of catalysts in accelerating chemical reactions and improving reaction selectivity.

**CO5:** Introduction to molecular dynamics simulations, statistical thermodynamics, molecular interactions, Monte Carlo methods, and their applications to complex chemical systems.

**CO6:** Ability to effectively communicate scientific concepts, experimental results, and conclusions related to physical chemistry, both orally and in writing, to diverse audiences.

#### **Course Name: (ORGANIC CHEMISTRY-II)**

**CO1:** Familiarity with spectroscopic techniques used in the characterization of organic compounds, including infrared (IR), nuclear magnetic resonance (NMR), mass spectrometry (MS), and UV-Vis spectroscopy, and interpretation of spectral data.

**CO2:** Overview of the principles of polymer chemistry, including polymerization reactions, polymer structure and properties, polymer characterization techniques, and the applications of polymers in materials science and industry.

**CO3:** Understanding of the concept of aromaticity and the properties of aromatic compounds, including benzene and its derivatives, as well as electrophilic aromatic substitution reactions.

**CO4:** Proficiency in naming organic compounds according to the rules of systematic nomenclature (IUPAC) and common names, including alkanes, alkenes, alkynes, cyclic compounds, and functional groups.

**CO5:** Knowledge of conjugated systems, delocalized pi electrons, and molecular orbital theory as applied to the stability and reactivity of conjugated molecules and aromatic compounds.

**CO6:** Understanding of the applications of organic chemistry in various fields, including pharmaceuticals, agrochemicals, materials science, biochemistry, and environmental chemistry.

#### **Course Name: (INORGANIC CHEMISTRY-III)**

**CO1:** Students should have a comprehensive understanding of atomic structure, including the organization of electrons within atoms, periodic trends, and the behaviour of different elements in the periodic table.

CO2: Knowledge of the properties, reactions, and applications of key groups of inorganic compounds, including main group elements, transition metals, coordination compounds, and organometallic complexes.

**CO3:** Understanding of thermodynamic principles applied to inorganic systems, including entropy, enthalpy, Gibbs free energy, and their relationship to equilibrium constants and reaction rates.

**CO4:** Understanding of coordination compounds, including the structures of metal complexes, ligand field theory, crystal field theory, and the role of coordination chemistry in catalysis, bioinorganic chemistry, and materials science. **CO5:** Understanding of the applications of inorganic chemistry in various fields, including materials science, catalysis, environmental chemistry, pharmaceuticals, and industrial processes.

#### Course Name: (ORGANIC CHEMISTRY-III

**CO1:** Familiarity with spectroscopic techniques used in the characterization of organic compounds, including infrared (IR), nuclear magnetic resonance (NMR), mass spectrometry (MS), and UV-Vis spectroscopy, and interpretation of spectral data.

**CO2:** Overview of the principles of polymer chemistry, including polymerization reactions, polymer structure and properties, polymer characterization techniques, and the applications of polymers in materials science and industry.

**CO3:** Understanding of the concept of aromaticity and the properties of aromatic compounds, including benzene and its derivatives, as well as electrophilic aromatic substitution reactions.

**CO4:** Proficiency in naming organic compounds according to the rules of systematic nomenclature (IUPAC) and common names, including alkanes, alkenes, alkynes, cyclic compounds, and functional groups.

**CO5:** Knowledge of conjugated systems, delocalized pi electrons, and molecular orbital theory as applied to the stability and reactivity of conjugated molecules and aromatic compounds.

**CO6:** Understanding of the applications of organic chemistry in various fields, including pharmaceuticals, agrochemicals, materials science, biochemistry, and environmental chemistry.

#### **Course Name: (INORGANIC CHEMISTRY-IV)**

**CO1:** Students should have a comprehensive understanding of atomic structure, including the organization of electrons within atoms, periodic trends, and the behaviour of different elements in the periodic table.

CO2: Knowledge of the properties, reactions, and applications of key groups of inorganic compounds, including main group elements, transition metals, coordination compounds, and organometallic complexes.

**CO3:** Understanding of thermodynamic principles applied to inorganic systems, including entropy, enthalpy, Gibbs free energy, and their relationship to equilibrium constants and reaction rates.

**CO4:** Understanding of coordination compounds, including the structures of metal complexes, ligand field theory, crystal field theory, and the role of coordination chemistry in catalysis, bioinorganic chemistry, and materials science.

**CO5:** Understanding of the applications of inorganic chemistry in various fields, including materials science, catalysis, environmental chemistry, pharmaceuticals, and industrial processe

**Course Name: (PHYSICAL CHEMISTRY-III)** 

**CO1:** Mastery of the principles of thermodynamics, including the laws of thermodynamics, entropy, enthalpy, free energy, and their applications to chemical systems in equilibrium and non-equilibrium states.

**CO2:** Knowledge of quantum mechanics principles applied to atoms and molecules, including wave functions, quantum numbers, Schrödinger equation, particle-in-a-box model, and the hydrogen atom.

**CO3:** Knowledge of phase equilibria, phase diagrams, phase transitions, vapor-liquid equilibrium, and the application of thermodynamics to the study of phase behavior in chemical systems.

**CO4:** Understanding of catalytic processes, reaction mechanisms, catalytic cycles, catalyst characterization, and the role of catalysts in accelerating chemical reactions and improving reaction selectivity.

**CO5:** Introduction to molecular dynamics simulations, statistical thermodynamics, molecular interactions, Monte Carlo methods, and their applications to complex chemical systems.

**CO6:** Ability to effectively communicate scientific concepts, experimental results, and conclusions related to physical chemistry, both orally and in writing, to diverse audiences.

**Course Name: (ORGANIC CHEMISTRY-IV)** 

**CO1:** Familiarity with spectroscopic techniques used in the characterization of organic compounds, including infrared (IR), nuclear magnetic resonance (NMR), mass spectrometry (MS), and UV-Vis spectroscopy, and interpretation of spectral data.

**CO2:** Overview of the principles of polymer chemistry, including polymerization reactions, polymer structure and properties, polymer characterization techniques, and the applications of polymers in materials science and industry.

**CO3:** Understanding of the concept of aromaticity and the properties of aromatic compounds, including benzene and its derivatives, as well as electrophilic aromatic substitution reactions.

**CO4:** Proficiency in naming organic compounds according to the rules of systematic nomenclature (IUPAC) and common names, including alkanes, alkenes, alkynes, cyclic compounds, and functional groups.

**CO5:** Knowledge of conjugated systems, delocalized pi electrons, and molecular orbital theory as applied to the stability and reactivity of conjugated molecules and aromatic compounds.

**CO6:** Understanding of the applications of organic chemistry in various fields, including pharmaceuticals, agrochemicals, materials science, biochemistry, and environmental chemistry.

## **Course Name: (PHYSICAL CHEMISTRY-IV)**

**CO1:** Mastery of the principles of thermodynamics, including the laws of thermodynamics, entropy, enthalpy, free energy, and their applications to chemical systems in equilibrium and non-equilibrium states.

**CO2:** Knowledge of quantum mechanics principles applied to atoms and molecules, including wave functions, quantum numbers, Schrödinger equation, particle-in-a-box model, and the hydrogen atom.

**CO3:** Knowledge of phase equilibria, phase diagrams, phase transitions, vapor-liquid equilibrium, and the application of thermodynamics to the study of phase behavior in chemical systems.

**CO4:** Understanding of catalytic processes, reaction mechanisms, catalytic cycles, catalyst characterization, and the role of catalysts in accelerating chemical reactions and improving reaction selectivity.

**CO5:** Introduction to molecular dynamics simulations, statistical thermodynamics, molecular interactions, Monte Carlo methods, and their applications to complex chemical systems.

**CO6:** Ability to effectively communicate scientific concepts, experimental results, and conclusions related to physical chemistry, both orally and in writing, to diverse audiences.

## Course Name- Gen English (Prose & Grammar) Credit-4, L-6

- **CO1.** This course helps in improvement in the skills of listening, speaking, reading and writing and develops creative writing skills.
- **CO2.** It also enables them to speak about the writers and learn correct grammatical form, appropriate vocabulary and correct word order.
- **CO3:** It enables students to speak about the poets and explain the style of the poem.
- **CO4:** Write letters in the correct format and language.

## **Course Name- Gen English (Poetry & making Connections)**

- CO1. The students learn correct appropriate vocabulary and correct word order.
- CO2. It develops creative Writing skills.
- CO3. It also enables them to speak about the writers.
- CO4. Students also familiar with the background of the academic writings.

## **Course Name Gen English (Poetry & Drama)**

- **CO1:** Critically understand and analyse poetry across a wide range of literary age and context.
- CO2. It enables students to speak about the poets and explain the style of the poem.
- CO3. It helps the students to understand the genre of drama.
- CO4. It helps them to understand the different types of play and drama.

### **Course Name Gen English (Novel and One Act Plays)**

- **CO1.** They will be able to participate in role plays and mini-talks.
- CO2. Acquire a broad perspective of the novel as a literary genre and the relevant historical, geographical, and cultural identical backgrounds.
- CO3. Appreciate the working of various literary devices like irony in fiction.

## Punjabi

# ਲਾਜ਼ਮ**ੀ ਪ**ੰਜ**ਾਬ**ੀ ਪਹ**ਿਲਾ ਸਮ**ੈਸਟਰ ਪਗ਼ਰ**ਾਮ ਆਉਟਕਮ**

CO.1'ਦ**ੋ ਰ**ੰਗ' ਪੁਾਸਤਕ ₹ਿੱਚ ਕਹ**ਾਣ**ੀਆਂ ਪੁਸ਼ਨ ਦ**ਾ ਮ**ੌਕਾ

CO.2 ਸ**ੰਸ**ਾਰ ਦ**ੀਆ**ਂ ਪ⊮ਿੰਧ ਹਸਤੀਆਂ ਦ**ੇ ₹ਿੱਚ ₹ਿੱਖ-₹ਿੱਖ ਲ**ੇਖਕਾਾਂ ਦ**ੇ ਜੀ₹ਨ ਨੂੰ** ਜਾਨਣ ਦ**ਾ ਮ**ੌਕਾ

CO.3 ਭਾਸਾ ₹ੰ ਨਗੀਆਂ ਨਾਲ ਸੰ ਬੰ ਵਧਤ ਜਾਣਕਾਰੀ ਪਰਾਪਤ ਕਰਨਾ

CO.4ਪੰ ਜਾਬੀ ਭਾਸਾ ਦਾ ਵਨਕਾਸ ਤੇ ਵ₹ਕਾਸਦੇ ਬਾਰੇ ਜਾਣ

ਕਰਾੳੂੁਣਾ CO.5 ਪੈਰਾਂ ਰਚਨਾ ਸੰਬੰਧੀ ਜਾਣਕਾਰੀ ਹਾਵਸਲ ਕਰਨਾ

# ਲਾਜ਼ਮ**ੀ ਪ**ੰਜ**ਾਬ**ੀ ਸਮ**ੈਸਟਰ ਦ**ੂਜ**ਾ ਬ**ੀ.ਸ**ੀ.ਏ /ਬ**ੀ.ਐਸ.ਸੀ ਐਫ.ਡ**ੀ.ਆਊਟਕਮ ਪਰੋਗਰ**ਾਮ

CO.1 ਵਸਰ**ੋਮਣ**ੀ ਪ**ੰਜਾਬੀ ਕਹ**ਾਣ**ੀ ਭ**ਾਗ ₹ਿੱਚ ₹ਿੱਖ-₹ਿੱਖ ਵ₹ਵਸਆ**ਂ ਨਾਲ ਸ**ੰਬ≎ਵਧਤ ਕਹ**ਾਣ**ੀ ਪ੍ਰਹਨ ਦ**ਾ ਮ**ੌਕਾ

CO.2 ਸਮੇਣ**ੀ ਪ**ੰਜਾਬੀ ਕਾਵ₹ ₹**ਿੱ**ਚ ਗੁਰ ਆ**ਂ ਪ**ੀਰ**ਾ**ਂ ਨਾਲ ਸਬ**ੰ** ₹ਧਤ ਜਾਣਕ**ਾਰ**ੀ ਪ⊮ਪਤ ਕਰਨਾ

CO.3 ਸਬਦ ਰਚਨਾ ਦੇ ਬਾਰੇ ਜਾਣਕਾਰੀ ਦੇਣਾ

CO.4 ਸਬਦ ਸਲੇੀਆਂ ਤੋਂ ਜਾਣ ਕਰ₹ਾਉਣਾ

# ਬ**ੀ.ਏ ਤ**ੀਜ**ਾ ਸਮ**ੈਸਟਰ ਲ**ਾਜ਼ਮ**ੀ ਪ<sup>°</sup>ਜ**ਾਬ**ੀ ਆਊਟਕਮ ਪੁੰਗਰਾਮ

CO.1 ਸਵਭਆਚਾਰ ਅਤੇ ਪੰਜਾਬੀ ਸਵਭਆਚਾਰ ਨਾਲ ਜੁੜ੍ਨ ਦਾ ਮੌਕਾ

CO.2 ਆਧੁਵਨਕ ਇਕਾਾਂਗੀ ₹ਿੱਚ ₹ਿੱਖ ₹ਿੱਖ ਵ₹ਵਸਆਂ ਨਾਲ ਸੁੰਬੁੰਵਧਤ ਜਾਣਕਾਰੀ ਪ੍ਰਯੁਤ ਕਰਨ ਦਾ ਮੁੰਕਾ

