GURU NANAK COLLEGE (AUTONOMOUS)

Reaccredited at "A" Grade by NAAC Affiliated to the University of Madras
Guru Nanak Salai, Velachery, Chennai – 600042.

PROGRAMME OUTCOME / PROGRAMME SPECIFIC OUTCOME / COURSE OUTCOME 2020 - 21

SCHOOL OF HUMANITIES

01. B.A (Economics) Programme Outcome:

PO 1 : To understand and analyse all basic concepts in Economics
PO 2 : To analyse central and state Budget to maintain maximum social welfare
PO 3 : To understand the functions of international organisations such as IMF, WTO and World Bank and examine international trade policies
PO 4 : To develop problem solving skills, apply statistical and mathematical tools on economic theories and find solutions for different economic problems.
PO 5 : To demonstrate the importance of Gender economics to achieve inclusive growth

B.A (Economics) Programme Specific Outcome:

PSO 1 : To prove the proficiency of the students with the ability to identify different environmental problems due to developmental activities and provide cost effective and efficient solutions.
PSO 2 : Analyse different economic doctrines and find out the applicability of all doctrines in the modern world and provide solutions for all major economic problems such as Inflation, unemployment, poverty, inequality in income and wealth.

B.A (Economics) Course Outcome:

Course Title: Micro Economics-I

- Demonstrate the scope and significance of micro economics and its methodology.
- Distinguish Cardinal and Ordinal utility analysis.
- easure and analyse different types elasticity of demand.
- Analyze the different types of Demand.
- Examine different theories of production function with economies of scale.
- Demonstrate different cost and revenue curves with Break-Even analysis.

Course Title: Statistical Methods-I

- To demonstrate the importance of statistics in economics.
- To analyse different methods of data collection.

- To measure and examine mean, medium and mode.
- To apply measures of dispersion Gini Co-efficient and Lorenz curve
- To differentiate dispersion, skewness and Kurtosis

Course Title: Industrial Economics (Allied)

- To demonstrate the meaning and importance of industrial economics and its concepts
- To analyse the location of Small, Medium and Large scale industries.
- To distinguish industrial production and productivity and analyse the functions of national productivity council
- To demonstrate Short-Term, Medium and Long-Term industrial financing institutions.
- To analyse the role of industrial sector in Indian Economic Development.

Course Title: Basics of Capital Market (NME)

- To Demonstrate the functions and growth of capital markets in India.
- To examine the role and significance of Long-Term financial institutions.
- To demonstrate different types of shares, debentures and bonds and their importance.
- Distinguish primary and secondary market.
- To analyse the role and functions of SEBI

Course Title: Micro Economics-II

- To analyse the Short-run equilibrium conditions of perfect competition.
- To demonstrate and analyse different types of monopoly and its equilibrium.
- To distinguish equilibrium conditions of monopolistic and oligopoly market structures.
- To demonstrate different theories of factor pricing and distinguish classical, Keynesian and modern theories factor pricing.
- To demonstrate the concepts of welfare economics and analyse Pareto and AmartyaSen's views on welfare economics

Course Title: Statistical Methods-II

- To demonstrate different types of correlation in economics.
- To demonstrate different types of Regressions and its applicability in economics.
- To distinguish different kinds of Index numbers and construct cost of living index numbers.
- To analyse different components of time series analysis.
- To apply the theory of probability in economics.

Course Title: Entrepreneurial Development (Allied)

- To demonstrate the role and types of entrepreneurs in economic development.
- To analyse different theories of entrepreneurship.
- To demonstrate the evolution of Indian entrepreneurship and economic development.
- To analyse the role of MSME in industrial and entrepreneurship development.
- To prepare a project proposal to start any project.

Course Title: Indian Economy for Civil Service Examinations (NME)

- To demonstrate and analyse the concepts in economic development and economic policies.
- To analyse the population policy in India and its growth.
- To measure poverty line and examine the poverty alleviation programmes in India.
- To analyse the causes, consequence and remedial measures to control inflation in India.
- To apply monetary and fiscal policies to maintain stability in an economy.

Course Title: Macro Economics-I

- Demonstrate the nature and significance of macroeconomics and distinguish micro and macro economics
- Examine different methods of measuring national income
- Differentiate classical and Keynesian theory of employment
- Demonstrate the different theories of consumption functions
- Analyze different theories of investment function

Course Title: Money and Banking -I

- Demonstrate the evolution and functions of the money
- Analyze the growth of circular flow of money
- Evaluate the basic theories of money
- Critically analyze different theories of demand and supply of money
- Differentiate the Keynesian and Post Keynesian theories of money and its effect on price, production and distribution

Course Title: Basic Mathematics for Economists

- Demonstrate the different concepts and tools in mathematical economics
- Apply linear and non-linear functions in Demand and supply functions
- Demonstrate the vector and matrix's notations with economic concepts
- Demonstrate the basics of differential calculus in production function analysis
- Differentiate Definite and Indefinite integrals

Course Title: Environmental Studies

- Demonstrate the significance of environmental economics
- Analyze the existing renewable and non-renewable resources
- Differentiate conventional and non-conventional energy resources
- Analyze different pollution control measures
- Demonstrate different international environmental policies

Course Title: Macro Economics-II

- Demonstrate and analyze the concept of multiplier and accelerator
- Critically analyze Keynesian theory of output and employment

- Evaluate Post-Keynesian theories of demand for money
- Demonstrate different types of unemployment and causes of it
- To distinguish Keynesian and Classical theory of aggregate demand and aggregate supply

Course Title: Money and Banking -II

- To demonstrate the evolution and different branches of banking
- To analyse the functions of commercial banks and their role in economic development
- To analyse the functions of RBI and its role in economic development
- To demonstrate different objectives and instruments of monetary policy
- To Distinguish role of IMF and World Bank in economic development

Course Title: Basic Econometric Methods

- To Demonstrate the meaning and scope of econometrics
- To apply different types of correlation techniques in economics
- To apply and analyse the regression model
- To apply econometric models in forecasting the economic variables
- To demonstrate the usage of SPSS, STATA etc

Course Title: Indian Economic Development-I

- Demonstrate the characteristic features of Indian economy
- Analyze the growth of population and Indian economic development
- Evaluate the role of agriculture and rural development in Indian Economy
- Critically analyses the different industrial policies in Industrial development of India
- Analyze the contribution of service sector in Indian economic development

Course Title: Fiscal Economics -I

- Demonstrate different Theories of public finance
- Analyse different theories of public expenditure and its growth
- Examine different types of taxes and incidence of taxation.
- Critically analyse direct taxes in India
- Demonstrate and analyse the taxable capacity in India

Course Title: International Economics -I

- Analyze the different theories of international trade
- Demonstrate different concepts of terms of trade and analyze the static and dynamic nature of it
- Evaluate different trade policies
- Demonstrate and evaluate Tariff and Quotas
- Critically analyze BOP and BOT

Course Title: Development of Economic Doctrines

- To demonstrate origin and development of economic ideas
- To analyse karl Marxian theory and apply in the real world
- Critically analyse Marginal school of economic ideas
- Differentiate micro and macro foundations
- Demonstrate the applicability of welfare economics

Title: Principles of Insurance & Risk Management (Elective-I- IDE)

- To understand different forms, types and the importance of Insurance for the development of our country.
- To analyze the contribution of insurance on different sectors such as health, Marine, Agricultural & rural development.
- To develop knowledge on the Insurance Laws & Regulations for Insurance Companies.
- To understand the Insurance Legislation Act 1872, 1956, 1972, 1986 and the latest developments.
- To analyze different types of risks and risk management.

Course Title: Indian Economic Development -II

- Demonstrate the concepts of growth and development indicators
- Analyze different economic growth theories from classical to balanced and unbalanced growth theory
- Examine the role of public sector in Indian Economic development
- Analyze outcomes of different five-year plans
- Critically analyze the different growth models from Harrods Domar to Mahalanobis model

Course Title: Fiscal Economics -II

- Demonstrate the role of public debt in economic development
- Analyze different budget techniques and deficit financing in India
- Demonstrate the principles of federal finance and functions of the Finance Commission
- Critically analyze the role of fiscal policy in Indian economic development
- Demonstrate and analyze the functions of local bodies and the problems of its.

Course Title: International Economics-II

- Demonstrate the determination of different types of exchange rate
- Anlayse different theories of exchange rate
- Analyse the role of FDI in economic development
- Demonstrate the role of IMF in World Trade Development
- Demonstrate the functions of World Bank, GATT, WTO

Course Title: Agricultural Economics (Elective-II)

- To understand and apply various theories related to the development of Agricultural sector.
- To develop the knowledge on the farm size and the profitability (ceiling on land holding, subdivision and fragmentation on land holdings.
- To analyse different policies related to food security in India.
- To understand GATT & WTO and correlating WTO with new Economic policy
- To develop the knowledge on agricultural finance and marketing.

Course Title: Labour Economics (Elective)

- To understand the characteristics of labour and different types of labour market.
- To develop the knowledge on the problems and different types of unemployment and provides solution such as vocational training and skill development measures.
- To compare different wage theories and devlop the knowledge on Wage Act.
- To Critically analyse different types of social security measures and different Act related to it.
- To understand the role of trade union in protecting the labour.

02. B.A (Defence & Strategic Studies) Programme Outcome:

PO 1 : Scientific Knowledge: Acquire the knowledge of Defence and Strategic Studies to issues, challenges and national security threats faced by the country

PO 2 : Problems Analysis: Identify, formulate, research literature and analyze complex problems reaching substantiated conclusions using first principles of Defence and Strategic Studies

PO 3 : Design/Development of Solutions: Design solutions for complex national security problems and processes that meet the specified needs with appropriate consideration for evolving right policy choices

PO 4 : Conduct investigations of complex problems link with the society.

PO 5 : Modern tool usage.

B.A (Defence & Strategic Studies) Programme Specific Outcome:

PSO 1 : Familiarize the student to read, write and speak with confidence on different aspects affecting national security and offer solutions. Make the students socially responsible and adopt ethical standards or practice and develop the feeling of patriotism and nationalism

PSO 2 : Students with a B.A degree in Defence and Strategic Studies may be employed as research assistants with scholarships, Strategic Analyst, internships, Civil Services, Armed forces, Industrial Security Officers, Defence Journalist, Print Media, primary and secondary teachers with suitable teaching qualifications.

B.A (Defence & Strategic Studies) Course Outcome:

Course Title: Strategic Study of India

- Outline the term Bharath and discuss the salient features of India's freedom struggle and explain India's geostrategic location in terms of its size, border, and topography.
- Explain the physiographic features of the Himalayas, Indo-Gangetic plains and discuss India's Ethnic and Linguistic composition.
- Discuss the system of governance in India and explain the salient features of India's constitution. Analyse the role of governance recall the importance of national anthem and national institutions.
- The importance of India's resources with reference to Nature, Agriculture, and Industry.
- Describe and demonstrate the part played by Defence Research and the role and contribution of India's defence production. Highlight the significance of India's military potential

Course Title: Fundamentals of War and Peace

- Define War and Peace. Explain the nomenclature of the subject Defence and Strategic Studies Outline the relevance and significance of the program Defence and Strategic Studies.
- Outline the basic concepts of war and strategy, tactics, campaign, battle, and defence and security. Classify wars and explain the categorization of war.
- Discuss the causes of war and the principles of war.
- Define peace and explain the various forms of peace. Analyse the role of peace education and peace movements. Explain the concept of peaceful coexistence and zone of peace.
- Discuss the mechanics of war and peace. Evaluate the methods of settling international disputes and discuss the role of international law and international court of justice. Distinguish the concepts of peace making, Peace keeping and peace building.

Course Title: Political Science - An Introduction-I

- Define Political Science , Outline nature and scope and Distinguish whether is an Art or Science
- Define state, the various elements of the state. Explain the functions of the State.Distinguish between State and Government, State and Society.
- Analyse the importance of various theories of Origin of State
- Analyse the importance of Sovereignty and Pluralism
- Describe the role of the state and also explain the role of individuals with reference to fundamental rights, liberty, and duties.

