

# GOVERNMENT COLLEGE ROPAR

(Affiliated To Punjabi University, Patiala)



## CRITERIA 2- TEACHING, LEARNING AND EVALUATION

## PROGRAM AND COURSE OUTCOMES

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Source: [College Website](#)



# **Bachelor of Arts**

# Graduate Programme Outcomes-BA/B.Com/B.Sc

Graduate programmes at Government College Ropar are outcome-based, with the following expected outcomes:

PO1	<b>Critical Thinking and Problem-Solving Skills:</b> Learners will gain advanced critical thinking and problem-solving abilities. They will be able to analyze complicated topics, assess evidence, examine many points of view, and develop novel solutions.
PO2	<b>Advanced Knowledge and Expertise:</b> Graduate programs aim to provide students with a deep understanding of their chosen field or specialization. Graduates will have acquired advanced knowledge, theories, methodologies, and skills specific to their area of study.
PO3	<b>Research and Scholarly Abilities:</b> Graduates will have the ability to design and conduct independent research, critically analyze existing literature, and contribute to the advancement of knowledge in their field.
PO4	<b>Effective Communication:</b> Focusing on developing strong communication skills. Students will be able to articulate complex ideas and research findings clearly and effectively, both in written and oral forms, to both specialized and non-specialized audiences.
PO5	<b>Cross-Disciplinary Knowledge:</b> Depending on the program, graduates may acquire cross-disciplinary knowledge, enabling them to integrate and apply concepts and methodologies from multiple fields to address complex problems and contribute to interdisciplinary collaboration.
PO6	<b>Professional Ethics and Responsibility:</b> emphasizing professional ethics, integrity, and social responsibility. Graduates will be equipped with ethical decision-making skills and an understanding of the social and ethical implications of their work.
PO7	<b>Professional and Career Development:</b> Providing students with opportunities for professional development, including internships, industry collaborations, and networking events.
PO8	<b>Adaptability and Lifelong Learning:</b> Programs aim to cultivate a growth mindset and a commitment to lifelong learning. Graduates will be prepared to adapt to new challenges, acquire new knowledge, and continuously develop their skills throughout their careers.

# **GOVERNMENT COLLEGE ROPAR**

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## **PROGRAMME SPECIFIC OUTCOMES**

**Bachelor of Arts**

The Bachelor of Arts Programme at Government College Ropar is outcome-based, with the following PSOs required.

PSO1	<b>Subject Knowledge:</b> Graduates will demonstrate a deep understanding of the theories, concepts, methodologies, and historical developments relevant to their chosen field of study within the arts.
PSO2	<b>Critical Thinking:</b> Graduates will be able to think critically and analytically, evaluating information, arguments, and evidence to formulate well-reasoned and evidence-based judgments and conclusions.
PSO3	<b>Communication Skills:</b> Graduates will possess strong oral and written communication skills, allowing them to articulate ideas effectively and convey complex information to diverse audiences.
PSO4	<b>Research Skills:</b> Graduates will have acquired research skills, including the ability to locate, evaluate, and synthesize information from various sources, as well as to design and conduct independent research projects.
PSO5	<b>Creative and Aesthetic Sensibility:</b> Graduates will demonstrate a creative and aesthetic sensibility, applying imaginative and innovative thinking to their artistic or creative work.
PSO6	<b>Ethical and Cultural Awareness:</b> Graduates will develop an understanding of ethical and cultural dimensions relevant to their field, demonstrating awareness of diverse perspectives, social responsibility, and ethical decision-making.
PSO7	<b>Collaboration and Teamwork:</b> Graduates will be able to collaborate effectively with others, working in teams to achieve common goals and contribute positively to group dynamics.
PSO8	<b>Adaptability and Lifelong Learning:</b> Graduates will exhibit the ability to adapt to new challenges, continue to learn and acquire new knowledge and skills, and engage in lifelong learning to remain current in their field of study.
PSO9	<b>Global and Interdisciplinary Perspectives:</b> Graduates will understand the global nature of their chosen field and possess interdisciplinary knowledge, recognizing the interconnectedness of various disciplines and applying diverse perspectives to problem-solving.
PSO10	<b>Professional and Career Readiness:</b> Graduates will have acquired transferable skills such as time management, organizational skills, and professional conduct, positioning them for success in their chosen career paths or further academic pursuits.
PSO11	<b>Specialized Expertise:</b> Graduates with honors will have developed a specialized expertise within their chosen field of study, demonstrating a deep understanding of a particular subfield or area of research.
PSO12	<b>Academic and Career Advancement:</b> Graduates will have developed a strong foundation for further academic study at the postgraduate level, such as pursuing a Master's or Ph.D. degree. Additionally, they will be well-prepared for careers that require specialized knowledge and critical thinking.

# GOVERNMENT COLLEGE ROPAR

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## COURSE OUTCOMES

**Bachelor of Arts**

The Bachelor of Arts Programme at Government College Ropar is outcome-based, with the following COs required.

<b>B.A. All Semesters</b>		
<b>LANGUAGES</b>		
<b>Course Name</b>	<b>Course Outcomes</b>	
English	CO1	Students will develop advanced proficiency in written and oral communication skills.
	CO2	Students will learn to analyze and interpret literary texts from different periods and genres.
	CO3	Students will apply critical theories and methods to literary analysis.
	CO4	To familiarize students with excellent pieces of PROSE and FICTION in English so that they realize the beauty and communicative power of English
	CO5	To develop students' interest in reading literary pieces
	CO6	To introduce the basic units of language so that they become aware of the technical aspects and their practical usage
Punjabi	CO1	Students will attain proficiency in spoken and written Punjabi.
	CO2	Students will be able to study Punjabi literature and learn its culture and history.
	CO3	Students will analyze Punjabi linguistic structures and dialects.
	CO4	Students will understand the role of Punjabi language in regional and global contexts.
Hindi	CO1	Students will gain proficiency in spoken and written Hindi.
	CO2	Students will analyze Hindi language and its cultural significance.
	CO3	Students will understand the role of Hindi in literature and mass communication.
	CO4	They will Study Hindi literature, grammar, and linguistic structures.

<b>SOCIAL SCIENCES</b>		
<b>ECONOMICS</b>		
<b>Course Name</b>	<b>Course Outcomes</b>	
<b>Semester-1 (Micro Economics and Indian Economy-I)</b>	CO1	<b>Study of Indian Economy:</b> Acquire knowledge about the structure, functioning, and challenges of the Indian economy. Explore topics such as economic development, economic reforms, poverty, inequality, agricultural economics, industrialization, and the role of government in the Indian context.
	CO2	<b>Understanding Microeconomic Principles:</b> Gain a solid understanding of fundamental microeconomic principles, including supply and demand, consumer behavior, production theory, cost analysis, market structures, and market failures.
	CO3	<b>Understanding the Indian Economy:</b> Develop a comprehensive understanding of the structure, functioning, and key features of the Indian economy, including its sectors (agriculture, industry, and services), economic indicators, and major economic policies.
<b>Semester-II (Micro Economics And Indian Economy-II)</b>	CO1	<b>Analysis of Market Behavior: Microeconomics</b> enables the analysis of market behavior, including supply and demand dynamics, price determination, and market efficiency.
	CO2	<b>Understanding of Macroeconomic Concepts:</b> Students will develop a solid understanding of macroeconomic concepts such as aggregate demand and supply, national income, inflation, unemployment, fiscal policy, monetary policy, and economic growth.
	CO3	<b>Understanding of Indian Economic Structure:</b> Students will develop a comprehensive understanding of the structure and composition of the Indian economy such as agriculture, industry, services, etc.
<b>Semester-3 (Macro Economics And Public Finance)</b>	CO1	<b>Understanding of Macroeconomic Concepts:</b> Students will develop a solid understanding of macroeconomic concepts such as aggregate demand and supply, national income, inflation, unemployment etc.
	CO2	<b>Macroeconomic Forecasting:</b> Students will develop skills in macroeconomic forecasting, using historical data and econometric



		techniques..
	CO3	<b>Knowledge of Taxation Policies:</b> Students will gain knowledge of different tax systems and policies, including direct and indirect taxes, tax administration, tax incentives, and tax reforms.
Semester-4 (Macro Economics And International Economics)	CO1	<b>Analysis of International Trade:</b> Students will gain knowledge of the theories and patterns of international trade.
	CO2	<b>Evaluation of Trade Policies:</b> Students will develop skills in evaluating trade policies and their impact on domestic and international economies.
	CO3	<b>Policy Analysis and Evaluation:</b> Students will be equipped with tools to analyze and evaluate macroeconomic policies, such as fiscal and monetary policies..
Semester-5 (Development of Economics)	CO1	<b>Understanding of Economic Development Theories:</b> Students will develop a comprehensive understanding of economic development theories, including classical, neoclassical, and modern theories.
	CO2	<b>Analysis of Development Indicators:</b> Students will learn to analyze and interpret key development indicators, such as gross domestic product (GDP) per capita, poverty rates, income inequality, human development index (HDI), and other socio-economic indicators.
	CO3	<b>Understanding of Global Development Challenges:</b> Students will gain an understanding of global development challenges, including issues such as climate change, environmental sustainability, global poverty, and inequality
Semster-6 (Quantitative Methods)	CO1	<b>Understanding of Mathematical Foundations:</b> Students will develop a solid understanding of the mathematical foundations that underpin quantitative methods
	CO2	<b>Application of Quantitative Techniques:</b> Students will learn to apply quantitative techniques in various domains such as business, economics, finance, social sciences, and research.
	CO3	<b>Proficiency in Data Analysis:</b> Students will acquire proficiency in data analysis techniques. They will learn how to collect, organize, and summarize data using descriptive statistics.



## HISTORY

Course Name	Course Outcomes	
<b>Semester-1</b> <b>Ancient India</b> <b>(Up to 1000 A.D.)</b>	CO1	<b>Knowledge of Prehistoric India:</b> Students should be familiar with the archaeological evidence and theories related to the prehistoric period in the Indian subcontinent, including the Indus Valley Civilization and the Vedic period.
	CO2	<b>Understanding of Early Indian Empires:</b> Students should gain an understanding of the major early Indian empires, such as the Mauryan Empire, the Gupta Empire, and the Kushan Empire, including their political, social, and economic structures.
	CO3	<b>Familiarity with Religious and Philosophical Movements:</b> Students should be acquainted with the religious and philosophical movements that emerged during ancient India, including Hinduism, Buddhism, Jainism, and their key tenets and practices.
	CO4	<b>Understanding of Political and Social Structures:</b> Students should have an understanding of the political and social structures that existed in ancient India, including the varna(caste) system, the role of kings and rulers, and the social hierarchy.
	CO5	<b>Awareness of Gender and Women's Roles:</b> Students should be aware of the roles and status of women in ancient Indian society, including the position of women in family and society, their participation in religious and political spheres, and the evolution of gender roles over time.
	CO6	<b>Appreciation of Historical Continuities and Changes:</b> Students should be able to identify and analyze the continuities and changes in various aspects of ancient Indian history, such as political structures, religious beliefs, and social practices, over a span of several centuries.
<b>Semester-2</b> <b>Medieval India</b> <b>(1000-1707 A.D.)</b>	CO1	<b>Knowledge of Historical Context:</b> Understand the political, social, cultural, and economic context of medieval India between 1000 and 1707 AD, including the major dynasties, kingdoms, and empires that existed during this period.
	CO2	<b>Familiarity with Major Events:</b> Gain knowledge of the significant events and

		developments that took place in medieval Indian history, such as the Delhi Sultanate, the Vijayanagara Empire, the Mughal Empire, and regional kingdoms.
	CO3	<b>Understanding of Religious and Cultural Interactions:</b> Students will explore the interactions between different religious and cultural groups in medieval India, including the influence of Islam, Hinduism, and regional traditions on society, art, architecture, and literature.
	CO4	<b>Examination of Social Structures:</b> Students will be able to explore the social structures and hierarchies prevalent in medieval Indian society, including the caste system, gender roles, and the position of different social groups.
Semester-3 <b>History of India (1707-1950)</b>	CO1	<b>Understanding of political and social transformations:</b> Students will gain insights into the political and social transformations that occurred during this period, such as the rise of regional powers, the British expansion and consolidation of control, and the emergence of nationalist movements.
	CO2	<b>Familiarity with key historical figures and ideas:</b> This includes figures like Aurangzeb, Robert Clive, Raja Ram Mohan Roy, Mahatma Gandhi, and Jawaharlal Nehru.
	CO3	<b>Awareness of cultural and intellectual developments:</b> This includes studying the impact of British education, the rise of Indian nationalism, the social reform movements, and the emergence of modern Indian literature, art, and music.
	CO4	<b>Ability to analyze historical change and continuity:</b> Students should understand how historical processes and events have shaped India's political, social, and cultural landscape and evaluate the factors that led to significant transformations or the persistence of certain structures or ideas.
Semester-4 <b>History of Punjab- (1469-1799 A.D)</b>	CO1	<b>Knowledge of Punjab's historical context</b> and Familiarity with key historical figures of Punjab
	CO2	<b>Understanding of religious, cultural and political developments:</b> Students will acquire knowledge of the growth and evolution of religious movements in Punjab during this era,

		particularly Sikhism, and its impact on the region's social and cultural fabric.
	CO3	<b>Evaluation of socio-economic conditions:</b> including agricultural practices, trade networks, and the impact of Mughal policies on the region.
Semester-5 <b>World History (1500-1950 A.D)</b>	CO1	<b>Develop a chronological understanding:</b> Students will be able to identify and analyze key events, individuals, and historical developments that occurred between 1500 and 1950 A.D.
	CO2	<b>Understand political transformations:</b> such as the Enlightenment, the American Revolution, the French Revolution, the Industrial Revolution, and the rise of nationalism.
	CO3	<b>Evaluate the impact of imperialism and colonialism:</b> Students should examine the causes, motivations, and consequences of European imperialism and colonialism during this period.
Semester-6 <b>History of Punjab (1500-1950 A.D)</b>	CO1	<b>Understand the political and cultural landscape of Punjab:</b> Students should gain a comprehensive understanding of the political and cultural dynamics of Punjab during the specified time period.
	CO2	<b>Examine the impact of Mughal rule on Punjab:</b> and analyze its impact on the region's political, social, and cultural landscape.
	CO3	<b>Evaluate the Sikh Empire:</b> Students should analyze the rise and fall of the Sikh Empire under Maharaja Ranjit Singh and examine the political, military, and cultural achievements of the Sikh Empire and its impact on the history of Punjab.
	CO4	<b>Study the impact of colonialism:</b> This includes analyzing the British annexation of Punjab, the effects of British policies on agriculture, land tenure, and economy, and the emergence of social and political movements during this period.
	CO5	<b>Analyze the partition of Punjab:</b> They should understand the political, social, and cultural consequences of partition, including the mass migrations, violence, and the division of Punjab between the two countries.

## PHILOSOPHY

Course Name	Course Outcomes	
Semester-1 Elementary Philosophy	CO1	<b>Knowledge of Major Philosophical Ideas:</b> Students should gain a basic understanding of key concepts and ideas in philosophy, such as ethics, epistemology, metaphysics, and logic.
	CO2	<b>Understanding of Different Philosophical Perspectives:</b> Philosophy encompasses a wide range of perspectives and theories. Students should be exposed to different philosophical traditions and be able to recognize and understand various viewpoints
	CO3	<b>Appreciation of Philosophy's Relevance:</b> Students should understand the practical applications of philosophy and its relevance to various disciplines and aspects of life. They should recognize how philosophical thinking can contribute to areas such as science, politics, ethics, and personal development.
	CO4	<b>Intellectual Curiosity and Open-mindedness:</b> Philosophy encourages questioning assumptions and exploring new ideas. Students should cultivate intellectual curiosity and open-mindedness, demonstrating a willingness to engage with challenging and controversial topics and to consider different perspectives.
	CO5	<b>Clarity of Communication:</b> Philosophy involves expressing complex ideas and arguments in a clear and concise manner. Students should improve their ability to articulate their thoughts effectively, both in writing and in oral presentations, using philosophical terminology and logical structures.
Semester-2 Elementary Ethics	CO1	<b>Develop Moral Awareness:</b> Students will develop an understanding of moral principles, values, and ethical decision-making processes.
	CO2	<b>Cultivate Ethical Decision-Making Skills:</b> Students will learn practical skills to make ethical decisions in different contexts. They will explore strategies for resolving ethical conflicts, considering ethical principles, empathizing with others, and reflecting on personal values.
	CO3	<b>Foster Ethical Awareness in Society:</b> Students will develop an awareness of the impact of ethical choices on individuals, communities, and the broader society. They will explore social

		justice issues, cultural diversity, and the ethical responsibilities of individuals as members of a larger community.
Semester-3 <b>Logic (Western and Indian)</b>	CO1	<b>Understanding Logical Systems:</b> Students will develop an understanding of different logical systems, both in Western and Indian philosophical traditions. They will learn about the foundational principles, concepts, and techniques used in formal and informal logic.
	CO2	<b>Analyzing Arguments:</b> Students will learn how to analyze and evaluate arguments using logical principles. They will be able to identify and distinguish between valid and invalid arguments, identify logical fallacies, and critically assess the soundness of reasoning.
	CO3	<b>Comparative Analysis:</b> Students will compare and contrast Western and Indian approaches to logic. They will examine similarities and differences in the underlying assumptions, methodologies, and conceptual frameworks employed in logical reasoning within these traditions.
Semester-4 <b>Applied Ethics</b>	CO1	<b>Ethical Reasoning:</b> Students will develop the ability to apply ethical reasoning to real-life situations and dilemmas. They will learn to analyze complex ethical problems, consider multiple perspectives, and evaluate the moral implications of different choices.
	CO2	<b>Understanding Contemporary Ethical Issues:</b> Students will explore and understand contemporary ethical issues and debates relevant to their field of study or professional interests. These may include topics such as artificial intelligence, genetic engineering, environmental sustainability, privacy and data ethics, social inequality, or global justice.
	CO3	<b>Ethical Leadership and Professional Responsibility:</b> Students will understand the ethical responsibilities of professionals and leaders in various fields. They will explore concepts such as professional ethics, integrity, and the role of ethics in leadership and decision-making.
Semester-5 <b>Western Philosophy</b>	CO1	<b>Familiarity with Key Thinkers:</b> Students will become familiar with the works and ideas of prominent Western philosophers throughout history. They will study the contributions of

		philosophers such as Socrates, Plato, Aristotle, and others, and gain an understanding of their major philosophical theories and arguments.
	CO2	<b>Understanding of Philosophical Movements:</b> Students will explore different philosophical movements that have shaped Western thought. They will learn about movements such as Rationalism, Empiricism, Existentialism, and others, and understand the central tenets, debates, and historical contexts associated with these movements.
	CO3	<b>Critical Thinking Skills:</b> Through the study of Western Philosophy, students will develop critical thinking skills. They will learn to analyze philosophical arguments, evaluate the strength of reasoning, identify underlying assumptions, and construct well-reasoned responses.
Semester-6 <b>Indian Philosophy</b>	CO1	<b>Familiarity with Major Schools of Thought:</b> Students will become familiar with the major schools of thought in Indian philosophy, such as Vedanta, Nyaya, Samkhya, Yoga, Vaisheshika, and Mimamsa. They will study the foundational texts, key concepts, and distinctive features of these schools.
	CO2	<b>Understanding of Indian Philosophical Traditions:</b> Students will gain an understanding of the historical and cultural contexts in which Indian philosophical traditions developed. They will explore the influences of Hinduism, Buddhism, Jainism, and other religious and philosophical systems on Indian philosophy.
	CO3	<b>Metaphysics and Ontology:</b> Students will delve into metaphysical and ontological questions within Indian philosophy. They will explore concepts such as Atman (self), Brahman (ultimate reality), Maya (illusion), karma, rebirth, and the nature of existence.



## PUBLIC ADMINISTRATION

Course Name	Course Outcomes	
Semester-1 <b>Administrative Theory</b>	CO1	<b>Knowledge of concepts of Public Administration:</b> Students will develop a strong understanding of the principles, theories, and concepts of public administration, including its historical development, administrative theories, and public policy.
	CO2	<b>Understanding of Governance and Public Policy:</b> Students will gain knowledge about the functioning of government institutions, the policy-making process, and the role of public administration in implementing and evaluating public policies.
	CO3	<b>Administrative Skills:</b> Students will acquire practical skills in areas such as leadership, decision-making, problem-solving, public financial management, personnel administration, and organizational behavior, which are essential for effective public administration.
	CO4	<b>Policy Analysis and Evaluation:</b> Students will acquire the skills to critically evaluate public policies, assess their impact on society, and propose improvements or alternative approaches to address emerging challenges.
	CO5	<b>Public Sector Management:</b> Students will learn about the principles of public sector management, including human resource management, performance evaluation, strategic planning, and change management in government organizations.
	CO6	<b>Ethical and Legal Understanding:</b> Students will learn about the ethical principles and values that guide public administration, as well as the legal frameworks and regulations governing administrative practices in India.
Semester-2 <b>Indian Administration</b>	CO1	<b>Understanding the Indian Administrative System:</b> Students will gain a comprehensive understanding of the structure, functions, and processes of the Indian administrative system, including the roles and responsibilities of different levels of government.
	CO2	<b>Knowledge of Indian Constitution and Governance:</b> Students will acquire knowledge about the Indian Constitution, its features, and the principles of governance enshrined in it.