СО.3 ਸੰਖੇਪ ਰਚਨਾ ਅਤੇ ਅਸਿੱੁਧ ਸਬਦ ਜੋੜ੍ਾਂ ਨੂੰ ਸਿੱੁਧ ਕਰਕੇ ਵਲਖਣ ਦਾ ਅਵਭਆਸ

СО.4 ਮਲ ਵ₹ਆਕਰਵਨਕ ਇਕਾਈਆਂ ਦੀ ਪਵਰਭਾਸਾ ਅਤੇ ₹ਰਗਰੀਕਰਨ ਪੜ੍ਹਨ ਦਾ ਅ₹ਸਰ ਪਰਪਤ ਕਰਨਾ

# ਲਾਜ਼ਮ**ੀ ਪ**ੰਜ**ਾਬ**ੀ ਸਮ**ੈਸਟਰ ਚ**ੌਥਾ ਪਗ਼ੋਰ**ਾਮ ਆਉਟਕਮ**

CO1."ਮੇਰੀ ਜੀ₹ਨ ਗਾਥਾ" ਸ₹ੈ ਜੀ₹ਨੀ ਬਾਰੇ ਜਾਣਕਾਰੀ ਵਮਲੇਗੀ।

"CO2.ਫਾਸਲ**ੇ "ਨਾਟਕ ਦ**ੇ ₹ਸ**ੇ ਅਤੇ ਕਲ**ਾਤਮਕ ਪੰਿੱਖ ਬ**ਾਰ**ੇ

ਵਗਆਨ ਹ**ੋ**₹ੇਗਾ CO3.ਲ**ੇ** ਖ ਰਚਨ**ਾ ਫ਼ਕ₹ੇ**ਂ ਕ**ੀਤੀ ਜਾਂਦ**ੀ ਹ*ੈ.* 

Pt. Mohan Lai S.D. College for Women, Gurdaspur ह**ਸ**ਿੱਖਾਇਆ ਜਾ₹ੇਗਾ।

СО4ਅਸਿੰਂੁਧ ਸਬਦਾਾਂ ਨੰ ਸਿੰਂੁਧ ਕਰਨਾ ਦਿੰੱ≀ਸਆ ਜਾ₹ੇਗਾ

CO5.ਗੁਰਮੁਖੀ ਵਲਪੀ ਬਾਰੇ ਜਾਣਕਾਰੀ ਵਮਲੇਗੀ।

# ਬ**ੀ.ਏ ਭ**ਾਗ ਪ**ੰਜਵ**ਾਂ ਸਮ**ੈਸਟਰ ਲ**ਾਜ਼ਮ**ੀ ਪ**ੰਜ**ਾਬ**ੀ ਆਊਟਕਮ ਪਗ਼ਰਾਮ

CO.1 ਚੋਣ₹ੀਆਂ ਪੰਜਾਬੀ ਕਹਾਣੀਆਂ ਦੇ ਵ₹ਸਾ ₹ਸਤ / ਸਾਰ /ਅਤੇ ਕਹਾਣੀ ਕਲਾ ਨੂੰ ਜਾਣਣ ਦਾ ਮੌਕਾ

CO.2 ੲਹੁ ਹੁਮਾਰਾ ਜੀ₹ਣਾ ਨਾਾ₹ਲ ₹₹ਿੱਚ ਵ₹ਸਾਾ ₹ਸਤ ਅਤੇ ਪਾਤਰ ਵਚਤਰਨ ਕਰਨ ਦਾ ਮਰੌਕਾ

CO.3 ਪ<sup>ੈ</sup>ਰਾ ਰਚਨਾ ਅਤੇ ਸਰਲ ਅੰਗਰ**ੇਜੀ ਪ**ੈਰ**ੇ ਦ**ਾ ਪੰਜਾਬੀ ₹ਿੱਚ ਅਨੁ₹ਾਦ ਕਰਨਾ ₹**ਸ**ਿੱ ਖਣਾ

CO.4 ਪੰਜਾਬੀ ਧੁਨੀ ਵ₹ਉਂਤ ₹ਕਾਤਮਕ ਜੁਗਤਾਂ, ਕਾਰਕ ਤੇ ਕਾਰਕੀ ਸਬੰਧ ਜਾਨਣ ਦਾ ਅਫਸਰ ਪ⊮ਪਤ ਹ`ਣਾ

# ਲਾਜ਼ਮ**ੀ ਪ**ੰਜ**ਾਬ**ੀ ਸਮ**ੈਸਟਰ ਛੇਵ**ਾਂ ਪੰਗਰ**ਾਮ ਆਉਟਕਮ**

CO1."ਮਿੰੱ ਧਕਾਲ**ੀ ਸ**ਾਵਹਤ "ਪੁਸਤਕ ₹ਿੱਚ ਮਿੰੱ ਧਕਾਲ**ੀ ਕ**₹ੀਆ ਬਾਰੇ ਜਾਣਕਾਰੀ ਵਮਲੇਗੀ। CO2."ਧਰਤੀਆਂ ਦੇ ਗੀਤ" ਸਫਰਨਾਮੇ ₹ਿੱਚ ਉੱਥੋ**ਂ** ਦੇ ਲ**ੋਕਾਂ ਬਾਰੇ ਵਗਆਨ ਪ⊮ਪਤ ਹ**ੋ₹ੇਗਾ। CO3. ਸਾਵਹਤ ਦੇ ਰਪਾਂ ਦੀ ਜਾਣਕਾਰੀ ਵਮਲੇਗੀ।

CO4. ਵ₹ਆਕਰਣ ਦੀਆਂ ਇਕਾਈਆਂ ਬ**ਾਰ**ੇ ₹ੇਰ₹ੇ ਸ਼ਹਤ ਜਾਣਕ**ਾਰ**ੀ ਵਮਲ**ੇ** ਗੀ।

## **Basic Punjabi**

# ਮਢ**ੱਲੀ ਪ**ੰਜ**ਾਬ**ੀ ਸਮ**ੈਸਟਰ ਪਹ**ਿਲਾ ਬ**ੀ.ਏ /ਬ**ੀ.ਐਸ.ਸੀ /ਬੀ. ਕ**ਾਮ ਪਗ਼ਰ**ਾਮ ਆਉਟਕਮ

CO.1 ਪ<sup>°</sup> ਜਾਬੀ ਭ**ਾਸ**ਾ ਵਲਖਣ**ੀ ਤ**ੇ ਪੜ੍ਨ**ੀ** ह**ਸ**ਿੱਖ**ੀ** 

CO.3ਗੁਰਮੁਖੀ ਵਲਪੀ ਅਤੇ ਮਾਤਰਾ₹ਾਂ ਨਾਲ ਸਬੰਵਧਤ ਵਲਖਣਾ ਦਿੱਸਣਾ

CO.4 ਗੁਰਮੁਖੀ ਆਰਥੋਗਰਾਫੀ ਦੇ ਰਾਹੀਂ ਸ₹ਰ ਤੇ ਵ₹ਅੰਜਨਾਂ ਤੋਂ ਜਾਣ ਕਰਾਉਣਾ

CO.5 ਪੰਜਾਬੀ ਸਬਦ ਜੋੜ ਕਰਨੇ ਵਸਖਾਏ

CO.6 ₹ਬੰਦੀ, ₹ਰਿੱਪੀ, ਅਧਿੱਕ ਦੀ ₹ਰਤੋਂ ਨਾਲ ਸਬਦ ਬਣਾਉਣੇ ₹ਸਿੱਖੇ, ਸਿੱੁਧ ਸਬਦ ਜੋੜ੍ ਵਲਖ₹ਾਏ

ਮ**ੱ**ੁਢਲੀ ਪ**ੰਜ**ਾਬ**ੀ ਸਮ**ੈਸਟਰ ਦੂਜ**ਾ ਬੀ.ਸ**ੀ.ਏ /ਬ**ੀ.ਐਸ.ਸ**ੀ.ਐਫ.ਡ**ੀ ਆਊਟਕਮ ਪਗ਼ਰ**ਾਮ

CO.1 ਪੰਜਾਬੀ ਸਬਦ ਬਣਤਰ ₹ਿੱਚ ਨ₹ੇਂ ਸਬਦਾਾਂ ਦਾ ਵਨਰਮਾਣ ਕਰਨਾ ਦਿੰਸਣਾ CO.2 ਸੰਯੁਕਤ ਸਬਦ, ਦੋਜਾਤੀ ਸਬਦ, ₹ਮਸਰਤ ਸਬਦਾਾਂ ਤੋਂ ਜਾਣ ਕਰਾਣਾ CO.3 ਇਕ ₹ਚਨ ਬਹੁ ₹ਚਨ ₹ਲੰਗ ₹ਚਨ, ਸਮਾਨਾਰਥਕ ਸਬਦ ਬਣਾਉਣੇ ₹ਸਿੰਖੇ CO.4 ਰੋਜਾਨਾ ₹ਰਤੀ ਜਾਣ ₹ਾਲੀ ਪੰਜਾਬੀ ਸਬਦਾ₹ਲੀ ₹ਸਿੰਖੇ

CO.1 ਅੰਗਰ**ੇਜੀ ਤ**ੋਂ ਪੰਜਾਬੀ ₹ਿੱਚ ਅਨੁ₹ਾਦ ਕਰਨ ਦੀ ਕਲ**ਾ ₹ਸ**ਿੱਖਣਾ, ਪ**ੈਰ**ਾ ਰਚਨਾ ਵਲਖਣਾ

CO.2 ₹ਿੱਖ-₹ਿੱਖ ਵ₹ਵਸਆਂ ਨਾਲ ਸੰਬੰਵਧਤ ਕਵ₹ਤਾ₹ਾਂ ਪੜ੍ਹਨ ਦਾ ਮੌਕਾ CO.3 ਲ**ੇਖਕ**ਾਾਂ ਦ**ੀਆ**ਂ ਕਹ**ਾਣ**ੀਆਂ ਪੜ੍ਹ ਦਾ ਅਫਸਰ ਪ⊮ਪਤ ਕਰਨਾ

CO.4 ₹ਿੱਖ ₹ਿੱਖ ਵ₹ਵਸਆਂ ਤੇ ਵਨਬੰਧ ਪੜ੍ਹਨ ਦਾ ਮੌਕਾ ਪਰਘਤ ਹੋਣਾ ਵਜ₹ੇਂ ਵਕ ਆਓ ਗਿਿੱਲਾਂ ਕਰ**ੀਏ, ਮਨ**ਿੱ ੁਖ ਕ**ੁਦਰਤ ਦੀ ਨ**ੇਔਲਾਦ।

# ਮ**ੁੱੁਢਲੀ ਪ**ੰਜ**ਾਬ**ੀ ਚੁੱਥਾ ਸਮ**ੈਸਟਰ ਆਊਟਕਮ ਪੋਗਰ**ਾਮ

CO.1 ਲ**ੇ ਖਕ**ਾਂ ਦ**ੀਆ**ਂ ਕਵ₹ਤਾ₹ਾਂ ਦ**ੀ ਪਸ**ੰਗ ਸਵਹਤ ਵ₹ਆਵਖਆ ਕਰਨੀ ह**ਸ**ਿੱਖਣੀ CO.2 ਵ₹ਸਾ ₹ਸਤ ਅਤੇ ਸਾਰ ਵਲਖਣ ਦਾ ਮੌਕਾ

CO.3 ਕ₹ੀਆਂ ਦੇ ਜੀ₹ਨ ਬਾਰੇ ਅਤੇ ਰਚਨਾ ਬਾਰੇ ਜਾਣਕਾਰੀ ਪ⊮ਪਤ ਕਰਨਾ CO.4 ਲੇਖ ਰਚਨਾ ਅਤੇ ਅਸਿੰੱੁਧ ਸਬਦਾਂ ਨੂੰ ਸਿੰੱੁਧ ਕਰਕੇ ਵਲਖਣ ਬਾਰੇ ਲਿਿੱਖਣਾ **ਮਢੱਲੀ ਪੰ** ਜਾ**ਬੀ ਭਾਗ ਪੰਜਵਾਂ ਆਉਟਕਮ ਪੰਗਰਾਮ** 

CO.1 ਲੋਕ ਕਾਵ₹ ਪੜ੍ਹ ਕੇ ਪੰਜਾਬੀ ਸਿੱਵਭਆਚਾਰ ਦਾ ਵਗਆਨ ਹੋ₹ੇਗਾ

CO.2 ਘੋੜ੍ੀਆਂ, ਸੁਹਾਗ, ਟਿੱਪੇ ਪੜ੍ਹਨ ਉਪਰੰਤ ਵ₹ਸਾਲ ਸਵਭਆਚਾਰ ਨਾਲ ਅਪਣਤ ਪੈਦਾ ਹੋ₹ੇਗੀ

CO.3 ਪੰਜਾਬੀ ਦੀਆਂ ਲ**ੋਕ ਖ**ੇਡਾਂ ਪਲੀ **ਬ**ਿੱਵਚਆਂ ਦ**ੀ** ਰ**ੂਚੀ ਤੋਂ ਜਾਣ ਹ**ੋਣਾ

CO.4 ਲ**ੋਕ ਖ**ਾਵਣਆ**ਂ ਬ**ਾਰ**ੇ ਵ₹ਸਥ**ਾਰ ਪਰ₹ਕ ਜਾਗਰਕ ਹ**ੋਣ**ਾ

ਮ**ੁੱਢਲੀ ਪ**ੰਜ**ਾਬ**ੀ ਸਮ**ੈਸਟਰ ਛੇਵ**ਾਂ

CO1.ਪੂੰ ਜਾਬ ਦ**ੇ ਮ**ੇਫਲਆਂ ਬ**ਾਰ**ੇ ਜਾਣਕ**ਾਰ**ੀ

ਵਮਲ**ੇ** ਗੀ। CO2.ਪੰਜਾਬ ਦੇ ਵਤੳਹਾਰਾਂ ਨਾਲ ਜਾਣ ਪਛਾਣ

ਹੋ₹ੇਗੀ CO3ਪੰਜਾਬ ਦੇ ਲੋਕ ਕਾਵ₹ ਰਪ ਬਾਰੇ ਜਾਣਕਾਰੀ

ਵਮਲੇਗੀ।

CO4.ਪੂੰ ਜਾਬ ਦੂੇ ਪ੍ਰਹਰੂਾ₹ੇ ਅਤੇ ਖੁਾਵਣਆਂ ਦੂਾ ਗਿਆਨ ਪ੍ਰਯੂਤ ਕ੍ੀਤਾ ਜਾ₹ੇਗਾ।

Course Name: Algebra (L-4, T-0, P-0)

CO1: The course aims to provide basic knowledge of vectors and their property

CO2: Students understand the linear dependence and independence among vectors.

CO3: Students learn to find solution by linear equation by using matrices.

CO4: Students understand the relation between and coefficient of equation.

Course Name: Calculus (L-3, T-0, P-0)

CO1: The course provides basic ideas of the functions.

CO2: The students understand the concepts of limits and continuity.

CO3: The course provide knowledge regarding successive differentiation.

CO4: The students understand the concept of maxima and minima.

Course Name: Calculus and differential equations (L-4, T-0, P-0)

CO1: The course provides basic knowledge of degree and order by differential equation.

CO2: Students learn to develop relationship among different variables using differential equations.

CO3: Students understand the importance of differential equation in various fields.

CO4: Students learn the difference between homogeneous and non-homogeneous equations.

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## Course Name: Calculus 2 (L-3, T-0, P-0)

CO1: It helps to understand modern mathematics education.

CO2: This course in calculus is gateway to others more advances courses in mathematics.