Course Title: NME – Police Administration

- Introduce the Indian Police, evaluation and importance of police act.
- Outline the role and responsibilities of State Police, District Police, City Police , Village Police, Railway Police and Armed Police
- Describe the importance and Role of Central Police organization.
- Discuss the Police Recruitment and Training in Police College.
- Assess the role of Civil Defence

Course Title: Art of Warfare in India 1947

- Discuss the warfare in ancient India with reference to military system in Vedic, Puranic, and epic ages also clarify the wars in the ancient period and explain Mauriyan military system and appraise Kautilya's philosophy of war and peace
- Explain the warfare in medieval India with reference to the Arabs Invasion on India, and the foundation of the Mughal emperor in India.
- Outline the military system of South India with reference to Cheras, Cholas, and Pandyas
- Describe the revival of Hindu monarchy. Explain the military system of Maratha's under Shivaji, the rise of Sikhism and military system of Maharaja Ranjit Singh.
- Assess the entry of the Europeans to India and explain the British conquest of Bengal, the rise of presidencies and evaluate the consequences of the first war of independence.

Course Title: World Military History

- Describe the military system in the ancient period with reference to Greco-Persian wars, their military organisations and rise of Alexander.
- Identify the military system in ancient Rome. Their military organisation, the Carthaginian wars and the rise of Hannibal, Julius Caesar.
- Discuss the military system during the medieval period. Evaluate the importance of military reforms introduced by Gustavus Adolphus. Analyse the causes and consequences of French revolution and evaluate Napoleon's art of war
- Discuss, explain and evaluate world war I (with reference to Causes, Course and Consequences)
- Discuss, explain and evaluate world war II (with reference to Causes, Course and Consequences)

Course Title: Political Science an Introduction-II

- Outline the different forms of government and compare their relevant merits and demerits
- Define democracy, Identify the Principles of Democracy. Explain merits and demerits, Summarise the conditions for the success of democracy
- Describe the various organs of the government, Explain the role and functions of the legislative, the executive and the judiciary.
- Analyse the role of public opinion, political parties and pressure groups
- Evaluate the electoral system in India in terms of adult franchise representation of the minority, territorial and functional representation and outline the conditions of a good electoral process.

Course Title: NME: Criminology- An Introduction.

- Define, classify Criminology and explain the fundamentals of Criminal Law, Concept and thoughts within Criminology.
- Outline the meaning, causes, classification and characteristics of crimes.
- Introduction to Organised Crimes and Its types.
- Describe the process of investigation, interrogation and interview skills both private and police investigator.
- Defining, nature, scope types of punishments and discuss the Theories of Punishment.

Course Title: Fundamentals of National Security

- Discuss the concept of Nation, State, and Nation-State. Explain the origin, concept and objectives of national security.
- Explain the Security system of Indian Armed Forces.
- Explain the spectrum of threats, security structure and the national security paradigm. Distinguish between different forms of threat and challenges.
- Outline the concept, component and formation of security.
- Explain the basic concepts of Left wing, Extremism, Guerilla warfare, terrorism , fundamentalism and Insurgency.

Course Title: International Relations

- Explain the components of a State system and Evolution of state system
- Define National Power National Interest and Foreign policy. Explain the role of State system and its corollaries.
- Outline the various theories in International Relation , assess and evaluate the significance of Idealism, Realism, Integration, Behaviouralism and Structuralism.
- Define the concept Diplomacy kinds of diplomacy, function of diplomacy and summarize the importance of Diplomacy in International Relation
- Discuss the concept of collective security , Explain the concept of Balance of Power the techniques, types of balance of power , Analyse the role of International Law.

Course Title: Military Geography and Geo- Politics

- Outline the Fundamentals of Military Geography namely location, distance, climate, accessibility and visibility of national power.
- Identify the importance of Geopolitics and Military Geography.Evaluate the important theories of military geography and geopolitics with special reference to the theories of Mackinder, Haushofer and A.T. Mahon.
- Define the basics of the Global positioning system (GPS), the Global Information System (GIS) and Remote Sensing.
- Analyse the geo-strategic significance of India in terms of its location, natural resources, land mass. Evaluate the importance of Andaman, Nicobar and Lakshadweep Islands.
- Identify maritime borders. Discuss the nature and characteristics of land borders maritime boundaries, Territorial, waters and Exclusive Economic Zone.

Course Title: International Organisations

- Discuss the evolution of International and Regional Organisation. Explain the characteristics of International and regional organisations. Distinguish between International Organisation (IO) & Regional Organisation (RO).
- Discuss the principles, powers, structure, role, functions and achievements of the League of Nations and UNO.

- Explain the salient features, aim, role, functions, achievements and importance of SAARC, ASEAN and ARF.
- Discuss the salient features of the European Union, Organisation for Security and Cooperation in Europe (OSCE).
- Explain the aim, objectives, structure, role, functions and achievements of organisation of African Unity (OAU) Commonwealth of Independent States (CIS), Organisation of Islamic Conference (OIC), OAS, BRICS, Asia – Pacific Economic Forum (APEC)

Course Title: National Security of India

- Outline India's land frontiers and sea borders
- Evaluate India's security threats like poverty, corruption and Insurgency.
- Explain the major issues, challenges and threats with Pakistan – J & K, Siachen, Sir Greek Island, Wullar Barrage and Terrorism.
- Discuss the major challenges, issues and threats evaluating from China namely the Boundary dispute, Tibet Mutual Rivalry at Regional and Global levels and string of peals.
- Discuss the strategic importance of Indian Ocean, India's interest and the growing strategic interests of major powers in Indian Ocean and its impact on India.

Course Title: Specialized Warfare

- Define psychological warfare. Explain the different types and techniques of psychological warfare. Summarize the effects of psychological warfare.
- Explain the concept and characteristics of chemical and biological warfare. Discuss the effects of chemical and biological agents. Distinguish between Chemical Warfare and Biological warfare.
- Discuss the concept of Guerilla warfare, its characteristics. Distinguish between Guerilla warfare, Insurgency and terrorism.
- Explain the concept and origin of Nuclear warfare, the development of nuclear weapons and the impact of nuclear explosion.
- Define Hybrid warfare, Outline the causes and explain the types and techniques of hybrid warfare.

Course Title: Basics of Defence Economics

- Explain the fundamental concepts, relating the Economics and Defence Economics. Discuss various kinds of economic systems in operation.
- Explain the concept of public finance, Public Expenditure and the process of formulating Budget and Defence Budget. Analyse the Defence expenditure..
- Discuss the inflation, balance of payment and mobilization of resoueces.
- Define Management. Distinguish between Management and Administration. Explain the Principles and Process of Management. Outline the salient features and steps involved in planning, the concept of MBO and the decision making process and techniques
- Examine the role DRDO, Public and Private Sector Undertaking.

Course Title: Comprehensive Security

- Outline the meaning and concept of Security
- Discuss importance of environmental security, meaning, concepts and types.
- Explain and assess the meaning, epidemic, and pandemic and food security.
- Discuss the vital role of energy security, and its types.
- Explain the Industrial Security, meaning, types and scope.

Course Title: IDE –Fundamentals of Journalism

- Define Journalism. Discuss the meaning relevance and scope of formation. Outline the structure and functioning of News organisation, media, kinds of Media and its characteristics.
- Explain the purpose and meaning of Defence News, Kinds and Source of News, Various threats of news selections.
- Describe the significance of Defence stories and explain the format, language and grammar required. Explain the kinds of reporting, importance of eye witness, the use of graphics and animation and to state the importance of interviewing skills.
- Explain the importance of editing. Define military terms, proof reading, caption writing and picture editing.
- Identify and outline the hurdles in Defence writing, discuss the importance of media ethics, media laws and explain the importance of Visual Media.

Course Title: International Law

- Define International Law and Municipal Law; distinguish between International law and municipal law. Trace the history and development of International Law. Explain the nature, source and codification of International law.
- Discuss the laws of land, warfare, sea warfare and air warfare and explain the laws of maritime warfare, war crimes and genocides.
- Discuss the laws of Neutrality with reference to right of Angary, Contra band and doctrine of continuous voyage.
- Outline the importance of international law and explain war and its effects, its legal character and the settlement of disputes.
- Assess and evaluate the importance of blockade, prize courts. Explain the organisation, role and function of International court of Justice.

Course Title: Post Independent Wars of India.

- Discuss the challenges of the partition of the British Indian Army.
- Discuss the causes, the course, consequences and specific military lessons learnt during India – Pakistan war of 1947 – 48
- Explain the causes of Sino – Indian war of 1962, the important operation of war and the major military lessons learnt.
- Outline the major causes of India Pakistan war of 1965, role of artillery. Discuss the origin, causes course and consequences of India – Pakistan war of 1971.

- Outline the major internal security operations with reference to Operation Blue Star, Operation Rhino and Operation Vijay.

Course Title: Disarmament and Arms Control

- Outline the evolution of the Nuclear era since 1945. Define the basics of Nuclear Technology, Nuclear Energy and its Uses and abuses.
- Explain the development of missiles, its classifications, characteristics and the evolution of Nuclear Theories.
- Explain the salient features of different Treaties like PTBT, TTBT, PNET, CTBT, ABM, SALT – I, SALT – II, INF, START, NPT, FMCT, MTCR, NSG and its impact on Indo-US Agreement.
- Describe the significance of Chemical and Biological weapon conventions.
- Evaluate India's contribution towards disarmament and arms control.

Course Title: Limited Wars

- Discuss the concept, meaning, definition and scope of limited wars. Explain the causes, course and consequences of the Korean War.
- Explain the causes, the main events and the important lessons learnt during the Vietnam War.
- Explain the causes, the course and the lessons learnt during the Arab – Israeli Wars.
- Evaluate the significance of Iran – Iraq war. Explain the causes, the major highlights, results and the impact of the war.
- Evaluate the causes, course and the consequences of Gulf war I &II. Examine the role of UNO.

Course Title: Introduction to Student Support Services.

- Outline the aim of NCC,NSS,YRC
- Create awareness about Indian Armed Forces Recruitment.
- Discuss the importance of Health and Hygiene.
- To impart the Leadership skills like Discipline, Code of ethics and create a good citizen. .
- To imparts the concepts like ISSP, NGO,RSI .
- To Create service minted nationalities.

03. B.A (English) Programme Outcome:

PO 1 : Appreciate the different Literatures and its various genres in English and be motivated to read extensively.

PO 2 : Trace the evolution of the socio-political and literary scenario in different centuries of European countries down the ages through – Major Courses: Age of Chaucer and Elizabethan Age, Age of Milton and Restoration Age, Romantic Age, Victorian Age, and Modern Age. Allied Courses: History of English Literature and Literary Forms.

PO 3 : Study texts, writers and the background history based on world literature such as Indian, American, Latin American, African, and African American.

PO 4 : Develop skills in communication, dramatics, entrepreneurship, reasoning, speaking, teaching and public speaking, English for competitive examination, educational psychology, and creative writing through skills-oriented course

PO 5 : Understand the meaning of research and gain practice through the project work.

B.A (English) Programme Specific Outcome:

PSO 1 : Learnt to appreciate the different Literature like Indian, American, Latin American African, and African American. Understood how the socio-political scenario influenced the literary output of various centuries.

PSO 2 : Learnt to utilize the skills in communication, dramatics and entrepreneurship, reasoning, teaching, journalism, management, and writing, to be employable in various fields. Gained practical exposure of teaching and writing through courses such as Soft skills and Creative Writing

B.A (English) Course Outcome:

Course Title: Age of Chaucer & Elizabethan Age

- Explain the prose in respective age.
- Determine the prose style in detail.
- Identify the poetry literary way in a specific text.
- Define the thorough observation of drama with a respective age and text.
- Analyse the equipped with the text.

Course Title: Age of Milton & Restoration Age

- Analyzes English literary tradition from King Charles II to the age of Romanticism.
- Describe and discuss poems from John Milton to John Keats.
- Distinguish literary texts that reflect the socio-cultural and political interest of the period.
- Demonstrate the different literary cultures in relation to drama.
- Categorize the genre of novel and short story.

Course Title: History of English Literature

- To describe how literature influences the social and political history of each period.
- To describe and identify the poetry of major writers.
- Explain various schools and forms of drama of major writers.
- Identify the literary, cultural, historical, political influence of fictional works in the literary World.
- Explain the importance of brevity in writing.
- Compare English Literature of one period with that of another.
- Demonstrate major writers and their works in chronological order.
- Explain the ethical interpreters of literary text in English by nurturing their ability to understand drama.

- Identify the literary cultural, historical, political influencers of fictional works in the Literary world.