		They will also learn about the separation of powers, fundamental rights, and the role of different institutions in the governance of India.
	CO3	<b>Public Policy Analysis:</b> Students will develop skills to analyze public policies and evaluate their effectiveness in addressing societal issues. They will learn about policy formulation, implementation, and evaluation, with a focus on the Indian context.
Semester-3 <b>Personnel Administration in India</b>	CO1	<b>Recruitment and Selection in Public Sector:</b> Students will learn about the process of recruiting and selecting employees in the public sector. They will understand the specific regulations, policies, and procedures governing recruitment and selection in government organizations, including the role of public service commissions and reservation policies.
	CO2	<b>Civil Service Systems:</b> Students will gain knowledge about the structure and functioning of civil service systems in India. They will understand the classification of civil services, the roles and responsibilities of different cadres, and the recruitment, training, and career progression of civil servants.
	CO3	<b>Training and Development in Public Administration:</b> Students will acquire knowledge about the training and development initiatives in the public sector. They will learn about the specific training programs, capacity-building efforts, and leadership development initiatives undertaken by government organizations to enhance the skills and competencies of public servants.
Semester-4 <b>Financial Administration in India</b>	CO1	<b>Budgeting and Fiscal Planning:</b> Financial Administration in India involves the preparation and execution of the national budget, as well as budgets at the state and local levels. This includes estimating revenue, allocating resources to various sectors and departments, and formulating fiscal policies to achieve economic stability and development goals.
	CO2	<b>Financial Institutions and Regulations:</b> Financial Administration in India involves managing relationships with financial institutions such as the Reserve Bank of India (RBI), Securities and Exchange Board of India (SEBI), and other regulatory bodies. It includes



		implementing financial regulations, monitoring financial markets, and ensuring stability in the financial sector.
	CO3	<b>Revenue Generation:</b> Financial Administration includes strategies and measures to generate revenue for the government. This includes taxation policies, fee collection, user charges, and other revenue streams. It also involves implementing measures to improve tax administration, enhance compliance, and prevent tax evasion.
Semester-5 <b>Local Administration in India</b> (With special reference to Punjab)	CO1	<b>Decentralization of Power:</b> Students will learn about Local government in India which decentralize power by transferring certain functions and responsibilities from the state or central government to the local level. This outcome promotes greater citizen participation and decision-making at the grassroots level.
	CO2	Students will learn about the structure and functions of Municipal Corporations.
	CO3	Students will be able to understand the working of Panchayats.
Semester-6 <b>Development Administration in India</b> (With special reference to India)	CO1	Students will learn about Public enterprise meaning and forms. And will be able to understand development administration in developed and developing countries.
	CO2	Students will learn about the welfare policies for Scheduled castes and Backward class.

## POLICE ADMINISTRATION

Course Name	Course Outcomes	
Semester-1 <b>Police Administration in India</b>	CO1	Demonstrate critical thinking and analytical skills in evaluating and addressing issues related to police administration in India.
	CO2	Understand the historical, social, and cultural factors shaping police administration in India
	CO3	Analyze the organizational structure and functions of law enforcement agencies in India, including centre and state.
Semester-2 <b>Indian Constitution</b>	CO1	Understand the fundamental principles and values enshrined in the Indian Constitution
	CO2	Gain knowledge of the historical context and the process of constitution-making in India
	CO3	Comprehend the provisions and implications of Fundamental Rights and Directive Principles of State Policy
	CO4	Examine the structure and functioning of the government at the Union and State levels
Semester-3 <b>Police Personnel Administration</b>	CO1	Synthesize knowledge acquired throughout the course to propose innovative approaches for effective personnel administration in law enforcement
	CO2	Discuss the use of technology in police administration in India, including crime mapping, surveillance systems, and digitization of records
Semester-4 <b>Law and Order Administration</b>	CO1	Synthesize knowledge acquired throughout the course to propose strategies for effective and equitable law and order administration
Semester-5 <b>Organization Behaviour</b> (with Special Reference to Police Administration)	CO1	Understand the foundational concepts and theories of Organizational Behavior
	CO2	Understand the impact of organizational structure and design on police behavior and performance
	CO3	Understand the dynamics of groups and teams within police organizations
Semester-6 <b>Law And Police Administration</b>	CO1	Identify and explain the key concepts related to police administration, including organizational structure, management principles, and resource allocation.
	CO2	Analyze the legal framework governing law enforcement operations and the rights and responsibilities of police officers.

<b>POLITICAL SCIENCE</b>		
<b>Course Name</b>	<b>Course Outcomes</b>	
<b>Semester-1 &amp; 2 Political Science</b>	CO1	<b>Understanding of political theories and concepts:</b> Graduates should be familiar with major political theories and concepts, including liberalism, conservatism, socialism, democracy, power, justice, equality, and rights
	CO2	<b>Knowledge of political systems and institutions:</b> Students will gain a comprehensive understanding of various political systems, including democracies, authoritarian regimes, and different forms of governance.
	CO3	<b>Knowledge of comparative politics:</b> Students will study comparative politics, which involves analyzing political systems, institutions, and processes across different countries.
	CO4	<b>Understanding of international relations:</b> The program may include coursework on international relations, enabling students to understand and analyze global political dynamics, including topics such as diplomacy, international organizations, conflict resolution, and global governance.
	CO5	<b>Effective communication skills:</b> Graduates will be able to articulate their ideas and arguments effectively, both orally and in writing.
	CO6	The program may emphasize the importance of <b>ethical behavior</b> in political science, including respecting diverse perspectives, maintaining integrity, and adhering to professional standards.
<b>Semester-3 Indian Polity</b>	CO1	<b>Knowledge of Indian Political System:</b> Students will develop a thorough understanding of the political framework of India, including the Constitution, political parties, electoral system, and various levels of government.
	CO2	<b>Analysis of Public Policy:</b> Students will learn to analyze and evaluate public policies implemented in India, such as economic policies, social welfare schemes, and developmental initiative.
	CO3	<b>Communication and Writing Skills:</b> Students will enhance their ability to effectively communicate and articulate their ideas, both verbally and in writing, regarding Indian polity

		and political issues.
Semester-4 <b>Indian Political System</b>	CO1	<b>Understanding of the Indian Constitution:</b> Students will gain knowledge of the Indian Constitution, including its history, key features, and provisions.
	CO2	<b>Familiarity with political parties and electoral processes:</b> Students will learn about the major political parties in India, their ideologies, and electoral strategies.
	CO3	<b>Knowledge of political economy:</b> The program may cover the intersection of politics and the economy in India
Semester-5 <b>Comparative Political System (U.K&amp;U.S.A)</b>	CO1	<b>Comparative Analysis:</b> Students will develop the ability to compare and contrast political systems, including democratic, authoritarian, and hybrid systems, across various countries and regions.
	CO2	<b>Understanding of Political Institutions:</b> Students will gain knowledge about the structures and functions of political institutions, including legislatures, executives, judiciaries, and bureaucracies.
Semester-6 <b>International Politics (Theory &amp; Practice)</b>	CO1	<b>Knowledge of International Relations:</b> Students will develop a strong foundation in the theories and concepts of international relations.
	CO2	<b>Analytical Skills:</b> Students will acquire the ability to critically analyze complex political issues on a global scale.
	CO3	<b>Understanding of Political Systems:</b> Students will gain a deep understanding of different political systems and ideologies across the world.

<b>EDUCATION</b>		
<b>PHYSICAL EDUCATION</b>		
<b>Course Name</b>	<b>Course Outcomes</b>	
Semester-1 <b>Physical Education</b>	CO1	<b>Knowledge of Anatomy and Physiology:</b> Students will acquire a solid understanding of the human body's structure, systems, and functions related to physical activity and exercise.
	CO2	<b>Motor Skills Development:</b> Students will develop proficiency in a wide range of motor skills, including fundamental movement patterns, specialized techniques, and sport-specific skills.
	CO3	<b>Health and Fitness Education:</b> Students will gain knowledge about various aspects of health and wellness, including nutrition, fitness assessment, exercise prescription, and lifestyle management.
Semester-2 <b>Physical Education</b>	CO1	<b>Sport and Exercise Science:</b> Students will explore the principles and theories of sports science, exercise physiology, biomechanics, sports psychology, and other related disciplines.
	CO2	<b>Teaching and Coaching Competencies:</b> Students will learn effective teaching and coaching methodologies, including lesson planning, instructional strategies, communication techniques, and leadership skill.
	CO3	<b>Sports Management and Administration:</b> Students will understand the principles of sports management, organization, and administration, including facility management, event planning, and sports marketing.
Semester-3 <b>Physical Education</b>	CO1	<b>Adapted Physical Education:</b> Students will be introduced to the principles and practices of providing physical education opportunities for individuals with disabilities or special needs.
	CO2	<b>Professional Ethics and Standards:</b> Students will be familiarized with ethical considerations, professional standards, and legal issues relevant to the field of physical education.



	CO3	<b>Lifelong Physical Activity and Wellness:</b> Students will be encouraged to adopt and promote a physically active and healthy lifestyle,
Semester-4 Physical Education	CO1	<b>Research and Critical Thinking Skills:</b> Students will develop the ability to critically analyze and evaluate research in the field of physical education, and may be required to conduct their own research projects.
	CO2	<b>Proficiency in Teaching Physical Education:</b> Students will demonstrate the ability to plan, implement, and evaluate physical education lessons for different age groups and skill levels, incorporating appropriate teaching strategies and instructional technologies.
	CO3	<b>Knowledge of Physical Education Pedagogy:</b> Students will acquire an understanding of the principles.
Semester-5 Physical Education	CO1	<b>Theories of teaching physical education,</b> including curriculum development, assessment methods, and classroom management techniques.
	CO2	<b>Effective Communication and Leadership Skills:</b> Students will develop effective communication skills to instruct and motivate individuals and groups in physical education settings.
	CO3	<b>Assessment and Evaluation:</b> Students will learn various assessment techniques and tools to measure physical fitness levels, motor skills, and overall performance in physical education.
Semester-6 Physical Education	CO1	<b>Adapted Physical Education:</b> Students will gain knowledge and skills to adapt physical education programs and activities for individuals with disabilities or special needs.
	CO2	<b>Sports Coaching:</b> Students interested in coaching will develop competencies in sports-specific coaching, including game strategies, skill development, team management, and sports psychology.
	CO3	<b>Fitness Training and Conditioning:</b> Students will learn principles and techniques of fitness training and conditioning, including exercise programming and strength training.

PHYSICAL SCIENCES		
GEOGRAPHY		
Course Name	Course Outcomes	
Semester-1 <b>Physical Geography-I (Geomorphology)</b>	CO1	<b>Understanding of Geomorphic Processes:</b> Students should gain a comprehensive understanding of the various processes that shape the Earth's surface, such as weathering, erosion, mass wasting, and deposition. They should be able to explain how these processes interact and contribute to landscape formation.
	CO2	<b>Knowledge of Landforms:</b> including mountains, valleys, plains, plateaus, river systems, glaciers, deserts, and coastal features. They should be able to identify and describe these landforms, and understand the processes responsible for their formation.
	CO3	<b>Application of Geomorphological Concepts:</b> This may involve studying the impact of human activities on landforms, analyzing natural hazards such as landslides and floods, assessing the suitability of land for various purposes (e.g., agriculture, urban development), and contributing to environmental management and conservation efforts.
Semester-2 <b>Physical Geography-II (Climatology and Oceanography)</b>	CO1	<b>Understanding of Climate System:</b> Students should develop a thorough understanding of the Earth's weather and climate system, including the components of the system (atmosphere, hydrosphere, elements and their controls.
	CO2	<b>Knowledge of Climate Processes:</b> Students should gain knowledge of the fundamental processes that drive climate, such as solar radiation, atmospheric circulation, ocean currents, and the hydrological cycle. They should understand how these processes shape regional and global climate patterns.
	CO3	<b>Climate Data Analysis:</b> Students should acquire skills in analyzing climate data, including temperature, precipitation, wind patterns, and atmospheric composition. They should be able to interpret climate graphs, maps, and statistical analyses.
	CO4	<b>Climate Change and Variability:</b> Students should develop an understanding of climate

		change and its drivers, including natural and human-induced factors. They should be able to assess the impacts of climate change on various aspects, such as ecosystems, agriculture, water resources, and human societies.
	CO5	<b>Understanding of Oceanic topography and Processes:</b> Students should gain a comprehensive understanding of the physical, chemical, biological, and geological processes occurring in the oceans. They should learn about ocean currents, waves, tides, ocean-atmosphere interactions, marine ecosystems, and the formation of oceanic features.
	CO6	<b>Oceanic Circulation and Climate:</b> Students should develop knowledge of the global and regional patterns of oceanic circulation and their influence on climate.
	CO7	<b>Coastal Processes and Hazards:</b> Students should learn about coastal processes, including wave action, sediment transport, erosion, and deposition. They should understand the formation and evolution of coastal landforms and the hazards associated with coastal erosion, sea-level rise, storms, and tsunamis.
	CO8	<b>Marine Resources and Conservation:</b> Students should develop an understanding of the importance of marine resources and the need for their sustainable management and conservation. They should be able to evaluate the impacts of human activities, such as overfishing, pollution, and habitat destruction, on marine ecosystems and propose strategies for conservation and responsible resource use.
<b>Semester-3 Geography of Resources and Environment</b>	CO1	<b>Understanding of Resource Distribution:</b> Students will gain knowledge about the distribution of natural resources across the globe, including minerals, energy sources, water, land, and biological resources.
	CO2	<b>Environmental Awareness:</b> Students will develop an understanding of environmental issues and challenges, including pollution, deforestation, climate change, and biodiversity loss. They will explore the interrelationships between human activities and the environment.
	CO3	<b>Resource Management:</b> Students will learn about different approaches to resource management, including sustainable resource use,



		conservation strategies, and the concept of carrying capacity.
Semester-4 <b>Geography of Punjab</b>	CO1	<b>Understanding of Punjab's Physical Geography:</b> Students will gain knowledge about the physical features of Punjab, including its location, climate, topography, rivers, and natural resources.
	CO2	<b>Socio-Economic Analysis:</b> Students will learn about the socio-economic aspects of Punjab, including population dynamics, urbanization, agriculture, industry, trade, and infrastructure.
	CO3	<b>Environmental Issues and Conservation:</b> Students will explore environmental issues specific to Punjab, such as water scarcity, pollution, deforestation, and land degradation.
	CO4	<b>Knowledge of Punjab's Cultural Geography:</b> Students will develop an understanding of Punjab's cultural diversity, including its language, religion, customs, traditions, and arts.
Semester-5 <b>World Regional Geography-1</b>	CO1	<b>Knowledge of regional geography:</b> Students should acquire a comprehensive understanding of the physical, cultural, economic, and political characteristics of North America, South America, and Europe. This includes studying their landforms, climate patterns, natural resources, population distribution, economic activities, trade and transport systems.
	CO2	<b>Spatial thinking and map skills:</b> Students should develop spatial thinking skills and the ability to read and interpret maps. They should understand how to analyze and represent geographic information using maps and other spatial tools.
	CO3	<b>Global connections and interdependencies:</b> Students should recognize the interconnectedness and interdependencies between North America, South America, and Europe, as well as their relationships with other regions of the world.
Semester-6 <b>World Regional Geography-2</b>	CO1	<b>Comprehensive understanding:</b> Students should acquire a comprehensive understanding of the physical, cultural, economic, and political characteristics of Africa, Asia, and Australia. This includes studying their landforms, climate patterns, natural resources, population distribution, languages, religions, economic activities, and political systems.

	CO2	<b>Awareness of regional challenges:</b> Students should gain an understanding of the challenges and issues faced by the regions studied. This may include topics such as population growth, urbanization, migration, environmental concerns, economic inequality, political conflicts, and social issues. Students should be able to analyze the causes, impacts, and potential solutions for these challenges.
	CO3	<b>Cultural appreciation and diversity:</b> Students should develop an appreciation for the diverse cultures, traditions, and perspectives found within Africa, Asia, and Australia. They should demonstrate respect for different cultural practices and be able to analyze the impact of cultural diversity on regional development.
<b>PRACTICAL GEOGRAPHY</b>		
<b>Semester 1 &amp; 2 CARTOGRAPHY</b>	CO1	Students will understand the evolution of cartography from ancient times to the modern era, including key advancements, influential cartographers, and significant milestones in the field.
	CO2	Students will learn about various types of maps used in cartography, such as topographic maps, thematic maps, choropleth maps, physical maps, political maps, and navigational charts. They will understand the characteristics, purposes, and applications of each map type.
	CO3	Students will grasp the concept of scale in cartography and its importance in representing the relationship between the map and the real world. They will learn about different types of scales, including verbal, graphic, and representative fractions, and how to interpret scale on a map.
	CO4	Students will study the shape, size, and curvature of the Earth. They will explore concepts like latitude and longitude, geodetic datums, and coordinate systems.
	CO5	Students will learn techniques for representing relief, or the three-dimensional features of the Earth's surface, on a two-dimensional map. They will study methods such as contour lines, shading and hachures. They will gain practical skills in interpreting and creating relief representations on maps.

	CO6	Students will learn about the enlargement and reduction of maps through various techniques and will also learn about weather maps preparation and interpretation.
Semester 3 & 4 CARTOGRAPHY	CO1	<b>Understanding Map Design Principles:</b> Students will learn the fundamental principles of map design, including the selection and representation of appropriate data, use of color, symbols, and typography, and effective layout techniques to create clear and informative maps.
	CO2	<b>Proficiency in Cartographic Techniques:</b> Students will acquire practical skills in representing data on maps using various techniques, such as choropleth maps, dot density maps, proportional symbol maps, and flow maps. They will learn how to effectively communicate spatial patterns and relationships through cartographic representations.
	CO3	<b>Knowledge of Statistical Diagrams and Graphs:</b> Students will learn how to create statistical diagrams and graphs specifically designed for spatial data, such as histograms, pie charts, bar graphs and thematic graphs. They will understand how to interpret and analyze spatial data using these graphical representations.
	CO4	<b>Competence in Topographical Map Interpretation:</b> Students will develop the ability to read and interpret topographical maps, which provide detailed information about the physical features of an area. They will learn to identify contour lines, recognize landforms, understand map scale, and interpret map symbols and legends.
	CO5	<b>Proficiency in Plane Table Survey Techniques:</b> Students will be introduced to plane table surveying, a traditional method for mapping small areas. They will learn about the equipment used, such as a plane table, alidade, and measuring chains, and understand the basic principles of plane table surveying, including orientation, measurement, and sketching.
Semester-5 Map Projections	CO1	<b>Understanding Map Projection Concepts:</b> Students will gain a conceptual understanding of map projections, including the basic principles and mathematical transformations involved in converting the three-dimensional Earth onto a

		two-dimensional map.
	CO2	Students will learn about the <b>different types of map projections</b> , including cylindrical, conic, and azimuthal projections.
	CO3	Students will become <b>familiar with commonly used map projection systems</b> , such as the Mercator, Robinson, Lambert Conformal Conic, and Polar Stereographic projections. They will learn about the properties, distortions, and suitable applications for each projection system.
	CO4	<b>Map Projection Selection:</b> Students will learn the factors that influence map projection selection for specific purposes and applications. They will understand the importance of considering factors such as the area of interest, map purpose, spatial extent, and distortion trade-offs when selecting an appropriate map projection.
	CO5	<b>Understanding Coordinate Systems:</b> Students will learn about different coordinate systems used in conjunction with map projections, such as latitude and longitude (geographic coordinate system) and Cartesian coordinate systems (projected coordinate system). They will understand how these coordinate systems relate to specific map projections.
Semester-6 Field Methods in Geography	CO1	<b>Proficiency in Field Data Collection Techniques:</b> Students will gain practical experience in using various field data collection techniques, such as surveys, interviews, observations, and measurements. They will learn how to design and conduct field surveys, select appropriate sampling methods, and collect accurate and reliable data in diverse geographic settings.
	CO2	<b>Competence in Field Observation and Recording:</b> Students will develop skills in making detailed field observations and accurately recording qualitative and quantitative data. They will learn techniques for recording field notes, maintaining a field diary, and capturing field sketches or photographs to document their observations.
	CO3	<b>Data Management and Quality Control:</b> Students will gain knowledge and skills in managing and quality-checking field data. They will learn how to organize and store collected



		data, perform data cleaning and validation procedures, and ensure data accuracy and reliability.
	CO4	<b>Integration of Field and Lab Work:</b> Students will understand the link between fieldwork and laboratory analysis. They may learn how to collect field samples, such as soil, water, or vegetation samples, and analyze them in the laboratory using appropriate techniques and equipment.
	CO5	<b>Effective Communication of Fieldwork Findings:</b> Students will develop skills in effectively communicating the findings of their fieldwork. They will learn how to write field reports, present their findings through maps, graphs, and visual aids, and effectively communicate the significance of their field data in oral and written formats.
<b>GEOGRAPHY HONOURS</b>		
Semester 3 & 4 <b>The Nature of Geography</b>	CO1	<b>Understand the fundamental concepts of geography:</b> Students will gain knowledge and comprehension of the key concepts in geography, such as location, place, region, scale, space, and environment.
	CO2	<b>Develop spatial thinking skills:</b> Students will learn to think geographically and develop the ability to analyze and interpret spatial patterns and relationships.
	CO3	<b>Comprehend the interconnections between physical and human geography:</b> Students will explore the interactions between the physical environment and human activities, including topics such as landforms, climate, ecosystems, population, migration, urbanization, and globalization.
Semester 3 & 4 <b>Population Geography</b>	CO1	<b>Understand the basic concepts and theories of population geography:</b> Students will gain knowledge and comprehension of key concepts such as population distribution, population growth, demographic transition, migration, fertility, mortality, and population pyramids.
	CO2	<b>Analyze population patterns and trends:</b> Students will learn to analyze and interpret population patterns and trends at various spatial scales, including global, regional, national, and local levels.