CO3: It helps students to learn about integration.

CO4: It helps students to learn, to expand integration od third order.

#### **Course name: Analysis**

CO1: This course provides the study of real numbers and their properties.

CO2: Students understand the concept of sets limit point, convergence of sequence and series.

CO3: Students will be able to understand behavior of real numbers.

CO4: Students understand their applications of calculus in different fields.

#### **Course Name: Analytical Geometry**

CO1: The course includes the study of conic sections.

CO2: Student understand sphere and cylindrical surface.

CO3: Students will be able to sketch the graphs of different conic sections.

CO4: Students can understand the forms of the surface recognition.

#### Course name: static and vector calculus

CO1: This course includes the study of differentiation of vectors.

CO2: Students understand the concept of gradient, divergence, curl and vector integration.

CO3: It helps students to represent vectors analytically and geometrically.

CO4: It helps students to compute scalar and vector product.

#### **Course Name: Solid geometry**

CO1: It helps to understand the concept of sphere, cylinder. Cone and planes.

CO2: It helps to understand geometric terminology for angles, triangles.

CO3: It helps in developing the ability among students to trace the curve.

CO4: It helps students in developing the ability to differentiate between tangents and normal to the curve

## **Course Name: Dynamics**

CO1: This course helps the students to understand newtons law, SHM, work, power, energy.

CO2: It helps students to develop and understand the principle of dynamics.

CO3: It helps students to gain knowledge of external forces on a rigid body.

CO4: Students can relate these topics to the physics.

## Course Name: Linear algebra

CO1: It helps students to learn the basis of ring.

CO2: Students develop the ability to understand vector space, linear span, basis.

CO3: It helps students to gain knowledge of linear transformation.

CO4: It helps students to gain knowledge of matrix relation.

## **Course Name: Numerical Analysis**

CO1: This course helps the student to apply numerical methods.

CO2: It helps students to apply numerical methods in solving problems.

CO3: It helps students to find and approximate solution.

CO4: It helps students to understand mean, medium and mode

## Course Name: PAPER-A: MECHANICS (credit:3)

CO1: To understand Newton's laws of motion, force, mass, acceleration, and the relationship between force, mass, and acceleration.

CO2: Gain Knowledge of the causes of motion, including the concepts of force, momentum, impulse, and the relationship between force, mass, and acceleration as described by Newton's second law.

CO3: To Understand simple harmonic motion, oscillatory motion, pendulum motion, and the behavior of systems governed by Hooke's law.

- CO4: Development of analytical and problem-solving skills through the application of mathematical techniques, including vector algebra, calculus, and differential equations, to solve mechanics problems.
- CO5: Ability to design and conduct experiments to investigate mechanical phenomena, collect and analyses data, and draw conclusions based on experimental results.
- CO6: Ability to effectively communicate scientific concepts, experimental procedures, results, and conclusions related to mechanics, both orally and in writing, to diverse audiences.

#### Course Name: PAPER-B: ELECTRICITY AND MAGNETISM (credit:2)

- CO1: Understanding of Mastery of the fundamental concepts of electric charge, Coulomb's law, electric fields, and the principle of superposition in the context of electrostatics.
- CO2: Knowledge of electric potential, voltage, and their relationship to electric fields, equipotential surfaces, and the calculation of electric potential due to various charge distributions.
- CO3: Understanding of Faraday's law of electromagnetic induction, Lenz's law, induced electromotive force (emf), and the generation of electric currents by changing magnetic fields.
- CO4: Proficiency in analysing AC circuits, including impedance, phase relationships between voltage and current, power in AC circuits, resonance, and the behaviour of RLC circuits.
- CO5: Understanding of electromagnetic waves, their properties, including wavelength, frequency, speed, and the relationship between electric and magnetic fields in propagating electromagnetic waves.

## Course Name: PAPER-A: RELATIVITY AND ELECTROMAGNETISM (credit:3)

- CO1: Understanding the principles of special relativity, including the concept of spacetime, Lorentz transformations, time dilation, length contraction, and relativistic momentum.
- CO2: Ability to analyses electromagnetism within the framework of special relativity, including the relativistic transformation of electric and magnetic fields, and the derivation of the electromagnetic field tensor.
- CO3: Proficiency in relativistic electrodynamics, including the Lorentz force law in the presence of electromagnetic fields, the electromagnetic stress-energy tensor, and the equations of motion for charged particles in electromagnetic fields.

- CO4: Knowledge of cosmological applications of relativity and electromagnetism, including the Big Bang theory, the expansion of the universe, cosmic microwave background radiation, and the large-scale structure of the cosmos.
- CO5: Introduction to quantum field theory and the electroweak interaction, which unifies electromagnetism with the weak nuclear force, and their implications for the Standard Model of particle physics.

## **Course Name: PAPER-B: VIBRATION AND WAVES (credit:2)**

- CO1: Understanding of the principles of oscillatory motion, including harmonic motion, simple harmonic oscillators, damped oscillators, and forced oscillations.
- CO2: Knowledge of wave propagation in various media, including mechanical waves (such as sound waves in solids, liquids, and gases), electromagnetic waves, and wave propagation in different boundary conditions.
- CO3: Understanding of the superposition principle and its application to the interference and diffraction of waves, including standing waves, beats, and the formation of interference patterns.
- CO4: Gain Knowledge of resonance phenomena, including the conditions for resonance, resonance frequency, quality factor (Q-factor), and the applications of resonance in various physical systems.
- CO5: Introduction to wave optics, including the principles of geometric optics, wavefronts, Huygens' principle, diffraction, polarization, and the behavior of light waves in optical systems.

#### Course Name: PAPER-A: STATISTICAL PHYSICS & THERMODYNAMICS (credit:3)

- CO1: Understanding of the fundamental principles of classical thermodynamics, including the laws of thermodynamics, entropy, enthalpy, heat capacity, and the relationships between thermodynamic variables.
- CO2: Gain Knowledge of the foundations of statistical mechanics, including the Boltzmann distribution, partition function, canonical ensemble, and the derivation of thermodynamic properties from statistical principles.
- CO3: Understanding of thermodynamic potentials, including the Helmholtz free energy, Gibbs free energy, internal energy, and their relationships to thermodynamic variables and equilibrium conditions.

- CO4: Proficiency in understanding fluctuations in thermodynamic systems, the fluctuationdissipation theorem, and the connection between fluctuations and response functions.
- CO5: Understanding of the thermodynamic properties of materials, including heat capacity, thermal expansion, compressibility, and their dependence on temperature, pressure, and composition.

### Course Name: PAPER-B: OPTICS AND LASERS (credit:2)

- CO1: Understanding of the principles of geometrical optics, including ray tracing, reflection, refraction, Snell's law, image formation by lenses and mirrors, and the properties of optical systems.
- CO2: Proficiency in the principles of wave optics, including diffraction, interference, polarization, coherence, and the behavior of light waves in various optical systems.
- CO3: Understanding of laser fundamentals, including stimulated emission, population inversion, optical resonators, gain medium properties, and laser cavity design.
- CO4: Understanding of optical spectroscopy techniques, including absorption spectroscopy, emission spectroscopy, Raman spectroscopy, and their applications in chemical analysis, materials science, and biophysics.
- CO5: Knowledge of optical imaging systems, including lenses, microscopes, telescopes, cameras, and their design principles, aberrations, resolution limits, and applications in microscopy, astronomy, and remote sensing.

### **Course Name: PAPER- A: QUANTUM MECHANICS (credit:3)**

- CO1: Gain knowledge of the fundamental principles of quantum mechanics, including waveparticle duality, the wave function, probability interpretation, and the uncertainty principle.
- CO2: Understanding of the time evolution of quantum systems, including the Schrödinger equation, time-dependent and time-independent solutions, and the concept of unitary evolution in quantum mechanics.
- CO3: Knowledge of angular momentum in quantum mechanics, including orbital angular momentum, spin angular momentum, and their quantization, as well as the addition of angular momenta.

CO4: Understanding of approximation methods in quantum mechanics, including perturbation theory, variational methods, and the WKB approximation, and their applications to solve complex quantum systems.

CO5: Proficiency in understanding the role of measurement in quantum mechanics, including the collapse of the wave function, measurement postulates, and the interpretation of quantum mechanics.

#### **Course Name: PAPER - B: ATOMIC AND MOLECULAR SPECTRA(credit:2)**

CO1: Understanding of the principles of atomic structure, including electron configurations, energy levels, angular momentum, and the quantization of atomic energy levels.

CO2: Proficiency in the quantum mechanical description of atoms, including the Schrödinger equation for hydrogen-like atoms, atomic orbitals, and the solution of the hydrogen atom.

CO3: Understanding of spectroscopic notation and terms used to describe atomic energy levels, such as term symbols, angular momentum quantum numbers, and selection rules for transitions.

CO4: Understanding of fine and hyperfine structure in atomic spectra, including relativistic corrections, electron spin-orbit coupling, and interactions between nuclear and electronic spins.

CO5: Knowledge of atomic transition probabilities, including Einstein coefficients, spontaneous emission, stimulated emission, and the rate equations governing atomic transitions.

### **Course Name: PAPER- A : CONDENSED MATTER PHYSICS(credit:3)**

CO1: Proficiency in crystallography and the characterization of crystal structures, including Bravais lattices, crystal systems, point groups, space groups, and the symmetry properties of crystals.

CO2: Knowledge of crystal diffraction techniques, including X-ray diffraction, electron diffraction, and neutron diffraction, and the interpretation of diffraction patterns in reciprocal space.

CO3: Understanding of lattice dynamics and the quantization of vibrational modes in crystals, including the concept of phonons, phonon dispersion relations, and the behavior of phonons in different materials.

- CO4: Proficiency in semiconductor physics, including carrier statistics, carrier transport, p-n junctions, semiconductor devices (diodes, transistors), and the operation of semiconductor devices in electronic circuits.
- CO5: Knowledge of magnetism and magnetic materials, including magnetic ordering, magnetic domains, ferromagnetism, antiferromagnetism, ferrimagnetism, and the behavior of magnetic materials in external magnetic fields.

#### **Course Name: PAPER - B : ELECTRONICS (credit:2)**

- CO1: Proficiency in the characteristics, operation, and applications of semiconductor diodes, including rectification, clipping, clamping, and voltage regulation circuits.
- CO2: Knowledge of bipolar junction transistors (BJTs) and field-effect transistors (FETs), including their operating principles, small-signal and large-signal models, biasing techniques, and amplifier configurations.
- CO3: Familiarity with operational amplifiers, including ideal and practical op-amp characteristics, inverting and non-inverting amplifier configurations, summing amplifiers, integrators, differentiators, and applications in analog signal processing.
- CO4: Knowledge of combinational logic circuits (adders, subtractors, multiplexers, demultiplexers, encoders, decoders) and sequential logic circuits (flip-flops, registers, counters), and their applications in digital systems.

### **Course Name: PAPER-A: RADIATION AND PARTICLE PHYSICS (credit:3)**

- CO1: Proficiency in understanding the fundamental forces of nature, including electromagnetic, weak, strong, and gravitational forces, and their description in the context of particle interactions.
- CO2: Knowledge of particle accelerators and detectors used in experimental particle physics, including linear accelerators, circular accelerators (synchrotrons, cyclotrons), and various types of particle detectors (ionization detectors, calorimeters, tracking detectors).
- CO3: Understanding of scattering experiments in particle physics, including elastic and inelastic scattering, deep inelastic scattering, electron-proton scattering, and the extraction of structure functions and Parton distributions from scattering data.

- CO4: Understanding of neutrino properties and oscillations, including neutrino masses, neutrino mixing, neutrino flavor oscillations, and experimental techniques for studying neutrino interactions.
- CO5: Familiarity with applications of particle physics technologies and techniques in other fields, including medical imaging (positron emission tomography, proton therapy), nuclear engineering, and materials science.

## Course Name: PAPER-B: NUCLEAR PHYSICS (credit:2)

- CO1: Proficiency in understanding nuclear reactions, including nuclear decay modes (alpha decay, beta decay, gamma decay), nuclear fission, nuclear fusion, and the principles of reaction kinematics and conservation laws.
- CO2: Knowledge of nuclear decay processes, including radioactive decay rates, decay constants, half-life, activity, decay chains, and the applications of radioactive isotopes in dating techniques and medical imaging.
- CO3: Understanding of nuclear reactions kinematics, including energy conservation, momentum conservation, center-of-mass frame, and the kinematics of scattering, capture, and breakup reactions.
- CO4: Students gain Knowledge of radioactive decay processes used in radioactive dating techniques, including radiocarbon dating, potassium-argon dating, uranium-lead dating, and their applications in geology and archaeology.

#### **Course Name: (INORGANIC CHEMISTRY-I)**

- CO1: Students should have a comprehensive understanding of atomic structure, including the organization of electrons within atoms, periodic trends, and the behaviour of different elements in the periodic table.
- CO2: Knowledge of the properties, reactions, and applications of key groups of inorganic compounds, including main group elements, transition metals, coordination compounds, and organometallic complexes.

- CO3: Understanding of thermodynamic principles applied to inorganic systems, including entropy, enthalpy, Gibbs free energy, and their relationship to equilibrium constants and reaction rates.
- CO4: Understanding of coordination compounds, including the structures of metal complexes, ligand field theory, crystal field theory, and the role of coordination chemistry in catalysis, bioinorganic chemistry, and materials science.
- CO5: Understanding of the applications of inorganic chemistry in various fields, including materials science, catalysis, environmental chemistry, pharmaceuticals, and industrial processes.

#### **Course Name: (ORGANIC CHEMISTRY-I)**

- CO1: Familiarity with spectroscopic techniques used in the characterization of organic compounds, including infrared (IR), nuclear magnetic resonance (NMR), mass spectrometry (MS), and UV-Vis spectroscopy, and interpretation of spectral data.
- CO2: Overview of the principles of polymer chemistry, including polymerization reactions, polymer structure and properties, polymer characterization techniques, and the applications of polymers in materials science and industry.
- CO3: Understanding of the concept of aromaticity and the properties of aromatic compounds, including benzene and its derivatives, as well as electrophilic aromatic substitution reactions.
- CO4: Proficiency in naming organic compounds according to the rules of systematic nomenclature (IUPAC) and common names, including alkanes, alkenes, alkynes, cyclic compounds, and functional groups.
- CO5: Knowledge of conjugated systems, delocalized pi electrons, and molecular orbital theory as applied to the stability and reactivity of conjugated molecules and aromatic compounds.
- CO6: Understanding of the applications of organic chemistry in various fields, including pharmaceuticals, agrochemicals, materials science, biochemistry, and environmental chemistry.