Course Title: Romantic Age

- Describe the students with the outline of the prose through the respective age.
- Determine the romantic age authors and their style.
- Explain the poems of poetic devices to the specific text.
- Analyze the background of the drama and its culture to the respective era.
- Identity the experiment of novel concepts and its structure.

Course Title: Indian Writing in English

- Describe and differentiate the varieties of prose of major Indian writers.
- Identify the various forms and types of poetry.
- Specify the figurative language used in poems.
- Analyze the use of myth in Indian writing in English.
- To explain the issue or subalternity and regionality in the literary domain.

Course Title: Literary Forms

- Explain the introduction of literary terms.
- Identity the poetic devices to the connection of poems.
- Describe the process and origin of the development of drama in its structure with the text.
- Define the various types of novel with its structure.
- Analyze the different ways of essay with the text.

Course Title: Shakespeare

- Describe and discuss the themes brought up in Shakespeare's plays, poems, and Sonnets.
- Analyze the structures and organizations of his dramatic works.
- Identify major literary characters in Shakespeare's works.

Course Title: Victorian Age

- Analyze the stylistic use of language.
- Define various elements of poetry such as diction, tone, form, and genre.
- Recognize the rhythms, metrics, and other musical aspects of poetry.
- Demonstrate social and artistic movements that shaped theatre and dance as we know it today.
- Make us of the beauty of coherence of language and literature.

Course Title: Media and Communication

- Acquire in-depth knowledge of contemporary issues in media and communication.
- Make use of recent developments and current debates in media and communication through the range of modules.

- Explain various specialist sub disciplines, including big data, digital cultures, mobile media, news, and information.
- Explain the methods of production and technological practices and relevant social issues.
- Demonstrate proficiency in writing in one or more professional media writing applications.

Course Title: Modern Age

- Gives insight into the major issues related to the socio, cultural status of the latter century.
- Recognize and analyze poetry I terms of different schools of poetry.
- Interpret different genres of drama like comedy, tragedy, farce, and melodrama.
- Perceive trends that prevailed in writing 20th century drama.
- Comprehend the development of 20th century fiction and elements of fiction- style, narrative forms and point of view.

Course Title: English Phonetics and Phonology

- Comprehend the articulation of English speech sounds.
- Ability to read and write phonetic transcription.
- Identify the manner of articulation and classification of vowels and consonants.
- Adopt the functions of stress and intonation.
- Enhance pronunciation

Course Title: An Introduction to Popular Fiction

- Acquire in-depth knowledge of similar representation of art and life in popular literature and high literature.
- Make use of recent thinking of students, analytically and logically.
- Learn problem solving strategies through expository ideas.
- Explain the methods foster personality and social development.
- Demonstrate the students to comprehend the problems, social constructs, characters based on the set time period.

Course Title: American Literature

- Analyze American prose as an expression of individual or communal values curbs within Social, Political and Cultural perspectives of different periods in American literature.
- Demonstrate American literary movements through poetry of the age.
- Trace the development of characteristic styles of expression through American Fiction.
- Define the diverse dramatic styles or forms that existed though the ages in America.
- Express the aesthetic ideas present in both fiction and drama.

Course Title: An Introduction to Linguistics

- Comprehend and express the nature and function of language.
- Develop the knowledge of the grammatical system of English language.

- Analyze the language variation in Historical, Social and Regional Dialects.
- Illustrate the differences in Phonetics, Phonology, Morphology, Syntax, Semantics and Pragmatics.
- Gain integrated knowledge of the four language skills LSRW.

Course Title: Women's Writing

- Interpret the concepts like women's liberty, empowerment, feminism, and movements.
- Examine various literary selections of fiction, drama and poetry that focuses women's life.
- Explain the development, themes, and narrative perspectives of various works of women's writing.
- Identify the key point of a selection of feminist theory and apply them as a context for reading literary texts.
- Describe women's writing and critically analyze the varied views expressed in the text.

Course Title: Literary Criticism

- Define representative literary and cultural texts in diverse contexts.
- Interpret the critical ideas, values, and themes in the literary texts.
- Apply critical and theoretical approaches to the literary pieces of the past and the present.
- Write analytically in different formats like essays, reviews, research papers etc.
- Evaluate literary texts and write critical views about the text.

Course Title: Inter – Disciplinary Elective I - Travel Writing

- Recognize the historical places.
- Realize the cultural heritage of the places.
- Familiarize with writing styles, to prepare travel reports, for tourism industry
- Improve the factual knowledge for a career travel guide.
- Work on adaptability, cross-cultural competence, and attitude Change.

Course Title: Indian Literatures in Translation

- Examine the issues discussed in the text in the socio-historic and cultural context. Compose an article in technical writing genre.
- Recognize poetry from a variety of cultures, languages, and historic periods.
- Make use of the vocabularies, to develop an appreciation of language.
- Conceptualize various types of Drama such as Tragedy, Comedy, Farce, Melodrama etc.
- Explain the elements of fiction such as Narrative Techniques, setting, point of view, style.

Course Title: European Drama

- Identify the familiar elements of European Drama.
- Analyze the different social issues in Europe.
- Determine the complex issues in European Literature.

- Explain the regional level of understanding.
- Describe the awareness of the changes and developments in the European Drama.

Course Title: World Literature

- Study about the new outcome -comparative literature.
- Demonstrate and differentiate variety of prose.
- Explain and delineate the different types of drama by major writers.
- Enact the play, emphasizing aspects of plot, setting, themes

Course Title: Modern Latin American Literature

- Realize that anything can be a subject in an essay.
- Explain the historical background of Latin America and Spain.
- Interpret foundational knowledge relating to Historical, Socio-Cultural, Geographic, and Economic conditions in Latin America.
- Discuss basic methodologies of social science research and writing as well as Humanities / language-based research.
- Critically analyze ideas, evidence and arguments relating to a current topic or a significant Historical event/process in Latin America.

Course Title: Project

- To make the students more research oriented.
- Enable students to think critically and logically with the most realistic approach, to accomplish their identity in research.
- Facilitate students to excel in finding newer horizons, as a scope for the further study.

04. M.A (Economics) Programme Outcome:

PO 1 : To analyse different economic and environmental problems and provide solutions to improve our Green Growth

PO 2 : To critically analyse Classical, Keynesian and modern economic approach to solve all macroeconomic problems.

PO 3 : To develop employability and research skills and identify more socio-economic problems and provide solutions through several research activities

PO 4 : To find out different ways by which improve the contribution of women in economic development

PO 5 : To maintain stability in exchange rate, and to improve the Balance of payment position, analyse different international trade policies and the contribution of International Organisation.

M.A (Economics) Programme Specific Outcome:

PSO 1 : To evaluate macroeconomic policies including fiscal, monetary and international trade to maintain stability and analyse different environmental policies to reduce global warming, improve sustainable development and Green GDP.

PSO 2 : Analyse central and state budget and plans to maintain strong and healthy fiscal federalism and improve the contribution of women in India's economic development.

M.A (Economics) Course Outcome:

Course Title: Micro Economics -I

- To evaluate modern utility demand theories.
- Critically analyse Cobb-Douglas production function and apply it in finding returns to scale.
- Examine different traditional and modern theories of costs.
- Critically analyse the equilibrium of perfect competition and monopoly market structures.
- To Demonstrate and analyse monopolistic and oligopoly market structures.

Course Title: Indian Economic Development and Policy-I

- To analyse economic development environmental degradation in India.
- Differentiate centralized and decentralized planning.
- To analyse different Indian plan models such as Mohalanobis, input and output and multi- sectoral models.
- To measure National income and GDP by different methods and analyse Indian Trade policies.
- To provide solutions to reduce poverty and unemployment in Indian economy.

Course Title: Research Methodology

- To demonstrate nature and scope of social research.
- To identify the research problem and to formulate research hypotheses and research design.
- To analyse different techniques of data collection.
- To analyse data by applying different techniques.
- To demonstrate research presentation with diagrams and references.

Course Title: Energy Economics

- To analyse different energy resources and their role in Economic development.
- To examine and compare the intensity and elasticity of energy in National and International level.
- Critically analyse the problem of energy crisis and environmental degradation.
- To apply different methods of energy conservation and energy management to promote sustainable development.
- To analyse India's energy profile and find solutions to the energy crises.

Course Title: Mathematics for Economists -I

- To apply set theory in economics.
- To demonstrate the applicability of straight line, parabola and rectangular hyperbola.
- To differentiate convex and concave functions, logarithmic and exponential functions.
- To apply different techniques of differentiation.
- To demonstrate the applicability of potential derivations-maxima and minima.

Course Title: Micro Economics-II

- To analyse different modern theories of firm.
- Critically analyse different distribution theories such as Ricardo, Carl Marx,Kaldor, marginal productivity theory etc,
- To examine economics of information and finding solutions for asymmetric information.
- To evaluate two sector model of general equilibrium theory.
- To analyse Kaldor-Hicks-Compensation criterion and Bengon Criterion.

Course Title: Indian Economic Development and Policy -II

- To analyse agricultural price policy, agricultural credit, food security and PDS.
- Examine the Industrial growth at National and State Level.
- To evaluate agricultural growth at National and State Level
- To analyse all human development indicators in India and demonstrate the role of infrastructure in economic evelopment..
- To analyse Indian fiscal federation and give solution for development.

Course Title: Statistics for Economists

- To apply probability theory in economics.
- To demonstrate the applicability of Binomial, Poison and Normal distribution in research.
- To analyse the different types of sampling techniques.
- To demonstrate hypothesis testing such as Null and alternative hypothesis and Type I and Type II error.
- To apply F test, T test and ANOVA to find out the significance of different variables in research.

Course Title: Mathematics for Economists-II

- To analyse Lagrange multiplier method in utility, cost and profit maximization.
- To apply Matrics in economics.
- To demonstrate and apply Input-Output analysis.
- To analyse Linear Programming methods.
- Differentiate Indefinite integrals and definite integrals.

Course Title: Environmental Economics

- To analyse the market failure and externality and Pareto optimality.
- To demonstrate natural resources exploitation and finding solution for it.
- Distinguish environmental cost of economic growth and sustainable development.
- To apply cost benefit analysis to reduce environmental degradation.
- To analyse different pollution control measures.

Course Title: Macro Economics –I

- To analyse the circular flow of money in an economy and measure the cost of living by using CPI & WPI.
- To calculate GDP by using different methods and able to estimate each and every method properly and apply all the theories of consumption and Investment function in the real economy.
- To evaluate the concepts of multiplier and Accelerator to improve the growth rate of an economy.
- To differentiate the income and employment generation from classical school to modern school of economics, and find out a solution for economic stability.
- To understand the role of RBI in money supply and how to apply monetary and fiscal policies to maintain stability in an economy.

Course Title: Public Economics-I

- To demonstrate the role of public enterprises in India and analyse different pricing policies followed in public enterprises.
- To evaluate the Pareto Optimality, market failure and theory of second best.
- Differentiate public goods, private goods and analyse different theories of taxation.
- Examine the practical problems of deficit financing and giving solutions for burden of public debt.
- To analyse different theories of Budget and find out the applicability of balanced budget and Zero-based budget.

Course Title: International Economics-1

- To analyse the different international trade theories.
- To Demonstrate different concepts in terms of trade.
- To evaluate the technical progress in international trade.
- To analyse different forms of Government intervention in international trade and development.
- To critically analyse the role of FDI in economic development and demonstrate the foreign exchange market and different types of exchange rate.

Course Title: Economics of Development

- To analyse kuznet's invented U- hypothesis and welfare of Index .
- To critically analayse population growth and economic development.
- To demonstrate the role of education and health in economic development.
- To analyse the role of agriculture and rural development in macro economic stability.
- Evaluate different development planning and apply the fiscal and monetary policy. To maintain stability in an economy.

Course Title: Gender Economics

- To demonstrate the significance of women studies in socio-Economic development.
- To analyse the different theories of public expenditure on women empowerment.
- To demonstrate the role of UNO and World Bank in women's development.
- To analyse the contribution of women in economic development and demonstrate the progress and demonstrate the foreign exchange market and different types of exchange rate.
- To analyse the problems of women and provide solutions to empower them.