	CO3	<b>Study population dynamics:</b> Students will explore the factors influencing population change, including birth rates, death rates, fertility rates, migration patterns, and demographic processes.
	CO4	<b>Examine population structure and characteristics:</b> Students will understand the composition and characteristics of populations, including age structure, gender ratios, ethnic composition, socioeconomic factors, and health indicators.
	CO5	<b>Explore population-environment interactions:</b> Students will examine the relationships between population and the environment, including topics such as carrying capacity, resource consumption, environmental impact, and sustainability.
	CO6	<b>Investigate urbanization and rural-urban migration:</b> Students will study the processes and impacts of urbanization, including the causes and consequences of rural-urban migration, urban growth, and the formation of megacities.
	CO7	<b>Analyze population policies and their implications:</b> Students will evaluate population policies, both historical and contemporary, and assess their social, economic, and political implications.
	CO8	<b>Understand the implications of population change:</b> Students will examine the social, economic, and environmental implications of population change, including issues such as aging populations, population growth in developing countries, population decline in developed countries, and the impact of migration on receiving and sending regions.
Semester 5 & 6 <b>Applied Geography</b>	CO1	<b>Knowledge of Geographic Concepts:</b> Graduates will have a solid understanding of fundamental geographic concepts, such as location, place, region, spatial distribution, and spatial interaction. They will be able to apply these concepts to analyze various geographical phenomena.
	CO2	<b>Versatility and Interdisciplinary Approach:</b> Applied Geography combines knowledge from various disciplines such as geography, environmental science, economics and urban

		planning. This interdisciplinary approach equips students with a broad skill set, allowing them to tackle complex real-world problems from multiple perspectives.
	CO3	<b>Career Opportunities:</b> A degree in Applied Geography can lead to diverse career paths. They can work as GIS analysts, urban planners, environmental consultants, market analysts, transportation specialists, or researchers, among other roles.
	CO4	<b>Global Perspective:</b> Applied Geography promotes a global perspective by examining the spatial dimensions of social, economic, and environmental issues. Students gain insights into global interconnections, cultural diversity, and geopolitical dynamics.
	CO5	<b>Lifelong Learning:</b> Geography is a dynamic field, and Pursuing a degree in Applied Geography offers opportunities for lifelong learning and professional growth. Graduates can engage in continuing education, pursue advanced degrees, or stay updated with the latest developments in the field.
Semester 5 & 6 Agricultural Geography	CO1	<b>Understanding agricultural systems:</b> Agricultural geography provides a comprehensive understanding of various agricultural systems, including crop cultivation, livestock production, agro forestry, and sustainable farming practices.
	CO2	<b>Environmental sustainability:</b> They learn about sustainable farming techniques, conservation strategies, and land management approaches that promote ecological balance and mitigate the negative effects of agriculture on natural resources.
	CO3	<b>Food security and production:</b> Agricultural geography plays a crucial role in analyzing and addressing global food security challenges.
	CO4	<b>Climate change adaptation:</b> Agricultural geography equips graduates with knowledge on climate change impacts, vulnerability assessments, and adaptation strategies in agricultural contexts.
	CO5	<b>Policy and planning:</b> Agricultural geography graduates can contribute to policy formulation and planning related to agriculture.

<b>MATHEMATICS</b>		
<b>COURSE NAME</b>	<b>COURSE OUTCOMES</b>	
Semester-1 <b>Calculus 1</b>	CO1	Students will understand the fundamental concepts of differential calculus and their applications
	CO2	They understand the basic concepts of integral calculus and their applications in problems.
	CO3	They also understand the relationship between the derivative and the definite integral as expressed in both parts of the Fundamental Theorem of Calculus.
Semester-1 <b>Differential Equations</b>	CO1	Student will be able to solve first order differential equations utilizing the standard techniques for separable, exact, linear, homogeneous, or Bernoulli cases.
	CO2	Student will be able to find the complete solution of a non homogeneous differential equation as a linear combination of the complementary function and a particular solution.
Semester-1 <b>Linear Algebra</b>	CO1	Course demonstrates knowledge and understanding of topics including, but not limited to divisibility, prime numbers, quadratic reciprocity, Diophantine equations.
	CO2	Graduates can use mathematical induction and other types of proof writing techniques.
Semester-2 <b>Calculus-II</b>	CO1	Students Can determine asymptotes for rational expressions.
	CO2	They can locate the x and y intercepts, any undefined points, and any asymptotes
Semester-2 <b>Partial differential equation</b>	CO1	Course enables students to classify partial differential equations and transform into canonical form
	CO2	They can solve linear partial differential equations of both first and second order
	CO1	It describes the various forms of equation of a plane, straight line, Sphere, Cone and Cylinder.
Semester-2 <b>Analytic Geometry</b>	CO2	Students can find the angle between planes, Bisector planes, Perpendicular distance from a point to a plane, Image of a line on a plane, Intersection of two lines
	CO1	Students will be able to understand the concept of limit for real functions and be able to calculate limits of standard functions and construct simple proofs involving this concept;
Semester-3	CO2	Student will be introduced to the concept of



<b>Analysis 1</b>		continuity and be familiar with the statements and proofs of the standard results about continuous real functions;
	CO3	Student will understand the concept of the differentiability of a real valued function and be familiar with the statements and proofs.
	CO1	This course enables students to understand the reduction of force system in three dimensions to a resultant force acting at a base point and a resultant couple, which is independent of the choice of base of reduction.
<b>Semester-3 Mechanics</b>	CO2	This course enables students to learn about a nul point, a nul line, and a nul plane with respect to a system of forces acting on a rigid body together with the idea of central axis
<b>Semester-3 Linear Programming</b>	CO1	The student is expected to learn about the basic principles of linear programming.
	CO2	To have full knowledge of concepts involving the fundamental tools such as continuity and differentiability
	CO3	Students are able to reason rigorously in mathematical arguments. They can follow abstract mathematical arguments and write their own proofs.
<b>Semester-4 Analysis-II</b>	CO1	This course enables students to compute sums, products, quotients, conjugate, modulus, and argument of complex numbers
	CO2	They can write equation of straight line, circle in complex form
<b>Semester-4 Numerical Method</b>	CO1	Students will learn various techniques for numerical approximation, including interpolation, curve fitting, and numerical differentiation and integration.
	CO2	Students will study methods for solving equations numerically, including root-finding algorithms such as the bisection method, Newton-Raphson method, and secant method.
<b>Semester-4 Number Theory</b>	CO1	Students will develop an understanding of prime numbers, composite numbers, and the fundamental theorem of arithmetic.
	CO2	Students will study modular arithmetic and its applications in Number Theory.
<b>Semester-5 Abstract Algebra 1</b>	CO1	This course enables students to Recognize the concepts of the terms span, linear independence, basis, and dimension, and apply these concepts to various vector spaces and subspaces

	CO2	This course enables students to Use matrix algebra and the related matrices to linear transformations,
	CO3	They can identify and construct linear transformations of matrix.
<b>Semester-5 Mathematical methods -I</b>	CO1	This course enables students to understand the importance of algebraic properties.
	CO2	Graduates can extend group structure to finite permutation groups (Cayley's Theorem).
	CO3	This course enables students to understand the three major concrete models of Boolean algebra: the algebra of sets, the algebra of electrical circuits, and the algebra of logic.
<b>Semester-5 Discrete Mathematics- I</b>	CO1	Graduates can Learn about partially ordered sets, lattices and their types.
	CO2	This course enables students to understand Boolean algebra and Boolean functions, logic gates, switching circuits and their applications.
<b>Semester-6 Optimization Techniques</b>	CO1	Students will gain an understanding of the fundamental concepts and principles of optimization.
	CO2	Students will study linear programming, which involves optimizing a linear objective function subject to linear constraints.
<b>Semester-6 Mathematical method-II</b>	CO1	This course enables students to introduce the concepts of partial differential equations, Calculus of Finite differences, statistics, Fourier series and Fourier transform. Identify real phenomena as models of partial derivative equations.
	CO2	This course enables students to solve real problems by identifying them appropriately from the perspective of partial derivative equations.
<b>Semester-6 Discrete mathematics-II</b>	CO1	The course aims at introducing the concepts of ordered sets, lattices, sub lattices and homomorphism between lattices.
	CO2	The course aims at introducing the concepts of ordered sets, lattices, sub lattices and homomorphism between lattices.
	CO3	The second part of this course deals with introduction to graph theory, paths and circuits, Eulerian circuits, Hamiltonian graphs etc.

ART AND CULTURE		
MUSIC VOCAL		
COURSE NAME	COURSE OUTCOMES	
Semester-1 MUSIC VOCAL	CO1	<b>Vocal Technique:</b> Students will develop a strong foundation in vocal technique, including breath control, vocal range, tone production, and diction.
	CO2	<b>Musical Knowledge:</b> Students will acquire a comprehensive understanding of music theory, including notation, scales, chords, and harmony.
	CO3	<b>Performance Skills:</b> Students will develop their performance skills through regular practice, rehearsals, and public performances
Semester-2 MUSIC VOCAL	CO1	Students will build a diverse repertoire of vocal pieces from different musical genres and historical periods.
	CO2	Students will improve their ability to read music notation and sight-sing melodies accurately.
	CO3	Students will gain the knowledge and skills necessary to teach vocal music to others.
Semester-3 MUSIC VOCAL	CO1	Students will enhance their ability to critically listen to vocal performances and analyze them in terms of technique, style, interpretation, and artistic expression.
	CO2	Students will learn how to collaborate effectively with other musicians, such as pianists, guitarists, or other vocalists, in ensemble settings.
	CO3	Students will cultivate self-discipline, perseverance, and a strong work ethic. They will develop their creativity, expression, and personal identity as vocal artists, continually striving for improvement and growth.
Semester-4 MUSIC VOCAL	CO1	Students will demonstrate proficiency in vocal technique, including breath control, posture, resonance, articulation, and vocal range expansion.
	CO2	Students will develop the ability to interpret and express musical and lyrical content through vocal performance, effectively conveying emotions and storytelling.
	CO3	Students will learn techniques for maintaining vocal health, including proper warm-up and cool-down exercises, vocal hygiene, and injury prevention.

Semester-5 <b>MUSIC VOCAL</b>	CO1	Students will develop sight-singing skills, enabling them to accurately read and perform music notation.
	CO2	Students will acquire a solid foundation in music theory, including notation, scales, key signatures, intervals, chords, and basic harmonic analysis. They will apply this knowledge to enhance their understanding of vocal music.
	CO3	Students will gain knowledge of vocal pedagogy principles, learning how to analyze and diagnose vocal technical issues in themselves and others.
Semester-6 <b>MUSIC VOCAL</b>	CO1	Students will explore the use of technology in vocal music, including recording techniques, digital audio workstations, and basic editing.
	CO2	Students will develop essential professional skills such as time management, self-promotion, networking, and collaborating with other musicians.
	CO3	Students will build a diverse repertoire of vocal music, including selections from various genres, historical periods, and languages

<b>MUSIC INSTRUMENTAL</b>		
<b>COURSE NAME</b>	<b>COURSE OUTCOMES</b>	
Semester-1 <b>Music Instrumental</b>	CO1	Students will develop advanced skills and technical proficiency in playing their chosen instrument(s) through regular practice, performance, and instruction.
	CO2	Students will gain a solid foundation in music theory, including reading and writing musical notation, scales, chords, and harmony.
	CO3	Students will study the history of music, exploring various musical styles, genres, and periods.
Semester-2 <b>Music Instrumental</b>	CO1	Students will have opportunities to participate in various musical ensembles, such as orchestras, bands, chamber groups, or choir
	CO2	They will learn to collaborate with other musicians, develop ensemble skills, and perform repertoire in a group setting.
	CO3	Students will prepare and present solo performances, demonstrating their technical proficiency and musicality.
Semester-3	CO1	Students will explore the art of musical improvisation, developing their ability to

<b>Music Instrumental</b>		spontaneously create music within various styles and genres.
	CO2	They may also have opportunities to compose original music, applying their knowledge of music theory and instrumentation.
	CO3	Students will be introduced to music technology and its applications in music production, recording, and performance.
<b>Semester-4 Music Instrumental</b>	CO1	Students may have the opportunity to study the principles of music education and teaching methods.
	CO2	They will gain insights into effective instructional strategies and develop skills necessary to teach their instrument(s) to others.
	CO3	Students will develop their ability to critically listen to music, analyze musical structures, and articulate their interpretations
<b>Semester-5 Music Instrumental</b>	CO1	Students will be equipped with the knowledge and skills necessary for a career in music.
	CO2	They may receive guidance on audition techniques, portfolio development, networking, and entrepreneurship in the music industry.
	CO3	Students will demonstrate a high level of competence in technique, musical expression, and interpretation.
<b>Semester-6 Music Instrumental</b>	CO1	Develop advanced technical skills on your chosen instrument(s) through regular practice and instruction.
	CO2	Demonstrate a high level of musical expression and interpretation through the instrument, conveying emotions and communicating effectively through music.
	CO3	Gain knowledge of a diverse repertoire of music for your instrument, including works from different time periods, genres, and styles.



<b>MEDICINE</b>		
<b>HOME SCIENCE</b>		
<b>Course Name</b>	<b>Course Outcomes</b>	
<b>Semester-1 Home Management &amp; Hygiene</b>	CO1	Studying home management provides opportunities for students to understand and shape preferred solutions to a range of challenges in their personal, family, community and work roles.
	CO2	Provide opportunities for students to Balance work responsibilities with personal responsibilities and leisure.
	CO3	Take control of their health and develop health promoting behaviours.
<b>Semester-2 Resource Management &amp; Human Physiology</b>	CO1	Provide opportunities for students to utilize design and technology relevant to families and households.
	CO2	Demonstrate an understanding of the physiology and basic regulatory concepts related to the functioning of life processes.
	CO3	Demonstrate an understanding of the physiology and basic regulatory concepts of the organ systems associated with this course and the mechanisms that allow the body to carry out those functions, and predict how a perturbation (e.g., disease, experimental manipulation) will alter function.
<b>Semester-3 Clothing</b>	CO1	To advance knowledge and pushing the boundaries in fashion, textiles and design.
	CO2	To discuss different types and styles of clothing.
	CO3	To analyze the roles of weather and occasion in clothing choice and explain the primary functions of clothing.
<b>Semester-4 Textiles</b>	CO1	To understand the detailed structure of fiber, yarn and fabrics and to understand the properties of fiber, yarn and fabrics
	CO2	To understand the behavior of fiber, yarn and fabrics in end condition And to become able to design fiber, yarn and fabric having the required properties to meet the end-user requirements.
	CO3	To identify faults & their causes & nature in fiber, yarn and fabrics
<b>Semester-5</b>	CO1	Provide opportunities for students to develop related knowledge and skills such as those



<b>Food Science &amp; Child Development</b>		related to food preparation, food technology and food consumption
	CO2	Design, evaluate and make decisions related to food.
	CO3	To understand and take action to enhance human growth and development.
<b>Semester-6 Nutrition, Diet Therapy &amp; Child Care</b>	CO1	Enable students to choose nutritious foods in a changing market place.
	CO2	To prepare nutritious foods and develop health promoting food behaviors.
	CO3	Demonstrate the use of the scientific method and quantitative reasoning in the field of child care.

<b>COMPUTING SCIENCES</b>		
<b>COMPUTER SCIENCE</b>		
<b>Course Name</b>	<b>Course Outcomes</b>	
<b>Semester-1 Fundamentals of Information and Technology</b>	CO1	<b>Understand IT Concepts:</b> Gain a foundational understanding of key information technology concepts, including hardware, software, networks, databases, and their interrelationships.
	CO2	<b>Computer Systems:</b> Acquire knowledge about the components and functions of computer systems, including CPUs, memory, storage devices, input/output devices, and operating systems.
	CO3	<b>Software Applications:</b> Learn about various software applications used for productivity, communication, and collaboration, such as word processing, spreadsheets, presentation software, and email.
<b>Semester-2 MS Office Automation Tools</b>	CO1	<b>Proficiency in Microsoft Office:</b> Gain a high level of proficiency in using various Microsoft Office applications, including Word, Excel, PowerPoint, and Outlook.
	CO2	<b>Advanced Document Creation:</b> Learn to create complex and professional documents in Microsoft Word, including formatting, styles, templates, and document automation features.
	CO3	<b>Efficient Spreadsheet Management:</b> Master

		advanced features of Microsoft Excel, such as data analysis, complex formulas and functions, pivot tables, data visualization, and automation using macros.
	CO4	<b>Dynamic Presentation Skills:</b> Develop the ability to create compelling and interactive presentations using Microsoft PowerPoint, incorporating multimedia elements, animations, transitions, and slide automation.
Semester-3 <b>Programming in C</b>	CO1	<b>Basic Programming Concepts:</b> Understand fundamental programming concepts such as variables, data types, operators, control structures (if, else, switch), and loops (for, while, do-while).
	CO2	<b>Syntax and Semantics:</b> Develop a strong grasp of C language syntax and semantics, including rules for declaring variables, writing expressions, and creating functions.
	CO3	<b>Function Creation and Usage:</b> Learn to create functions, pass arguments, and return values, enabling the modular and organized development of programs.
Semester-4 <b>Database Management System</b>	CO1	<b>Fundamental Concepts:</b> Understand the core concepts of databases, data models, and the role of DBMS in managing and organizing data efficiently.
	CO2	<b>Relational Database Management System (RDBMS):</b> Gain a thorough understanding of relational databases, including tables, rows, columns, keys, and relationships.
	CO3	<b>SQL Proficiency:</b> Develop expertise in Structured Query Language (SQL) for querying and manipulating databases, including SELECT, INSERT, UPDATE, DELETE statements, and complex queries involving joins and subqueries.
Semester-5 <b>Object Oriented Programming using C++</b>	CO1	<b>Object-Oriented Concepts:</b> Understand the core principles of object-oriented programming, including classes, objects, encapsulation, inheritance, and polymorphism.
	CO2	<b>C++ Basics:</b> Gain proficiency in C++ syntax, data types, operators, control structures (if, else, switch), loops (for, while, do-while), and input/output operations.
	CO3	<b>Class and Object Creation:</b> Learn to define

		classes and create objects, including constructor and destructor methods, member variables, and member functions.
Semester-6 Computer Network	CO1	<b>Network Topologies and Architectures:</b> Learn about different network topologies (bus, star, ring, mesh) and network architectures (client-server, peer-to-peer), and their applications
	CO2	<b>Networking Devices:</b> Gain knowledge about various networking devices such as routers, switches, hubs, and access points, and their roles in data transmission and network management.
	CO3	<b>Physical Layer Concepts:</b> Understand the concepts of data transmission, analog and digital signals, modulation, demodulation, and transmission media (copper, fiber, wireless).

# **Bachelor of Science (Non-Medical)**

## Graduate Programme Outcomes-BA/BCom/BSc

Graduate programmes at Government College Ropar are outcome-based, with the following expected outcomes:

PO1	<b>Critical Thinking and Problem-Solving Skills:</b> Learners will gain advanced critical thinking and problem-solving abilities. They will be able to analyze complicated topics, assess evidence, examine many points of view, and develop novel solutions.
PO2	<b>Advanced Knowledge and Expertise:</b> Graduate programs aim to provide students with a deep understanding of their chosen field or specialization. Graduates will have acquired advanced knowledge, theories, methodologies, and skills specific to their area of study.
PO3	<b>Research and Scholarly Abilities:</b> Graduates will have the ability to design and conduct independent research, critically analyze existing literature, and contribute to the advancement of knowledge in their field.
PO4	<b>Effective Communication:</b> Focusing on developing strong communication skills. Students will be able to articulate complex ideas and research findings clearly and effectively, both in written and oral forms, to both specialized and non-specialized audiences.
PO5	<b>Cross-Disciplinary Knowledge:</b> Depending on the program, graduates may acquire cross-disciplinary knowledge, enabling them to integrate and apply concepts and methodologies from multiple fields to address complex problems and contribute to interdisciplinary collaboration.
PO6	<b>Professional Ethics and Responsibility:</b> emphasizing professional ethics, integrity, and social responsibility. Graduates will be equipped with ethical decision-making skills and an understanding of the social and ethical implications of their work.
PO7	<b>Professional and Career Development:</b> Providing students with opportunities for professional development, including internships, industry collaborations, and networking events.
PO8	<b>Adaptability and Lifelong Learning:</b> Programs aim to cultivate a growth mindset and a commitment to lifelong learning. Graduates will be prepared to adapt to new challenges, acquire new knowledge, and continuously develop their skills throughout their careers.

# **GOVERNMENT COLLEGE ROPAR**

(Affiliated To Punjabi University ,Patiala)



## **PROGRAMME SPECIFIC OUTCOMES**

**B.Sc. Non Medical**



The Bachelor of Science (Non-Medical) Programme at Government College Ropar is outcome-based, with the following PSOs required.

PSO1	<b>Proficiency in Physical Sciences:</b> Students will gain in-depth knowledge of physical sciences, including physics and chemistry. They will understand the fundamental principles, laws, and theories governing these subjects and be able to apply them in practical applications.
PSO2	<b>Solid Foundation in Mathematics:</b> Graduates will have a strong understanding of mathematical concepts, including calculus, algebra, statistics, and numerical methods, providing them with a solid foundation for further study or careers in fields such as mathematics, physics, or computer science.
PSO3	<b>Laboratory Techniques and Experimental Skills:</b> Learners will have practical experience in laboratory techniques, experimental design, data collection, analysis, and interpretation. They will be skilled in conducting experiments and utilizing laboratory equipment effectively and safely.
PSO4	<b>Scientific Research and Methodology:</b> Graduates will have a good understanding of scientific research methodologies and be able to design and conduct scientific experiments, analyze data, and draw meaningful conclusions.
PSO5	<b>Problem-Solving and Critical Thinking:</b> BSc Non-Medical programs cultivate problem-solving and critical thinking skills. Graduates will be able to analyze complex problems, think critically, and apply logical reasoning to propose effective solutions based on scientific principles and evidence.
PSO6	<b>Effective Communication of Scientific Concepts:</b> Graduates will be able to communicate scientific concepts and findings effectively. They will have strong written and oral communication skills and be proficient in presenting scientific information in a clear and concise manner.
PSO7	<b>Continuous Learning and Professional Development:</b> Program aim to instill a passion for continuous learning and professional development. Graduates will be equipped with the skills and motivation to pursue further education, such as postgraduate studies or professional certifications, and to keep up with advancements in their field.

The Bachelor of Science (Non-Medical) Programme at Government College Ropar is outcome-based, with the following COs required.