## **Course Name: (PHYSICAL CHEMISTRY-I)**

- CO1: Mastery of the principles of thermodynamics, including the laws of thermodynamics, entropy, enthalpy, free energy, and their applications to chemical systems in equilibrium and non-equilibrium states.
- CO2: Knowledge of quantum mechanics principles applied to atoms and molecules, including wave functions, quantum numbers, Schrödinger equation, particle-in-a-box model, and the hydrogen atom.
- CO3: Knowledge of phase equilibria, phase diagrams, phase transitions, vapor-liquid equilibrium, and the application of thermodynamics to the study of phase behavior in chemical systems.
- CO4: Understanding of catalytic processes, reaction mechanisms, catalytic cycles, catalyst characterization, and the role of catalysts in accelerating chemical reactions and improving reaction selectivity.
- CO5: Introduction to molecular dynamics simulations, statistical thermodynamics, molecular interactions, Monte Carlo methods, and their applications to complex chemical systems.
- CO6: Ability to effectively communicate scientific concepts, experimental results, and conclusions related to physical chemistry, both orally and in writing, to diverse audiences.

#### Course Name: (INORGANIC CHEMISTRY-II)

- CO1: Students should have a comprehensive understanding of atomic structure, including the organization of electrons within atoms, periodic trends, and the behaviour of different elements in the periodic table.
- CO2: Knowledge of the properties, reactions, and applications of key groups of inorganic compounds, including main group elements, transition metals, coordination compounds, and organometallic complexes.
- CO3: Understanding of thermodynamic principles applied to inorganic systems, including entropy, enthalpy, Gibbs free energy, and their relationship to equilibrium constants and reaction rates.
- CO4: Understanding of coordination compounds, including the structures of metal complexes, ligand field theory, crystal field theory, and the role of coordination chemistry in catalysis, bioinorganic chemistry, and materials science.

CO5: Understanding of the applications of inorganic chemistry in various fields, including materials science, catalysis, environmental chemistry, pharmaceuticals, and industrial processes.

#### **Course Name: (PHYSICAL CHEMISTRY-II)**

- CO1: Mastery of the principles of thermodynamics, including the laws of thermodynamics, entropy, enthalpy, free energy, and their applications to chemical systems in equilibrium and non-equilibrium states.
- CO2: Knowledge of quantum mechanics principles applied to atoms and molecules, including wave functions, quantum numbers, Schrödinger equation, particle-in-a-box model, and the hydrogen atom.
- CO3: Knowledge of phase equilibria, phase diagrams, phase transitions, vapor-liquid equilibrium, and the application of thermodynamics to the study of phase behavior in chemical systems.
- CO4: Understanding of catalytic processes, reaction mechanisms, catalytic cycles, catalyst characterization, and the role of catalysts in accelerating chemical reactions and improving reaction selectivity.
- CO5: Introduction to molecular dynamics simulations, statistical thermodynamics, molecular interactions, Monte Carlo methods, and their applications to complex chemical systems.
- CO6: Ability to effectively communicate scientific concepts, experimental results, and conclusions related to physical chemistry, both orally and in writing, to diverse audiences.

#### **Course Name: (ORGANIC CHEMISTRY-II)**

- CO1: Familiarity with spectroscopic techniques used in the characterization of organic compounds, including infrared (IR), nuclear magnetic resonance (NMR), mass spectrometry (MS), and UV-Vis spectroscopy, and interpretation of spectral data.
- CO2: Overview of the principles of polymer chemistry, including polymerization reactions, polymer structure and properties, polymer characterization techniques, and the applications of polymers in materials science and industry.
- CO3: Understanding of the concept of aromaticity and the properties of aromatic compounds, including benzene and its derivatives, as well as electrophilic aromatic substitution reactions.
- CO4: Proficiency in naming organic compounds according to the rules of systematic nomenclature (IUPAC) and common names, including alkanes, alkenes, alkynes, cyclic compounds, and functional groups.

- CO5: Knowledge of conjugated systems, delocalized pi electrons, and molecular orbital theory as applied to the stability and reactivity of conjugated molecules and aromatic compounds.
- CO6: Understanding of the applications of organic chemistry in various fields, including pharmaceuticals, agrochemicals, materials science, biochemistry, and environmental chemistry.

#### Course Name: (INORGANIC CHEMISTRY-III

- CO1: Students should have a comprehensive understanding of atomic structure, including the organization of electrons within atoms, periodic trends, and the behaviour of different elements in the periodic table.
- CO2: Knowledge of the properties, reactions, and applications of key groups of inorganic compounds, including main group elements, transition metals, coordination compounds, and organometallic complexes.
- CO3: Understanding of thermodynamic principles applied to inorganic systems, including entropy, enthalpy, Gibbs free energy, and their relationship to equilibrium constants and reaction rates.
- CO4: Understanding of coordination compounds, including the structures of metal complexes, ligand field theory, crystal field theory, and the role of coordination chemistry in catalysis, bioinorganic chemistry, and materials science.
- CO5: Understanding of the applications of inorganic chemistry in various fields, including materials science, catalysis, environmental chemistry, pharmaceuticals, and industrial processes.

#### **Course Name: (ORGANIC CHEMISTRY-III)**

- CO1: Familiarity with spectroscopic techniques used in the characterization of organic compounds, including infrared (IR), nuclear magnetic resonance (NMR), mass spectrometry (MS), and UV-Vis spectroscopy, and interpretation of spectral data.
- CO2: Overview of the principles of polymer chemistry, including polymerization reactions, polymer structure and properties, polymer characterization techniques, and the applications of polymers in materials science and industry.
- CO3: Understanding of the concept of aromaticity and the properties of aromatic compounds, including benzene and its derivatives, as well as electrophilic aromatic substitution reactions.

CO4: Proficiency in naming organic compounds according to the rules of systematic nomenclature (IUPAC) and common names, including alkanes, alkenes, alkynes, cyclic compounds, and functional groups.

CO5: Knowledge of conjugated systems, delocalized pi electrons, and molecular orbital theory as applied to the stability and reactivity of conjugated molecules and aromatic compounds.

CO6: Understanding of the applications of organic chemistry in various fields, including pharmaceuticals, agrochemicals, materials science, biochemistry, and environmental chemistry.

## **Course Name: (PHYSICAL CHEMISTRY-III)**

CO1: Mastery of the principles of thermodynamics, including the laws of thermodynamics, entropy, enthalpy, free energy, and their applications to chemical systems in equilibrium and non-equilibrium states.

CO2: Knowledge of quantum mechanics principles applied to atoms and molecules, including wave functions, quantum numbers, Schrödinger equation, particle-in-a-box model, and the hydrogen atom.

CO3: Knowledge of phase equilibria, phase diagrams, phase transitions, vapor-liquid equilibrium, and the application of thermodynamics to the study of phase behavior in chemical systems.

CO4: Understanding of catalytic processes, reaction mechanisms, catalytic cycles, catalyst characterization, and the role of catalysts in accelerating chemical reactions and improving reaction selectivity.

CO5: Introduction to molecular dynamics simulations, statistical thermodynamics, molecular interactions, Monte Carlo methods, and their applications to complex chemical systems.

CO6: Ability to effectively communicate scientific concepts, experimental results, and conclusions related to physical chemistry, both orally and in writing, to diverse audiences.

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### **Course Name: (INORGANIC CHEMISTRY-IV)**

CO1: Familiarity with spectroscopic techniques used in the characterization of organic compounds, including infrared (IR), nuclear magnetic resonance (NMR), mass spectrometry (MS), and UV-Vis spectroscopy, and interpretation of spectral data.

- CO2: Overview of the principles of polymer chemistry, including polymerization reactions, polymer structure and properties, polymer characterization techniques, and the applications of polymers in materials science and industry.
- CO3: Understanding of the concept of aromaticity and the properties of aromatic compounds, including benzene and its derivatives, as well as electrophilic aromatic substitution reactions.
- CO4: Proficiency in naming organic compounds according to the rules of systematic nomenclature (IUPAC) and common names, including alkanes, alkenes, alkynes, cyclic compounds, and functional groups.
- CO5: Knowledge of conjugated systems, delocalized pi electrons, and molecular orbital theory as applied to the stability and reactivity of conjugated molecules and aromatic compounds.
- CO6: Understanding of the applications of organic chemistry in various fields, including pharmaceuticals, agrochemicals, materials science, biochemistry, and environmental chemistry

## Course Name: (PHYSICAL CHEMISTRY-IV)

- CO1: Mastery of the principles of thermodynamics, including the laws of thermodynamics, entropy, enthalpy, free energy, and their applications to chemical systems in equilibrium and non-equilibrium states.
- CO2: Knowledge of quantum mechanics principles applied to atoms and molecules, including wave functions, quantum numbers, Schrödinger equation, particle-in-a-box model, and the hydrogen atom.
- CO3: Knowledge of phase equilibria, phase diagrams, phase transitions, vapor-liquid equilibrium, and the application of thermodynamics to the study of phase behavior in chemical systems.
- CO4: Understanding of catalytic processes, reaction mechanisms, catalytic cycles, catalyst characterization, and the role of catalysts in accelerating chemical reactions and improving reaction selectivity.
- CO5: Introduction to molecular dynamics simulations, statistical thermodynamics, molecular interactions, Monte Carlo methods, and their applications to complex chemical systems.
- CO6: Ability to effectively communicate scientific concepts, experimental results, and conclusions related to physical chemistry, both orally and in writing, to diverse audiences.

Course Name- Gen English (Prose & Grammar) Credit-4, L-6

- CO1. This course helps in improvement in the skills of listening, speaking, reading and writing and develops creative writing skills.
- CO2. It also enables them to speak about the writers and learn correct grammatical form, appropriate vocabulary and correct word order.
- CO3: It enables students to speak about the poets and explain the style of the poem.
- CO4: Write letters in the correct format and language.

## **Course Name- Gen English (Poetry & making Connections)**

- CO1. The students learn correct appropriate vocabulary and correct word order.
- CO2. It develops creative Writing skills.
- CO3. It also enables them to speak about the writers.
- CO4. Students also familiar with the background of the academic writings.

## **Course Name Gen English (Poetry & Drama)**

- CO1: Critically understand and analyse poetry across a wide range of literary age and context.
- CO2. It enables students to speak about the poets and explain the style of the poem.
- CO3. It helps the students to understand the genre of drama.
- CO4. It helps them to understand the different types of play and drama.

### **Course Name Gen English (Novel and One Act Plays)**

- CO1. They will be able to participate in role plays and mini-talks.
- CO2. Acquire a broad perspective of the novel as a literary genre and the relevant historical, geographical, and cultural identical backgrounds.
- CO3. Appreciate the working of various literary devices like irony in fiction.

## **Course name Elective English ( Poetry & Drama)**

- CO1. It improves English Pronunciation among students.
- CO2. It also enables them to speak about the writers, explain the background of the Drama.
- CO3. Provide students with an overview of how modernity was introduced in the twentieth century through drama.

CO4. Examine Ibsen's A Doll's House as it focuses on issues related to women in patriarchal institutions such as marriage

## **Course name - Elective English (Poetry & New Directions)**

- CO1. Help students explore poetry.
- CO2. Show a new interweaving of the sacred and the secular subjects of poetry17th C.
- CO3. Enables them to recognize new words and texts.
- CO4. Learn about the new trends in English writing

## **Course Name Elective English (Modern prose and New Directions)**

- CO1. Students will be able to express them in personal tone, collecting main idea and writing briefly. CO2. It also improves the skills of organizing the subject matter in relevant order while listening, speaking and writing.
- CO3. Students will develop the ability to interpret and critically evaluate the meaning, subtext, and cultural context of the texts they read.
- CO4. They will engage in discussions and written reflections to express their interpretations.

## Course Name- Elective English (Background of English Literature, Drama & Fiction)

- CO1. It enables to speak about the writers, explain the background of the story and to know the role of the characters.
- CO2. Students will reflect on their personal growth as readers and thinkers throughout the course.
- CO3. They will consider how their understanding of literature has evolved and how it connects to their own experiences.

#### **Course name- English Honors (Prose)**

- CO1. Understand the range, significance, and scope of English Literature.
- CO2. Students should be able to apply critical and theoretical approaches to the reading and analysis of literary and cultural texts in multiple genres.
- CO3. To enable them to write and appreciate different types of prose.

**Course Name English Honors (Poetry)** 

- CO1. To introduce the students to the basic elements of poetry- to enrich the students through various perspectives readings in poetry.
- CO2. Develop an understanding of English poetry from the 19th and 20th centuries.
- CO3. critically understand and analyses poetry across a wide range of literary age and context.

#### **Course Name- English Honors (Drama)**

- CO1. Close reading of specific texts from Elizabethan drama and anti-sentimental comedy.
- CO2. It also enables them to speak about the writers, explain the background of the Drama.
- CO3. Understand antiquated vocabulary and structures.

## **Course Name- English Honors (Novel)**

- CO1. Familiarize with fiction and non-fiction from Jacobean period to the 20th century.
- CO2. Enablement of the students to understand distinctive features of novels and shorter fiction.
- CO3. The students will be able to respond appropriately in discussion, state their views clearly.
- CO4. Critical interpretation of meanings and references of literary texts.