Course Title: Macro Economics-II

- To analyse the usage of IS-LM in determining equilibrium of on economy and evaluate the applicability of IS-LM in international trade
- To demonstrate the evil effects of inflation and provide solutions for the problems of inflation through proper implementation of monetary and fiscal policies.
- Critically analyse the theories of business cycle and finding solution to recover the economy from different phases of trade cycle
- To apply Keynesian and Neo Keynesian models in the real world and find out the reasons for market and Government failure and giving solutions for these problems.
- To analyse the different views of modern economists in solving the problem of inequality in international trade and maintain stability in an economy.

Course Title: Public Finance-II

- To evaluate demand revealing schemes of public goods find out applicability of Keynesian case for stabilization.
- To critically analyse Wiseman-Peacock hypothesis and reforms in public expenditure policy.
- To demonstrate the equity and efficiency issues in fiscal federation.
- To analyse the problems in Indian fiscal federation and different tax policies of center and state.
- To brief stability in an economy how to apply fiscal and monetary issues

Course Title: International Economics-II

- To demonstrate the developments in International monetary system.
- To analyze the problems of disequilibrium in BOP and finding solutions to correct disequilibrium in BOP.
- Critically analyse the international problems of Asian region and European Union.
- To demonstrate the function of WTO, IMF and World Bank and Asian Development Bank.
- To evaluate different theories of trade.

Course Title: Monetary Economics

- To demonstrate the role of money in Keynesian and Post-Keynesian approach
- To analyze the demand for money in Keynesian and Post-Keynesian
- To distinguish between Classical and New Tobin's views on interest and monetary policy.

- To evaluate monetary system in India.
- To analyse International monetary system.

Course Title: Computer Application in Economic Analysis.

- Demonstrate different parts of computer and its application in business.
- Demonstrate MS office, MS word, MS Excel, MS outlook, and MS Power point and MS Access.
- Examine Electronic transaction and E-commerce.
- Analyse Internet, Intranet and anti-virus programmes.
- Demonstrate business related packages like Tally, SPSS, Tele meeting and Voice mail.

05. M.S.W Programme Outcome:

PO 1 : Provide various knowledge and skills related to professional Social Work in local, national and international level.

PO 2 : Develop critical understanding of various social issues prevailing in diverse contexts.

PO 3 : Equip with conceptual understanding and practical application of various Social Work methods in diverse fields.

PO 4 : Acquire professional knowledge and skills based on Specialization – community development, medical and psychiatric settings and human resource management.

PO 5 : Apply the Social Work theories and techniques in specialized settings.

M.S.W Programme Specific Outcome:

PSO 1 : To impart knowledge, skills, attitudes and values appropriate to the practices of social work profession at various levels.

PSO 2 : To facilitate interdisciplinary approach for better understanding of social problems, and work for the enhancement of the people in the society.

M.S.W Programme Course Outcome:

Course Title: Social Work Profession

- Demonstrate professional social work values, principles and ethics at their workplace effectively.
- Create customized social work tools and techniques and plan effectively addressing social issues.
- Identify themselves with Professional Social Work forums at Regional, National and International levels.
- Analyze the social situation clearly and assert the rights for each individual in society.
- Will practice Rights based Approach in all the Social Work interventions.

Course Title: Social Work with Individuals

- Apply case Work Values and Principles while working with Individuals.
- Identify the Client's Problems and provide appropriate solutions.

- Equip the skills relevant for Social Case Work.
- Plan the Case Work Process.
- Formulate appropriate intervention techniques.
- Use effective communication techniques to identify the issues of the client.
- Identify various settings and practice based on the social contexts of the country.
- Predict the social contexts effectively and apply social case work techniques.

Course Title: Social Work with Groups

- Will use values and principles of group work at their workplace.
- Compile the group work session reports effectively.
- Utilize the individual resources/strengths of the group members and design the intervention process effectively.
- Apply basic ideas, tools and techniques in solving group issues and bringing development to the group.
- Constantly evaluate the groups sessions to conduct the group work process effectively.
- Plan and design each group work session based on the different social work setting.

Course Title: Sociology

- Constantly analyze the institutions and their influence on individuals in the society.
- Design strategies to address social issues in a scientific organized manner.
- Critically analyze policies and schemes among the poor.
- Compare and understand issues with reference to current global trend in terms of Liberalization, Globalization and Privatization.

Course Title: Psychology

- Use the basics of Psychology while practicing Social Work.
- Effectively identify the Psychology functions in human.
- Evaluate the different problems at different stages of life effectively.
- Assess the client using various personality theories
- Identifying the concept of Mental Health and various Mental Disorders.
- Analyze abnormal behavior of the clients effectively.
- Apply stress Management Technique

Course Title: Social Work with Communities and Social Action

- Apply knowledge of concepts needed to work with communities.
- Demonstrate community organization skills while addressing local and regional issues.
- Apply various models of community organization to bring social change.
- Use various social action techniques and strategies while addressing social.
- Critically analyze social problems and design appropriate strategies to address social issues.

Course Title: Social Work Research and Statistics

- Analyze social issues using scientific knowledge and methods both empirically and conceptually.
- Use participatory research methodology effectively while initiating new development projects.
- Will formulate and do many action research to address social issues.
- Apply research skills while working with civil societies, government and international organizations.
- Create new research tools effectively.

Course Title: Social Welfare Administration

- Demonstrate good administrative skills at workplace and in society.
- Create and administer social welfare organizations especially non-governmental organizations effectively.
- Demonstrate good financial administration skills at workplace and in society.
- Compute the financial administration system in an organization.
- Plan strategies for Co-ordination and co-operation between voluntary and government welfare agencies.

Course Title: Social Policy and Social Legislations

- Will use knowledge of social legislations and policies while working with the grassroots and subaltern communities.
- Scientifically analyze the policies and legislation of the state.
- Will demonstrate good citizenship values propagated by the state in their families and workplace especially on the development of women and subaltern communities.
- Apply values and ethics in all the development projects that they work.
- Will evaluate social issues and use constitutional remedies for protection of Human Rights in India.

Course Title: Gender and Development

- Understand the concept of gender, development and how the two concepts combine to reflect economic development in a society. Study various gender analysis frameworks to track development of developmental thought in the field of gender.
- Correlation between levels of education and trends of development in various gender groups. Affect of gender relations, social systems and education levels on employment opportunities and progress
- Health issues affecting women and its impact on developmental levels. Role of NGOs and Government policies to help accessibility to health services.
- Position of women in a society during difficult circumstances like social disaster, displacement, trafficking, harassment etc. Legal provisions available under the Indian Constitution and state led schemes

- National and international bodies with focus on women's development. Past schemes and future aspirations for women's development including reservation for women and elimination of gender-based discrimination

Course Title: Rural Community Development

- Assess internal and external resources of the communities.
- Apply ideological perspective while working with communities.
- Design and work on poverty eradication programs with international accepted scales.
- Critically analyze political structure in the rural areas.
- Use participatory tools (PRA) to do social research among rural communities.

Course Title: Development and Social Work Practice

- Critically analyze the Indian economy and various issues related to development economics
- Predict the role of agriculture and industries in the development of our country.
- Design appropriate programs to address the sustainable development goals of the United Nations in India.
- Apply scientific strategy for food security among the poor.
- Emphasize and recognize the role of women in the rural and urban economy.
- Compare global and regional development standards constantly.

Course Title: Working with Children and Youth

- Effectively assess the problems of children in Urban and Rural Communities.
- Plan appropriate programs and strategies to address the social problems of the youth and children in Indian society.
- Effectively assess the need, plan projects, evaluate national and international projects for the development of children.
- Use appropriate strategies while working for the children under difficult circumstances like children affected by natural disaster, displacement and in conflict affected zones, etc.
- Identify the factors leading to alcoholism and substance intake and plan appropriate programs to address it.
- Formulate best programs involving in planning programs with NGOs, Civil Societies and the Government for the deprived children and youth.
- Formulate research hypothesis and systematic research tools to do action research to constantly study the problem of children and youth.

Course Title: Labour Legislations

- Apply labor legislations at International, National and Regional levels.
- Use appropriate skills for practicing labor law at factory, shops and establishments and the information technology sector.
- Demonstrate suitable attitudes for the practice of labor laws at national and regional levels.

- Evaluate Labour standards at workplace effectively.
- Constantly compare the Labour standards at regional and global level.

Course Title: Human Resource Management

- Compare the different functional areas of HRM & HRD.
- Demonstrate effective managerial skills.
- Will predict emerging trends in the field of HR.
- Will design organizational policies and human resource planning.
- Constantly assess changes and challenges happening in the global human resource management.

Course Title: Employee Relations and Welfare

- Use knowledge on the industrial relation system in India.
- Apply Industrial Relations techniques in trade union.
- To formulate effective programs for the welfare of the staff working in organized and unorganized sector
- Evaluate the implementation of social security systems at the workplace for the welfare of the staff.
- Create appropriate grievance redressal systems for the welfare of the staff.

Course Title: Quality Management

- Design appropriate quality management systems comparing various international standards.
- Use latest quality function deployment techniques for the benefit of the management.
- Demonstrate leadership qualities and ethics at workplace.
- Formulate effective quality control tools like check sheet, pareto chart, affinity diagram.
- Communicate effectively the quality management systems to the staff.

Course Title: Mental Health and Psychiatric Disorders

- To apply the phenomenology, symptomology and treatment of common mental disorders.
- Evaluate the client using various mental health assessment tools and taking Case History
- Effectively identify Mental Disorders and overview of classification of Mental Disorders
- Compare the various classification of mental disorders.
- Use legislation appropriate to Mental Health related issues.

Course Title: Public Health in India

- Apply multidimensional approach to Health.
- Plan appropriate Preventive, Primitive and Rehabilitative health care program.
- Compare the administration of various health care systems in country.
- Utilize the National Health Programmed and Health Policies while working among communities.
- Formulate health care programs with Human Rights perspective.

Course Title: Medical Social Work

- Demonstrate ethical Medical Social Work practice.
- Create appropriate systems to for the effective administration of Medical Social Work practice.
- Apply all the methods of social work in hospital setting.
- Constantly evaluate the need of the health programs among urban and rural poor.
- Formulate community-based rehabilitation strategies while working with disability.

Course Title: Social Entrepreneurship

- Mobilize the community to utilize the projects and schemes of development banks such as NABARD, DICS, SSCS etc.
- Training youth and women entrepreneurs in effective marketing skills.
- Training women and young entrepreneurs in EDP skills.
- Design projects for rural communities in incubating new social enterprise to address social issues in the communities.
- Apply participatory research and needs assessment skills in setting up new social enterprise there by reducing vulnerability among the community.

Course Title: Counselling

- Apply Counseling skills at different settings.
- Use various Counseling skills required and Counseling process.
- Design Counseling techniques based on the social background of the client.
- Using Counseling as a tool for managing changes and situations.
- Demonstrate ethics in counseling.

Course Title: Urban Community Development

- Design action research to constantly understand of the issues of the slum dwellers and pavement dwellers.
- Plan appropriate program for the development of communities living in urban slums.
- Create awareness among community to utilize the state and central government projects for the welfare of Urban Poor. Eg. CMDA, IAY etc.
- Demonstrate leadership skills and become agents of social change among the slum dwellers.
- Design perfect strategies and programs for the development of the urban poor.

Course Title: Dalit and Tribal Development

- Identify needs and issues Dalits and Tribal communities in South Asian region.
- Capacitate the communities to utilize the schemes and facilities provided by the government and civil societies for the development of the Dalits and Tribal communities
- Apply strategies for resilience of the Dalit and Tribal community from economic and social vulnerabilities using constitutional backup.
- Effectively plan micro and macro projects for the development of the Dalit and Tribal communities.

Course Title: Management of Non-Governmental Organisations

- Demonstrate the skill required to start and manage an organisation
- Create appropriate strategies for project planning
- Analyse and execute best management process for effective and efficient functioning of NGO
- Evaluate the current issues' in development organisation
- Using Indigenous method in developing an organisation

Course Title: Organisational Behaviour

- Compare the dynamics of organizational behavior at international, national and regional levels and adopt relevant systems.
- Constantly analyze the characteristics influencing human behavior in organizations.
- Assess micro and meso perspective of staff team in an organization.
- Design appropriate exercises for stress management and team work.
- Apply techniques and tools for motivation among staff for the better productivity

Course Title: Organisational Development

- Design strategies and guidelines for development of the organization.
- Revise organization policies adopting international standards.
- Analyze group process approaches and use appropriate strategies for conflict management.
- Plan appropriate strategies to address organizational issues effectively instead of avoiding them.
- Evaluate organization systems from time to time and restructure the organization.