<b>B.Sc. First Year Semester-I</b>		
<b>Course Name</b>	<b>Course Outcomes</b>	
<b>PHYSICS</b>		
Mechanics-I	CO1	Students will develop a solid understanding of fundamental concepts and principles in mechanics, including Newton's laws of motion, kinematics, forces, energy, momentum, and equilibrium.
	CO2	Students will learn to apply mathematical and physical principles to solve mechanics problems
	CO3	Students will explore real-world applications of mechanics, such as motion of objects, gravitational forces, friction, projectile motion
Vibration and Waves-I	CO1	Students will develop a comprehensive understanding of wave phenomena, including the properties of waves, wave motion, wave types
	CO2	Students will learn to analyze and model vibrational systems, including single-degree-of-freedom systems and multi-degree-of-freedom systems.
	CO3	Students will gain proficiency in using mathematical models to describe and analyze wave behavior.
Electricity and Magnetism-I	CO1	Students will gain an understanding of the practical applications of electricity and magnetism in various fields
	CO2	They will develop problem-solving and analytical skills specific to electricity and magnetism.
<b>CHEMISTRY</b>		
Inorganic Chemistry	CO1	Graduates will learn about the periodic table, chemical symbols, atomic

		structure, and the properties of elements.
	CO2	Students will learn about the different types of chemical bonding in inorganic compounds
	CO3	Students will study the principles of coordination chemistry, including coordination compounds and complex ions.
Organic Chemistry	CO1	To help them understand the stereochemistry of organic compounds i.e. isomerism , conformations and configurations.
	CO2	Students will develop a fundamental understanding of the structure and bonding in organic compounds.
	CO3	Students will gain knowledge of spectroscopic techniques used in the characterization of organic compounds.
Physical Chemistry	CO1	Students will get a clear understanding of evaluation of analytical data ,liquid and gaseous states and physical properties like optical activity, dipole moment etc.
	CO2	They will learn about the principles of quantum mechanics, including wave-particle duality, atomic orbitals, and quantum numbers.
	CO3	Students will gain an understanding of chemical equilibrium and reaction rates.
<b>MATHEMATICS</b>		
Calculus 1	CO1	Students will understand the fundamental concepts of differential calculus and their applications
	CO2	They understand the basic concepts of integral calculus and their applications in problems.
	CO3	They also understand the relationship between the derivative and the definite integral as expressed in both parts of the

		Fundamental Theorem of Calculus.
Differential Equations	CO1	Student will be able to solve first order differential equations utilizing the standard techniques for separable, exact, linear, homogeneous, or Bernoulli cases.
	CO2	Student will be able to find the complete solution of a non homogeneous differential equation as a linear combination of the complementary function and a particular solution.
Linear Algebra	CO1	Course demonstrate knowledge and understanding of topics including, but not limited to divisibility, prime numbers, congruences, quadratic reciprocity, Diophantine equations.
	CO2	Graduates can use mathematical induction and other types of proof writing techniques.

<b>B.Sc. First Year Semester-II</b>		
<b>Course Name</b>	<b>Course Outcomes</b>	
<b>PHYSICS</b>		
Mechanics-II	CO1	Students will develop mathematical and computational skills necessary to solve mechanics problems, including vector algebra, calculus, trigonometry, and numerical methods.
	CO2	Mechanics courses may include laboratory components where students engage in hands-on experiments related to concepts covered in the course.
	CO3	Students will develop critical thinking skills and the ability to analyze complex mechanics problems.
Vibration and Waves-II	CO1	Students will explore the propagation of

		waves in different media, including solids, fluids, and gases.
	CO2	Students will learn about the practical applications of wave phenomena in various fields, such as acoustics, optics, signal processing
	CO3	Vibration and Waves courses often involve laboratory components where students conduct experiments related to wave phenomena.
Electricity and Magnetism-II	CO1	Students will develop a solid understanding of electrostatics, including Coulomb's law, electric fields, electric potential, electric flux, Gauss's law, and the concept of electric potential energy.
	CO2	Students will gain knowledge of magnetism and magnetic fields, including magnetic forces, magnetic materials, magnetic fields due to current-carrying wires, and the behavior of magnets.
	CO3	Students will study Maxwell's equations, which describe the fundamental principles of electromagnetism.
<b>CHEMISTRY</b>		
Inorganic Chemistry	CO1	Students will learn about the chemical reactions involving inorganic compounds, including redox reactions, precipitation reactions, acid-base reactions, and complexation reactions.
	CO2	They will study acid-base reactions, pH, pOH, and acid-base titrations.
	CO3	Students will explore the periodic trends in the properties of elements, including atomic size, ionization energy, electron affinity, electronegativity, and metallic character.
Organic Chemistry	CO1	Students get a clear understanding about the nomenclature and classification, preparation and chemical properties of



		various organic compounds like alkanes, alkenes, alkynes and their derivatives.
	CO2	Students will be introduced to the principles and strategies of organic synthesis.
	CO3	Students will study the properties and reactions of aromatic compounds, including benzene and its derivatives.
Physical Chemistry	CO1	Students will get to know about physical and chemical properties of solutions and colloids.
	CO2	They will have knowledge about chemical kinetics and catalysis.
<b>MATHEMATICS</b>		
Calculus-II	CO1	Students Can determine asymptotes for rational expressions .
	CO2	They can locate the x and y intercepts, any undefined points, and any asymptotes
	CO3	Graduates can determine if there is any symmetry to aid in the graphing process.
Partial differential equation	CO1	Course enables students to classify partial differential equations and transform into canonical form
	CO2	They can solve linear partial differential equations of both first and second order
	CO3	They can apply partial derivative equation techniques to predict the behavior of certain phenomena
Analytic Geometry	CO1	It Describe the various forms of equation of a plane, straight line, Sphere, Cone and Cylinder.
	CO2	Students can find the angle between planes, Bisector planes, Perpendicular distance from a point to a plane, Image of a line on a plane, Intersection of two lines

**B.Sc. Second Year Semester-III**

Course Name	Course Outcomes	
<b>PHYSICS</b>		
Statistical and Thermodynamic Physics-I	CO1	Students will learn how to apply statistical methods to describe and analyze the behavior of large systems of particles.
	CO2	They will study distributions such as the Maxwell-Boltzmann distribution, Fermi-Dirac distribution, and Bose-Einstein distribution, and how these distributions relate to the properties of particles in different quantum states.
	CO3	Students will explore the concepts of phase transitions and critical phenomena in statistical and thermodynamic systems.
Optics	CO1	Students will develop a solid understanding of the principles of optics, including the behavior and properties of light
	CO2	They will learn how to analyze and design optical systems using geometrical optics principles.
	CO3	Students will gain an understanding of the wave nature of light and its applications in various optical phenomena.
Quantum Physics- I	CO1	Graduates will learn about the mathematical formalism of quantum mechanics, including wave functions, operators, and the Schrödinger equation.
	CO2	Students will study the behavior of quantum systems, including particles in potential wells, harmonic oscillators, and central potentials.
	CO3	Students will learn about fundamental quantum phenomena and experiments that support quantum mechanics, such as the double-slit experiment, the photoelectric effect, and the Stern-

		Gerlach experiment.
<b>CHEMISTRY</b>		
Inorganic Chemistry	CO1	Students will deepen their understanding of coordination chemistry by studying advanced topics such as isomerism, crystal field theory, ligand field theory, and spectrochemical series.
	CO2	They will learn about the structure, reactivity, and applications of compounds containing these elements.
Organic Chemistry	CO1	Students will get a clear understanding about the nomenclature, classification, preparation and chemical properties of various organic compounds like alcohols ,phenols ,aldehydes and ketones.
	CO2	They will learn about reaction intermediates, reaction kinetics, and factors influencing reaction rates and selectivity.
Physical Chemistry	CO1	Students will be able to understand the thermodynamics, chemical equilibrium.
	CO2	Students will be studying statistical approaches to chemical systems.
<b>MATHEMATICS</b>		
Analysis 1	CO1	Students will be able to understand the concept of limit for real functions and be able to calculate limits of standard functions and construct simple proofs involving this concept;
	CO2	Student will be introduced to the concept of continuity and be familiar with the statements and proofs of the standard results about continuous real functions;
	CO3	Student will understand the concept of the differentiability of a real valued function and be familiar with the statements and proofs of the standard results about differentiable real functions.
Mechanics	CO1	This course enables students to

		understand the reduction of force system in three dimensions to a resultant force acting at a base point and a resultant couple, which is independent of the choice of base of reduction.
	CO2	This course enables students to learn about a nul point, a nul line, and a nul plane with respect to a system of forces acting on a rigid body together with the idea of central axis.
Advanced calculus	CO1	The student is expected to learn about the basic principles of multi-variable calculus with proofs.
	CO2	To have full knowledge of calculus involving the fundamental tools such as continuity and differentiability
	CO3	Students are able to reason rigorously in mathematical arguments. They can follow abstract mathematical arguments and write their own proofs.

<b>B.Sc. Second Year Semester-IV</b>		
<b>Course Name</b>	<b>Course Outcomes</b>	
<b>PHYSICS</b>		
Statistical and Thermodynamic Physics-II	CO1	Students will gain knowledge of thermodynamic potentials, such as internal energy, enthalpy, entropy, and free energy.
	CO2	courses often involve computational techniques and simulations.
Lasers	CO1	They may study topics such as lasers, optical fibers, spectrometers, optical sensors, holography, and imaging systems.
	CO2	Students will gain knowledge of the principles of lasers, including stimulated emission, population inversion, and laser cavity configurations.
	CO3	students will conduct experiments

		related to optics and laser phenomena.
Quantum Physics- II	CO1	Learners will study the behavior of particles in spherically symmetric potentials, the hydrogen atom, and other quantum systems with rotational symmetry.
	CO2	They may explore topics such as the quantization of electromagnetic fields
	CO3	Students will develop problem-solving and mathematical skills specific to quantum physics.
<b>CHEMISTRY</b>		
Inorganic Chemistry	CO1	Graduates will learn about the synthesis, structure, bonding, and reactivity of organometallic compounds and their applications in catalysis.
	CO2	Students will expand their knowledge of the properties and reactions of inorganic compounds.
Organic Chemistry	CO1	Students get a clear understanding about the nomenclature and classification, preparation and chemical properties of various organic compounds like carboxylic acids and its derivatives, nitro and amine compounds.
	CO2	Students will study the principles of stereochemistry in organic chemistry.
Physical Chemistry	CO1	Students will get to know about phase equilibrium and electrochemistry.
	CO2	Students will study advanced topics in chemical kinetics and reaction dynamics.
<b>MATHEMATICS</b>		
Analysis-II	CO1	This course enables students to compute sums, products, quotients, conjugate, modulus, and argument of complex numbers
	CO2	They can write equation of straight line, circle in complex form
	CO3	Find parameterizations of curves, and



		compute complex line integrals directly.
Numerical Method	CO1	Students will learn various techniques for numerical approximation, including interpolation, curve fitting, and numerical differentiation and integration.
	CO2	Students will study methods for solving equations numerically, including root-finding algorithms such as the bisection method, Newton-Raphson method, and secant method.
Number Theory	CO1	Students will develop an understanding of prime numbers, composite numbers, and the fundamental theorem of arithmetic.
	CO2	Students will study modular arithmetic and its applications in Number Theory.
	CO3	They will learn techniques such as the Euclidean algorithm and continued fractions to find solutions.

<b>B.Sc. Third Year Semester-V</b>		
<b>Course Name</b>	<b>Course Outcomes</b>	
<b>PHYSICS</b>		
Condensed Matter Physics-I	CO1	Graduates will learn about the classification of materials, the importance of length scales, and the key characteristics of condensed matter systems.
	CO2	Students will study the crystal structure of materials and the symmetry principles that govern their properties.
Electronics-I	CO1	Students will develop a solid understanding of various electronic components
	CO2	Students will learn the principles and techniques of electronic circuit design.
	CO3	Students will gain knowledge of analog electronic circuits and systems.
Nuclear and Radiation	CO1	Students will develop an understanding

Physics		of nuclear structure and properties.
	CO2	Students will explore nuclear reactions and their applications
	CO3	Students may explore the applications of nuclear physics in medicine and healthcare.
<b>CHEMISTRY</b>		
Inorganic Chemistry	CO1	Students will be given the knowledge of metal ligand bonding , thermodynamic , kinetic, spectral and magnetic properties of transition metals.
	CO2	They will learn to interpret and analyze periodic trends.
	CO3	They will study coordination geometries, isomerism, and electronic structure of transition metal complexes.
Organic Chemistry	CO1	Students will be introduced to complete concepts of UV,IR and NMR spectroscopy .
	CO2	They will be given sufficient knowledge of organometallic compounds.
Physical Chemistry	CO1	Students will be introduced to concepts of Quantum Chemistry , rotational and vibrational spectroscopy.
	CO2	They will apply quantum mechanical principles to understand the electronic structure of atoms and molecules, including molecular orbital theory and computational methods.
	CO3	Students will explore the principles and applications of molecular spectroscopy.
<b>MATHEMATICS</b>		
Algebra 1	CO1	This course enables students to Recognize the concepts of the terms span, linear independence, basis, and dimension, and apply these concepts to various vector spaces and subspaces
	CO2	This course enables students to Use matrix algebra and the related matrices to

		linear transformations,
	CO3	They can identify and construct linear transformations of a matrix.
Mathematical methods -I	CO1	This course enables students to understand the importance of algebraic properties with regard to working within various number systems.
	CO2	Graduates can extend group structure to finite permutation groups (Cayley's Theorem).
	CO3	This course enables students to understand the three major concrete models of Boolean algebra: the algebra of sets, the algebra of electrical circuits, and the algebra of logic.
Discrete Mathematics- I	CO1	Graduates can Learn about partially ordered sets, lattices and their types.
	CO2	This course enables students to understand Boolean algebra and Boolean functions, logic gates, switching circuits and their applications.
	CO3	They can solve real-life problems using finite-state and Turing machines.

<b>B.Sc. Third Year Semester-VI</b>		
<b>Course Name</b>	<b>Course Outcomes</b>	
<b>PHYSICS</b>		
Condensed Matter Physics-II	CO1	Students will gain knowledge of lattice vibrations in solids and the role of phonons in determining thermal and mechanical properties.
	CO2	Students will gain an understanding of the physics of semiconductors, including the behavior of charge carriers and the principles of semiconductor devices.
	CO3	Students may study the phenomenon of superconductivity

Electronics-II	CO1	Students will study semiconductor devices, including diodes and transistors.
	CO2	Students will gain practical skills in electronic measurement and testing techniques.
Nuclear and Particle Physics	CO1	Students will study the fundamental particles and their interactions
	CO2	Students will gain knowledge of particle detectors and experimental techniques used in nuclear and particle physics research.
<b>CHEMISTRY</b>		
Inorganic Chemistry	CO1	Students will be given the knowledge of silicon ,phosphazenes bioinorganic chemistry and HSAB concept.
	CO2	Students will gain an understanding of solid state chemistry, focusing on the structure, properties, and applications of solids.
Organic Chemistry	CO1	Students get a clear understanding about the nomenclature and classification, preparation and chemical properties of various organic compounds like heterocyclic compounds ,carbohydrates and amino acids.
	CO2	Students will deepen their knowledge of spectroscopic techniques for structural analysis.
	CO3	They will learn about concepts such as reaction kinetics, thermodynamics, reaction intermediates, and transition state theory.
Physical Optimization Techniques Chemistry	CO1	Students will get to know the Raman and Electronic Spectroscopy
	CO2	They will also study different laws of crystallography under solid state.
	CO3	Students may study advanced spectroscopic techniques used in physical chemistry research.

MATHEMATICS		
Optimization Techniques	CO1	Students will gain an understanding of the fundamental concepts and principles of optimization.
	CO2	Students will study linear programming, which involves optimizing a linear objective function subject to linear constraints.
Mathematical method-II	CO1	This course enables students to introduce the concepts of partial differential equations, Calculus of Finite differences, statistics, Fourier series and Fourier transform. Identify real phenomena as models of partial derivative equations.
	CO2	This course enables students to solve real problems by identifying them appropriately from the perspective of partial derivative equations.
	CO3	Students can apply the concept of probability to find the physical significance of various distribution phenomena.
Discrete mathematics-II	CO1	The course aims at introducing the concepts of ordered sets, lattices, sublattices and homomorphisms between lattices.
	CO2	The course aims at introducing the concepts of ordered sets, lattices, sublattices and homomorphisms between lattices.
	CO3	The second part of this course deals with introduction to graph theory, paths and circuits, Eulerian circuits, Hamiltonian graphs and finally some applications of graphs to shortest path algorithms.

# **Bachelor of Science (Medical)**



## Graduate Programme Outcomes-BA/BCom/BSc

Graduate programmes at Government College Ropar are outcome-based, with the following expected outcomes:

PO1	<b>Critical Thinking and Problem-Solving Skills:</b> Learners will gain advanced critical thinking and problem-solving abilities. They will be able to analyse complicated topics, assess evidence, examine many points of view, and develop novel solutions.
PO2	<b>Advanced Knowledge and Expertise:</b> Graduate programs aim to provide students with a deep understanding of their chosen field or specialization. Graduates will have acquired advanced knowledge, theories, methodologies, and skills specific to their area of study.
PO3	<b>Research and Scholarly Abilities:</b> Graduates will have the ability to design and conduct independent research, critically analyze existing literature, and contribute to the advancement of knowledge in their field.
PO4	<b>Effective Communication:</b> Focusing on developing strong communication skills. Students will be able to articulate complex ideas and research findings clearly and effectively, both in written and oral forms, to both specialized and non-specialized audiences.
PO5	<b>Cross-Disciplinary Knowledge:</b> Depending on the program, graduates may acquire cross-disciplinary knowledge, enabling them to integrate and apply concepts and methodologies from multiple fields to address complex problems and contribute to interdisciplinary collaboration.
PO6	<b>Professional Ethics and Responsibility:</b> emphasizing professional ethics, integrity, and social responsibility. Graduates will be equipped with ethical decision-making skills and an understanding of the social and ethical implications of their work.
PO7	<b>Professional and Career Development:</b> Providing students with opportunities for professional development, including internships, industry collaborations, and networking events.
PO8	<b>Adaptability and Lifelong Learning:</b> Programs aim to cultivate a growth mindset and a commitment to lifelong learning. Graduates will be prepared to adapt to new challenges, acquire new knowledge, and continuously develop their skills throughout their careers.

# GOVERNMENT COLLEGE ROPAR

(Affiliated To Punjabi University ,Patiala)



## PROGRAMME SPECIFIC OUTCOMES

**B.Sc. Medical**

The Bachelor of Science (Medical) Programme at Government College Ropar is outcome-based, with the following PSOs required.

PSO1	<b>Understanding of Basic Medical Sciences:</b> Students will develop a strong foundation in basic medical sciences such as anatomy, physiology, biochemistry, pharmacology, and pathology.
PSO2	<b>Knowledge of Medical Terminology and Healthcare Systems:</b> Students will acquire a comprehensive understanding of medical terminology, healthcare systems, and medical ethics.
PSO3	<b>Understanding of Disease Processes and Treatment Modalities:</b> Students will learn about various diseases, their causes, symptoms, and treatment modalities.
PSO4	<b>Effective Communication and Interpersonal Skills:</b> Students will develop strong communication and interpersonal skills necessary for effective patient interaction and collaboration within interdisciplinary healthcare teams.
PSO5	<b>Ethical and Professional Behavior:</b> Students will understand and adhere to ethical principles and professional standards in the medical field.
PSO6	<b>Plant Science:</b> Students will be able to develop a critical and scientific approach towards plant sciences.

The Bachelor of Science (Medical) Programme at Government College Ropar is outcome-based, with the following COs required.

<b>B.Sc. First Year Semester-I</b>		
<b>Course Name</b>	<b>Course Outcomes</b>	
<b>ZOOLOGY</b>		
Cell Biology	CO1	Understood the structure of cells and cell organelles in relation to the functional aspects and understanding of the working, principles and applications of microscopes
	CO2	Described the composition of prokaryotic and eukaryotic cells.
	CO3	Understood the structure and functions of chromosome; mitotic and meiotic cell divisions and their significance
Non Chordates	CO1	Students will develop a comprehensive understanding of the diversity of non-chordate animals.
	CO2	Students will explore the physiological processes and functions of non-chordate animals.
<b>CHEMISTRY</b>		
Inorganic Chemistry	CO1	Graduates will learn about the periodic table, chemical symbols, atomic structure, and the properties of elements.
	CO2	Students will learn about the different types of chemical bonding in inorganic compounds
	CO3	Students will study the principles of coordination chemistry, including coordination compounds and complex ions.
Organic Chemistry	CO1	To help them understand the stereochemistry of organic compounds i.e. isomerism , conformations and

		configurations.
	CO2	Students will develop a fundamental understanding of the structure and bonding in organic compounds.
	CO3	Students will gain knowledge of spectroscopic techniques used in the characterization of organic compounds.
Physical Chemistry	CO1	Students will get a clear understanding of evaluation of analytical data ,liquid and gaseous states and physical properties like optical activity, dipole moment etc.
	CO2	They will learn about the principles of quantum mechanics, including wave-particle duality, atomic orbitals, and quantum numbers.
	CO3	Students will gain an understanding of chemical equilibrium and reaction rates.
<b>BOTONY</b>		
Diversity of Microbes	CO1	The classification, structure and methods of reproduction of algae, fungi, lichens, bryophytes and pteridophytes.
	CO2	Major plant diseases caused by bacteria, viruses & fungi and their effective control measures.
Diversity of Cryptogams	CO1	Students will be able to understand Evolution of bryophytes and pteridophytes
	CO2	Students will be able to understand Economic importance of microbes and cryptograms.
<b>B.Sc. First Year Semester-II</b>		
<b>Course Name</b>		<b>Course Outcomes</b>
<b>ZOOLOGY</b>		
Ecology	CO1	Students will develop mathematical and computational skills necessary to solve mechanics problems, including vector algebra, calculus, trigonometry, and numerical methods.
	CO2	Mechanics courses may include

		laboratory components where students engage in hands-on experiments related to concepts covered in the course.
	CO3	Students will develop critical thinking skills and the ability to analyze complex mechanics problems.
Chordates	CO1	Identified the taxonomic status of the entire chordates and discussed the evolutionary model of the group. Imparted the knowledge on ecology of some important fishes, amphibians reptiles, birds and mammals.
	CO2	Impart knowledge in comparative anatomy and development systems of chordates.
	CO3	Make able to discuss some and very important phenomena in Chordates.
<b>CHEMISTRY</b>		
Inorganic Chemistry	CO1	students will learn about the chemical reactions involving inorganic compounds, including redox reactions, precipitation reactions, acid-base reactions, and complexation reactions.
	CO2	They will study acid-base reactions, pH, pOH, and acid-base titrations.
	CO3	Students will explore the periodic trends in the properties of elements, including atomic size, ionization energy, electron affinity, electronegativity, and metallic character.
Organic Chemistry	CO1	Students get a clear understanding about the nomenclature and classification, preparation and chemical properties of various organic compounds like alkanes, alkenes, alkynes and their derivatives.
	CO2	Students will be introduced to the principles and strategies of organic synthesis.