#### **Course Name- Business Communication**

- CO1. This course allows students to develop knowledge, skills and judgement around human communication.
- CO2. To facilitate their ability to work collaboratively with others.
- CO3: Learner will be conversant with business or official communication terms and writing skills.
- CO4: It will enable them to enhance their verbal communication using modern technology

## Department of fashion designing

## **Programme: Bachelor of fashion Designing**

Fashion designing program typically aim to educate students on various aspects of the fashion industry and prepare them for careers within the field here are some Common outcomes of fashion designing programs

- **PO1.** Designs skills: students will develop a strong foundation in design principles including COlour, theory, pattern making, garment Construction and textile selection they will learn how to create sketches technical drawings and prototype of their designs.
- **PO2.** Creativity: programs faster students' creativity and help them develop their own unique design aesthetic they are encouraged to think outside the box and experiment with new ideas and techniques.
- **PO3.** Trend awareness: students are taught how to stay current with fashion trends and understand the historical and cultural influences on fashion. they learn how to research and predict upcoming trends in the industry.
- **PO4.** Technical proficiency: fashion designing programs often include Courses on Computer Design CAD software which is essential for creating digital design and technical drawings. students also learn about various production techniques and processes.
- **PO5.** Market research: students are trained to Conduct market research and analyses Consumer behave you're to understand the needs and preferences of their target audience this helps them create design that are both aesthetically please sing and Commercially technique
- **PO6.** Business skills: many programs include Courses on fashion merchandising marketing and Retail Management to prepare student for the business side of the industry they learn about pricing strategies brand management and sales techniques
- **PO7.** Communication skills: fashion designers need to effectively Communicate their ideas to client's manufacturers and team members programs often include Courses on visual Communication presentation skills and etiquette.
- **PO8.** Collaboration: students learn how to Collaborate with other designers, stylish, photographers and models to bring their designs they gain experience working in team and understanding the importance of effective Collaboration in the fashion industry
- **PO9.** Ethical and sustainable practices: with increasing Awareness of environmental and social issues many programs new focus on teaching students about ethical and sustainable practices in

fashion design this includes using Eco friendly materials promoting for labour practices and minimizing waste in the production process

**PO10.** Internship Opportunities: many fashion designing programs offer internship of Opportunities with established fashion houses designs studios or retail Companies this hand on experience allays student to apply their skills in a real word setting and build valuable Connections in the industry

## **Program Specific Outcomes**

**PSO1**: Students should demonstrate advance proficiency in various design techniques including sketching pattern making, sewing.

**PSO2:** students understand technical skills including the ability to use designs software and able to effectively Communicate their design Concepts verbally visually and in writing to clients, Colleague's and stakeholders.

**PSO3:** Students have a well curate Portfolio show casting their design work demonstrating their skills, creativity and grow throughout their education.

## Course Name: fashion design and illustration

**CO1.** Proficiency in drawing techniques student should develop skills in sketching and illustrating fashion designs including figures garments and accessories.

**CO2.** To understanding of design principle should learn about Colour theory Composition, balance and proportion.

**CO3.** Knowledge of textiles materials understanding different fabrics their properties and how they drape.

**CO4.** To understanding of the fashion industry is include knowledge of history of fashion current market Trends and business side of the industry.

#### **Course Name: Colour Concept and Colouration**

**CO1.** To understanding the basics of Colour theory including a Colour wheel Colour harmony Contrast and psychological effect of Colour.

**CO2.** Mixing and blending techniques learning how to make pigments and dyes to these specific Colour and Shades as well as understanding with each other.

**CO3.** Application of Colour in various mediums applying Colour Concept to different medium such as texture painting, digital design and fashion.

## **Course Name: pattern making and garment Construction**

**CO1.** To understanding of pattern, drafting student learn how to create patterns from scratch using basic body measurement.

**CO2.** To understand pattern making technique such as flat pattern drafting, draping and Computer aided design.

CO3. To create different styles, shapes and silhouettes including Dart manipulation pattern grading

#### **Course Name: Needle craft**

**CO1.** To basic stitching techniques learning fundamentals hand stitching techniques such as running stitch back stitch and others.

**CO2.** Proficiency in embroidery developing skills in decorative stitches techniques such as satin stitch, chain stitch, French knot and others to create designs and patterns.

**CO3.** Knowledge of Cross Stitch understanding the Cross Stitch technique including reading and interpreting patterns stitching on different fabric Counts and creating detailed Cross Stitch design.

## Course Name: knitting technology

**CO1.** To understanding of knitting machinery learning about different types of knitting machines including circular knitting machines, plate knitting machines and warp knitting machines as well as their Components and functions.

**CO2.** To developing skills in various knitting techniques such as knit stitch, rib stitch lace and others.

**CO3.** To studying the principle of fabric structure in knitted Textiles including stitch pattern gauge tension gauge and elasticity.

### **Course Name: CAD (Computer aided design)**

**CO1.** Proficiency in CAD software mastery of industries standard CAD software such as Adobe Illustrator Adobe Photoshop CorelDraw or specialized fashion design.

**CO2.** Digital sketching and illustration developing skills in creating digital fashion sketches and illustrations.

**CO3.** Technical drawing and specification sheet learning to create technical drawing and specification sheets for fashion designs including flat sketching detailed drawing and garment Construction diagrams.

## Course name: fashion illustration and appreciation

**CO1**. Technical skills to develop proficiency in sketching drawing and illustrating fashion figure.

**CO2.** Understanding design element gain knowledge of design principles such as line, shape, proportion, Color and texture.

**CO3.** Fashion history and learn about the historical evolution of fashion and current trends.

## **Course Name: Draping pattern making and Construction**

**CO1.** Draping techniques develop proficiency in draping fabric on dress forms to create various garment shapes and silhouettes.

**CO2.** Pattern making skills learn how to translate fabric into flat pattern pieces using techniques such as tracing slashing and pivoting to create accurate patterns.

**CO3.** To gain hands on experience in Constructing garments from patterns including marking, cutting, Sewing and finishing techniques.

#### **Course Name: CAD**

**CO1.** Computer design in the Context of fashion design to the use of Computer software to create digital designs.

**CO2.** To design for garments textile accessories and other fashion related to product software allows designer to create modify and visualize designs.

**CO3.** To gain Combination inside into the day-to-day operations of a design from or department familiarizing yourself with industry practices.

## **Course Name: Internship of Design**

**CO1.** To gain practical experience of working in a professional design environment applying theoretical knowledge to real word projects and challenges.

**CO2.** To gain inside into the day-to-day operations of a design firm and department.

**CO3.** To manage design projects effectively including setting goal is establishing timelines and coordinating with team members and clients.

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## Course Name: fashion illustration and appreciation

**CO1.** To understand fashion history student should gain knowledge of the evolution of fashion through different eras, styles and cultural influences.

**CO2.** Appreciation of fashion as statics developing An Eye for fashion statics including Colour theory Composition and silhouettes.

**CO3.** Fashion illustration skills mastering various techniques for fashion illustration.

## Course Name: fashion industry marketing and management.

**CO1.** Required knowledge of Retail Management strategies store operations inventory management, visual merchandising and customer services within the fashion details sector.

**CO2.** To product development and merchandising done about the product development process including designs Sourcing production and marketable fashion product.

**CO3.** Brand development and Management to understand the principles of brand identity.

#### Course Name: Basics of design and illustration

**CO1.**To Understanding principles of design this includes learning about balance, Contrast Emphasis, movement pattern, rhythm and Unit

**CO2.** To Mastery of drawing fundamentals learning how to sketch use lines, shapes and shading to create realistic.

**CO3.**To Enhance design layouts.

**CO4.** To Pro create illustrate and design work.

**CO5.**To Shading to create realistic or stylized illustrations.

#### **Course Name: Concept of Fashion**

**CO1.** To Understanding the historical and cultural significance of fashion.

**C02.**To Analyzing Trends and their impact on society and Consumer behavior.

**CO3.** To Identifying key element of fashion design such as silhouettes Color theory and textile selection.

**CO4.**ToDeveloping critical thinking skills to value the ethical and sustainable aspects of the fashion history.

**CO5.** To Applying principles of fashion styling and presentation.

Course Name: Basic of sewing-1

**CO1.**To Understanding various types of fabrics their properties and appropriate use.

**CO2.**Practicing basics sewing skills including seam Construction hemming and garment

Construction.

**CO3.** Developing proficiency using a sewing machine and hands sewing techniques.

**CO4.** Gaining knowledge of garment Construction methods and techniques such as that's the darts

pleats and gathers.

CO5. Applying finishing techniques to government such as pressing top stitching adding closures,

zippers buttons.

**Course Name: Fibre to fabric** 

CO1. Understanding the characteristics and properties of various natural and synthetic fibres used

in textile production.

CO2. Exploring the processes involved in fibre production including cultivation harvesting and

processing.

CO3. Learning about the chemical and mechanical method used in fibre processing, spinning

carding and weaving.

**CO4.** Analyzing the relationship between fibre properties and Fabric characteristics such as

strength elasticity and texture.

CO5. Evaluating the quality and performance of fabric through laboratory and analysis.

**Course Name: Traditional textile** 

**CO1.**To Understanding the historical significance and cultural heritage of traditional textile from

different region and cultures around the world.

CO2. To Identifying various traditional textile techniques such as weaving dyeing embroidery and

printing.

**CO3.**To Exploring the material traditional used in textile production including natural fibres dies

and embellishments.

**CO4.** To Analyzing the symbolism and motive present in traditional textile designs.

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**CO5.**To Including hand crafted methods and tools used by artisans.

#### **Course Name: fabric Construction**

- **CO1.** To Understanding the principles and techniques of fabric Construction including weaving knitting and non-woven methods.
- **CO2.** To Identifying different types of fabric structures and their characteristics such as plain weave, twill, satin, Jersey, knit and felt.
- **CO3.** To Analyzing the factors that influence fabric properties, such as fibres type, yarn Construction, and Fabric structure.
- **CO4.**ToLearning about the relationship between fabric Construction and end use application such as apparel, home textile and technical textiles.
- CO5. To Practicing hands on fabric Construction Techniques through laboratory or projects.

## Punjabi

ਲਾਜ਼ਮ**ੀ ਪ**ੰਜ**ਾਬ**ੀ ਸਮ**ੈਸਟਰ ਪਹ**ਿਲਾ ਬ**ੀ.ਸ**ੀ.ਏ/ਬ**ੀ.ਐਸ.ਸੀ ਐਫ.ਡੀ** 

**ਪਗ਼ਰਾਮਆਉਟਕਮ** CO.1'ਸਲੋਣੀ ਪੰਜਾਬੀ ਕਾਵ₹' ₹ਿੱਚ ₹ਿੱਖ-₹ਿੱਖ

ਵ₹ਵਸਆਂ ਨਾਲ ਸੰਬੰਵਧਤ ਕਵ₹ਤਾ₹ਾਂ ਪੜ੍ਹਨ ਦਾ ਮੌਕਾਂCO.2 'ਮੰਚ ਘਰ, ਪੁਸਤਕ

₹ਵੀਂੱ ਚ ₹ਿੱਖ-₹ਿੱਖ ਇਕਾਾਂਗਰੀਆਂ ਪੜ੍ਹਨ ਨਹਾਲ ਜਾਣਕਹਾਰੀ ਪ⊮ਪਤ ਹੋਣਾ

CO.3 ਭ**ਾਸ**ਾ ਤ**ੇ** ਟਕਸ**ਾਲ**ੀ ਭਾਸ**ਾ ਦੇ ਨਾਲ ਸ**ੰਬ**ੰ** ਵਧਤ ਜਾਣਕ**ਾਰ**ੀ ਦ**ੇ**ਣਾ

CO.4 ਪ<sup>ੈ</sup>ਰਾਾਂ ਰਚਨਾ ਵਲਖਣ ਸਬੰੰਧ**ੀ ਤ**ੇ ਪ<sup>ੈ</sup>ਰਾ ਪੜ੍ ਕ**ੇ ਪ**ਜ਼ਨਾਂ ਦੇ ਉੱਤਰ ਕਰਨ ਵ€ਿੱਚ ਸਹ**ਾਇਤਾ** ਕਰਨਾ

#### **Course Name- Business Communication**

- CO1. This course allows students to develop knowledge, skills and judgement around human communication.
- CO2. To facilitate their ability to work collaboratively with others.
- CO3: Learner will be conversant with business or official communication terms and writing skills.

CO4: It will enable them to enhance their verbal communication using modern technology.

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## **Department of Commerce**

**Programme: Bachelor of Commerce (B. Com)** 

## **Program Outcomes**

PO1: To have a solid understanding of various business concepts, including marketing, finance, accounting, economics, and management.

PO2: To develop strong analytical skills through courses in accounting, statistics, and economics, which enable them to analyse financial data, market trends, and business strategies.

PO3: To gain financial literacy, understanding financial statements, budgeting, financial analysis, and

investment principles.

PO4: To enhance communication skills, including business communication, report writing, and presentation skills.

PO5: To identify problems within a business context and apply analytical and critical thinking skills to

develop effective solutions.

PO6: To Provide graduates with the knowledge and skills needed to start and manage their own businesses.

PO7: To develop an understanding of ethical issues in business and are equipped with ethical decision-making frameworks.

PO8: To make proficient in use of technology in business and computer applications relevant to business operations.

PO9: Through group projects and presentations, students learn to work effectively in teams, developing collaboration and leadership skills.

PO10: To serve as a foundation for various career paths such as accounting, finance, marketing,

human resources, and management.

PO11: To prepare students for further studies like pursuing a Master of Commerce (M.Com, MBA,

or specialized certifications like Chartered Accountancy (CA), Certified Public Accountant (CPA),

or

Chartered Financial Analyst (CFA).

PO12: To provide students with a comprehensive understanding of business principles, practical

skills, and a mindset that prepares them for success in the dynamic world of commerce.

**Program Specific Outcomes** 

PSO1: To analyses data and make informed business decisions.

PSO 2. To have a solid foundation in Marketing, Accounting and Financial management skills.

PSO 3: To develop students' critical thinking and problem-solving abilities, enabling them

to analyses

complex business problems, identify viable solutions, and make sound decisions.

**Course Outcomes** 

**Course Name: Financial Accounting (BCG-103)** 

CO1: To acquire conceptual Knowledge of financial accounting and the techniques for

preparing accounts.

CO2: To comprehend the components of financial statements, including the balance sheet, income

statement, and cash flow statement.

CO3: Capability to prepare financial statements.

CO4: Analyzing financial statements to assess the financial health and performance of an

organization.

CO5: Knowledge of Generally Accepted Accounting Principles (GAAP) or International Financial

Reporting Standards (IFRS) and their application in preparing financial statements

**Course Name: Business Organization (BCG-104)** 

CO1:To provide basic knowledge to the students about organization and management of a business enterprise.

CO2: Understanding Organizational Structures

CO3: Understanding the behavior of individuals and groups within organizations

CO4: Ability to analyze the external environment and internal resources of an organization to develop strategic plans and make decisions

CO5: Understanding key HR functions, such as recruitment, selection, training, performance management, compensation, and employee relations, and their role in achieving organizational objectives.

# **Course Name: Business Statistics (BCG-106)**

CO1: To introduce to the basics of statistics and helps the students to acquaint with the applications of statistical techniques in business decisions.

CO2: Develop the ability to interpret statistical results accurately and draw meaningful conclusions

CO3: Learn methods for collecting, organizing, and summarizing data.

CO4: Understand methods for forecasting future trends and patterns based on historical data, including time series analysis, regression modeling, and other forecasting techniques.