Course Title: Human Resource Development

- Apply the concepts and functions of Human Resource Development at workplace.
- Formulate new policies and systems adopting emerging trends in the field of HRD.
- Demonstrate attitude and skills required for employment in the field of Human Resource Development
- Design tools to manage discipline, maintain work – life balance and how to handle Grievance in an organization.
- Use appropriate tools to evaluate the function of the staff.

Course Title: Psychiatric Social Work

- Compare international Psychiatric Social Work standards and adopt suitable standards.
- Apply methods of social work among psychiatric patient, family and people with mental illness.
- Create the Mental Hospital as a social system.
- Demonstrate high knowledge and skill as Psychiatric Social Worker.
- Formulate and design community mental health programs to address issues of mental health among community.

Course Title: Therapeutic Interventions in Social Work Practice

- Use appropriate techniques for Therapeutic Intervention in Social Work.
- Identify the role of social worker in clinical practice and help accordingly.
- Apply indigenous therapeutic techniques.
- Plan appropriate programs for the treatment of HIV/AIDS, de addiction, diabetics, coronary heart disease.
- Predict current trends in healing practice adopt at workplace.
- Apply Transactional Analysis Therapeutic intervention.

Course Title: Hospital Administration

- Create appropriate systems for effective management of hospitals.
- Compiling the roles and responsibilities of the Governing Board, Executive Board, Advisory Board, Nursing Staff and other staff.
- Use IT as a tool to maintain records and systems in hospital administration.
- Compare and evaluate the current issues in health care services.
- Identify various dimensions of health.

Course Title: Corporate Governance & Corporate Social Responsibilities

- Constantly evaluate the company based on the Triple Bottom Lone Approach.
- Demonstrate and advocate for ethical business and corporate social responsibility.
- Compare international standards in business establishments and evolve policies and systems at workplace.
- Design gender sensitive systems in Business Environment.
- Create CSR programs for the development of the communities around the factories and industries.

06. M.A (Defence & Strategic Studies) Programme Outcome:

At the end of the program the students will be able to:

PO 1 : Scientific Knowledge: Acquire the knowledge of Defence and Strategic Studies and apply it to issues, challenges and threats to national security faced by the country.

PO 2 : Problems Analysis: Identify, assess and analyze complex problems; both internal and external, and to formulate appropriate policy decisions.

PO 3 : Design/Development of Solutions: Develop solutions for complex national security problems with suitable doctrinal procedures.

PO 4 : Conduct survey to understand, assimilate, reflect, empathize and act on issues of critical importance faced by the country.

PO 5 : Modern tool usage facilitates enhanced teaching- learning process viz.., ICT tools, LMS tools, Web designing and hosting etc.

M.A (Defence & Strategic Studies) Programme Specific Outcome:

On completion of M. A., Defence and Strategic Studies students the intended skills are:

PSO 1 : To acquaint the students on the various aspects of national security study and enable them to understand and assess to national security features that are emerging in the international political system. The students should be able to compare and correlate the multiple aspects of national security threats and discern alternative approaches to solve them.

PSO 2 : The students are adequately prepared to understand the critical functions of national security and the process of governance and policy formulations that are essential to achieve national security.

M.A Defence and Strategic Studies Course Outcome:

Course Title: Indian Art of Warfare upto 1857

- Outline the evolutionary trends in the art of warfare in India- through vedic, puranic and epics sources. Identify its features like military organisations, weapons and forms of warfare.
- Explain main features of Hindu military system through the study of Mauriyan, Gupta and Harsha empires. Assess the progressive changes in the Art of warfare during that period.
- Evaluate the Arab & Turkish invasions of India- Identify the reasons for their successful invasions; compare it with the Rajput chivalry to outline their feature of their war strategies.
- Assess the Mughal military system to evaluate their success in India. Explain the features of Maratha military system- its significance. Analyse the Sikh pattern of warfare.
- To assess the Sikh warfare as compared to the English- through Battle of Sobraon. Outline the progressive Indianisation of Indian Army. Predict the Political Significance of the 1857 Sepoy Mutiny

Course Title: World Military History upto World War II

- Demonstrate systematic understanding of Ancient Greek warfare; Greeco-Persian Warfare. Explain ancient warfare features through select case studies- Battle of Marathon, Thermophylae Salamis, isus, Arbela.
- Analyse the Roman Art of Warfare and identify the strategy and tactics through the battles of Cannae& Zama and war features of Julius Ceasar Campaigns
- Outline the innovations and inventions in the Art of Warfare as witnessed through the reforms of Adolphus , French Revolution and Nepoleonic wars
- Explain the causes, course and outcome of World War I; Demonstrate clear understanding of the role of Army, Navy and Airforce in the World War I
- Explain the courses, causes and outcome of World War II. Assess the features of Total War; explain the nature of Airpower & Sea power

Course Title: International Relations

- Explain the concepts, nature and scope and development of international relations. Outline the various theories of I.R for better analysis.
- Demonstrate the importance of national interest – identify its various types; assess and evaluate the role of National interest in making of foreign policy and defence policy
- Identify features of State, Nation& Nation-State. Evaluate issues of Pluralism, multi- culturalism and ethnicity in nation-building process in contemporary period.
- Outline the origin, structure & functions of the UNO. Evaluate its contribution to world amity and development
- Assess the usefulness of various practices like- Collective Security, Balance of power; Arms Control & Disarmament towards avoidance of War

Course Title: India's National Security and Strategic Spectrum

- Evaluate the significance of nation-hood and nationalism through the study of India's freedom struggle; and, also to explain the features of pluralism and its consequent strength and weaknesses.
- Identify the national security objectives of India and evaluate its national security objectives in the changing contemporary strategic environment- identify its varied dimensions.
- Apply the internal security features to India's domestic situation to identify its nature as compared to trans-national security issues and problems.
- Evaluate the national security features of India's North East, Jammu and Kashmir, Punjab; assess extremist movements and outline successful counter measures to protect its National Security.
- Analyse the significance of technology power as "Force Multiplier" – in Indian Military Context. outline methodology for conflict resolution and conflict transformations in India.

Course Title: Conflict and Cooperation in South Asia

- Assess the geopolitical settings in South Asia and discuss Socio-Cultural and economic structure of South Asia and its impact on the regional strategic scenario.
- Identify power rivalries in South Asia; Analyse Strategic importance of Afghanistan, Myanmar and china for South Asian security spectrum.
- Discuss internal problems and conflicts in South Asia and identify the role of pressure groups with respect to religion, language, culture, tribe and the role of civil society.
- Analyse the prospects of Sub-regional cooperation in south Asia and particularly regional cooperation of South Asia under the aegis of SAARC.
- Compare the issues and challenges among South Asian states and identify peace initiatives and movements in South Asian Region

Course Title: Theoretical Aspects of International Relations

- Demonstrate the significance of International Relations discipline- compare it with other social sciences- identify the levels of analysis of International Relations Subject
- Analyse the features of various theories of International Relations and Assess their prospects as an approach to the study of International Relations and critique its functions

- Compare other theoretical schools of International Relations – the English and the oriental (Indian and Chinese) and apply it in the study of International Relations and evaluate their significance.
- Demonstrate the utility of post-modern theories in the study of International Relations; assess their significance in designing the approach for the study of International Relations
- Explain the contextual relevance of various I.R theories Viz., post-colonial; subaltern; developing states and globalisation.

Course Title: International Law

- Explain the definitions and historical development of international law. Outline the nature, sources and codification of international law. Identify the distinction between internal law and domestic law
- Discuss the laws of land, sea and air warfare. Explain the nature of war crimes and genocide
- Explain the laws of neutrality and its manifestations- Assess the feature of rights of angary; contraband and the doctrine of continuous voyage
- Evaluate the role of international law in settlement of international disputes. Assess the legal character of war and outline the features of enemy character.
- Explain the legal mechanism like Blockade, prize court etc. Analyse the structure, role and functioning of International Court of Justice

Course Title: Arms Control and Disarmament

- Explain the rationale for armaments and its usage in inter-state relations. Evaluate the destructive and unproductive nature of war.
- Outline the various means adopted to mitigate the horrors of war. Evaluate the prospects of Arms Control and Disarmament leading to Universal Peace
- Evaluate the efforts towards the elimination of weapons of war in historical perspective. Identify the reasons for their failure in elimination of weapons
- Compile the efforts taken to save humanity from nuclear holocaust. Assess the global efforts towards elimination of nuclear weapons
- Outline the progressive efforts towards elimination of weapons. Evaluate the socio- economic benefits of Arms Control and Disarmament.

Course Title: Strategic Thought

- Discuss and explain various philosophies of statecraft- Kautilya, Gandhi and Nehru
- Analyse Jomini's view on war and the importance of Mass Army, Strategy, Tactics and logistics. Discuss strategic concepts of Clausewitz on war, strategy and logistics etc
- Explain Karl marx's view of social revolution. Evaluate the thoughts of Dupicq and Foch on war ethics
- Outline the British concept of warfare and demonstrate clear ideas on A.T Mahan's Sea Power theory and the theories of air warfare of Douhet, Mitchel& Seversky
- Identify and explain Mao& Che guevara's concept of Guerilla warfare and their prospects

Course Title: Geo-Politics and Military Geography

- Explain the definition, role and significance of Geo-politics. Identify the geographical components of National Power
- Demonstrate clear understanding of the thoughts of Haushofer, Mackinder and A.T.Mahan. Identify their strategic significance
- Evaluate the role and functioning of Global Positioning System , Geographic Information System and Remote Sensing in military perspective
- Explain the significance of India's geo-strategic location, Size, resources. assess the strategic importance of India's island territories – Andaman & Nicobar and Lakshadweep island
- Evaluate the strategic significance of India's land borders and maritime borders. Assess the prospects of territorial waters and Exclusive Economic Zone.

Course Title: Defence Management

- Compare the features of administration and management outlining their principles and processes.
- Discuss the features of planning and its process. Identify the steps in planning function.
- Explain staffing as a functions of management and its importance. Outline the process of manpower recruitment in military and paramilitary in India.
- Discuss the function of directing and controlling and aspects of leadership qualities.
- Explain the features of MBO and decision making tool. Assess the various organizational structures and their functions.

Course Title: Peace and Conflict Studies

- To explain the fundamentals of peace and conflict studies along with its conceptual understanding
- To analyse the mechanism of conflict management in regional context and asses Gandhian approach of conflict resolution. Evaluate its relevance to contemporary period.
- To study the causes of war and to assess its impact on regional conflicts and the role of united nations.
- To discuss various aspects of the confidence and security building measures like peace building, peacemaking, peace keeping, and peace enforcement.
- To evaluate outcomes of the pacific and coercive settlement of disputes including peace research and peace movements. To evaluate the consequences of conflict resolution. Assess the role of IGOs, NGOs in the conflict resolution process.

Course Title: Defence Economics

- Outline the concepts of war and war economics; explain the features of economic warfare.
- Assess the symbiotic relationship of war and economy; and, critique the cost of war.
- Discuss the defence production in India; demonstrate the features of defence planning and war financing.
- Analyse the impact of defence budget and national security.
- Evaluate the defence budget of India, Pakistan and China. outline the new international economic order

Course Title: Science, Technology and National Security

- Discuss the relevance of science and technology in national security affairs. Outline the usage of technology in military, nonmilitary and in both sections.
- Evaluate the impact of IC engines, electricity, radar and radio and their scope and functions in warfare.
- Discuss the significance of military research in areas of energy, atomic sciences, oceanography and electronics. Evaluate their contributions to the functions of warfare
- Demonstrate the impact of information technology; biotechnology; artificial intelligence and stealth technology in warfare.
- Outline and evaluate the S&T base and its expansion in India. Assess its contribution towards India's self-reliance in national security.

Course Title: Defence Journalism

- Explain the meaning of journalism and discuss the structure and functions of news-sector. Outline the types and characteristics of media and their scope.
- Apply the role of news media to defence sector identify the various kinds of defence news sources. Outline the theories of news selection.
- Demonstrate the process of defence reporting; outline its procedures in reporting –format, language sources, graphics, animation, and interviewing skills and their importance.
- Outline the procedure of editing; proof reading, caption making and picture editing and their importance
- Evaluate the role of media laws and ethics. Assess the hurdles in defence writing.