	CO3	Students will study the properties and reactions of aromatic compounds, including benzene and its derivatives.
Physical Chemistry	CO1	Students will get to know about physical and chemical properties of solutions and colloids.
	CO2	They will have knowledge about chemical kinetics and catalysis.
<b>BIOLOGY</b>		
Cell Biology	CO1	Students will be able to understand the systematic organization of plant life
	CO2	They will study structure of cell organelles and their function.
	CO3	Also study types and methods of cell division.
Genetics and Evolution	CO1	Students will be able to understand DNA replication, transcription, and translation
	CO2	They will study Origin of life on Earth and different theories of evolution.
<b>B.Sc. Second Year Semester-III</b>		
<b>Course Name</b>	<b>Course Outcomes</b>	
<b>ZOOLOGY</b>		
Bio Chemistry	CO1	Graduates can attain the knowledge of macromolecule such as carbohydrates, protein and fat, their types and significance.
	CO2	Students can gain the knowledge of cholesterol and its biological significance
	CO3	This course Describes the enzymes, mechanism of enzyme action and factors affecting the enzyme activity
Animal Physiology	CO1	Understood about the composition of food and mechanism of digestion absorption and assimilation.
	CO2	Attained knowledge of respiration and excretion and understood the mechanism of transport of gases and urine formation
	CO3	Described the mechanism of circulation and composition of blood

CHEMISTRY		
Inorganic Chemistry	CO1	Students will deepen their understanding of coordination chemistry by studying advanced topics such as isomerism, crystal field theory, ligand field theory, and spectrochemical series.
	CO2	They will learn about the structure, reactivity, and applications of compounds containing these elements.
Organic Chemistry	CO1	Students will get a clear understanding about the nomenclature, classification, preparation and chemical properties of various organic compounds like alcohols, phenols, aldehydes and ketones.
	CO2	They will learn about reaction intermediates, reaction kinetics, and factors influencing reaction rates and selectivity.
Physical Chemistry	CO1	Students will be able to understand the thermodynamics, chemical equilibrium.
	CO2	Students will be studying statistical approaches to chemical systems.
BIOLOGY		
Diversity & Systematics of Gymnosperms	CO1	Students will be able to understand the Origin and evolution of Gymnosperms and angiosperms
	CO2	Student will be introduced to Morphology, anatomy and reproduction of selected Gymnosperms.
Diversity & Systematics of Angiosperms	CO1	This course enables students to understand the Concept of plant taxonomy
	CO2	This course enables students to learn about the identification of major groups of flowering plants.
B.Sc. Second Year Semester-IV		
Course Name	Course Outcomes	
ZOOLOGY		
Genetics	CO1	Understood the theories of classical

		genetics and blood group inheritance in man
	CO2	Described the genetic variation through linkage and crossing over, chromosomal aberrations and sex determination.
	CO3	Understood the genetic defects and inborn errors of metabolism
Evolutionary Biology	CO1	Gained slide preparation to observe of Giant chromosome, epithelial and blood cells.
	CO2	Understood the concept of chromatography and finding Rf values of different compounds
	CO3	Preparation, direct observation and appreciation of sperm motility and different stages of chick embryo development and placentation of animals.
<b>CHEMISTRY</b>		
Inorganic Chemistry	CO1	Graduates will learn about the synthesis, structure, bonding, and reactivity of organometallic compounds and their applications in catalysis.
	CO2	Students will expand their knowledge of the properties and reactions of inorganic compounds.
Organic Chemistry	CO1	Students get a clear understanding about the nomenclature and classification, preparation and chemical properties of various organic compounds like carboxylic acids and its derivatives, nitro and amine compounds.
	CO2	Students will study the principles of stereochemistry in organic chemistry.
Physical Chemistry	CO1	Students will get to know about phase equilibrium and electrochemistry.
	CO2	Students will study advanced topics in chemical kinetics and reaction dynamics.
<b>BIOLOGY</b>		
Plant Anatomy	CO1	This course enables students to

		understand the concept of plant anatomy like cells, tissues and their function
	CO2	primary and secondary growth in flowering plants
Development & Reproduction in Flowering Plants	CO1	Students will learn various mode of reproduction, methods of pollination, embryo development in flowering plants.
	CO2	Students will study different types of fruits and methods of seed dispersal.
<b>B.Sc. Third Year Semester-V</b>		
<b>Course Name</b>	<b>Course Outcomes</b>	
<b>ZOOLOGY</b>		
Molecular Biology	CO1	Understood the genetic defects and inborn errors of metabolism
	CO2	Understood the molecular structure of genetic materials and understood the mechanism of gene expression and regulation character formation.
Developmental Biology	CO1	Students will develop a comprehensive understanding of the processes and mechanisms involved in the development of organisms from fertilization to adulthood.
	CO2	They will explore topics such as gene expression, regulatory networks, and signaling pathways that govern developmental processes.
	CO3	Students will delve into the cellular and molecular mechanisms underlying developmental processes.
<b>CHEMISTRY</b>		
Inorganic Chemistry	CO1	Students will be given the knowledge of metal ligand bonding , thermodynamic , kinetic, spectral and magnetic properties of transition metals.
	CO2	They will learn to interpret and analyze periodic trends.
	CO3	They will study coordination geometries, isomerism, and electronic structure of

		transition metal complexes.
Organic Chemistry	CO1	Students will be introduced to complete concepts of UV,IR and NMR spectroscopy .
	CO2	They will be given sufficient knowledge of organometallic compounds.
Physical Chemistry	CO1	Students will be introduced to concepts of Quantum Chemistry , rotational and vibrational spectroscopy.
	CO2	They will apply quantum mechanical principles to understand the electronic structure of atoms and molecules, including molecular orbital theory and computational methods.
	CO3	Students will explore the principles and applications of molecular spectroscopy.
<b>BIOLOGY</b>		
Plant Physiology	CO1	This course enables students to Recognize the physiology and principle of growth and development in plants
	CO2	This course enables students to study mechanism of photosynthesis, respiration and nitrogen fixation.
	CO3	mineral nutrition and their role in plant development.
Plant Growth,Development & Biotechnology	CO1	This course enables students to understand the principle and methods of micro-propagation and their applications.
	CO2	techniques and tools of recombinant DNA technology.
	CO3	role of biotechnology in agriculture, medicine and in industries.
<b>B.Sc. Third Year Semester-VI</b>		
<b>Course Name</b>	<b>Course Outcomes</b>	
<b>ZOOLOGY</b>		
Medical zoology and medical Laboratory Technology	CO1	Understand the structure and function of various animal systems, including the respiratory, circulatory, nervous, and reproductive systems.

	CO2	Gain insights into the behavior and social interactions of different animal species, including their communication patterns, mating behaviors, and ecological relationships.
Immunology	CO1	Develop a solid understanding of the fundamental principles and concepts of immunology, including the immune system components, cell types, and their functions.
	CO2	Gain knowledge about the different components of the immune response, including innate and adaptive immunity, antigen recognition, antigen processing and presentation, and antibody production.
Insect Biology	CO1	Acquire a comprehensive understanding of the classification and diversity of insects, including their morphology, anatomy, and physiology.
	CO2	Gain knowledge about the ecological roles of insects, their interactions with other organisms, and their impact on ecosystems, including their roles as pollinators, decomposers, and pests.
Economic entomology and Pest management	CO1	Understand the economic impact of insects on agriculture, forestry, human health, and the environment. Learn about the economic losses caused by insect pests and the benefits provided by beneficial insects.
	CO2	Develop skills in identifying and classifying insect pests based on their morphological characteristics, life cycles, and behaviors.
Aquaculture I	CO1	Gain knowledge about the basic principles and concepts of aquaculture, including the farming of aquatic organisms, their biology, and their



		production systems.
	CO2	Acquire knowledge about the different species cultured in aquaculture, including fish, shellfish, crustaceans, and aquatic plants. Understand their biology, life cycles, and nutritional requirements.
Aquaculture II	CO1	Develop a deeper understanding of advanced aquaculture production systems, such as intensive recirculating systems, raceways, and biofloc technology.
	CO2	Gain knowledge about reproductive biology, breeding techniques, and reproductive management of cultured aquatic organisms.
<b>CHEMISTRY</b>		
Inorganic Chemistry	CO1	Students will be given the knowledge of silicon ,phosphazenes bioinorganic chemistry and HSAB concept.
	CO2	Students will gain an understanding of solid state chemistry, focusing on the structure, properties, and applications of solids.
Organic Chemistry	CO1	Students get a clear understanding about the nomenclature and classification, preparation and chemical properties of various organic compounds like heterocyclic compounds ,carbohydrates and amino acids.
	CO2	Students will deepen their knowledge of spectroscopic techniques for structural analysis.
	CO3	They will learn about concepts such as reaction kinetics, thermodynamics, reaction intermediates, and transition state theory.
Physical Optimization Techniques Chemistry	CO1	Students will get to know the Raman and Electronic Spectroscopy
	CO2	They will also study different laws of

		crystallography under solid state.
	CO3	Students may study advanced spectroscopic techniques used in physical chemistry research.
<b>BIOLOGY</b>		
Plant Ecology	CO1	Students will be able to learn about major components of ecosystem and their role in environment.
	CO2	Students will study natural resources and it's management.
Plant Utilisation	CO1	This course enables students to study different plant forms and their sampling methods
	CO2	This course enables students to understand environmental problems like pollution, global warming, ozone depletion and their mitigation programs.

# **Bachelor of Commerce**

# Graduate Programme Outcomes-BA/BCom/BSc

Graduate Programmes at Government College Ropar are outcome-based, with the following expected outcomes:

PO1	<b>Critical Thinking and Problem-Solving Skills:</b> Learners will gain advanced critical thinking and problem-solving abilities. They will be able to analyze complicated topics, assess evidence, examine many points of view, and develop novel solutions.
PO2	<b>Advanced Knowledge and Expertise:</b> Graduate programs aim to provide students with a deep understanding of their chosen field or specialization. Graduates will have acquired advanced knowledge, theories, methodologies, and skills specific to their area of study.
PO3	<b>Research and Scholarly Abilities:</b> Graduates will have the ability to design and conduct independent research, critically analyze existing literature, and contribute to the advancement of knowledge in their field.
PO4	<b>Effective Communication:</b> Focusing on developing strong communication skills. Students will be able to articulate complex ideas and research findings clearly and effectively, both in written and oral forms, to both specialized and non-specialized audiences.
PO5	<b>Cross-Disciplinary Knowledge:</b> Depending on the program, graduates may acquire cross-disciplinary knowledge, enabling them to integrate and apply concepts and methodologies from multiple fields to address complex problems and contribute to interdisciplinary collaboration.
PO6	<b>Professional Ethics and Responsibility:</b> Emphasizing Professional ethics, integrity, and social responsibility. Graduates will be equipped with ethical decision-making skills and an understanding of the social and ethical implications of their work.
PO7	<b>Professional and Career Development:</b> Providing students with opportunities for professional development, including internships, industry collaborations, and networking events.
PO8	<b>Adaptability and Lifelong Learning:</b> Programs aim to cultivate a growth mindset and a commitment to lifelong learning. Graduates will be prepared to adapt to new challenges, acquire new knowledge, and continuously develop their skills throughout their careers.

# GOVERNMENT COLLEGE ROPAR

(Affiliated To Punjabi University, Patiala)



## PROGRAMME SPECIFIC OUTCOMES

### Bachelor of Commerce

The Bachelor of Commerce Programme at Government College Ropar is outcome-based, with the following PSOs required.

PSO1	<b>Critical Thinking:</b> Graduates should be able to think critically, analyze data, and make informed decisions based on sound reasoning and evidence.
PSO2	<b>Communication:</b> Graduates should be able to communicate effectively and professionally in both written and oral forms.
PSO3	<b>Problem Solving:</b> Graduates should be able to identify and solve problems related to commerce, using appropriate tools and techniques.
PSO4	<b>Entrepreneurship:</b> Graduates should be able to identify and exploit business opportunities, and take initiatives to start and manage their own businesses
PSO5	<b>Ethics:</b> Graduates should have a strong sense of ethics and social responsibility, and should be able to apply ethical and moral principles in their professional and personal lives.
PSO6	<b>Global Perspective:</b> Graduates should be aware of the global business environment and its impact on commerce, and should be able to adapt to the changing demands of the global economy.
PSO7	<b>Lifelong Learning:</b> Graduates should be committed to lifelong learning, and should have the ability to learn independently, as well as collaborate with others to acquire new knowledge and skills.
PSO8	<b>Understanding of Accounting:</b> Students should be able to understand the principles and concepts of accounting, including the accounting equation, double-entry accounting, and the role of accounting in business.



The Bachelor of Commerce Programme at Government College Ropar is outcome-based, with the following COs required.

<b>B.Com First Year Semester-I</b>		
<b>Course Name</b>	<b>Course Outcomes</b>	
Financial Accounting -I	CO1	Students should be able to understand the basic accounting principles, concepts, and conventions that underlie financial accounting
	CO2	Students should be able to prepare financial statements, including the balance sheet and income statement
	CO3	Students should be able to record financial transactions using double-entry accounting and understand the impact of these transactions on the financial statements
	CO4	Students should be able to account for different types of assets, such as property, plant, and equipment, intangible assets, and inventory
Business Laws -I	CO1	Students should be able to understand the legal framework that governs business transactions including the Indian Contract Act
	CO2	Students should be able to understand and apply the laws related to intellectual property rights, including patents, trademarks, copyrights, and trade secrets.
	CO3	Students will be able to learn about Contract of sale of goods , Transfer of ownership under Sale of Goods Act,
	CO4	Students will deepen their knowledge about Hire purchase act and other relevant laws
Computer Applications in Business -I	CO1	Students should be able to understand the basic concepts of computer hardware, software, and operating systems.
	CO2	Students should be able to know about Ms word, creating and editing documents and files

	CO3	Students should be able to use software tools, such as spreadsheets , worksheets , Excel charts and graphs
	CO4	Students should be able to use PowerPoint Presentation Software, to analyze and present data.

<b>B.Com First Year Semester-II</b>		
<b>Course Name</b>	<b>Course Outcomes</b>	
Financial Accounting -II	CO1	Students should be able to understand the basic concepts of Hire purchase and Consignment Accounting
	CO2	Students should be able to record financial transactions of Joint Venture.
	CO3	Students should be able to know about Branch and departmental accounting
	CO4	Students should be able to navigate the Tally software and its features, including creating a company, creating ledgers, and managing accounts.
Business Laws -II	CO1	Students should be able to understand the concept of negotiable instruments and the various types of negotiable instruments, including promissory notes, bills of exchange, and cheques
	CO2	Students should be able to understand and apply the laws related to consumer protection, including the Consumer Protection Act and other relevant laws.
	CO3	Students should be able to understand the Information Technology Act including its Objectives and other related terms.
	CO4	Students should be able to understand the principles and concepts of the Environmental Protection Act, including its objectives and scope.

**B.Com. Second Year Semester-III**

<b>Course Name</b>	<b>Course Outcomes</b>	
Corporate Accounting –I	CO1	Students should be able to understand the principles and concepts of corporate accounting, including the preparation of financial statements.
	CO2	Students should be able to understand the Concept of share capital, Debentures and its Redemption
	CO3	Students should be able to Compute the Profit Prior to Incorporation.
	CO 4	Students should be able to understand the Concept of Underwriting and Consolidated Financial Statements.
Principles of Business Management	CO1	Students should be able to understand the concept of business management, its evolution, and the various management theories and approaches.
	CO2	Students should be able to understand the importance of planning and decision making in business management and apply various tools and techniques for effective planning and decision making.
	CO3	Students should be able to understand the concepts of leadership and motivation and apply them to create a positive work environment and achieve organizational goals.
	CO4	Students should be able to understand the principles of organizational design and structure and apply them to create effective and efficient organizations.
Income Tax Laws -I	CO1	Students should be able to understand the basic principles and concepts of income tax laws.
	CO2	Students should be able to compute the taxable income of individuals and businesses, including the various types of income and deductions allowed under

		income tax laws.
	CO3	Students should be able to understand Computation of various types of income, deductions, and exemptions.
	CO4	Students should be able to understand the Concept of Set Off and carry Forward of losses.
Business Statistics	CO1	Students should be able to understand the basic concepts of statistics,
	CO2	Students should be able to understand the basic concepts of Central tendency, measures of dispersion.
	CO3	Students should be able to perform time-series analysis to understand the patterns and trends in data over time.
	CO4	Students Should be able to learn about Correlation and Regression analysis including Methods of Forecasting

<b>B.Com. Second Year Semester-IV</b>		
<b>Course Name</b>	<b>Course Outcomes</b>	
Corporate Accounting II	CO1	Students should be able to understand the principles and concepts of accounting for reconstruction and liquidation, including the methods of accounting, the treatment of capital reduction, and the preparation of financial statements
	CO2	Students should be able to understand the principles and concepts of accounting for amalgamation and absorption, including the methods of accounting and the treatment of goodwill
	CO3	Students Should be able to learn about liquidation of companies.
	CO4	Students will deepen their knowledge about accounts of banking and insurance Companies.
Income tax Laws -II	CO1	Students Should be able to learn about deductions out of gross total income
	CO2	Students should be able to understand the principles and concepts of TDS, including the legal framework, types of payments subject to TDS, and the rate of TDS.
	CO3	Students should be able to understand the process of appeals, including the types of appeals, the procedures for filing an appeal, and the role of the appellate authorities.
	CO4	Students should be able to learn about computation of total income in regard to income of individual, HUF, Partnership Firm and companies.
Company Law	CO1	Students should be able to understand the principles and concepts of company law, including the legal framework, types of

		companies, and the rights and obligations of shareholders, directors, and officers.
	CO2	Students should be able to understand the process of incorporation of companies, including the requirements for registration, the types of companies, and the documents required for incorporation.
	CO3	Students should be able to understand the principles and concepts of company management, including the roles and responsibilities of directors, officers, and shareholders, and the legal framework for the management of companies.
	CO4	Students should be able to understand the principles and concepts of share capital and shareholders, including the types of shares, the issuance and transfer of shares, and the rights and obligations of shareholders.



**B.Com. Second Year Semester-V**

<b>Course Name</b>	<b>Course Outcomes</b>	
Cost Accounting-I	CO1	Students should be able to understand the principles and concepts of cost accounting, including the classification of costs, cost behavior, and Preparation of Cost sheet
	CO2	Students should be able to use cost accounting techniques to control costs and improve profitability, including material Control and labour control
	CO3	Students will able to learn about material losses and their treatment
	CO4	Students should be able to Compute Remuneration and incentives as per various plans
Management Accounting-I	CO1	Students should be able to understand the Nature and scope of management accounting
	CO2	Students will be able to prepare comparative and common size statement and trend analysis
	CO3	Students should be able to use management accounting information to make informed business decisions, including pricing decisions, make or buy decisions, and product mix decisions.
	CO4	Students should be able to Prepare Cash Flow and Fund Flow statement.
	CO5	Students should be able to learn about calculation and interpretation of ratios.
Indirect Taxes	CO1	Students should be able to understand the principles and concepts of indirect taxes, including the types of indirect taxes, their legal framework, and their impact on businesses.
	CO2	Students should be able to understand the GST regime, including its structure, registration, compliance, and filing of GST returns
	CO3	Students should be able to understand the

		principles and concepts of customs duty, including import and export procedures, classification of goods, valuation, and assessment of customs duty.
	CO4	Students should be able to understand the principles and concepts of central excise duty, including the manufacturing process, classification of goods, valuation, and assessment of excise duty.
	CO5	Students should be able to understand the principles and concepts of VAT and sales tax, including the registration, compliance, and filing of VAT and sales tax returns
Corporate Finance	CO1	Students should be able to understand the Nature , objectives and scope of Corporate finance
	CO2	Students should be able to evaluate investment opportunities, including capital budgeting techniques, such as net present value (NPV), internal rate of return (IRR), and payback period.
	CO3	Students should be able to understand the principles and concepts of capital structure, including the sources of long-term financing, the cost of capital, and the optimal capital structure.
	CO4	Students should be able to manage working capital, including managing cash, accounts receivable, inventory, and accounts payable
	CO5	Students will deepen their knowledge about various sources of finance to run a business
Auditing	CO1	Students should be able to understand the principles and concepts of auditing, including the objectives of auditing, the audit process, and the role of auditors.
	CO2	Students should be able to plan an audit, including understanding the client's business and industry, identifying audit

		risks, and developing an audit plan
	CO3	Students should be able to understand the principles and concepts of internal control, including identifying and evaluating internal controls, assessing control risk.
	CO4	Students should be able to prepare Audit reports, including expressing an opinion on financial statements and communicating audit findings to management and other stakeholders
	CO5	Students should be able to learn about Tax and Management audit including its Objectives and scope

<b>B.Com Third Year Semester-VI</b>		
<b>Course Name</b>	<b>Course Outcomes</b>	
Cost Accounting -II	CO1	Students should be able to apply various costing methods, such as job costing, Contract Costing and Service Costing
	CO2	Students should be able to learn about Process Costing , inter Process profits and equivalent Production
	CO3	Students should be able to learn Concept of Productivity and Value analysis
	CO4	Students should be able to use cost accounting information to make informed business decisions, including pricing decisions, make or buy decisions, and product mix decisions
	CO5	Students should be able to communicate cost accounting information effectively to various stakeholders, including managers, investors, and customers
Management Accounting -II	CO1	Students should be able to understand the principles and concepts of management accounting, including cost accounting, budgeting, and performance measurement.