CO5: To understand consumer behavior, including segmentation, targeting, and positioning strategies.

### **Course Name: Business Communication (BCG-105)**

CO1: Develop proficiency in writing various business documents.

CO2: Develop interpersonal communication skills to build rapport, establish trust, and maintain positive relationships.

CO3: Learn proper business etiquette and protocol for professional interactions.

CO4: Enhance writing skills for drafting, revising and editing business documents.

CO5: Understand ethical considerations in business communication.

**Course Name: Computer Fundamental (BCG-107)** 

CO1: To understand basic Computer Operations.

CO2: Gain knowledge of computer hardware components and software types.

CO3: Develop proficiency in using word processing software.

CO4: Acquire skills in creating and delivering presentations using presentation

software

CO5: Understand the functions and capabilities of web browsers and email clients,

including searching the web,

**Course Name: Advanced Financial Accounting (BCG-203)** 

CO1: To have Knowledge of depreciation, single entry system, hire purchase business and partnership & partnership & amp; its reconstitution.

CO2: In-depth understanding of various concepts of Accounting.

CO3: Ability to read, understand and trace the execution of programs.

CO4: Skill to debug a program.

CO5: Skill to write program code in C to solve real world problems.

**Course Name: Commercial Laws (BCG-204)** 

CO1: To impart basic Knowledge of important business laws along with relevant cases.

CO2: To Understand Legal Framework governing commercial transactions, including contract law,

agency law, and business entities.

CO3: To Understanding LLP Laws.

CO4: To understand the legal principles governing the sale of goods.

CO5: To make aware of consumer protection laws.

Course Name: Business Economics (BCG-205)

CO1: To explain different terms used in Business economics.

CO2: To understand the basic concepts for higher education in management /economics.

CO3: To acquaints the students with the concepts of microeconomics.

CO4: To understand the behaviour of firms under different market structures.

CO5: It is required for cost and benefit analysis in corporate organizations

# **Course Name: Functional Management (BCG-206)**

CO1: To provide basic knowledge to the student about the organization and management of a business enterprise.

CO2: To gain a comprehensive understanding of the various functional areas within an organization.

CO3: To develop operational plans, set objectives, allocate resources, and establish control mechanisms

CO4: To understand the roles and responsibilities of functional managers.

Course Name: Punjabi Compulsory (BCG-202)

CO1: This course connects the students to their roots.

CO2: To understand literary terms generally and concepts it develops confidence to read and write an analytical thinking.

CO3: Knowledge of Punjabi language helps them to think critically while studying Punjabi literature.

CO4: Students can express their views and ideas on various topics.

## **Course Name: Corporate Accounting (BCG-303)**

CO1. Demonstrate a comprehensive understanding of the conceptual framework of corporate accounting, including principles, standards, and regulatory requirements.

CO2. Apply various techniques and methods to prepare accurate and reliable corporate financial statements.

CO 3. analyze and interpret financial data to evaluate the financial performance and position of a corporation, using ratio analysis, trend analysis, and other financial metrics.

CO 4. Evaluate the impact of corporate transactions and events on financial statements, including

mergers, acquisitions, investments, and divestitures, in accordance with accounting standards and

principles.

CO 5. Demonstrate proficiency in using accounting software and tools to record, analyze, and

report corporate financial information effectively and efficiently.

**Course Name: Company laws (BCG-304)** 

CO 1. Students will gain a comprehensive understanding of the legal framework governing

companies in India as per the Companies Act 2013, including its evolution, key provisions, and

regulatory authorities involved.

CO 2. Students will be able to identify and explain the essential compliance requirements

mandated by the Companies Act 2013.

CO 3. Students will develop skills related to corporate governance practices, including

understanding the roles and responsibilities of directors, audit committees, and other key

stakeholders

CO 4. Students will learn how to assess legal risks associated with company operations and

transactions, including mergers, acquisitions, and corporate governance issues, and apply legal

strategies to mitigate these risks in compliance with the Companies Act 2013.

CO 5. Students will be able to apply their knowledge of the Companies Act 2013 to real-world

scenarios, and develop solutions.

**Course Name: Financial Management (BCG-305)** 

CO 1. Financial Analysis Skills: Students will develop the ability to analyze financial statements,

interpret financial ratios, and assess the financial health and performance of companies.

CO 2. Risk Management Competence: Students will acquire skills in identifying, assessing, and

managing financial risks faced by organizations, including market risk, credit risk, liquidity risk.

CO 3. Capital Budgeting Proficiency: Students will learn various techniques and methods used in capital budgeting, such as net present value (NPV), internal rate of return (IRR), payback period, and profitability index, and apply these tools.

CO 4. Financial Planning and Forecasting: Students will gain expertise in financial planning processes,

including budgeting, forecasting cash flows, and setting financial targets, enabling them to develop realistic financial plans.

CO 5. Corporate Finance Knowledge: Students will understand the principles of corporate finance, including capital structure decisions, dividend policy, working capital management, and financing options.

#### **Course Name: International Business BCG-306**

CO 1. Students will be able to analyses and interpret the complex global business environment, including economic, political, cultural, and legal factors influencing international business operations.

CO 2. Students will develop the ability to evaluate and compare various market entry strategies such as exporting, licensing, joint ventures, and foreign direct investment, and suitability for different business scenarios.

CO 3. Students will gain an understanding of cross-cultural management challenges and develop strategies to effectively manage cultural diversity in international business settings.

CO 4. Students will learn to assess and analyses international trade policies, including tariffs, trade agreements, and their impact on global business operations.

CO 5. Students will be able to formulate comprehensive global business strategies considering market dynamics, ethical considerations.

### **Course Name: Business Environment: (BCG-307)**

CO 1. Students will be able to analyze and interpret the economic factors influencing the insurance business, including market trends, inflation rates, interest rates, and economic policies.

CO 2. Evaluate Operational Challenges: Students will develop skills to identify and evaluate operational challenges faced by insurance companies.

CO 3. Analyze Financial Performance: Students will gain the ability to analyze financial statements of insurance companies, assess their solvency ratios, profitability margins etc. to make informed business decisions.

CO 4. Apply Strategic Management Concepts: Students will apply strategic management concepts to the insurance sector, including competitive analysis, market segmentation, product development, distribution channels, and customer relationship management.

CO 5. Assess Legal and Ethical Issues: Students will demonstrate an understanding of legal and ethical issues in the insurance industry, including contract law, consumer protection etc.

#### **Course Name: Good Services Tax (BCG 403)**

CO 1. Understand the fundamental principles of GST, including its purpose, scope, and objectives in the context of taxation and economic management.

CO 2. Analyze and interpret the key provisions and regulations of GST, including registration and filing of returns, to ensure compliance and efficient tax management.

CO 3. Apply knowledge of GST principles to assess and calculate tax liabilities accurately for various transactions involving goods and services and composition schemes where applicable.

CO 4. Evaluate the impact of GST on business operations, financial management, and decision-making processes, considering factors.

CO 5. Demonstrate proficiency in using GST software and tools for record-keeping, tax calculations, and reporting, enhancing efficiency and accuracy in GST compliance and reporting processes.

## **Course Name: Industrial Law (BCG-404)**

CO 1. Understand the fundamental principles and concepts of industrial law, including the legal framework governing labour relations and industrial disputes.

CO 2. Analyze and interpret key provisions of industrial laws such as the Industrial Disputes Act and Minimum Wages Act to ensure compliance in industrial settings.

CO 3. Evaluate the impact of industrial laws on employee rights, employer responsibilities, and organizational policies, fostering a balanced perspective on labor-management relations.

CO 4. Apply knowledge of industrial laws to real-world scenarios, resolving legal issues and promoting fair practices in the workplace.

CO 5. Develop critical thinking and problem-solving skills by examining case studies and legal precedents in industrial law, enabling informed decision-making and ethical conduct in industrial settings.

## **Course Name: Principles and Practices of Banking and Insurance (BCG-405)**

CO 1. Demonstrate an understanding of the fundamental principles governing banking and insurance industries, including risk management, financial intermediation, and regulatory compliance.

CO 2. Apply theoretical knowledge to analyses real-life scenarios in banking and insurance, such as loan disbursement processes, and claims settlement procedures.

CO 3. Evaluate the impact of economic, technological, and regulatory changes on the banking and insurance sectors, and propose strategic responses to these challenges.

CO 4. Develop skills in financial statement analysis, credit assessment, and risk evaluation to make informed decisions in banking and insurance operations.

CO 5. Demonstrate ethical awareness and professional conduct in dealing with clients, stakeholders, and regulatory authorities within the context of banking and insurance practices.

### **Course name: Cost accounting (BCG-406)**

CO 1. Understand the fundamental concepts of cost accounting, including cost classification, cost behavior, and cost allocation methods.

CO 2. Apply various costing techniques such as job costing, process costing, and activity-based costing to determine product or service costs accurately.

CO 3. Analyze costing data to make informed decisions regarding pricing, product mix, and resource allocation within an organization.

CO 4. Utilize cost accounting information for effective planning and budgeting, including cost estimation and forecasting for future periods.

### **Course Name: Management Accounting (BCG-503)**

CO1: Understanding Management Accounting Concepts

CO2: Ability to analyses Cost Classification and Costing Systems.

CO3: To understand Budgeting and Forecasting.

CO4: Cost Management and Control.

CO5 Develop skills in using management accounting information to make informed business decisions

### **Course Name: Direct Tax Laws (BCG-504)**

CO1: To provide basic knowledge and equip students with application of principals and practice of income tax act-1961

CO2: Acquire skills in tax planning strategies.

CO3: Gain familiarity with the assessment procedures under the Income Tax Act

CO4: Learn about the taxation of non-residents (foreign individuals and entities) in India

CO5: Learn about the taxation of non-residents (foreign individuals and entities) in Indi

#### **Course Name: Auditing (BCG-505)**

CO1: Gain knowledge of the concept, nature, and objectives of auditing

CO2: Learn about the auditing standards and frameworks governing the conduct of audits

CO3: Understand the requirements and components of the audit report

CO4: Acquire knowledge of fraud risk factors, red flags, and techniques for detecting and preventing fraud in financial statements

CO5: To provide knowledge of auditing principles, procedures and techniques in accordance with the professional standards.

## **Course Name: Banking services management (BCG-521)**

CO1: Gain knowledge of the structure, functions, and regulatory environment of the banking industry

CO2: Understand various banking products and services offered to individual and corporate customers

CO3: Develop skills in managing customer relationships in the banking sector.

CO4: Understand credit risk assessment and management techniques used by banks Interest

CO5: Develop skills in analyzing bank financial statements.

#### **Course Name: Insurance service management (BCG-522)**

CO1: To develop understanding about Principles of insurance and its usefulness in business.

CO2: Gain knowledge of the structure, functions, and regulatory environment of the insurance industry.

CO3: Understand various types of insurance products and services offered to individuals and business.

CO4: Learn about risk management concepts and techniques used by individuals and businesses.

CO5: Understand the processes and procedures involved in insurance operations, including underwriting, policy issuance, claims processing, premium billing, reinsurance, and risk assessment.

### **Course Name: Punjabi Compulsory (BCG-502)**

CO1: To enriches Mother Language among the students

CO2: The students know about vocabulary and basic grammar.

CO3: The students know how to study language and literature

### **Course name: Operation research (BCG-603)**

CO1: Gain knowledge of the concepts, principles, and methodologies of operations research.

CO2: Develop skills in formulating and solving optimization problems using mathematical techniques.

CO3: Learn how to model decision-making problems under uncertainty using decision trees, probability theory, sensitivity analysis, and risk assessment techniques.

CO4: Acquire knowledge of forecasting methods and techniques used to predict future outcomes and trends, including time series analysis, regression analysis, and causal modeling.

CO5: Understand inventory management principles and techniques

### **Course name: Corporate Governance (BCG-604)**

CO1: Understanding of Corporate Governance Concepts

CO2: Understand the roles, rights, and responsibilities of different stakeholders in a corporation

CO3: Learn about corporate governance laws, regulations, codes, and guidelines governing corporations

CO4: Understand the composition, structure, functions, and responsibilities of the board of directors in corporate governance

CO5: Acquire knowledge of risk management principles and practice

**Course name: Workshop on Income tax and e-filing(BCG-605)** 

CO1: Gain knowledge of the basic concepts, provisions, and regulations of income tax laws

CO2: Learn how to use electronic filing (e-filing) systems provided by tax authorities

CO3: Acquire skills in preparing accurate and complete income tax returns using e-filing software or online platforms

CO4: Understand the procedures for verifying and submitting income tax returns electronically

CO5: Learn about tax planning strategies and techniques

**Course name: Foreign Exchange Management (BCG 621)** 

CO1: Gain knowledge of the structure, functions, and participants of the foreign exchange market.

CO2: Understand the concept of foreign exchange rates, including spot rates, forward rates, and exchange rate quotation.

CO3: Learn about foreign exchange risk exposure faced by businesses and investors.

CO4: Acquire knowledge of currency trading principles and practice.

CO5: Understand the regulatory framework governing foreign exchange transactions.

**Course name: Risk management and Insurance (BCG-622)** 

CO1: Gain knowledge of risk management concepts, including the nature of risk, risk assessment, risk identification, risk analysis, risk mitigation, and risk financing.

CO2: Understand the principles and practices of insurance, including risk pooling, risk transfer, risk sharing, indemnity, insurable interest, utmost good faith, and contribution.

CO3: Learn about different types of insurance risks, including property risks, liability risks, casualty risks, life risks, health risks, and financial risksCO4: Acquire skills in assessing and evaluating insurance risk.

CO5: Understand the process of insurance product design and development.

# **Course Outcome English**

### Course Name- Gen English (Prose & Grammar) Credit-4, L-6

- CO1. This course helps in improvement in the skills of listening, speaking, reading and writing and develops creative writing skills.
- CO2. It also enables them to speak about the writers and learn correct grammatical form, appropriate vocabulary and correct word order.
- CO3: It enables students to speak about the poets and explain the style of the poem.
- CO4: Write letters in the correct format and language.

### **Course Name- Gen English (Poetry & making Connections)**

- CO1. The students learn correct appropriate vocabulary and correct word order.
- CO2. It develops creative Writing skills.
- CO3. It also enables them to speak about the writers.
- CO4. Students also familiar with the background of the academic writings.

## **Course Name Gen English (Poetry & Drama)**

- CO1: Critically understand and analyses poetry across a wide range of literary age and context.
- CO2. It enables students to speak about the poets and explain the style of the poem.
- CO3. It helps the students to understand the genre of drama.
- CO4. It helps them to understand the different types of play and drama.