Course Title: Area Studies- India and SAARC

- Explain the strategic significance of south Asia demonstrate the clear understandings on the political composition of south Asia and prospects of regional cooperation
- Assess the strategic importance of Pakistan and Bangladesh in terms of its strategic locations government and politics. Identify the role of external power and their impact on India's strategic environment
- Assess the strategic location of sri lanka and Maldives in terms of its location, government and politics and discuss the role of external power and their impact on India's security
- Assess the geopolitical settings of Afghanistan, Nepal and Bhutan. Identify the role of external power and their impact on India's national security
- Outline the aim, objective, scope and functions of SAARC evaluate the prospects of establishing a regional security community

Course Title: Post Independent wars of India

- Discuss the partition of British Indian army. Outline the process of state building in India – Through annexation of Junagadh, Hyderabad police action and the takeover of goa and their challenges.

- Outline the course of events leading to 1947-48 Indo- Pak wars. Discuss the military operations of Indian army and the military lessons learnt.
- Discuss the causes course and main events of 1962 Sino-Indian war. Assess the outcome of war through its main events and its impact on India's military reforms.
- Outline the common course and the outcome of the 1965 & 1971 Indo-pak wars demonstrate the clear understandings of the role of artillery, navy, and air power in these wars.
- Evaluate the challenges to India's territorial integrity with the type studies of operation blue star, operation rhino and operation Vijay. Assess the prospects of territorial integrity of Indian republic.

Course Title: Research Methodology

- Assess the Concerns of Social Science Research- Qualitative and Quantitative inquiries., Ontology and Epistemology and basic theories and their roles
- Demonstrate literature review, to prepare statement of Research Problem and the need for Research objectives or aims, analyse why Research Questions?. frame Research Hypothesis, Select a Research Methodology- choice of an appropriate research design (experimental and non-experimental) and assess the scope of the Study/Significance of the Study/Limitations of the Study
- Explain the Qualitative Research Design, various Dimensions of Qualitative Research and the Qualitative Procedure. Prepare Qualitative Data through observations, interviews, focus group discussions etc. Apply Quantitative Methods by Survey Research
- Collect samples through different techniques like Probability and Non-Probability, Probability: Simple Random, Stratified Random, Systematic Random, Multistage Cluster,Non-Probability: Judgement/Purposive, Convenience, quota, snowball
- Evaluate multiple Data processing and Data Analysis procedures and the reporting process.

Course Title: Specialized Warfare

- Explain the definition, nature and types of propaganda demonstrate the functions of brain washing and rumors. Assess these techniques of psychological wars and its impact.
- Assess the characteristics and objectives of biological and chemical warfare. Identify the various types of agents and its effects
- Discuss the concept, objectives and causes of guerilla war. Outline its characteristics. Assess the functions of insurgencies and counter insurgencies
- Outline the concept origin and features of nuclear warfare. Discuss the development of nuclear weapons and also, explain the various effects of nuclear explosions.
- Explain the definition and causes of terrorism. Outline various types and techniques of terrorism. Assess the nature of terrorism and predict its future trends.

Course Title: Dissertation and Viva

- Formulate research Question, Frame Hypothesis
- Adopt appropriate methodology for intended research work
- Adopt suitable methods for data collection and data analysis
- Adopt historical, qualitative or quantitative approach to analyse their area of research topic
- Explain his/her area of research with empirical/ verifiable data

Course Title: Wars in Contemporary Period

- Discuss the meaning and scope of limited wars apply its features to the Korean wars (case study); outline its causes, course and outcome. Evaluate the role of UN in Korean crisis
- Outline the features of Vietnam war; assess its unique features to explain the outcome of the war.
- Demonstrate clear understanding of the Arab Israel wars. Explain the main events and assess the role of air power in the war. Evaluate the results of the war
- Explain the causes, course and outcome of the Iran & Iraq war.Discuss the features of the war and evaluate the outcome of the war
- Outline the causes, course and outcome of the Gulf wars I & II. Identify the unique nature of the war. Explain the role of UN.

Course Title: Introduction to Industrial Security:

- Explain the definition, meaning, scope of industrial security. Analyse various types of industries and their specific needs.
- Explain the means and concepts in security awareness. Outline the relevance and scope of cyber security and forensic sciences.
- Demonstrate the role and functions of private security service- preventive security, protective security, deductive security, and punitive security services.
- Identify the various types of security fences and their standards and their security planning process
- Evaluate the security parameters of industries and assess their roles and functions towards their goals

SCHOOL OF SCIENCES

07. B.Sc (Mathematics) Programme Outcome:

PO 1 : Demonstrate ability to formulate most suitable mathematical problems for real-time occurrences

PO 2 : Enhanced critical thinking, analytical and computational skills necessary in today's society

PO 3 : Develop the ability to understand, develop the mathematical concepts both numerically and graphically and enhance problem solving skills.

PO 4 : Provide for professional cadres in the field of mathematics to support national development programs within public and higher education institutes.

PO 5 : Build ability to contemplate latest scientific research techniques in the field

B.Sc (Mathematics) Programme Specific Outcome:

PSO 1 : Students will possess subject knowledge and skills required for progression in terms of higher education in mathematical/ applied fields or professional cadres.

PSO 2 : Students will develop the ability to think independently and be able to cater to the needs of the society in local and global levels.

B.Sc (Mathematics) Course Outcome:

Course Title: Algebra

- Concept of matrix and determinant over real or complex numbers, in particular, symmetric and skew-symmetric matrices, Orthogonal, Unitary & Hermitian matrices. Write the matrix representation of a set of linear equations and to analyse the solution of the system of equations.
- Application of Cayley - Hamilton theorem, find the characteristic equation, Eigen values and corresponding eigenvectors of a given matrix.
- Know the application of relations between the roots and coefficients of an equation, analyse the method of solving reciprocal equations and diminishing the roots of an equation.
- Examine the nature of roots of an equation and determine the roots by using Newton's and Horner's methods.
- Gain knowledge about binomial, exponential, logarithmic series and solve the problems based on this series.

Course Title: Differential Calculus

- Solve an applied rate of change problem.
- Demonstrate understanding of the relationship between a function and its derivatives.
- Find a derivative by hand using basic differentiation rules.
- Use differentiation to solve an optimization and/or a marginal analysis problem.
- Describe an applied situation in which an output value depends on two or more input values.
- Demonstrate understanding of the difference between average rates of change and instantaneous rates of change.
- Estimate the derivative at a point on the graph of a function and interpret its meaning within the context of a life science application.
- Apply the fundamental theorem of calculus to a life science application

Course Title: Functional Mathematics - I

- Explain and apply the concepts of Ratio & Proportion
- Evaluate Percentages
- Estimate Profit & loss, discounts
- Determine Simple and compound interest
- Formulate simultaneous system of equations and Solve problems on ages and numbers

Course Title: Trigonometry and Number Theory

- Understand the concepts of circular, hyperbolic, inverse hyperbolic functions and solving problems.
- Evaluate the sum of different types of trigonometrical series and understand its applications.
- Understand and apply the concepts of logarithm of complex numbers

- Understand the basic concepts of number theory and gain the ability to solve the problems related to them.
- Understand the concept of Fermat's theorem, Wilson's theorem and gain the ability to solve the problems related to them

Course Title: Analytical Geometry

- Interpret a general second-degree equation into corresponding conic section and formulate equations of conics in 2D space.
- Compute the pole, polar, co normal and noncyclic points of the different types of conics.
- Illustrate the properties and solve problems on conjugate diameters and asymptotes of certain types of conics.
- Derive the various forms of equations of a plane, apply them in problem solving and also evaluate interlunar angle/ distance.
- Determine equation of straight line in 3D, solve problems on image of a line on a plane, orthogonal projection of a line on a plane, identify coplanar lines and find the shortest distance between lines.
- Describe a sphere in 3D, discuss its equation, explain and apply the concepts of tangent plane, plane section of a sphere, orthogonal spheres.

Course Title: Non-Major Elective: Functional Mathematics - II

- Relate and interpret the concepts of Time and work, pipes and cisterns
- Determine Speed, time and distance, relative speeds; illustrate problems on races
- Solve problems on boats and streams, trains
- Explain and apply the concepts of Mensuration
- Evaluate Stocks and shares

Course Title: Differential Equations and Laplace Transforms

- Understand the reduction formula, properties of beta and gamma functions
- Demonstrate integrate more complicated functions using standard methods of integration such as integration by change of order to find the area and volume using Cartesian Coordinate
- Analyse various periodic functions and trigonometric series
- Apply various integral functions to a system , to evaluate various properties
- Apply various differential functions to a system and to understand the theorem associated with it

Course Title: Integral Calculus and Vector Analysis

- Model real-world situations using differential equations, solve the equations, and interpret the solutions. In particularly finding a solution of differential equations of the first order and of a degree higher than the first by using methods of solvable for p, x and y.
- Compute all the solutions of second and higher order linear differential
- Equations with constant coefficients.

- Form partial differential equations. Finding the solution of the Lagrange's form of the First order partial differential equations for some standard types.
- Finding the solution of the First order partial differential equations for some standard types.
- Define Laplace transform and Use inverse Laplace transform to return familiar functions. Apply Laplace transform to solve second order linear differential equation and simultaneous linear differential equations

Course Title: Mathematical Statistics

- The difference between qualitative and quantitative data, be able to organize the data and present a meaningful overview of the data through the use of frequency distributions. Compute the measures of central tendency (i.e. the mean, median and mode) and measures of dispersion (i.e. the variance, standard deviation and coefficient of variation.
- Calculate the correlation coefficient for the given data. Compute Rank correlation for the given data. Also compute the lines of regression, Regression coefficients and its properties.
- Define probability density function, probability distribution, Discuss the moment generating functions and Probability generating functions.
- Define the cumulates, characteristic function, and proving the Chebyshev's inequality. For the given date we will fit the following curve straight line, parabola, power curve, exponential curves.
- Set up and work with discrete random variables. In particular, understand the Bernoulli, binomial, geometric and Poisson distributions.
- Work with continuous random variables. In particular, know the properties of uniform, normal and exponential distributions.

Course Title: Statics

- Study about Newton's law of forces and its impact on a particle under different condition
- Analyse about a body under forces
- Study about coplanar forces
- Apply differentiation to study about the stability of equilibrium
- Evaluate the virtual work by various methods

Course Title: Algebraic Structures

- Recognize the mathematical objects called groups. Link the fundamental concepts of groups. Analyse consequences of Lagrange's theorem.
- Explain the significance of the notions of costs, normal subgroups, factor groups, homomorphism and auto morphism.
- Learn about structure preserving maps between groups and their consequences such as Cayley's Theorem, Permutation groups.
- Apply the fundamental concepts in ring theory such as ideals, quotient rings.
- Learn about field of quotients of an integral domain, Euclidean Rings

Course Title: Real Analysis I

- Define countable, uncountable sets and its properties with examples
- Define different types of sequence with examples and discuss about the limit of the sequence.
- Prove properties of convergent and divergent sequence. And discuss about the limit inferior, limit superior and Cauchy sequence. Different types of test used for testing the convergence of the series and discuss about the class
- Demonstrate an understanding of limits of a function, continuous function in metric spaces.

Course Title: Dynamics

- Explain in detail the fundamentals of vector analysis and kinematics
- Derive the equations of motion for a Rectilinear motion under constant/ varying forces and apply in problems of physical sciences.
- Elucidate the theory of work, energy &power, examine relationship between them and solve practical problems.
- Formulate and solve real-life mathematical model pertaining to concepts of Projectile motion and impact analysis
- Critically examine the parameters of circular motion and central orbit, applying corresponding components of acceleration.
- Analyse various aspects of two-dimensional motion, evaluate Moment of Inertia of 2D, 3D objects and explore the theory of dimensions.

Course Title: Programming Language 'C' with Practicals

- Demonstrate an understanding of computer programming language concepts and operators
- Write the algorithm of a given problem using various statements
- Learn the methods of iteration or looping and branching. Make use of different data-structures like arrays, structures and files.
- Able to understand and develop program using strings and functions
- Make use of different data-structures like arrays, pointers, structures and files. Know the alternative ways of providing solution to a given problem.