	CO2	Students should be able to use cost management techniques, such as activity-based costing and target costing, to manage costs and improve profitability
	CO3	Students should be able to prepare budgets and forecasts using management accounting techniques and understand the importance of budgeting in managerial decision making.
	CO4	Students should be able to evaluate the performance of individuals and departments based on their assigned responsibilities. They should be able to identify areas of strength and weakness and provide recommendations for improvement
	CO5	Students should be able to understand the concept of standard costing and variance analysis
Business Environment	CO1	Students should be able to understand the various components of the business environment, including economic, political, legal, social, and technological factors.
	CO2	Students should be able to analyze the business environment using various tools and techniques, including SWOT analysis
	CO3	Students should be able to understand the global business environment and its impact on organizations. They should be able to analyze the opportunities and challenges of operating in a global business environment
	CO4	Students should be able to understand the Economic Environment and Economic System
	CO5	Students should be able to understand the Concept of Monetary policy, Fiscal Policy including new economic policy and economic reforms.
Entrepreneurship &	CO1	Students should be able to understand the

Governance		principles and concepts of entrepreneurship, including opportunity recognition, creativity, innovation, and risk-taking.
	CO2	Students should be able to identify and evaluate funding and financing options for new ventures, including venture capital.
	CO3	Students should be able to understand the legal and regulatory environment for new ventures.
	CO4	Students should be able to understand the principles of governance for new ventures, including board composition, board responsibilities, and shareholder rights.
	CO5	Students should be able to understand the principles and concepts of corporate social responsibility, including ethical behavior, social responsibility, and sustainability.
Financial Planning	CO1	Students get a clear understanding about principles and concepts of financial planning, including budgeting, forecasting, and financial analysis.
	CO2	Students should be able to develop a personal financial plan, including setting financial goals, budgeting, and investing. They should be able to evaluate investment options and develop an investment strategy
	CO3	Students should be able to understand the principles and concepts of investment planning, including investment options, risk management, and portfolio management. They should be able to evaluate investment options and develop an investment strategy
	CO4	Students should be able to understand the principles and concepts of estate planning, including wills, trusts, and

		estate taxes. They should be able to develop an estate plan.
	CO5	Students will deepen their knowledge about various stages of life cycle approach of an individual





# **Bachelor of Computer Applications**

# Graduate Programme Outcomes

## B.A/B.Com/B.Sc/B.C.A

Graduate programme at Government College Ropar are outcome-based, with the following expected outcomes:

PO1	<b>Critical Thinking and Problem-Solving Skills:</b> Learners will gain advanced critical thinking and problem-solving abilities. They will be able to analyze complicated topics, assess evidence, examine many points of view, and develop novel solutions.
PO2	<b>Advanced Knowledge and Expertise:</b> Graduate programs aim to provide students with a deep understanding of their chosen field or specialization. Graduates will have acquired advanced knowledge, theories, methodologies, and skills specific to their area of study.
PO3	<b>Research and Scholarly Abilities:</b> Graduates will have the ability to design and conduct independent research, critically analyze existing literature, and contribute to the advancement of knowledge in their field.
PO4	<b>Effective Communication:</b> Focusing on developing strong communication skills. Students will be able to articulate complex ideas and research findings clearly and effectively, both in written and oral forms, to both specialized and non-specialized audiences.
PO5	<b>Cross-Disciplinary Knowledge:</b> Depending on the program, graduates may acquire cross-disciplinary knowledge, enabling them to integrate and apply concepts and methodologies from multiple fields to address complex problems and contribute to interdisciplinary collaboration.
PO6	<b>Professional Ethics and Responsibility:</b> Emphasizing professional ethics, integrity, and social responsibility. Graduates will be equipped with ethical decision-making skills and an understanding of the social and ethical implications of their work.
PO7	<b>Professional and Career Development:</b> Providing students with opportunities for professional development, including internships, industry collaborations, and networking events.
PO8	<b>Adaptability and Lifelong Learning:</b> Programs aim to cultivate a growth mindset and a commitment to lifelong learning. Graduates will be prepared to adapt to new challenges, acquire new knowledge, and continuously develop their skills throughout their careers.

# **GOVERNMENT COLLEGE ROPAR**

**(Affiliated To Punjabi University, Patiala)**



## **PROGRAMME SPECIFIC OUTCOMES B.C.A**

The Bachelor of Computer Application Government College Ropar is outcome-based, with the following PSOs required.

PSO1	<b>Proficiency in Computer Science:</b> Students will gain in-depth knowledge of computer science, including languages. They will understand the fundamental principles, laws, and theories governing these subjects and be able to apply them in practical applications.
PSO2	<b>Solid Foundation in Mathematics:</b> Graduates will have a strong understanding of mathematical concepts, including calculus, algebra, statistics, and numerical methods, providing them with a solid foundation for further study or careers in fields such as mathematics or computer science.
PSO3	<b>Lab Techniques and Project Work:</b> Learners will have practical experience in computer labs, experimental design, data collection, analysis, and interpretation.
PSO4	<b>Research Methodology:</b> Graduates will have a good understanding of research methodologies and be able to design , analyze data, and draw meaningful conclusions.
PSO5	<b>Problem-Solving and Critical Thinking:</b> Graduates will be able to analyze complex problems, think critically, and apply logical reasoning.
PSO6	<b>Effective Communication:</b> Effective communication is essential in the field of computer science, as it enables clear understanding, collaboration, and successful completion of projects. Here are some key aspects of effective communication in computer science:
PSO7	<b>Continuous Learning and Professional Development:</b> Program aim to instill a passion for continuous learning and professional development. Graduates will be equipped with the skills and motivation to pursue further education, such as postgraduate studies or professional certifications, and to keep up with advancements in their field.

The Bachelor of Computer Applications Programme at Government College Ropar is outcome-based, with the following COs required.

<b>B.C.A First Year Semester-I</b>		
<b>Course Name</b>	<b>Course Outcomes</b>	
Fundamentals of Information Technology	CO1	The fundamentals of Information Technology (IT) encompass the foundational concepts, principles, and components that form the basis of the field
	CO2	In Data and Databases Data management is a fundamental aspect of IT. This involves understanding how data is stored, organized, and retrieved. Knowledge of database management systems (DBMS), data modeling, and Structured Query Language (SQL) is important.
	CO3	Web Technologies Understanding web technology is important for designing and developing web applications. This includes knowledge of HTML, CSS, JavaScript, web servers, and web development frameworks.
Programming Fundamentals of using C	CO1	Students will learn to Understand Low-Level Programming. C is a low-level programming language, which means it provides direct access to hardware and memory.
	CO2	By practicing C programming, you enhance your problem-solving skills, logical thinking, and algorithmic understanding, which are valuable across various programming languages and domains.
	CO3	Writing code in C encourages you to focus on clean and efficient programming practices.
	CO3	Students will gain knowledge of spectroscopic techniques used in the characterization of organic

<b>B.C.A First Year Semester-II</b>		
<b>Course Name</b>	<b>Course Outcomes</b>	
Digital Electronics	CO1	Students will gain a solid understanding of the fundamental principles of digital logic, including Boolean algebra, logic gates, truth tables, and logic circuit design.
	CO2	Graduates will learn techniques for analyzing and simplifying logic circuits using Boolean algebra, Karnaugh maps, and Boolean function minimization.
	CO3	You will learn about clock signals, clock synchronization, timing diagrams, and the impact of timing on the performance and functionality of digital circuits
Data Structures	CO1	Students will gain a solid understanding of fundamental data structure concepts such as arrays, linked lists, stacks, queues, trees, graphs, and hash tables.
	CO2	Graduates will learn how to implement data structures using programming languages like C, C++, Java, or Python.
	CO3	Students will become familiar with commonly used digital ICs, such as logic gates, flip-flops, counters, and shift registers.
<b>B.C.A Second Year Semester-III</b>		
<b>Course Name</b>	<b>Course Outcomes</b>	
Computer System Organization and Architecture	CO1	Students will gain a deep understanding of fundamental data structures such as arrays, linked lists, stacks, queues, trees, and graphs.
	CO2	Students will develop the skills to implement data structures in a programming language of your choice.
	CO3	Data structures provide efficient ways to access, search, and manipulate data.



Using C++		various components that make up a computer system, including the CPU memory, storage devices, input/output devices, and the system bus.
	CO2	Students gain insights into the design and operation of processors, including their control unit, arithmetic and logic unit (ALU), pipelining, caching, and parallel processing techniques.
	CO3	With an understanding of computer system architecture, you'll be prepared to explore parallel and distributed computing.
Fundamentals of Database Management System	CO1	Students will gain a solid understanding of fundamental database concepts, including data models (such as relational, hierarchical, and network models), database schemas, tables.
	CO2	Students will learn how to design and implement databases using a conceptual data modeling approach.
	CO3	Students will learn how to enforce constraints and implement mechanisms such as primary keys, foreign keys, uniqueness, referential integrity, and triggers to ensure data consistency and integrity.
<b>B.C.A Second Year Semester-IV</b>		
<b>Course Name</b>	<b>Course Outcomes</b>	
Computer Networks	CO1	Students will gain a solid understanding of the fundamental concepts and principles of computer networks.
	CO2	Students learn about firewalls, encryption, authentication, access control, and network security protocols.
Management Information Systems	CO1	Students will gain a solid understanding of the fundamental concepts and principles of management information

		systems.
	CO2	Students develop skills in analyzing organizational requirements and designing information systems to meet those requirements.
<b>B.C.A Third Year Semester-V</b>		
<b>Course Name</b>	<b>Course Outcomes</b>	
System Analysis and Design	CO1	Students will gain a solid understanding of the system development life cycle (SDLC), which encompasses the phases involved in developing and implementing information systems.
	CO2	Students learn how to create various models, such as use case diagrams, activity diagrams, sequence diagrams, and entity-relationship diagrams, to represent system processes, interactions, and data structures.
System Software	CO1	Students will gain a solid understanding of the components of system software, including operating systems, device drivers, firmware, and utility programs.
	CO2	Students will learn languages such as C and assembly language, which are used for system-level programming tasks
	CO3	Compilers are essential tools in system software development.,
Java Programming	CO1	Java programming language syntax, including variables, data types, operators, control flow statements, classes, objects, methods, and exception handling.
	CO2	Java is an object-oriented programming (OOP) language, and studying Java programming will enable you to develop applications using OOP principles.
	CO3	Java provides robust exception handling mechanisms. Students will also understand best practices for exception

Web Designing Using HTML and DHTML	CO1	Students will gain a solid understanding of HTML (Hypertext Markup Language) and its syntax..
	CO2	HTML5 introduces new features and enhancements for web development.
<b>B.C.A Third Year Semester-VI</b>		
<b>Course Name</b>	<b>Course Outcomes</b>	
E-COMMERCE	CO1	Students will gain a solid understanding of e-commerce principles, concepts, and business models.
	CO2	Security and trust are critical in e-commerce. You'll gain knowledge of security measures to protect customer data, prevent fraud, and ensure secure online transactions.
Operating Systems	CO1	Operating systems are responsible for managing processes, which are the running instances of programs. You'll learn about process creation, scheduling, synchronization, and communication.
	CO2	File systems are responsible for organizing and managing files on storage devices.
Software Engineering	CO1	Software engineering involves implementing software solutions using programming languages and development tools
	CO2	Software engineering involves managing software projects, including planning, organizing, and controlling project activities
Web Designing Using ASP.NET	CO1	ASP.NET allows you to build robust and scalable web applications.
	CO2	ASP.NET provides a rich set of server controls and components for building web applications

**M.A. Punjabi**

## Post Graduate Programme Outcomes- MA(English/Punjabi/Political Science)

Post Graduate programmes at Government College Ropar are outcome-based, with the following expected outcomes:

PO1	<b>Advanced Language Skills:</b> Graduates will have a deep understanding and command of the English and Punjabi languages, including proficiency in reading, writing, speaking, and comprehension. They will be able to analyze and interpret complex literary texts and communicate effectively in both languages.
PO2	<b>Critical Analysis and Research Skills:</b> Students will develop strong critical thinking and analytical skills, enabling them to analyze political, literary, and social issues. They will be proficient in conducting independent research, evaluating sources, and presenting well-supported arguments.
PO3	<b>Cultural and Historical Knowledge:</b> Graduates will acquire a broad understanding of the cultural, historical, and political contexts of English and Punjabi literature. They will explore various literary movements, genres, and authors, and gain insight into the socio-political dynamics of different periods.
PO4	<b>Interdisciplinary Understanding:</b> The combination of English, Punjabi, and Political Science will foster an interdisciplinary perspective.
PO5	<b>Communication and Presentation Skills:</b> Graduates will possess excellent written and oral communication skills, enabling them to express complex ideas and arguments clearly and persuasively.
PO6	<b>Critical Awareness and Global Perspective:</b> Students will develop a critical awareness of societal issues and a global perspective on political, cultural, and literary matters. They will be equipped to analyze the intersection of language, politics, and culture, and understand diverse perspectives within a global context.
PO7	<b>Professional and Career Opportunities:</b> The program will prepare students for a range of career paths, such as academia, research, journalism, public service, publishing, cultural organizations, and international relations. Graduates may also pursue further studies at the doctoral level.

# **GOVERNMENT COLLEGE ROPAR**

**(Affiliated To Punjabi University ,Patiala)**



## **PROGRAMME SPECIFIC OUTCOMES**

**M.A. Punjabi**



The **Masters of Arts in Punjabi** at Government College Ropar is outcome-based, with the following PSOs required.

PSO1	<b>Advanced Language Skills:</b> Graduates will have a deep understanding and command of the English and Punjabi languages, including proficiency in reading, writing, speaking, and comprehension. They will be able to analyze and interpret complex literary texts and communicate effectively in both languages.
PSO2	<b>Critical Analysis and Research Skills:</b> Students will develop strong critical thinking and analytical skills, enabling them to analyze political, literary, and social issues. They will be proficient in conducting independent research, evaluating sources, and presenting well-supported arguments.
PSO3	<b>Cultural and Historical Knowledge:</b> Graduates will acquire a broad understanding of the cultural, historical, and political contexts of English and Punjabi literature. They will explore various literary movements, genres, and authors, and gain insight into the socio-political dynamics of different periods.
PSO4	<b>Interdisciplinary Understanding:</b> The combination of English, Punjabi, and Political Science will foster an interdisciplinary perspective.
PSO5	<b>Communication and Presentation Skills:</b> Graduates will possess excellent written and oral communication skills, enabling them to express complex ideas and arguments clearly and persuasively.
PSO6	<b>Critical Awareness and Global Perspective:</b> Students will develop a critical awareness of societal issues and a global perspective on political, cultural, and literary matters. They will be equipped to analyze the intersection of language, politics, and culture, and understand diverse perspectives within a global context.
PSO7	<b>Professional and Career Opportunities:</b> The program will prepare students for a range of career paths, such as academia, research, journalism, public service, publishing, cultural organizations, and international relations. Graduates may also pursue further studies at the doctoral level.
PSO8	<b>Professional Development:</b> One will acquire transferable skills that are valuable in a range of professions, such as critical thinking, problem-solving, time management, and project management. They may also develop skills in editing, publishing, or other areas related to the field of Punjabi.

The **Masters of Arts in Punjabi** at Government College Ropar is outcome-based, with the following COs required.

<b>M.A.(Punjabi ) First Year Semester-I</b>		
<b>Course Name</b>	<b>Course Outcomes</b>	
ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ	CO1	ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ, ਜਾਣ-ਪਛਾਣ, ਪੰਜਾਬੀ ਸਾਹਿਤ ਬਾਰੇ ਜਾਣਕਾਰੀ, ਪਿਛੋਕੜ, ਸਾਹਿਤ ਦੀ ਇਤਿਹਾਸਕਾਰੀ ਅਤੇ ਸਾਹਿਤ ਦੀ ਕਾਲਵੰਡ
ਸਾਹਿਤ ਆਲੋਚਨਾ	CO2	ਸਾਹਿਤ ਆਲੋਚਨਾ ਦੇ ਸਿਧਾਂਤ, ਜਾਣ-ਪਛਾਣ, ਭਾਰਤੀ ਕਾਵਿ ਸ਼ਾਸਤਰ ਦੇ ਵਿਸ਼ਿਆਂ ਬਾਰੇ, ਭਾਰਤੀ ਕਾਵਿ ਸ਼ਾਸਤਰ ਦੇ ਪ੍ਰਯੋਜਨ ਬਾਰੇ, ਲਕਸ਼ ਅਤੇ ਸਰੂਪ ਬਾਰੇ ਅਤੇ ਰਸ ਸਿਧਾਂਤ ਬਾਰੇ ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਜਾਣਕਾਰੀ ਦੇਣਾ
ਪੰਜਾਬੀ ਨਾਟਕ	CO3	ਪੰਜਾਬੀ ਨਾਟਕ, ਨਾਟ ਸਿਧਾਂਤ, ਨਾਟਕ ਦੇ ਨੁਕਤਿਆਂ ਬਾਰੇ, 'ਵਰਘਰ, ਬੇੜਾ ਬੰਧ ਨਾ ਸਕਿਉ, ਲੋਹਾ ਕੁੱਟ' ਨਾਟਕਾਂ ਬਾਰੇ ਜਾਣਕਾਰੀ।
ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਵਿਤਾ	CO4	ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਵਿਤਾ, ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਾਵਿ ਨਾਲ ਜਾਣ-ਪਛਾਣ, ਸਿਲੇਬਸ ਵਿੱਚ ਕਾਵਿ ਪੁਸਤਕਾਂ 'ਖੁੱਲ੍ਹੇ ਮੈਦਾਨ, ਸੁਨੇਹੜੇ, ਹਾਸੀਏ ਦੇ ਹਾਸਲ' ਦੇ ਵਿਸ਼ਾ ਵਸਤੂ ਅਤੇ ਕਲਾ ਪੱਖ ਬਾਰੇ।
ਮੁੱਢਲੀ ਪੰਜਾਬੀ ਗਲਪ	CO5	ਪੰਜਾਬੀ ਗਲਪ : ਵਿਦਿਆਰਥੀਆਂ ਨਾਲ ਸਿਲੇਬਸ ਬਾਰੇ ਜਾਣਕਾਰੀ ਸਾਂਝੀ ਕਰਨੀ, ਸਿਲੇਬਸ ਵਿੱਚ ਲੱਗੇ ਚਾਰ ਨਾਵਲ – ਚਿੱਟਾ ਲਹੂ, ਸੁੰਦਰੀ, ਲਹੂ ਮਿੱਟੀ, ਬਾਬਾ ਤੇਗਾ ਸਿੰਘ ਨਾਵਲਾਂ ਦਾ ਵਿਸ਼ਾ ਵਸਤੂ ਅਤੇ ਕਲਾ ਪੱਖ ਅਤੇ ਬਿਰਤਾਂਤਕ ਜੁਗਤਾਂ ਬਾਰੇ ਜਾਣਕਾਰੀ ਪ੍ਰਦਾਨ ਕਰਨਾ

**M.A.(Punjabi ) First Year Semester-II**

Course Name	Course Outcomes	
ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ	CO1	ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ : ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਸਾਹਿਤ ਅਤੇ ਸਭਿਆਚਾਰਕ ਪਰਿਪੇਖ, ਵਿਭਿੰਨ ਪੜਾਅ, ਪ੍ਰਮੁੱਖ ਪ੍ਰਵਿਰਤੀਆਂ ਅਤੇ ਆ ਰਹੀਆਂ ਸਮੱਸਿਆਵਾਂ ਬਾਰੇ।
ਸਾਹਿਤ ਆਲੋਚਨਾ ਦੇ ਸਿਧਾਂਤ	CO2	ਸਾਹਿਤ ਆਲੋਚਨਾ ਦੇ ਸਿਧਾਂਤ, ਪੱਛਮੀ ਸਾਹਿਤ, ਆਧੁਨਿਕ ਪੱਛਮੀ ਕਾਵਿ ਸਿਧਾਂਤ ਅਤੇ ਪ੍ਰਮੁੱਖ ਪੰਜਾਬੀ ਆਲੋਚਕਾਂ ਦੀ ਪੰਜਾਬੀ ਸਾਹਿਤ ਨੂੰ ਦੇਣ ਬਾਰੇ।
ਪੰਜਾਬੀ ਨਾਟਕ	CO3	ਪੰਜਾਬੀ ਨਾਟਕ : ਸਿਲੇਬਸ ਵਿੱਚ ਪੜ੍ਹਾਏ ਜਾਣ ਵਾਲੇ ਨਾਟਕ – ਕੱਲ ਕਾਲਜ ਬੰਦ ਰਹੇਗਾ, ਸੱਤ ਬਗ਼ਾਨੇ, ਸ਼ਾਇਰੀ, ਕੁਕਨਸ ਅਤੇ ਨਾਟ ਸਿਧਾਂਤ ਬਾਰੇ ਜਾਣਕਾਰੀ।
ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਾਵਿ	CO4	ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਾਵਿ : ਸਿਲੇਬਸ ਨਾਲ ਜਾਣ-ਪਛਾਣ, ਕਾਵਿ ਸਿਧਾਂਤ, ਬਿਰਹਾ ਤੂੰ ਸੁਲਤਾਨ, ਜ਼ਜ਼ੀਰਿਆਂ ਵਿੱਚ ਘਿਰਿਆ ਸਮੁੰਦਰ, ਸੁਰਜਮੀਨ, ਮੈਂ ਹੁਣ ਵਿਦਾ ਹੁੰਦਾ ਹਾਂ ਪੁਸਤਕਾਂ ਦੇ ਕਾਵਿ ਸਿਧਾਂਤ, ਕਵੀਆਂ ਦੀ ਪੰਜਾਬੀ ਸਾਹਿਤ ਨੂੰ ਦੇਣ ਬਾਰੇ ਜਾਣਕਾਰੀ ਦੇਣਾ।
ਮੁਢਲੀ ਪੰਜਾਬੀ ਗਲਪ	CO5	ਪੰਜਾਬੀ ਗਲਪ : ਮੁਢਲੀ ਪੰਜਾਬੀ ਗਲਪ ਅਤੇ ਗਲਪ ਸਿਧਾਂਤ ਬਾਰੇ ਜਾਣਕਾਰੀ ਸਾਂਝੀ ਕਰਨਾ, ਕਾਮੇ ਤੇ ਯੋਧੇ, ਭਾਬੀ ਮੈਨਾ, 27 ਜਨਵਰੀ ਅਤੇ ਸਵੇਰ ਸਾਰ ਪੁਸਤਕਾਂ ਦਾ ਸਾਹਿਤਕ ਵਿਰੋਚਨ ਕਰਵਾਉਣਾ ।