### **Course Name Gen English (Novel and One Act Plays)**

- CO1. They will be able to participate in role plays and mini-talks.
- CO2. Acquire a broad perspective of the novel as a literary genre and the relevant historical, geographical, and cultural identical backgrounds.
- CO3. Appreciate the working of various literary devices like irony in fiction.

Punjabi

# ਲਾਜ਼ਮ**ੀ ਪ**ੰਜ**ਾਬ**ੀ ਪਹ**ਿਲਾ ਸਮ**ੈਸਟਰ ਪਗੋਰ**ਾਮ ਆਉਟਕਮ**

CO.1'ਦ**ੋ ਰ**ੰਗ' ਪ**ੁਸਤਕ ₹ਿੱਚ ਕਹ**ਾਣੀਆਂ ਪ੍ਗ਼ਨ ਦ**ਾ ਮ**ੌਕਾ

CO.2 ਸ**ੰਸ**ਾਰ ਦ**ੀਆ**ਂ ਪ⊮ਸਿੰੱ ਧ ਹਸਤੀਆਂ ਦ**ੇ ₹ਿੱਚ ₹ਿੱਖ-₹ਿੱਖ ਲ**ੇ ਖਕ**ਾ**ਂ ਦ**ੇ ਜੀ₹ਨ ਨੂੰ** ਜਾਨਣ ਦ**ਾ ਮ**ੌਕਾ

CO.3 ਭਾਸਾ ₹ੰ ਨਗੀਆਂ ਨਾਲ ਸੰ ਬੰ ਵਧਤ ਜਾਣਕਾਰੀ ਪਰਾਪਤ ਕਰਨਾ

CO.4ਪੰ ਜਾਬੀ ਭਾਸਾ ਦਾ ਵਨਕਾਸ ਤੇ ਵ₹ਕਾਸਦੇ ਬਾਰੇ ਜਾਣ

ਕਰਾੳੂੁਣਾ CO.5 ਪੈਰਾਂ ਰਚਨਾ ਸੰਬੰਧੀ ਜਾਣਕਾਰੀ ਹਾਵਸਲ ਕਰਨਾ

# ਲਾਜ਼ਮ**ੀ ਪ**ੰਜ**ਾਬ**ੀ ਸਮ**ੈਸਟਰ ਦ**ੂਜ**ਾ ਬ**ੀ.ਸ**ੀ.ਏ /ਬ**ੀ.ਐਸ.ਸੀ ਐਫ.ਡ**ੀ.ਆਊਟਕਮ ਪਗੋਰ**ਾਮ

CO.1 ਵਸਰ**ੋਮਣ**ੀ ਪ**ੰਜਾਬੀ ਕਹ**ਾਣ**ੀ ਭ**ਾਗ ₹ਿੱਚ ₹ਿੱਖ-₹ਿੱਖ ਵ₹ਵਸਆ**ਂ ਨਾਲ ਸ**ੰਬ≎ਵਧਤ ਕਹ**ਾਣ**ੀ ਪ੍ਰਹਨ ਦ**ਾ ਮ**ੌਕਾ

CO.2 ਸਮੇਣ**ੀ ਪ**ੰਜਾਬੀ ਕਾਵ₹ ₹€ਿੱਚ ਗੁਰ ਆ**ਂ ਪ**ੀਰ**ਾ**ਂ ਨਾਲ ਸਬ**ੰ** ₹ਧਤ ਜਾਣਕ**ਾਰ**ੀ ਪ⊮ਪਤ ਕਰਨਾ

CO.3 ਸਬਦ ਰਚਨਾ ਦੇ ਬਾਰੇ ਜਾਣਕਾਰੀ ਦੇਣਾ

CO.4 ਸਬਦ ਸਲੇ∶ੀਆ**ਂ ਤ**ੋ**ਂ** ਜਾਣ ਕਰ₹ਾਉਣਾ

# ਬ**ੀ.ਏ ਤ**ੀਜ**ਾ ਸਮ**ੈਸਟਰ ਲ**ਾਜ਼ਮ**ੀ ਪ**ੰਜ**ਾਬ**ੀ ਆਊਟਕਮ ਪ**ਗ਼ੋਰ**ਾਮ**

CO.1 ਸਵਭਆਚਾਰ ਅਤੇ ਪੰਜਾਬੀ ਸਵਭਆਚਾਰ ਨਾਲ ਜੁੜ੍ਨ ਦਾ ਮੌਕਾ

CO.2 ਆਧੁਵਨਕ ਇਕਾਾਂਗੀ ₹ਵਿੱਚ ₹ਿੱਖ ₹ਿੱਖ ਵ₹ਵਸਆਂ ਨਾਲ ਸ**ੰਬ**ੰਵਧਤ ਜਾਣਕਾਰ**ੀ** ਪਗਪਤ ਕਰਨ ਦਾ ਮ<sup>ੌ</sup>ਕਾ

СО.3 ਸੰਖੇਪ ਰਚਨਾ ਅਤੇ ਅਸਿੱੁਧ ਸਬਦ ਜੋੜ੍ਾਂ ਨੂੰ ਸਿੱੁਧ ਕਰਕੇ ਵਲਖਣ ਦਾ ਅਵਭਆਸ

СО.4 ਮਲ ਵ₹ਆਕਰਵਨਕ ਇਕਾਈਆਂ ਦੀ ਪ∉ਰਭਾਸਾ ਅਤੇ ₹ਰਗਰੀਕਰਨ ਪੜ੍ਨ ਦਾ ਅ₹ਸਰ ਪਰਘਤ ਕਰਨਾ

# ਲਾਜ਼ਮ**ੀ ਪ**ੰਜ**ਾਬ**ੀ ਸਮ**ੈਸਟਰ ਚ**ੌਥਾ ਪਗ਼ੋਰ**ਾਮ ਆਉਟਕਮ**

CO1."ਮੇਰੀ ਜੀ₹ਨ ਗਾਥਾ" ਸ₹ੈ ਜੀ₹ਨੀ ਬਾਰੇ ਜਾਣਕਾਰੀ ਵਮਲੇਗੀ।

Pt. Mohan Lai S.D. College for Women, Gurdaspur "CO2.ਫਾਸਲੇ "ਨਾਟਕ ਦੇ ਵ₹ਸੇ ਅਤੇ ਕਲਾਤਮਕ ਪਿੱਖ ਬਾਰੇ ਵਗਆਨ ਹੋ₹ੇਗਾ

CO3.ਲੇੇ ਖ ਰਚਨਾ ਫ਼ਕ₹ੇਂ ਕੀਤੀ ਜਾਂਦੀ ਹੈ, ਫ਼ਮਿੰਂ ਖਾਇਆ ਜਾ₹ੇਗਾ।CO4ਅਸਿੰੱੁਧ ਸਬਦਾਾਂ ਨੂੰ ਮਿੰੱੁਧ ਕਰਨਾ ਚਿੰੱਫਸਆ ਜਾ₹ੇਗਾ CO5.ਗੁਰਮੁਖੀ ਵਲਪੀ ਬਾਰੇ ਜਾਣਕਾਰੀ ਵਮਲੇਗੀ।

# ਬ**ੀ.ਏ ਭ**ਾਗ ਪ**ੰਜਵਾ**ਂ ਸਮ**ੈਸਟਰ ਲ**ਾਜ਼ਮ**ੀ ਪ**ੰਜਾਬ**ੀ ਆਉਟਕਮ ਪ**ਗ਼ਰਾਮ

CO.1 ਚੋਣ₹ੀਆਂ ਪੰਜਾਬੀ ਕਹਾਣੀਆਂ ਦੇ ਵ₹ਸਾ ₹ਸਤ / ਸਾਰ /ਅਤੇ ਕਹਾਣੀ ਕਲਾ ਨੰ ਜਾਣਣ ਦਾ ਮੌਕਾ

CO.2 ੲਹੁ ਹਮਾਰਾ ਜੀ₹ਣਾ ਨਾ₹ਲ ₹ਿੱਚ ਵ₹ਸਾ ₹ਸਤ ਅਤੇ ਪਾਤਰ ਵਚਤਰਨ ਕਰਨ ਦਾ ਮੌਕਾ

CO.3 ਪੈਰਾ ਰਚਨਾ ਅਤੇ ਸਰਲ ਅੰਗਰੇਜੀ ਪੈਰੇ ਦਾ ਪੰਜਾਬੀ ₹ਿੱਚ ਅਨੁ₹ਾਦ ਕਰਨਾ ₹ਸਿੱ ਖਣਾ

CO.4 ਪੰਜਾਬੀ ਧੁਨੀ ਵ₹ਉਂਤ ₹ਕਾਤਮਕ ਜੁਗਤਾਂ, ਕਾਰਕ ਤੇ ਕਾਰਕੀ ਸਬੰਧ ਜਾਨਣ ਦਾ ਅਫਸਰ ਪ⊮ਪਤ ਹੋਣਾ

# ਲਾਜ਼ਮ**ੀ ਪ**ੰਜ**ਾਬ**ੀ ਸਮ**ੈਸਟਰ ਛੇਵ**ਾਂ ਪੰਗਰ**ਾਮ ਆਉਟਕਮ**

CO1."ਮਿੰੱ ਧਕਾਲ**ੀ ਸ**ਾਵਹਤ "ਪ**ੁਸਤਕ ₹ਿੱਚ ਮ**ਿੱਧਕਾਲ**ੀ ਕ₹ੀਆ** ਬਾਰੇ ਜਾਣਕਾਰੀ ਵਮਲੇਗੀ। CO2."ਧਰਤੀਆਂ ਦੇ ਗੀਤ" ਸਫਰਨਾਮੇ ₹ਿੱਚ ਉੱਥੋ**ਂ** ਦੇ ਲ**ੋਕਾਾਂ ਬਾਰੇ ਵਗਆਨ ਪ⊮ਪਤ ਹ**ੋ₹ੇਗਾ। CO3. ਸਾਵਹਤ ਦੇ ਰਪਾਂ ਦੀ ਜਾਣਕਾਰੀ ਵਮਲੇਗੀ।

CO4. ਵ₹ਆਕਰਣ ਦੀਆਂ ਇਕਾਈਆਂ ਬ**ਾਰ**ੇ ₹ੇਰ₹ੇ ਸਹਤ ਜਾਣਕ**ਾਰ**ੀ ਵਮਲ**ੇ** ਗੀ।

# **Basic Punjabi**

ਮ**ਢ**ੱਲੀ ਪੰਜਾਬ**ੀ ਸਮ**ੈਸਟਰ ਪਹਿਲਾ ਬ**ੀ.ਏ /ਬ**ੀ.ਐਸ.ਸੀ /ਬੀ. ਕਾਮ ਪਗ਼ਰਾਮ ਆਊਟਕਮ CO.1 ਪੰਜਾਬੀ ਭਾਸਾ ਵਲਖਣੀ ਤੇ ਪੜ੍ਨੀ ਵਸਿੰੱਖੀ

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CO.3ਗੁਰਮੁਖੀ ਵਲਪੀ ਅਤੇ ਮਾਤਰਾ₹ਾਂ ਨਾਲ ਸਬੰਵਧਤ ਵਲਖਣਾ ਦਿੱਸਣਾ CO.4 ਗੁਰਮੁਖੀ ਆਰਥੋਗਰਾਫੀ ਦੇ ਰਾਹੀਂ ਸ₹ਰ ਤੇ ਵ₹ਅੰਜਨਾਂ ਤੋਂ ਜਾਣ ਕਰਾਉਣਾ CO.5 ਪੰਜਾਬੀ ਸਬਦ ਜੋੜ੍ ਕਰਨੇ ਵਸਖਾਏ

CO.6 ₹ਬੰਦੀ, ₹ਰਿੱਪੀ, ਅਧਿੱਕ ਦੀ ₹ਰਤੋਂ ਨਾਲ ਸਬਦ ਬਣਾਉਣੇ ₹ਿੱਖੇ,

ਸਿੰੱੁਧ ਸਬਦ ਜੋੜ੍ ਲਾਖ਼ਾਈ ਮੁੱਢਲੀ ਪੰਜਾਬੀ ਸਮੈਸਟਰ ਦੂਜਾ ਬੀ.ਸੀ.ਏ

/ਬੀ.ਐਸ.ਸੀ.ਐਫ.ਡੀ ਆਊਟਕਮ ਪਗ਼ੋਰਾਮ CO.1 ਪੰਜਾਬੀ ਸਬਦ ਬਣਤਰ ₹ਿੱ
ਚ ਨ₹ੇਂ ਸਬਦਾਂ ਦਾ ₹ਨਰਮਾਣ ਕਰਨਾ ਦਿੱਸਣਾ

CO.2 ਸੰਯੁਕਤ ਸਬਦ, ਦੋਜਾਤੀ ਸਬਦ, ₹ਮਸਰਤ ਸਬਦਾਂ ਤੋਂ ਜਾਣ
ਕਰਾਣਾ CO.3 ਇਕ ₹ਚਨ ਬਹੁ ₹ਚਨ ਲਿੰਗ ₹ਚਨ, ਸਮਾਨਾਰਥਕ

ਸਬਦ ਬਣਾਉਣੇ ₹ਸਿੰੱਖੇ CO.4 ਰੋਜਾਨਾ ₹ਰਤੀ ਜਾਣ ₹ਾਲੀ ਪੰ
ਜਾਬੀ ਸਬਦਾਂ₹ਲੀ ₹ਸਿੰੱਖੀ

ਮ**ੱੁਢਲੀ ਪ**ੰਜ**ਾਬ**ੀ ਤ**ੀਜ**ਾ ਸਮ**ੈਸਟਰ ਆਊਟਕਮ ਪਗ਼ਰ**ਾਮ

CO.1 ਅੰਗਰ**ੇਜੀ ਤ**ੋਂ ਪ**ੰਜਾਬੀ ₹ਿੱਚ ਅਨ**ੁ₹ਾਦ ਕਰਨ ਦੀ ਕਲ**ਾ ₹ਸ**ਿੱਖਣਾ, ਪ**ੈ**ਰਾ ਰਚਨਾ ਵਲਖਣਾ