Course Title: Elective - 1: Inter Disciplinary Elective (IDE) - Numerical Analysis

- Learn how to obtain numerical solution of nonlinear equations using Bisection, Newton – Raphson and fixed-point iteration methods.
- Apply numerical methods to find our solution of algebraic equations using different methods under different conditions, and numerical solution of system of algebraic equations.
- Understand differences of a polynomial, factorial polynomial, differences of zero and summation series.
- Find the solution using Newton's forward and backward stirling, Bessel interpolation methods .
- Illustrate Interpolations with unequal intervals using Lagrange's method and reversions of series method.

Course Title: Linear Algebra

- Know the fundamental concepts vector spaces, subspaces, bases and dimension.
- Understand concept of dual space.
- Explain the significance of inner product spaces and their properties.
- Link matrices and linear transformations. Learn to compute Eigen values and Eigen vectors of linear transformations.Analyzead joint of a linear transformation.
- Understand concepts of canonical and triangular forms of a vector space.

Course Title: Real Analysis - II

- Define and recognize the concept of metric spaces, open sets, closed sets, discontinuous function on R1 and connected sets.
- Define and Illustrate the concept of completeness, compactness and continuous function on the compactness, uniform continuity.
- Define and illustrate the concept of Riemann integral and its properties.
- Construct rigorous mathematical proofs of basic results in real analysis Rolle's theorem, fundamental theorem of calculus.
- Taylor's theorem, pointwise and uniform convergence of sequence of functions.

Course Title: Complex Analysis

- Justify the need for Complex Number System, perform operations on complex numbers, sketch regions in the plane and inspect zeros of complex polynomials.
- Derive the necessary and sufficient conditions for differentiability and examine the properties of analytic functions.
- Investigate different types of transformations and evaluate the image of curves under transformations.
- Justify, illustrate and apply various theorems on complex integration along contours.
- Explain convergence of complex sequences & series and compute Taylor, Laurent series expansions for analytic functions.
- Determine the nature of singularity, calculate residues at singularities and evaluate definite/ indefinite integrals of some classes of functions using Cauchy's Residue Theorem.

Course Title: Elective - 2: graph theory

- Understand the different types of graphs
- Elucidate degree sequences and graphic sequences
- Evaluate Euler and Hamiltonian graphs
- Understand trees and polarity characteristics
- Study about digraphs and matrices

Course Title: Elective- 3: Operations Research

- Mathematically formulate an applied word problem involving revenue, costs, and constraints as a linear program. Geometrically solve a linear program in two variables. Apply the simplex algorithm to solve a linear programming problem. Solve a linear programming problem using either the M-Method. . Associate the Primal and Dual models. Use shadow prices to analyse changes to a linear programming problem's optimal solution.
- The basic tools of Operations Research, namely the Hungarian Assignment Problem and Transportation Problem. Solve a variety of problems including unbalanced problems, degenerate problems maximization problems. You will learn the technique of Transportation Problem where in phase 1 we obtain the Initial Feasible Solution or Basic Feasible Solution and improve the same till optimality.
- To understand the advanced analytical methods for sequencing problems to help make better decisions. Enables to take best course of action out of several alternative courses for the purpose of achieving objectives by applying sequencing models. To explain concepts of players, strategies, payoffs, rationality, equilibrium, to describe simple simultaneous-move games using game tables, and to explain concepts of dominant, dominated, and rationalizable strategies, pure and mixed strategies, and best responses.
- Define and explain basic concepts in descriptive statistics and probability theory and explain basic concepts in the theory Markov processes, M/M/1, M/M/N and M/M/ queuing system. Derive and apply main formulas for some properties (such as stationary probabilities, average waiting and system time, expected number of customers in the que, etc.) of M/M/1, M/M/N and M/M/ queuing system. To calculate the traffic intensity, blocked traffic and the utilization of some queueing system.
- What tasks must be carried out. Where parallel activity can be performed. The shortest time in which you can complete a project. Resources needed to execute a project. The sequence of activities, scheduling and timings involved .Task priorities. The most efficient way of shortening time on urgent projects.

Course Title: Allied Mathematics –I (For Physics & Chemistry Students)

- Finding the summation of the infinite serious by applying binomial, exponential and logarithmic series.
- Finding the various roots of the algebraic equations, reciprocal equation . Transform the equation through roots multiplied by a given number, increase theRoots, decrease the roots, removal of terms. Newton's method.
- Define characteristic equation of matrices and illustrate.Verifying Cayley Hamilton Theorem Compute inverse of a matrix using Cayley – Hamilton Theorem. Find Eigen values and Eigen vectors of a given matrix
- Derive expression for sin, cos and tan, sinne, con. Expand sinq, cosq, tanq in powers of q
- Define hyperbolic and inverse hyperbolic functions
- Finding the nth derivative, Leibnitz theorem and finding curvature, radius of curvature. Also finding the maxima and minima of functions of two variable.

Course Title: Allied Mathematics –II (For Physics& Chemistry Students)

- Understand the reduction formula, to solve complex formula by changing the order of integration
- Solve ordinary differential equations
- Apply partial differential equations to solve Lagrange's equations
- Evaluate differential equation by using Laplace and inverse Laplace transforms
- Apply various differential functions to a system and to understand the theorem associated with it

08. B.Sc (Physics) Programme Outcome:

PO 1 : Interpret the motion and behaviour of matter through space and time, using related concepts.
PO 2 : Establishes the "validity of Physical theories in a Scientific Method".
PO 3 : Develop a methodical approach to compare the implications of a theory with the conclusions drawn from its related experiments.
PO 4 : Analyse the Observations to test the validity of a theory in a logical, unbiased, and repeatable way.
PO 5 : Update the students to the need of the hour through Integrated electronics and Microprocessors and Microcontrollers.

B.Sc (Physics) Programme Specific Outcome:

PSO 1 : Prepare the students for higher studies and Research through Numerical analysis and mathematical methods involved in physics.
PSO 2 : Subject wisdom gained for multitasking that is required for facing challenges in the competitive world.

B.Sc (Physics) Course Outcome:

Course Title: Mechanics and Properties of Matter

- Understand the basic mechanism behind collisions and material properties.
- Identify the materials suitable for construction of buildings, based on the moduli of elasticity.
- Analyse the materials strength in terms of their size and shape.
- Detail fluid dynamics that give the fundamental knowledge over many practical applications
- Calculate the dynamic properties of materials experimentally.

Course Title: Thermal Physics and Acoustics

- Understand different measurement techniques in thermometry, laws of thermodynamics and heat engines.
- Calculate Transmission of heat through different media.
- Understand the basic oscillatory motion.
- Measure the intensity of sound and hence can analyses the Acoustics of buildings.
- Produce ultrasonic experimentally in different ways.

Course Title: Major Physics Practicals

- A working knowledge of fundamental physics and basic mechanics principles.
- The ability to identify, formulates, and solve physics problems.
- The ability to formulate, conduct, analyzes and interprets experiments in physics.
- Have the ability to plan, design, carry out and interpret their findings in scientific experiment.
- To understand theoretical principles of optics in the experimental method through the determination of refractive index of the prism using the spectrometer.

Course Title: Astrophysics

- Complete study of astronomical instruments.
- Detailed learning of Solar system.
- Knowledge on members of the Solar system.
- Understanding of evolution of stars.
- To know the basic theories of universe and galaxy.

Course Title: Non-Conventional Energy Sources

- Enlightened about the energy crisis.
- Overall view of different energy sources.
- To study the application of solar energy.
- Detailed leaning of Solar energy, wind energy and oceanic energy.
- Mechanism of storing energy in modern day.

Course Title: Optics and Spectroscopy

- Distinguish Geometrical and Physical aspects of light.
- Construct optical instruments.
- Understand the defects associated with the lens and correcting methods.
- Analyze the UV-IR spectrums.
- Get the knowledge of Spectroscopy that helps to extract the dynamic information about the molecule.

Course Title: Electricity and Magnetism

- Know more about Electrolysis and thermoelectricity.
- Analyse the DC and AC circuits with different components like resistors and reactors (Inductor and Capacitor).
- Basic properties of Ferro magnetic substances.
- Discuss the elements of earth’s magnetic field.
- Solve the problems related to magnetic effects of electric current.

Course Title: Practical General – I

- Understand physical characteristics of SHM and obtaining solution of the oscillator using experiment.
- Study the elastic modulus and behavior of the materials.
- Analyse the specific heat capacity, refractive index, as per the standard procedure.
- Understand the knowledge in electrical devices such as ammeter and voltmeter.
- To understand theoretical principles of optics in the experimental method through plane transmission grating, prism.

Course Title: Atomic Physics

- The knowledge to measure the specific charge of electron by different methods.
- A Complete study of atomic structure and emission of spectral lines.
- A detailed learning of "Photon to Electron" and "Electron to Photon" through Photo electric effect and X rays.
- Good knowledge on X ray spectroscopy.

Course Title: Nuclear Physics and Particle Physics

- Detailed learning of Nucleus with their empirical models.
- Overall view of Nuclear reactions and nuclear reactors with radioactive laws and radiation measuring techniques.
- Sound knowledge in elementary particles and their conservation laws.
- Knowledge about particle- antiparticle, decay processes and their outcomes.
- Basic idea of interaction between fundamental particles.

Course Title: Solid State Physics and Electronics

- Detail the Crystal structure and associated defects.
- Complete the study of Dielectrics and Semiconductors.
- Understand of Semiconductor devices and their applications.
- understand the functioning of a transistor as an amplifier.
- Explain the behaviour of solids with their magnetic properties.

Course Title: Integrated Electronics

- Through knowledge on different number systems.
- The skill to simplify the logics using Karnaugh map and Boolean algebra.
- Detailed knowledge in storing and retrieving a data through mux and demux.
- The skill to customize the counters to the need through serial and parallel counters.
- The ability to solve simultaneous equations and differential using Operational amplifier.

Course Title: Relativity and Quantum Mechanics

- Understand the space - time concept through relativity.
- Arrive at duality through matter waves.
- Derive time dependent and independent Schrodinger equations.
- Use different operators in solving quantum mechanical problems.
- Find Eigen values and Eigen functions of free particle.

Course Title: Mathematical Methods in Physics

- To use advanced mathematical methods and theories on various mathematical and physics problems.
- To develop the skill of problem-solving ability.
- Use Matrices to solve simultaneous equations.
- Solve quantum mechanical problems using special functions and polynomials.
- Understand the Fundamentals Classical mechanics and statistical mechanics for their higher studies.

Course Title: Practical General III

- Self-ability of carrying out the experimental procedures and correlate the outcomes with corresponding theoretical results based on mechanics, light.
- To acquire the acknowledge in electrical devices such as ammeter, voltmeter and Ballistic galvanometer etc.,
- Observe and calculating the standard values of BH using deflection and vibrating magneto meter.
- Analyse the applications of plane transmission grating and prism in calculating wavelength and refractive index.
- understand the working of thermos couple in finding the thermos emf.

Course Title: Practical Electronics I

- To identify the basic electronic devices like diode, transistor, LED, UJT AND FET. To observe the characteristics of diodes like PN, Zener diode.
- Ability to use IC in different applications like, to verify laws and theorems of Boolean algebra, to study basic combinational circuits.
- To analyze transistor amplifiers and their frequency responses.
- Understand the need and requirements to obtain frequency response from a transistor.
- Designing the circuit and verifying the results for convertors and counters using IC.

Course Title: Microprocessor and Integrated Electronics

- Understanding of OP-AMP and 555 timer operations.
- Observing the basic operations of logics gates.
- Understand working and use of different IC.
- Ability to use the microprocessor kit.
- Develop the program writing skills for mathematical operations.

Course Title: Numerical Methods

- To learn the methodology involved in computer computations.
- To solve simultaneous equations using matrix method.
- To understand statistics using curve fitting
- To find the solution of an algebraic, transcendental and differential equations.
- To do integration using interpolation techniques

Course Title: Integrated Electronics

- Through knowledge on different number systems and the skill to simplify the logics using Karnaugh map and Boolean algebra.
- Detailed knowledge in storing and retrieving a data through mux and demux.
- The skill to customize the counters to the need through serial and parallel counters.
- The ability to solve simultaneous equations and differential using Operational amplifier.
- The Understanding of digital to analog (DAC) and analog to digital (ADC).

Course Title: Microprocessor Fundamentals

- Describe the functions of each pin and internal hardware of 8085 microprocessors.
- Write simple programs with different logics for specific tasks.
- Develop the knowledge of interfacing peripheral devices to 8085 microprocessors and the use of microcontrollers in the day to day applications.
- Distinguish the software of personal computers from 8085 microprocessors.
- Appreciate the use of interrupts and switching of program sequence to discharge specific tasks.