**M.A.(Punjabi ) Second Year Semester-III**

Course Name	Course Outcomes	
ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦਾ ਨਿਕਾਸ ਤੇ ਵਿਕਾਸ	CO1	ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦਾ ਨਿਕਾਸ ਤੇ ਵਿਕਾਸ : ਭਾਰਤੀ ਭਾਸ਼ਾ ਵਿਗਿਆਨ ਅਤੇ ਸੰਰਚਨਾਤਮਿਕ ਭਾਸ਼ਾ ਵਿਗਿਆਨ ਅਤੇ ਸੰਸਾਰ ਦੇ ਭਾਸ਼ਾ ਵਿਗਿਆਨ ਬਾਰੇ ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਜਾਣਕਾਰੀ ਦੇਣਾ।
ਪੰਜਾਬੀ ਸਭਿਆਚਾਰ	CO2	ਪੰਜਾਬੀ ਸਭਿਆਚਾਰ : ਸਭਿਆਚਾਰ ਦੀ ਜਾਣਪਛਾਣ, ਪਰਿਭਾਸ਼ਾ, ਲੱਛਣ, ਰੂਪ ਰੇਖਾ ਅਤੇ ਮੂਲ ਸੋਮਿਆਂ ਬਾਰੇ ਜਾਣਕਾਰੀ ਦੇਣਾ।
ਗੁਰਮਤਿ ਕਾਵਿ	CO3	ਗੁਰਮਤਿ ਕਾਵਿ :ਸਿਲੇਬਸ ਨਾਲ ਜਾਣ – ਪਛਾਣ, ਸਿਲੇਬਸ ਵਿਚਲੀਆਂ ਬਾਣੀਆਂ (ਸੁਖਮਨੀ ਸਾਹਿਬ, ਜਪੁਜੀ ਸਾਹਿਬ, ਆਨੰਦ ਸਾਹਿਬ ਅਤੇ ਸ਼ਲੋਕ ਗੁਰੂ ਤੇਗ ਬਹਾਦਰ ਸਾਹਿਬ) ਬਾਣੀ ਦਾ ਵਿਸ਼ਾ ਪੱਖ, ਕਲਾਤਮਿਕ ਪੱਖ ਅਤੇ ਬਿਰਤਾਂਤਕ ਜੁਗਤਾਂ
ਪੰਜਾਬੀ ਵਾਰਤਕ	CO4	ਪੰਜਾਬੀ ਵਾਰਤਕ : ਵਾਰਤਕ ਸਿਧਾਂਤ ਅਤੇ ਪੰਜਾਬੀ ਵਾਰਤਕ ਨਾਲ ਜਾਣ-ਪਛਾਣ, ਪੁਰਾਤਨ ਜਨਮ ਸਾਖੀ ਬਾਰੇ ਵਿਚਾਰ ਵਟਾਂਦਰਾ, ਸੈਲੀ ਦੇ ਵਿਧਾਨ ਪੱਖ
ਸੂਫੀ ਕਾਵਿ ਤੇ ਵੀਰ ਕਾਵਿ	CO5	ਸੂਫੀ ਕਾਵਿ ਤੇ ਵੀਰ ਕਾਵਿ : ਮੱਧਕਾਲੀ ਪੰਜਾਬੀ ਕਾਵਿ ਸਿਧਾਂਤ (ਸੂਫੀ ਮੱਤ ਦੇ ਆਧਾਰ ਤੇ), ਗੁਰੂ ਗੋਬਿੰਦ ਸਿੰਘ ਜੀ ਦੀ ਰਚਨਾ ਚੰਡੀ ਦੀ ਵਾਰ, ਜੰਗਨਾਮਾ ਸ਼ਾਹ ਮੁਹੰਮਦ ਦਾ ਕਲਾ ਪੱਖ ਅਤੇ ਵਿਸ਼ਾ ਵਸਤੂ ਬਾਰੇ ਜਾਣਕਾਰੀ

**M.A.(Punjabi ) Second Year Semester-IV**

Course Name	Course Outcomes	
ਗੁਰਮੁਖੀ ਲਿੱਪੀ	CO1	ਗੁਰਮੁਖੀ ਲਿੱਪੀ ਦਾ ਜਨਮ, ਵਿਕਾਸ, ਪ੍ਰਾਚੀਨਤਾ, ਨਿਯਮਾਂਵਲੀ ਅਤੇ ਪੰਜਾਬੀ ਸ਼ਬਦ ਜੋੜਾ ਦੀ ਵਰਤੋਂ ਬਾਰੇ ਜਾਣਕਾਰੀ ਸਾਂਝੀ ਕਰਨਾ
ਲੋਕਧਾਰਾ ਅਤੇ ਪੰਜਾਬੀ ਲੋਕਧਾਰਾ	CO2	ਲੋਕਧਾਰਾ ਅਤੇ ਪੰਜਾਬੀ ਲੋਕਧਾਰਾ : ਲੋਕਧਾਰਾ ਦੀ ਪਰਿਭਾਸ਼ਾ, ਲੱਛਣ, ਅਧਿਐਨ, ਸਰਵੇਖਣ, ਸਮੱਗਰੀ ਦਾ ਵਰਣਨ, ਸਭਿਆਚਾਰ ਅਤੇ ਪੰਜਾਬੀ ਸਭਿਆਚਾਰ ਵਿੱਚ ਅੰਤਰ
ਗੁਰਮਤਿ ਕਾਵਿ	CO3	ਗੁਰਮਤਿ ਕਾਵਿ : ਬਾਬ ਸ਼ੇਖ ਫਰੀਦ, ਭਗਤ ਕਬੀਰ, ਭਗਤ ਰਵੀਦਾਸ, ਭਗਤ ਨਾਮਦੇਵ ਜੀ ਦੇ ਜੀਵਨ ਰਚਨਾ ਅਤੇ ਸਮਾਜ ਨੂੰ ਦੇਣ ਬਾਰੇ ਜਾਣਕਾਰੀ ਸਾਂਝੀ ਕਰਨਾ
ਪੰਜਾਬੀ ਵਾਰਤਕ	CO4	ਪੰਜਾਬੀ ਵਾਰਤਕ : ਵਾਰਤਕ ਸਿਧਾਂਤ ਬਾਰੇ ਵਿਚਾਰ-ਵਟਾਂਦਰਾ, ਸਿਲੇਬਸ ਵਿੱਚ ਲੱਗੀਆਂ ਪੁਸਤਕਾਂ –ਆਪ ਬੀਤੀ, ਹੁਸੀਨ ਚਿਹਰੇ, ਵਗਦੀ ਏ ਰਾਵੀ ਅਤੇ ਡੂੰਘੀਆਂ ਸ਼ਿਖਾਂ ਦਾ ਵਿਸ਼ਾ ਵਸਤੂ ਅਤੇ ਵਿਚਾਰ-ਧਾਰਾ ਬਾਰੇ ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਜਾਣੂ ਕਰਵਾਉਣਾ
ਸੂਫੀ ਕਾਵਿ ਤੇ ਵੀਰ ਕਾਵਿ	CO5	ਸੂਫੀ ਕਾਵਿ ਤੇ ਵੀਰ ਕਾਵਿ : ਮੱਧਕਾਲੀ ਪੰਜਾਬੀ ਕਾਵਿ ਸਿਧਾਂਤ (ਸੂਫੀ ਮੱਤ ਦੇ ਆਧਾਰ ਤੇ), ਗੁਰੂ ਗੋਬਿੰਦ ਸਿੰਘ ਜੀ ਦੀ ਰਚਨਾ ਚੰਡੀ ਦੀ ਵਾਰ, ਜੰਗਨਾਮਾ ਸ਼ਾਹ ਮੁਹੰਮਦ ਦਾ ਕਲਾ ਪੱਖ ਅਤੇ ਵਿਸ਼ਾ ਵਸਤੂ ਬਾਰੇ ਜਾਣਕਾਰੀ

# M.A. Political Science

## Post Graduate Programme Outcomes- MA(English/Punjabi/Political Science)

Post Graduate programmes at Government College Ropar are outcome-based, with the following expected outcomes:

PO1	<b>Advanced Language Skills:</b> Graduates will have a deep understanding and command of the English and Punjabi languages, including proficiency in reading, writing, speaking, and comprehension. They will be able to analyze and interpret complex literary texts and communicate effectively in both languages.
PO2	<b>Critical Analysis and Research Skills:</b> Students will develop strong critical thinking and analytical skills, enabling them to analyze political, literary, and social issues. They will be proficient in conducting independent research, evaluating sources, and presenting well-supported arguments.
PO3	<b>Cultural and Historical Knowledge:</b> Graduates will acquire a broad understanding of the cultural, historical, and political contexts of English and Punjabi literature. They will explore various literary movements, genres, and authors, and gain insight into the socio-political dynamics of different periods.
PO4	<b>Interdisciplinary Understanding:</b> The combination of English, Punjabi, and Political Science will foster an interdisciplinary perspective.
PO5	<b>Communication and Presentation Skills:</b> Graduates will possess excellent written and oral communication skills, enabling them to express complex ideas and arguments clearly and persuasively.
PO6	<b>Critical Awareness and Global Perspective:</b> Students will develop a critical awareness of societal issues and a global perspective on political, cultural, and literary matters. They will be equipped to analyze the intersection of language, politics, and culture, and understand diverse perspectives within a global context.
PO7	<b>Professional and Career Opportunities:</b> The program will prepare students for a range of career paths, such as academia, research, journalism, public service, publishing, cultural organizations, and international relations. Graduates may also pursue further studies at the doctoral level.



# **GOVERNMENT COLLEGE ROPAR**

**(Affiliated To Punjabi University ,Patiala)**



## **PROGRAMME SPECIFIC OUTCOMES**

**M.A. Political Science**

The Masters of Arts in Political Science Programme at Government College Ropar is outcome-based, with the following PSOs required.

PSO1	In-depth Knowledge: Graduates will acquire a comprehensive understanding of the theories, concepts, and methodologies in political science. They will develop expertise in various subfields of political science, such as comparative politics, international relations, political theory, public administration, or public policy.
PSO2	Critical Thinking and Analysis: Graduates will develop strong critical thinking skills and the ability to analyze complex political issues. They will be able to evaluate and interpret political theories, policies, and institutions, and critically assess political events and developments.
PSO3	Policy Analysis and Evaluation: Students will learn to analyze public policies and assess their impact on society. They will develop the skills to evaluate policy alternatives, understand policy implementation processes, and identify factors that shape policy outcomes.
PSO4	Understanding Political Systems: Graduates will have a deep understanding of political systems, structures, and processes at the national and international levels. They will be familiar with the functioning of governments, political parties, electoral systems, bureaucracies, and international organizations.
PSO5	Effective Communication: Students will develop excellent oral and written communication skills, allowing them to articulate complex political concepts and arguments effectively. They will be adept at presenting their research findings, participating in academic discussions, and writing persuasive policy reports or analytical essays.
PSO6	Ethical and Global Perspective: The program will emphasize ethical considerations in political analysis and decision-making. Graduates will understand the ethical dimensions of political behavior and policies. They will also develop a global perspective, appreciating the interconnectedness of political systems and the impact of globalization on politics.
PSO7	Professional Development: Students will acquire professional skills and knowledge relevant to careers in politics, public administration, international relations, non-governmental organizations, research institutions, or academia.

The Masters of Arts in Political Science Programme at Government College Ropar is outcome-based, with the following COs required.

<b>M.A.(Political Science ) First Year Semester-I</b>		
<b>Course Name</b>	<b>Course Outcomes</b>	
Indian Political Thoughts	CO1	Students should be able to demonstrate an understanding of the historical development and evolution of political thought in India, including ancient, medieval, and modern periods.
	CO2	Students should be able to analyze and critically evaluate key concepts and theories in Indian political thought, such as dharma, karma, sovereignty, secularism, democracy, and social justice.
	CO3	Students should be able to compare and contrast different schools of thought within Indian political thinking
Western Political Thoughts	CO1	Students should have a solid understanding of the major historical periods and thinkers that have shaped Western political thought, from ancient Greece and Rome to the modern era.
	CO2	Students should be able to analyze and critically evaluate key concepts and theories in Western political thought, such as democracy, liberalism, republicanism, individualism, social contract theory, natural law, and rights.
	CO3	Students should be familiar with the works and ideas of major Western political thinkers
Indian Polity(From December 2021)	CO1	Students should have a solid understanding of the major historical periods and thinkers that have shaped Western political thought, from ancient Greece and Rome to the modern era.
	CO2	Students should be able to analyze and critically evaluate key concepts and

		theories in Western political thought, such as democracy, liberalism, republicanism, individualism, social contract theory, natural law, and rights.
International Polity	CO1	Students should have a solid understanding of the foundational concepts and theories in international relations
	CO2	Students should be able to analyze the structure and dynamics of the international system, including the role of nation-states
	CO3	Students should be able to analyze the factors influencing the formulation and implementation of foreign policies by states, including the role of leaders, bureaucracies, public opinion, and international norms.
<b>M.A.(Political Science ) First Year Semester-II</b>		
<b>Course Name</b>	<b>Course Outcomes</b>	
Modern Indian Political Thought	CO1	tudents should have a solid understanding of the historical and socio-political context in which modern Indian political thought emerged
	CO2	Students should be familiar with the works and ideas of major thinkers in modern Indian political thought, such as Mahatma Gandhi, Jawaharlal Nehru, B.R. Ambedkar, Subhas Chandra Bose, and Rabindranath Tagore, among others.
Contemporary Issues in Global Politics	CO1	Students should have a solid understanding of key concepts and theories in global politics, such as globalization, power, sovereignty, security, human rights, and international institutions.
	CO2	Students should be able to analyze and critically evaluate contemporary global issues and challenges.

Liberal Political Theory	CO1	Students should have a solid understanding of the historical development and intellectual foundations of liberal political theory, including its origins in the Enlightenment and its key thinkers.
	CO2	Students should be able to analyze and critically evaluate key concepts and principles in liberal political theory, such as individualism, liberty, equality, justice, rights, democracy, and the rule of law.
	CO3	Students should be familiar with the works and ideas of major liberal thinkers throughout history
Democracy in India	CO1	Students should have a solid understanding of the historical development and evolution of democracy in India, including the pre-independence nationalist movement and the framing of the Indian Constitution.
	CO2	Students should be able to analyze and critically evaluate the foundational principles of Indian democracy, such as popular sovereignty, political equality, rule of law, and protection of fundamental rights.
	CO3	Students should be able to analyze and evaluate the functioning of democratic processes in India, such as elections, political parties, representation, participation, and the role of civil society.
<b>M.A.(Political Science ) Second Year Semester-III</b>		
<b>Course Name</b>		<b>Course Outcomes</b>
Contemporary Political Thought	CO1	Students should have a solid understanding of the major debates and intellectual trends in contemporary political thought
	CO2	They should be able to analyze and critically evaluate contemporary political

		theories and concepts, such as identity politics, globalization, environmentalism, human rights, democracy, neoliberalism, and post-capitalism.
Modern Political Analysis	CO1	Students should have a solid understanding of the historical development and intellectual foundations of modern political analysis
	CO2	Students should be able to analyze and critically evaluate key concepts and theories in modern political analysis, such as power, authority, legitimacy, state, governance, public policy, political behavior, and decision-making.
	CO3	Students should be able to analyze and evaluate political systems and institutions from a comparative perspective
State Politics in India	CO1	Students should have a solid understanding of the federal structure of India and the distribution of powers between the central government and state governments.
	CO2	Students should be able to analyze and critically evaluate the historical development of state politics in India, including the formation of states, linguistic reorganization, and the impact of regional movements.
	CO3	Students should be familiar with the political institutions at the state level
Political Parties and Pressure Groups	CO1	Students should have a solid understanding of the role and significance of political parties in democratic politics
	CO2	Students should be familiar with the ideological spectrum of political parties
<b>M.A.(Political Science ) Second Year Semester-IV</b>		
<b>Course Name</b>	<b>Course Outcomes</b>	
Theory and Practices of Public Administration	CO1	Students should have a solid understanding of the foundations and

		evolution of public administration as a field of study, including its historical development, theories, and key thinkers.
	CO2	Students should be able to analyze and critically evaluate the role and functions of public administration in governance, including policy formulation and implementation, public service delivery, regulation, and decision-making.
	CO3	Students should have a comprehensive understanding of the processes and actors involved in public policy-making
Political Ideologies	CO1	Students should have a solid understanding of the nature, history, and significance of political ideologies
	CO2	Students should be able to analyze and critically evaluate major political ideologies
	CO3	Students should be able to identify and analyze the core concepts and principles of different political ideologies
Political Theory	CO1	students should have a solid understanding of the nature, scope, and methods of political theory
	CO2	Students should be able to examine and evaluate different approaches and perspectives in political theory
	CO3	Students should have a comprehensive understanding of contemporary issues and debates in political theory
Punjab Politics	CO1	Students should have a solid understanding of the historical and socio-political context of Punjab
	CO2	Students should be able to examine and evaluate the role of political leaders in Punjab, including their ideologies, strategies, leadership styles, and contributions to Punjab's political landscape.





# **M.A. ENGLISH**

## Post Graduate Programme Outcomes- MA(English/Punjabi/Political Science)

Post Graduate programmes at Government College Ropar are outcome-based, with the following expected outcomes:

PO1	<b>Advanced Language Skills:</b> Graduates will have a deep understanding and command of the English and Punjabi languages, including proficiency in reading, writing, speaking, and comprehension. They will be able to analyze and interpret complex literary texts and communicate effectively in both languages.
PO2	<b>Critical Analysis and Research Skills:</b> Students will develop strong critical thinking and analytical skills, enabling them to analyze political, literary, and social issues. They will be proficient in conducting independent research, evaluating sources, and presenting well-supported arguments.
PO3	<b>Cultural and Historical Knowledge:</b> Graduates will acquire a broad understanding of the cultural, historical, and political contexts of English and Punjabi literature. They will explore various literary movements, genres, and authors, and gain insight into the socio-political dynamics of different periods.
PO4	<b>Interdisciplinary Understanding:</b> The combination of English, Punjabi, and Political Science will foster an interdisciplinary perspective.
PO5	<b>Communication and Presentation Skills:</b> Graduates will possess excellent written and oral communication skills, enabling them to express complex ideas and arguments clearly and persuasively.
PO6	<b>Critical Awareness and Global Perspective:</b> Students will develop a critical awareness of societal issues and a global perspective on political, cultural, and literary matters. They will be equipped to analyze the intersection of language, politics, and culture, and understand diverse perspectives within a global context.
PO7	<b>Professional and Career Opportunities:</b> The program will prepare students for a range of career paths, such as academia, research, journalism, public service, publishing, cultural organizations, and international relations. Graduates may also pursue further studies at the doctoral level.

# **GOVERNMENT COLLEGE ROPAR**

**(Affiliated To Punjabi University ,Patiala)**



## **PROGRAMME SPECIFIC OUTCOMES**

**M.A. ENGLISH**

The Masters of Arts in English Programme at Government College, Ropar is outcome-based, with the following PSOs required.

PSO1	<b>Advanced language proficiency:</b> Students will develop advanced proficiency in the English language, including reading, writing, speaking, and listening skills. Their ability to analyze and interpret complex literary texts and academic papers will also be enhanced.
PSO2	<b>Critical Analysis and Interpretation:</b> Students will learn to critically analyze literary works, theories, and critical approaches. They will be able to evaluate and interpret texts in a sophisticated manner, considering cultural, historical, and theoretical contexts.
PSO3	<b>Research Skills:</b> One will gain expertise in conducting research in the field of English literature and language. This includes formulating research questions, conducting literature reviews, and using appropriate research methods and methodologies
PSO4	<b>Writing and Communication Skills:</b> The writing skills of the students will be refined, allowing them to produce clear, well-structured, and persuasive academic essays, research papers, and other forms of scholarly writing. Additionally, they will develop effective oral communication skills through presentations and discussions.
PSO5	<b>Literary and Cultural Knowledge:</b> The students will deepen their understanding of various literary periods, genres, and movements. This will include exploring the works of canonical authors as well as engaging with diverse and underrepresented voices in literature.
PSO6	<b>Critical Theory and Literary Analysis:</b> One will be exposed to different critical theories and approaches, such as feminism, postcolonialism, psychoanalysis, and poststructuralism. Also they will learn to apply these theories to analyze and interpret literary texts.
PSO7	<b>Teaching and Pedagogical Skills:</b> If one's program includes a focus on education, one may develop teaching and pedagogical skills, preparing you for a career in teaching English at the secondary or post-secondary level.
PSO8	<b>Professional Development:</b> One will acquire transferable skills that are valuable in a range of professions, such as critical thinking, problem-solving, time management, and project management. They may also develop skills in editing, publishing, or other areas related to the field of English.

The Masters of Arts in English Programme at Government College, Ropar is outcome-based, with the following COs required.

<b>M.A. English First Year</b>		
<b>Course Name</b>	<b>Course Outcomes</b>	
<b>SEMESTER I</b>		
Introduction to Poetry: Medieval and Renaissance	CO1	The students will develop a comprehensive understanding of the medieval and Renaissance periods, including their social, cultural, and literary contexts, and recognize how poetry reflects and responds to these historical contexts.
	CO2	The students will acquire the skills to analyze medieval and Renaissance poetry in terms of its themes, structures, language, and poetic techniques. They will also understand the unique characteristics of different poetic forms, such as ballads, sonnets, and epics, and analyze their usage in selected works.
	CO3	The students will explore a range of poetic genres popular during the medieval and Renaissance periods, including epic poetry, courtly love poetry, religious poetry, and lyric poetry. They will also identify the defining features of each genre and understand how they evolved over time.
Classical and Elizabethan Drama	CO1	Students will develop a comprehensive understanding of classical and Elizabethan drama, including the major playwrights, their significant works, and the historical and cultural contexts in which these plays were written and performed.
	CO2	Students will acquire the ability to analyze the structure, plot, character development, and thematic elements of classical and Elizabethan dramas. They will explore the conventions and

		<p>techniques employed by playwrights of these periods, such as the use of soliloquies, asides, dramatic irony, and the five-act structure.</p>
	CO3	<p>Students will examine the enduring impact of classical and Elizabethan drama on subsequent theatrical traditions, including its influence on themes, character archetypes, dramatic devices, and staging techniques. They will be able to compare and contrast the characteristics and innovations of classical and Elizabethan drama with later dramatic movements.</p>
Beginnings of the Novel	CO1	<p>Students will understand the importance of a strong opening in a novel and be able to identify and analyze key elements such as the hook, setting, characterization, conflict, and narrative voice.</p>
	CO2	<p>Students will explore a variety of approaches to beginning a novel, including different narrative techniques, points of view, and structures. They will develop the ability to evaluate the effectiveness of these approaches in capturing readers' attention and setting the tone for the story.</p>
	CO3	<p>Students will learn and apply various techniques for crafting compelling beginnings, such as creating a sense of intrigue, establishing the central conflict, introducing memorable characters, and setting the mood and atmosphere. They will practice incorporating these techniques into their own writing.</p>



English Phonetics and Phonology	CO1	Students will acquire a solid understanding of the fundamental concepts and principles of phonetics and phonology, including the study of speech sounds, their production, classification, and transcription using the International Phonetic Alphabet (IPA). They will also grasp the relationship between phonetics and phonology and their role in language structure and communication.
	CO2	Students will develop the ability to identify and describe the individual speech sounds (phonemes) of English, including consonants, vowels, and diphthongs. They will learn the articulatory features and manner of production for each sound, and practice their pronunciation through listening exercises and practical application.