CO.2 ₹ਿੱਖ-₹ਿੱਖ ਵ₹ਵਸਆਂ ਨਾਲ ਸੰਬੰਵਧਤ ਕਵ₹ਤਾ₹ਾਂ ਪੜ੍ਹਨ ਦਾ ਮੌਕਾ

СО.3 ਲੇ ਖਕਾਂ ਦੀਆਂ ਕਹਾਣੀਆਂ ਪੜ੍ਹ ਦਾ ਅਫਸਰ ਪਾਪਤ ਕਰਨਾ

CO.4 ₹ਿੱਖ ₹ਿੱਖ ह₹हमਆਂ ਤੇ हਨਬੰਧ ਪੜ੍ਹਨ ਦਾ ਮੌਕਾ ਪਰਘਤ ਹੋਣਾ ਵਜ₹ੇਂ ਵਕ ਆਓ ਗਿੱਲਾਂ ਕਰੀਏ, ਮਨਿੱਂ ੁਖ ਕੁਦਰਤ ਦੀ ਨੇਕਔਲਾਦ।

# ਮ**ੁੱੁਢਲੀ ਪ**ੰਜ**ਾਬ**ੀ ਚੁੱਥਾ ਸਮ**ੈਸਟਰ ਆਊਟਕਮ ਪੰਗਰ**ਾਮ

CO.1 ਲ**ੇ ਖਕ**ਾਂ ਦ**ੀਆ**ਂ ਕਵ₹ਤਾ₹ਾਂ ਦ**ੀ ਪਸ**ੰਗ ਸਵਹਤ ਵ₹ਆਵਖਆ ਕਰਨੀ ह**ਸ**ਿੱਖਣ**ੀ** 

CO.2 ਵ₹ਸਾ ₹ਸਤ ਅਤੇ ਸਾਰ ਵਲਖਣ ਦਾ ਮੌਕਾ

CO.3 ਕ₹ੀਆਂ ਦੇ ਜੀ₹ਨ ਬ**ਾਰ**ੇ ਅਤੇ ਰਚਨ**ਾ ਬ**ਾਰੇ

ਜਾਣਕਾਰੀ ਪਾਪਤ ਕਰਨਾ CO.4 ਲੇਖ ਰਚਨਾ ਅਤੇ ਅਸਿੰਂ ੁਧ ਸਬਦਾਂ ਨੂੰ ਸਿੰਂੁਧ ਕਰਕੇ ਵਲਖਣ ਬਾਰੇ ਸਿੰਂਖਣਾ **ਮਢੰਲੀ ਪੰ** ਜਾ**ਬ**ੀ ਭਾਗ ਪੰਜਵਾਂ ਆਊਟਕਮ ਪੰਗਰਾਮ

CO.1 ਲੋਕ ਕਾਵ₹ ਪੜ੍ਹ ਕੇ ਪੰਜਾਬੀ ਸਿੱਵਭਆਚਾਰ ਦਾ ਵਗਆਨ ਹੋ₹ੇਗਾ

CO.2 ਘੋੜ੍ੀਆਂ, ਸੁਹਾਗ, ਟਿੱਪੇ ਪੜ੍ਹਨ ਉਪਰੰਤ ਵ₹ਸਾਲ ਸਵਭਆਚਾਰ ਨਾਲ ਅਪਣਤ ਪੈਦਾ ਹੋ₹ੇਗੀ

CO.3 ਪੰਜਾਬੀ ਦੀਆਂ ਲ**ੋਕ ਖ**ੇਡਾਂ ਪਰੀ **ਬ**ਿੱਵਚਆਂ ਦ**ੀ ਰ**ੁਚੀ ਤੋਂ ਜਾਣ ਹ**ੋਣ**ਾ

CO.4 ਲ**ੋਕ ਖ**ਾਵਣਆ**ਂ ਬ**ਾਰ**ੇ ਵ₹ਸਥ**ਾਰ ਪਰ₹ਕ ਜਾਗਰਕ ਹ**ੋਣ**ਾ

# ਮ**ੁੱਢਲੀ ਪ**ੰਜ**ਾਬ**ੀ ਸਮ**ੈਸਟਰ ਛੇਵ**ਾਂ

CO1.ਪੰਜਾਬ ਦੇ ਮੇਵਲਆਂ ਬਾਰੇ ਜਾਣਕਾਰੀ ਵਮਲੇਗੀ। CO2.ਪੰਜਾਬ ਦੇ ਵਤਉਹਾਰਾਂ ਨਾਲ ਜਾਣ ਪਛਾਣ ਹੋ₹ੇਗੀ CO3ਪੰਜਾਬ ਦੇ ਲੋਕ ਕਾਵ₹ ਰਪ ਬਾਰੇ ਜਾਣਕਾਰੀ ਵਮਲੇਗੀ।

CO4.ਪੂੰ ਜਾਬ ਦੂੇ ਪ੍ਰਹਰੂਾ₹ੇ ਅਤੇ ਖੁਾਵਣਆਂ ਦੂਾ ਗਿਆਨ ਪ੍ਰਾਪਤ ਕ੍ੀਤਾ ਜਾ₹ੇਗਾ।

# **Programme: Master in Commerce (M. Com)**

# **Program Outcomes:**

PO 1: To acquire advanced knowledge in areas such as accounting principles, financial management, business law, economics, taxation, marketing, and organizational behavior.

PO 2: To emphasize the development of analytical skills.

PO 3: To pursue careers in fields such as accounting, finance, banking, consulting, taxation, and corporate management.

PO 4: To conduct independent research, helping them develop research skills and the ability to apply academic theories to practical business problems.

PO 5: To effectively communicate complex financial information, proposals, and reports to various stakeholders.

PO 6: To emphasize the importance of ethical behavior in business and finance and develop strategies for ethical decision-making.

PO 7: To demonstrate adaptability and a commitment to lifelong learning.

PO 8: To develop students \$\%#39\$; leadership abilities and teamwork skills.

PO 9: To understand global business practices, cross-cultural issues, and international trade dynamics.

PO 10: To equip graduates with the knowledge, skills, and credentials necessary to advance their careers.

PO 11: To critically evaluate financial data, market trends, business strategies, and economic policies.

PO 12: To have opportunities for professional development.

### **Program Specific Outcomes (PSOs)**

PSO1: understanding of advanced financial concepts such as financial analysis, investment management, risk assessment, and portfolio management.

PSO2: Proficient in advanced accounting principles and practices, including financial reporting, auditing, taxation, and managerial accounting.

PSO3: Equip graduates with the ability to formulate and implement strategic business plans, conduct market analysis, and make informed decisions to achieve organizational goals.

#### **Course Outcomes**

**Course name: Managerial Economics (MC-101)** 

CO1: Understanding of fundamental economic principles.

CO2: Application of microeconomic concepts to real-world business scenarios.

CO3: Proficiency in analyzing production costs, cost functions, and cost structures

CO4: To analyze market demand, conduct demand forecasting.

CO5: Understanding the factors influencing price determination in different market structures.

**Course name: Statistical Analysis for business (MC-102)** 

CO1: Summarize and describe the basic features of data

CO2: Identifying associations between variables and understanding how changes in one variable relate to changes in another.

CO3: Identifying trends, seasonality, and patterns in time-series data and making forecasts for future observations.

CO4: Understanding probability distributions is essential for risk assessment and decision-making under uncertainty.

CO5: To gain a competitive advantage.

**Course name: Management principles and organization behavior (MC-103)** 

CO1: Formulating and implementing long-term plans and strategies to achieve a competitive advantage and sustain organizational success in the dynamic business environment.

CO2: Emphasizes the importance of ethical behavior and corporate social responsibility in organizations

CO3: Addresses how individuals and groups respond to change.

CO4: How power dynamics and political processes influence behavior and decision-making within organizations.

CO5: Managing human resources involves activities such as recruitment, selection, training, performance evaluation, and employee development to ensure that the organization has the right talent to achieve its objectives.

### **Course name: Business Environment (MC-104)**

CO1: Demonstrate a clear understanding of the concept of the business environment, including its components, dynamics, and significance for organizational success.

CO2: Understand key economic principles and concepts relevant to the business environment.

CO3: Familiar with the legal and regulatory framework governing business activities.

CO4: Recognize the influence of socio-cultural factors on business operations.

CO5: Understand the impact of political factors, government policies, regulations, and geopolitical events on business decision-making

## **Course name: Management Accounting and control system (MC-105)**

CO1: Demonstrate a clear understanding of fundamental concepts in management accounting.

CO2: Proficient in using various cost management techniques.

CO3: Understand the importance of budgeting and planning in organizational decision-making.

CO4: To analyze and interpret variances between actual and budgeted performance.

CO5: Understand different performance measurement systems.

### **Course name: Corporate financial accounting and auditing (MC-201)**

CO1: To comprehend and interpret financial statements.

CO2: To assess financial health, profitability, liquidity, and solvency of corporations based on their financial statements.

CO3: To gain knowledge of generally accepted accounting principles (GAAP) and international financial reporting standards (IFRS) and their application in corporate financial reporting.

CO4: To get familiar with auditing concepts, procedures, and techniques, including risk assessment, internal control evaluation, substantive testing, and audit reporting.

CO5: To analyze financial data, identify issues, and propose solutions to address accounting and auditing challenges faced by corporations.

# **Course name: Financial Management (MC-202)**

CO1: To understand financial principles, including time value of money, risk and return, valuation techniques, and capital budgeting.

CO2: To analyze financial statements to interpret financial ratios, and make informed decisions based on financial data.

CO3: To become Proficiency in evaluating investment opportunities, understanding capital budgeting techniques.

CO4: To gain knowledge of financial risk management techniques, including hedging strategies, derivatives, and financial instruments.

CO5: To become Proficient in financial planning and forecasting techniques, including budgeting, cash flow forecasting, and scenario analysis to support strategic decision-making.

# **Course name: Research Methodology (MC-203)**

CO1: To help the postgraduate students appreciate, learn and practice data based research skills.

CO2: To help them in writing research articles, reports and term papers.

CO3: To gain knowledge of nature of research, formulation of research topic, review of literature, approaches to research and research strategy, research ethics, using selection methods, analysis of data and writing of project report, with reference to different styles

CO4: Practical aspects like correlation, F-Test, T-Test, ANOVA and correlation are also covered in this paper.

CO5: Ability to write clear and concise research proposals.

### **Course name: Marketing management (MC-204)**

CO1: Developing a comprehensive understanding of marketing concepts, theories, and frameworks

CO2: Market Analysis and Consumer Behavior

CO3: Marketing Strategy Development

CO4: Product and Brand Management, Pricing Strategy, Distribution Channel Management, Promotion and Integrated Marketing Communications.

CO5: Competence in marketing research methods and techniques.

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## **Course name: Human Resource Management (MC-205)**

CO1: Developing a comprehensive understanding of human resource management (HRM) principles, theories, and frameworks,

CO2: Employee Training and Development

CO3: Performance Management.

CO4: Employee Relations and Engagement

CO5: To acquaint students with the techniques and principles to manage human resources of an organization

### **Course name: Banking & Services (MC-301)**

CO1: Developing a comprehensive understanding of banking principles, products, services, and operations

CO2: Understanding digital banking trends, technologies, and innovations

CO3: Insurance Products and Service.

CO4: Risk Management

CO5: Customer Relationship Management

## **Course name: Security Analysis and Portfolio Management (MC-311)**

CO1: Developing a comprehensive understanding of investment principles, including risk and return, diversification, liquidity, and the time value of money

CO2: Proficiency in analyzing individual securities, including stocks, bonds, and derivatives

CO3: Ability to design and manage investment portfolios

CO4: Investment Strategies

CO5: Asset Allocation.

### **Course name: Contemporary Accounting: (MC-312)**

CO1: Developing a comprehensive understanding of Generally Accepted Accounting Principles (GAAP) or International Financial Reporting Standards (IFRS)

CO2: Financial Statement Analysis

CO3: Understanding contemporary accounting issues and challenges faced by businesses

CO4: Knowledge of accounting information systems and technology solutions used to capture, process, store, and report accounting data

CO5: Corporate Governance and Financial Reporting

**Course name: Consumer behavior (MC-351)** 

CO1: Developing a comprehensive understanding of psychological theories and principles that influence consumer behavior

CO2: To understand Consumer Research Methods

CO3: Market Segmentation and Targeting

CO4: Understanding how consumers perceive products and brands, the role of brand image, brand personality, brand loyalty, and brand equity.

CO5: Consumer Decision-Making Process

Course name: Retail management (MC-352)-

CO1: Developing a comprehensive understanding of retailing principles, concepts, and trends, including retail formats, channels, and strategies.

CO2: Proficiency in managing retail operations, including store layout and design, inventory management, supply chain management, merchandise planning, and logistics

CO3: Knowledge of retail marketing strategies, including product assortment, pricing, promotion, and merchandising techniques

CO4: Understanding the principles of visual merchandising, store layout, display design, and store ambiance to create appealing shopping environments and enhance the overall customer experience.

CO5: E-commerce and Omnichannel Retailing

**Course name: International Accounting: (MC-401)-**

CO1: Understanding International Financial Reporting Standards, principles, standards, and regulations

CO2: Comparative Accounting Systems

CO3: Knowledge of efforts towards global convergence and harmonization of accounting standards

CO4: Multinational Corporate Reporting

CO5: International Taxation and Transfer Pricing

**Course name: - e-Commerce-(MC-402)** 

CO1: Developing a comprehensive understanding of the principles, concepts, and models of ecommerce

CO2: Proficiency in analyzing and evaluating various e-commerce business models

CO3: Skills in formulating e-commerce strategies

CO4: Knowledge of e-commerce platforms, content management systems (CMS), and technology solutions

CO5: Digital Marketing and Customer Acquisition

### **Course name: International Financial Management (MC-411)**

CO1: Understanding International Finance Concept

CO2: Proficiency in managing foreign exchange risk exposure faced by multinational corporations

CO3: International Capital Budgeting.

CO4: Knowledge of global financing options available to multinational corporations.

CO5: Understanding the financial considerations and challenges involved in cross-border mergers, acquisitions, and divestitures

### **Course name: Finance markets and services (MC-412)**

CO1: Gain an in-depth understanding of financial market

CO2: Learn about various financial instruments and products traded in financial markets

CO3: Understand the microstructure of financial markets

CO4: Learn about financial market regulations, compliance requirements, and regulatory bodies

CO5: Understand the roles and functions of different participants in financial markets

# **Course name: Corporate tax planning and law (MC-413)**

CO1: To impact basic knowledge of provision of companies Act 2013 and various Taxes in respect to corporate.

CO2: Developing a comprehensive understanding of tax law principles, regulations, and policies

CO3: Proficiency in developing tax-efficient corporate structures and strategies

CO4: Tax Compliance and Reporting

CO5: Taxation of Business Entities