SEMESTER II		
Literary Criticism	CO1	Students will acquire a comprehensive understanding of the major movements, theories, and approaches in literary criticism, ranging from classical to contemporary perspectives. They will explore the historical development of literary criticism and its relationship to cultural, social, and intellectual contexts.
	CO2	Students will develop the ability to apply various critical lenses, such as formalism, structuralism, poststructuralism, psychoanalysis, feminist theory, postcolonial theory, and reader-response theory, to analyze and interpret literary texts. They will learn to identify and explore the key concepts, methodologies, and assumptions associated with each critical approach.

	CO3	Students will learn to identify and analyze the literary devices and techniques employed by authors, such as symbolism, imagery, metaphor, narrative point of view, plot structure, and character development. They will evaluate the effectiveness of these devices in conveying meaning, enhancing themes, and creating aesthetic experiences for readers.
Poetry from Neoclassical to Victorian Age	CO1	Students will develop an understanding of the major historical and cultural developments that influenced poetry during the Neoclassical, Romantic, and Victorian periods. They will explore the literary, social, and political trends that shaped the production and reception of poetry during these periods.
	CO2	Students will develop skills in close reading and critical analysis of poetry from the Neoclassical to Victorian Age. They will learn to identify and analyze poetic elements such as form, structure, rhyme scheme, meter, imagery, figurative language, and thematic content.
	CO3	Students will become familiar with the major poetic movements and styles that emerged during the Neoclassical, Romantic, and Victorian periods. They will explore the characteristics and innovations of each movement, such as the Neoclassical emphasis on reason and order, the Romantic focus on emotion and individual expression, and the Victorian exploration of social issues and moral concerns. They will analyze the ways in which these movements influenced and transformed poetic traditions.
Nineteenth Century	CO1	Students will develop an understanding

Fiction		of the major historical events, social changes, and cultural trends that shaped the production and reception of fiction during the nineteenth century. They will explore the ways in which literary works reflect and respond to the social, political, and intellectual climate of their time.
	CO2	Students will develop skills in close reading and critical analysis of nineteenth-century novels. They will learn to identify and analyze various elements of fiction, including plot, characterization, setting, narrative techniques, themes, and symbolism. They will examine how these elements contribute to the overall meaning and aesthetic qualities of the novels.
	CO3	Students will become familiar with the major literary movements and styles of the nineteenth century, such as Romanticism, Realism, and Naturalism. They will explore the characteristics, themes, and innovations associated with each movement and analyze how these movements influenced the development of the novel as a literary form.
Contemporary Essay	CO1	Students will develop an understanding of the unique characteristics and diverse forms of contemporary essays. They will explore the various subgenres, such as personal essays, literary essays, argumentative essays, and cultural criticism, among others.
	CO2	Students will develop skills in close reading and critical analysis of contemporary essays. They will learn to identify and analyze the structure, style, tone, and rhetorical strategies employed by essayists. They will examine how these elements contribute to the author's message, intended audience, and overall

		effectiveness of the essay.
	CO3	Students will engage with the thematic breadth of contemporary essays and explore the diverse range of issues they address. They will analyze how essayists explore topics such as identity, race, gender, politics, social justice, technology, environment, and popular culture.

M.A. ENGLISH SECOND YEAR (SEMESTER III)		
Literature and Modernity	CO1	Students will develop an understanding of the complex and dynamic relationship between literature and modernity. They will explore how literature both reflects and shapes the social, cultural, and intellectual changes associated with modernity, including industrialization, urbanization, globalization, technological advancements, and shifts in individual and collective identities.
	CO2	Students will develop skills in close reading and critical analysis of literary texts from various periods and genres within the context of modernity. They will learn to identify and analyze the ways in which literary works engage with modern themes, concerns, and aesthetic innovations. They will examine the ways in which authors respond to the challenges and possibilities presented by modernity.
	CO3	Students will critically examine how literature represents and portrays the experiences, anxieties, and aspirations of individuals and communities in the modern world. They will analyze how authors depict the impact of modernity on human relationships, social structures, cultural values, and the individual's sense

		of self.
Twentieth Century Poetry and Fiction	CO1	Students will develop an understanding of the major historical, social, and cultural developments that influenced poetry and fiction in the twentieth century. They will explore how literary works from this period reflect and respond to significant events, ideologies, and movements such as World Wars, the rise of modernism, postcolonialism, feminism, and other socio-political transformations.
	CO2	Students will develop skills in close reading and critical analysis of poetry and fiction from the twentieth century. They will learn to identify and analyze literary elements such as narrative structure, characterization, imagery, symbolism, language, and themes.
	CO3	Students will become familiar with major literary movements and styles that emerged during the twentieth century, such as Modernism, Postmodernism, Harlem Renaissance, Existentialism, Magical Realism, and others.
Literature and Gender	CO1	Students will develop an understanding of the complex and multifaceted nature of gender as a social construct. They will explore how literature reflects, challenges, and shapes societal understandings of gender, including the ways in which it intersects with other identity categories such as race, class, sexuality, and disability.
	CO2	Students will develop skills in close reading and critical analysis of literary texts, paying particular attention to the representation of gender. They will learn to identify and analyze how authors portray gender roles, stereotypes, power dynamics, and the experiences of diverse

		gender identities.
	CO3	Students will explore the historical and cultural contexts in which literary works addressing gender were produced. They will analyze how literature reflects and responds to different historical periods, social movements, and cultural shifts, such as first and second-wave feminism, LGBTQ+ rights movements, and evolving notions of masculinity and femininity.
Literature and Postcoloniality	CO1	Students will develop an understanding of the historical, political, and cultural contexts that gave rise to postcolonial literature. They will explore the legacies of colonialism and imperialism and the ways in which these structures shaped the literary production of formerly colonized societies.
	CO2	Students will develop skills in close reading and critical analysis of postcolonial literary texts. They will learn to identify and analyze the themes, motifs, narrative techniques, and stylistic elements employed by postcolonial writers.
	CO3	Students will critically examine how postcolonial literature explores the intersections of power, identity, and representation. They will analyze how authors represent and respond to issues of race, ethnicity, nationality, gender, class, and religion in the postcolonial context. They will explore how power dynamics, cultural hybridity, and the negotiation of identity are depicted in these texts.

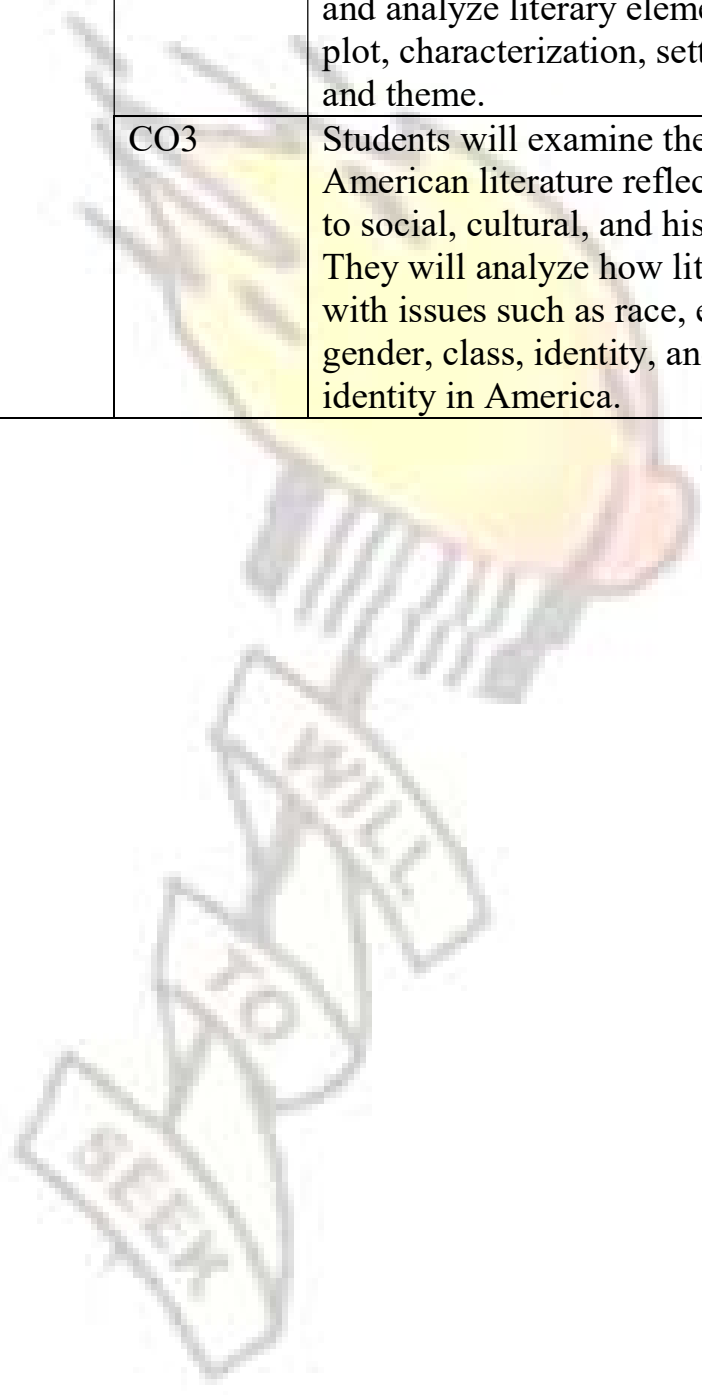
SEMESTER IV

Literary and Cultural Theory	CO1	Students will develop an understanding of the major theoretical frameworks and concepts in literary and cultural theory. They will explore theories such as structuralism, poststructuralism, feminism, Marxism, postcolonial theory, psychoanalysis, queer theory, and critical race theory, among others.
	CO2	Students will develop skills in applying theoretical frameworks to analyze and interpret literary and cultural texts. They will learn to identify and analyze the ways in which theories can be used to understand the production, reception, and interpretation of texts.
	CO3	Students will learn to critically engage with a range of literary and cultural texts, including literary works, films, art, advertisements, and other forms of cultural production. They will develop skills in close reading and textual analysis, applying theoretical concepts to deepen their understanding of the texts' meanings, themes, and socio-cultural implications.
Modern Indian Literature in Translation	CO1	Students will develop an understanding of the importance of translating modern Indian literature into different languages and making it accessible to a global audience. They will explore the challenges and opportunities involved in the process of translation, including the preservation of cultural nuances, linguistic complexities, and literary styles.
	CO2	Students will develop skills in close reading and critical analysis of translated works from modern Indian literature. They will learn to identify and analyze the literary elements, themes, and socio-cultural contexts represented in these



		texts.
	CO3	Students will engage with a wide range of translated literary texts from different regions of India, representing various languages, cultures, and genres. They will explore the diversity of voices, perspectives, and themes in Indian literature, including issues related to identity, history, social inequalities, diaspora, and cultural heritage.
Literature and Politics	CO1	Students will develop an understanding of the complex and multifaceted relationship between literature and politics. They will explore how literature reflects, critiques, and engages with political ideologies, systems, and events.
	CO2	Students will develop skills in close reading and critical analysis of literary texts that engage with political themes. They will learn to identify and analyze the ways in which authors represent and comment on political ideologies, social movements, power dynamics, and historical events.
	CO3	Students will explore the ways in which literature serves as a medium for political resistance and activism. They will analyze how authors use literature to challenge social injustices, advocate for marginalized voices, and inspire political change.
American Literature	CO1	Students will gain a broad understanding of the historical development of American literature, including its major periods and literary movements. They will explore the diverse voices, styles, and themes that characterize American literary traditions, such as colonial literature, Romanticism, Transcendentalism, realism, modernism, postmodernism, and contemporary

		literature.
	CO2	Students will develop skills in close reading and critical analysis of American literary texts. They will learn to identify and analyze literary elements such as plot, characterization, setting, symbolism, and theme.
	CO3	Students will examine the ways in which American literature reflects and responds to social, cultural, and historical contexts. They will analyze how literature engages with issues such as race, ethnicity, gender, class, identity, and national identity in America.



**P.G.D.C.A.**

## Post Graduate Programme Outcomes-

Post Graduate programme at Government College Ropar are outcome-based, with the following expected outcomes:

PO1	<b>Critical Thinking and Problem-Solving Skills:</b> Learners will gain advanced critical thinking and problem-solving abilities. They will be able to analyze complicated topics, assess evidence, examine many points of view, and develop novel solutions.
PO2	<b>Advanced Knowledge and Expertise:</b> Graduate programs aim to provide students with a deep understanding of their chosen field or specialization. Graduates will have acquired advanced knowledge, theories, methodologies, and skills specific to their area of study.
PO3	<b>Research and Scholarly Abilities:</b> Graduates will have the ability to design and conduct independent research, critically analyze existing literature, and contribute to the advancement of knowledge in their field.
PO4	<b>Effective Communication:</b> Focusing on developing strong communication skills. Students will be able to articulate complex ideas and research findings clearly and effectively, both in written and oral forms, to both specialized and non-specialized audiences.
PO5	<b>Cross-Disciplinary Knowledge:</b> Depending on the program, graduates may acquire cross-disciplinary knowledge, enabling them to integrate and apply concepts and methodologies from multiple fields to address complex problems and contribute to interdisciplinary collaboration.
PO6	<b>Professional Ethics and Responsibility:</b> emphasizing professional ethics, integrity, and social responsibility. Graduates will be equipped with ethical decision-making skills and an understanding of the social and ethical implications of their work.
PO7	<b>Professional and Career Development:</b> Providing students with opportunities for professional development, including internships, industry collaborations, and networking events.
PO8	<b>Adaptability and Lifelong Learning:</b> Programs aim to cultivate a growth mindset and a commitment to lifelong learning. Graduates will be prepared to adapt to new challenges, acquire new knowledge, and continuously develop their skills throughout their careers.

# **GOVERNMENT COLLEGE ROPAR**

**(Affiliated To Punjabi University, Patiala)**



## **PROGRAMME SPECIFIC OUTCOMES**

**P.G.D.C.A**

The Post Graduate Diploma in Computer Application Government College Ropar is outcome-based, with the following PSOs required.

PSO1	<b>Proficiency in Computer Science:</b> Students will gain in-depth knowledge of computer science, including languages. They will understand the fundamental principles, laws, and theories governing these subjects and be able to apply them in practical applications.
PSO2	<b>Solid Foundation in Mathematics:</b> Graduates will have a strong understanding of mathematical concepts, including calculus, algebra, statistics, and numerical methods, providing them with a solid foundation for further study or careers in fields such as mathematics or computer science.
PSO3	<b>Lab Techniques and Project Work:</b> Learners will have practical experience in computerlabs, experimental design, data collection, analysis, and interpretation.
PSO4	<b>Research Methodology:</b> Graduates will have a good understanding of research methodologies and be able to design , analyze data, and draw meaningful conclusions.
PSO5	<b>Problem-Solving and Critical Thinking:</b> Graduates will be able to analyze complex problems, think critically, and apply logical reasoning.
PSO6	<b>EffectiveCommunication :</b> Effective communication is essential in the field of computer science, as it enables clear understanding, collaboration, and successful completion of projects. Here are some key aspects of effective communication in computer science:
PSO7	<b>Continuous Learning and Professional Development:</b> Program aim to instill a passion for continuous learning and professional development. Graduates will be equipped with the skills and motivation to pursue further education, such as postgraduate studies or professional certifications, and to keep up with advancements in their field.

The Post Graduate Diploma in Computer Application Programme at Government College Ropar is outcome-based, with the following COs required

<b>P.G.D.C.A SEM 1</b>		
<b>Course Name</b>	<b>Course Outcomes</b>	
Information Technology and E-commerce	CO1	E-commerce involves conducting business activities online. You'll learn about the principles and models of e-commerce, including B2C (Business-to-Consumer), B2B (Business-to-Business), C2C (Consumer-to-Consumer), and emerging models.
	CO2	Students gain skills in designing and developing e-commerce systems using relevant technologies and frameworks
Computer Programming Using C	CO1	C is a powerful programming language used for system-level programming and developing efficient algorithms
	CO2	C provides direct memory access, and understanding memory management is crucial
Windows Operating System and office automation	CO1	Students will gain a solid understanding of the Windows operating system, including its features, functionalities, and user interface.
	CO2	Student learn how to navigate the Windows interface effectively, customize the desktop environment, and manage files and folders.



<b>P.G.D.C.A SEM 2</b>		
<b>Course Name</b>	<b>Course Outcomes</b>	
Database Management System	CO1	Students will gain a solid understanding of fundamental database concepts, including data models, database architecture, relational algebra, normalization, and database design principles
	CO2	Students learn SQL statements and techniques for retrieving, updating, inserting, and deleting data from databases
Programming using PYTHON	CO1	Students will gain a solid understanding of the Python programming language, including its syntax, data types, control structures, functions, and object-oriented programming concepts.
	CO2	Python has a vast ecosystem of libraries and frameworks that extend its capabilities.
Web technology	CO1	Students will gain a solid understanding of HTML (Hypertext Markup Language) and CSS (Cascading Style Sheets), which are the foundational technologies for creating web pages and designing their visual appearance.
	CO2	Students learn technologies like JavaScript and frameworks like jQuery to add dynamic elements, handle user interaction

# **M.Sc. I.T. (Lateral Entry)**

## Post Graduate Programme Outcomes-

M.SC IT(LT) at Government College Ropar are outcome-based, with the following expected outcomes:

PO1	<b>Critical Thinking and Problem-Solving Skills:</b> Learners will gain advanced critical thinking and problem-solving abilities. They will be able to analyze complicated topics, assess evidence, examine many points of view, and develop novel solutions.
PO2	<b>Advanced Knowledge and Expertise:</b> Graduate programs aim to provide students with a deep understanding of their chosen field or specialization. Graduates will have acquired advanced knowledge, theories, methodologies, and skills specific to their area of study.
PO3	<b>Research and Scholarly Abilities:</b> Graduates will have the ability to design and conduct independent research, critically analyze existing literature, and contribute to the advancement of knowledge in their field.
PO4	<b>Effective Communication:</b> Focusing on developing strong communication skills. Students will be able to articulate complex ideas and research findings clearly and effectively, both in written and oral forms, to both specialized and non-specialized audiences.
PO5	<b>Cross-Disciplinary Knowledge:</b> Depending on the program, graduates may acquire cross-disciplinary knowledge, enabling them to integrate and apply concepts and methodologies from multiple fields to address complex problems and contribute to interdisciplinary collaboration.
PO6	<b>Professional Ethics and Responsibility:</b> emphasizing professional ethics, integrity, and social responsibility. Graduates will be equipped with ethical decision-making skills and an understanding of the social and ethical implications of their work.
PO7	<b>Professional and Career Development:</b> Providing students with opportunities for professional development, including internships, industry collaborations, and networking events.
PO8	<b>Adaptability and Lifelong Learning:</b> Programs aim to cultivate a growth mindset and a commitment to lifelong learning. Graduates will be prepared to adapt to new challenges, acquire new knowledge, and continuously develop their skills throughout their careers.

# **GOVERNMENT COLLEGE ROPAR**

**(Affiliated To Punjabi University ,Patiala)**



## **PROGRAMME SPECIFIC OUTCOMES M.SC.IT (Lateral Entry)**

The M.SC.IT (LT) Government College Ropar is outcome-based, with the following PSOs required.

PSO1	<b>Proficiency in Computer Science:</b> Students will gain in-depth knowledge of computer science, including languages. They will understand the fundamental principles, laws, and theories governing these subjects and be able to apply them in practical applications.
PSO2	<b>Solid Foundation in Mathematics:</b> Graduates will have a strong understanding of mathematical concepts, including calculus, algebra, statistics, and numerical methods, providing them with a solid foundation for further study or careers in fields such as mathematics or computer science.
PSO3	<b>Lab Techniques and Project Work:</b> Learners will have practical experience in computerlabs, experimental design, data collection, analysis, and interpretation.
PSO4	<b>Research Methodology:</b> Graduates will have a good understanding of research methodologies and be able to design , analyze data, and draw meaningful conclusions.
PSO5	<b>Problem-Solving and Critical Thinking:</b> Graduates will be able to analyze complex problems, think critically, and apply logical reasoning.
PSO6	<b>EffectiveCommunication :</b> Effective communication is essential in the field of computer science, as it enables clear understanding, collaboration, and successful completion of projects. Here are some key aspects of effective communication in computer science:

## M.SC.IT(LT) SEM III

Course Name	Course Outcomes	
Web Technology	CO1	HTML (Hypertext Markup Language) and CSS (Cascading Style Sheets), which are the foundational technologies for creating web pages and designing their visual appearance.
	CO2	Web pages often require dynamic content and interactivity.
Software Engineering	CO1	Software engineering involves implementing software solutions using programming languages and development tools
	CO2	Software engineering involves managing software projects, including planning, organizing, and controlling project activities
Java Programming	CO1	Java programming language syntax, including variables, data types, operators, control flow statements, classes, objects, methods, and exception handling.
	CO2	Java is an object-oriented programming (OOP) language, and studying Java programming will enable you to develop applications using OOP principles.
	CO3	Java provides robust exception handling mechanisms. Students will also understand best practices for exception handling and logging.
Computer Networks	CO1	Students will gain a solid understanding of the fundamental concepts and principles of computer networks.
	CO2	Students learn about firewalls, encryption, authentication, access control, and network security protocols.

## M.SC.IT(LT) SEM IV

Course Name	Course Outcomes	
Computer Graphics	CO1	Students will gain a solid understanding of fundamental computer graphics principles, including raster graphics, vector graphics, image representation, color models, and rendering techniques.
	CO2	This includes knowledge of graphics APIs, shader programming, and rendering pipelines
LINUX Administration	CO1	Students will gain a solid understanding of the Linux operating system, including its architecture, file system structure, command-line interface, and user management.
	CO2	Linux administration heavily relies on command-line tools and utilities.
Research Methodology	CO1	Students will gain a solid understanding of the research process, including the various steps involved in conducting research..
	CO2	Literature reviews are essential for understanding existing research and identifying research gaps.
Artificial Intelligence	CO1	Students will gain a solid understanding of fundamental AI concepts, including machine learning, neural networks, natural language processing, computer vision, and robotics..