Course Title: Allied Physics Paper – I

- To understand the basis of SHM and ultrasonics.
- Complete study of thermodynamics and entropy.
- Basic idea of magnetic effects of current and AC circuits.
- Over view of defects in lenses and corrective measures.
- Understanding the basics on Geometrical optics.

Course Title: Allied Physics Paper – II

- Overall view of Physical optics and optical instruments.
- Basic study of atomic and nuclear aspects.
- Understanding of Nuclear model and nuclear reaction.
- Basic idea of relativity and quantum mechanics.
- Introduction to electronics and Digital electronics.

09. B.Sc (Chemistry) Programme Outcome:

PO 1 : Demonstrate the concepts and theories relating to the branches of chemical sciences such as organic, inorganic, physical and analytical chemistry.

PO 2 : Utilize skills in problem solving, critical thinking, analytical reasoning in chemistry domain and use modern experimental techniques

PO 3 : Develop a creative scientific mind to communicate effectively the scientific ideas and their impact on socio-economic issues and sensitize the need for a green environment

PO 4 : Handle chemical materials safely by taking into account their physical and chemical properties including any specific hazards associated with their use.

PO 5 : Apply the knowledge of chemistry to function effectively as an entrepreneur in chemical or related industries.

B.Sc (Chemistry) Programme Specific Outcome:

PSO 1 : Establish their skill in planning and conducting chemistry experiments, enabling them to handle classes at the secondary level.

PSO 2 : Develop a creative scientific presentation to the society based on the need and communicate effectively the scientific ideas and their impact on socio-economic issues.

B.Sc (Chemistry) Course Outcome:

Course Title: Basic Chemistry –I

- To acquire basic knowledge on atomic structure, quantum mechanical Postulates, quantum number, shape of orbitals.
- To understand the classification of elements in the periodic table and their periodic properties.
- To acquire knowledge about hybridisation, chemical bonding and predict the geometry of molecules based on VSEPR theory.
- To write IUPAC name of the compounds, various constitutional isomers of a compound.
- To identify the reaction as substitution, elimination, addition and rearrangements and to understand polar effects, Reaction intermediates and their application in organic chemistry

Course Title: Basic Chemistry –II

- To gain knowledge of nuclear structure, stability of the nuclei, nuclear isomers, nuclear reaction, different modes of radioactive decay and nuclear reactor.
- To describe crystal structure, elements of symmetry and understand the defects in crystals
- To acquire knowledge about preparation, important chemical properties and uses of hydrocarbons and poly nuclear hydrocarbons.
- To gain an understanding of principles of quantitative and qualitative analysis.
- To learn reaction mechanism in aromatic and aliphatic compounds, types of reaction, to understand the orientation and reactivity in substituted benzene

Course Title: Volumetric Analysis and Inorganic Preparation

- To gain an understanding of the use of analytical balance, standard flask and volumetric pipettes, burette.
- To facilitate the students to make solutions of various concentrations.
- To understand the types of error in the experiments, calibration of instruments, QC labs in industry.
- To design, carry out, record and interpret the results of volumetric titration.
- To get an idea about preparation of inorganic compounds and complex.

Course Title: Non Major Elective – Dairy Chemistry

- To understand about general composition of milk – constitutents and its physical properties.
- To acquire knowledge about pasteurization of Milk and various types of pasteurization - Bottle, Batch and HTST Ultra High Temperature Pasteurization.
- To learn about Cream and Butter their composition and how to estimate fat in cream and Ghee
- To explain about Homogenized milk , flavoured milk ,vitaminised milk and toned milk
- To have an idea about how to make milk powder and its drying process - types of drying process

Course Title: Non Major Elective – Food Chemistry

- To learn about Food adulteration - contamination of Wheat, Rice, Milk, Butter.
- To get an awareness about food poisons like natural poisons (alkaloids - nephrotoxin)
- Pesticides, DDT, BHC, Malathion
- To get an exposure on food additives, artificial sweetners, Saccharin, Cyclomate and Aspartate in the food industries.
- To acquire knowledge on beverages, soft drinks, soda, fruit juices and alcoholic beverages examples.
- To study about fats and oils - Sources of oils - production of refined vegetable oils - preservation. Saturated and unsaturated fats –MUFA and PUFA

Course Title: Non-Major Elective: Forensic Chemistry

- To learn about the Poisons - types and classification of poisons in the living and the dead organisms and also get information about Postmortem.
- To get awareness on Human bombs, possible explosives (gelatin sticks and RDX) and metal defector devices and other security measures for VVIP - composition of bullets and detecting powder burns
- To detect about the documents forgery's, different types of forged signatures
- To have an idea about how to tracks and trace using police dogs, foot prints identification and gain the knowledge in analyzing biological substances - blood, semen, saliva, urine and hair - DNA Finger printing for tissue identification in dismembered bodies -
- To get the awareness on Aids - causes and prevention and also have an exposure on handling fire explodes.

Course Title: Non-Major Elective: Chemistry in Every Day Life

- To learn about the chemicals used in everyday life as well as air pollution and water pollution.
- To get knowledge on building materials cement, ceramics, glass and Plastics, polythene, PVC, bakelite, polyesters,
- To acquire information about Food and Nutrition. Carbohydrates, Proteins, Fats Also have an awareness about Cosmetics Tooth pastes, face powder, soaps and detergents,.
- To discuss about the fertilizers like urea, NPK fertilizers and super phosphate. Fuel classification solid, liquid and gaseous; nuclear fuel - examples and uses
- To have an idea about the Pharmaceutical drugs analgesics and antipyretics like paracetamol and aspirin and also about pigments and dyes and its applications.

Course Title: – 3: Organo-Oxygen Compounds

- To gain knowledge about highly essential organic functionalities and deal about their structure, nomenclature and reactivities -alcohols, ethers and phenol.
- To understand the mechanism of enolization reaction, nucleophilIc addition and reduction reactions of aldehydes and ketones
- To learn about acidity of carboxylic acids, effect of substituents on acidity, acid derivatives, relative reactivity of acyl derivatives.
- To understand the mechanism of hydrolysis of ester BAc2,AAc2,keto-enol tautomerism, synthetic applications of acetoacetic, malonic and cyanoacetic ester.
- To gain knowledge on carbohydrates-mono saccharides, concept of mutarotation, conformation and configuration of glucose, evidence for furanose and pyranose structure, interconversion of sugars, disaccharides and polysaccharides.

Course Title: Chemistry of S-Block & P-Block Elements

- To acquire knowledge about preparation of s block elements, Diagonal relationship between Li and Mg. Extraction of Beryllium.
- To understand the preparation of Boron hydrides, Oxides of Boron, Boron and nitrogen compounds and preparation of diborane. glass and ceramic industry
- To learn about preparation and properties of nitrogen and phosphorous compounds
- To Understand the preparation of halogen compounds, interhalogen compounds and oxides of boron
- To learn about noble gases, Xenon compounds, separation of noble gases and structure and bonding of noble gas halides.

Course Title: Inorganic Qualitative Analysis

- To acquire knowledge on the systematic analysis of Mixture of salts
- To identify the acid and basic radicals in the unknown substance.
- To identify the acid and basic radicals in the soil and water and to test the quality of water

Course Title: Organo Nitrogen Compounds and Natural Products

- To learn the methods of preparation of amines and nitro compounds and their reactions.
- To understand the classification, preparation, properties of amino acids, structures of proteins and their reactions.
- To gain knowledge about RNA, DNA, their structure, the preparation and properties of five and six membered heterocyclic compounds.
- General introduction about alkaloids and their preparation, properties and structural elucidation.
- To classify, isolate and to learn the general properties and structure of terpenoids like citral, menthol, pinene and camphor.

Course Title: Chemical Kinetics and Electrochemistry

- To study of rate and rate equation of a chemical reaction, determination of the rate constants and half life of 0, 1 and 2 order from the data given.
- To gain knowledge about the influence of temperature on reaction rates, collision theory and Lindemann's theory, Absolute reaction rate theory, catalyst, chemisorption and physisorption.
- To understand the concept of conductivity and its determination , variation of specific and equivalent conductance on dilution., Kohlrausch's law, transport number, conductometric titration.
- To study about electrochemical cell, construction, cell notation, reference electrodes, reversible cells, determining electrochemical potentials, spontaneity of cell reaction.
- To acquire knowledge about concentration cell, cell potential, determination of pH using glass, quin hydrone electrode,, electrochemical theory of corrosion and its prevention

Course Title: Special Topics in Chemistry

- To introduce the fundamentals of stereochemistry, visualize the various elements of symmetry, learn resolution, racemization and asymmetric synthesis.
- To acquire knowledge about concept of projection formula – flying, wedge, Newmann, Sawhorse and their interconversions, various nomenclature like d/l, D/L, erythro/threo, meso/dl, R-S, E-Z., conformational analysis of ethane and cyclohexane derivatives.
  To gain knowledge about group theory by studying about symmetry elements, symmetry operations, point group, mathematical rule and group multiplication table for C2v, C2h, C3v point groups.
- To understand the basics of photochemistry , the laws of photochemistry, quantum efficiency and to study the kinetics of photochemical reactions between H2 and Cl2 ; H2 and Br2.
- To study the various types of rearrangement reaction mechanism with the concept of migratory aptitudes, stereochemistry and their applications.

Course Title: Analytical Chemistry-I

- To develop a basic knowledge on generation of analytical data in an appropriate manner.
- To acquire thorough knowledge on analysis of metals through gravimetry method.
- To gain expertise in the instrumental methods of chemical analysis at microgram level.

- To develope the analytical skill in the structural identification of chemical compounds.
- To gain knowledge in QC laboratory activities at ISO standard.

Course Title: Thermodynamics and Solutions

- To explain the different types of systems, thermodynamic processes and functions, elucidate the relation between Cp and Cv,calculate work, heat, ΔU,ΔH,calculate the bond energy from Hess's law.
- To state the different statements of second law of thermodynamics and apply them to
- solve problems and to understand the various concepts, calculate the entropy change of physical transformations
- To state third law of thermodynamics and its exceptions, derive Vant Hoff reaction isotherm
- To describe ideal and non-ideal solutions and apply it to the behaviour of binary liquid mixtures, CST, azeotropes, colligative properties, solubility of gases and liquids in liquids
- To apply phase rule to find the degree of freedom, draw and interpret phase diagram
- of one and two component systems ,and to apply the knowledge for the removal of silver from lead.

Course Title: Chemistry of d-Block & f-Block Elements and Coordination Chemistry

- To understand the chemistry of transition and inner transition elements.
- To acquire knowledge on metallurgy and separation of metals
- To write the IUPAC nomenclature and isomerism of coordination complexes.
- To explain theories of coordination compounds.
- To gain knowledge of reaction mechanism in coordination compounds and biological importance of transition metals.

Course Title: Analytical Chemistry–II

- To understand the importance of analytical techniques – Polarography, X-ray, electron & neutron diffraction with the principle, instrumentation and application.
- To learn in detail about spectroscopic studies like AAS, UV, Visible, IR with the principle, instrumentation and application.
- To highlight the importance of Nuclear Magnetic Resonance spectroscopy in structural determination of organic compounds.
- To study various types of mass spectrometers, principle involved in the technique and extended to application in structure determination of organic and inorganic molecules.
- To acquire knowledge about various radio analytical techniques and the role of computers in chemistry.

Course Title: Gravimetric Analysis

- The students gained knowledge in handling the crucibles (both sintered and silica crucible)
- The students acquire knowledge on the estimation of metal ions gravimetrically.
- After the completion of the course, the Students can work in organic synthesis.

Course Title: Analysis and Preparation of Organic Compounds

- To understand different types of reaction (oxidation, reduction, esterification, acetylation, hydrolysis, bromination and nitration) and reagents used in the preparation of organic compounds
- To calculate theoretical yield and percent yield of the reaction and maintain a detailed record notebook.
- To identify the nature of organic compounds, special elements (N, S & halogen) functional group and prepare suitable derivatives.
- To perform common laboratory techniques like reflux, distillation, recrystallization, vacuum filtration and thin-layer chromatography
- To have an idea about R&D, synthetic chemistry labs in industry.

Course Title: Physical Chemistry Practical

- To determine cryoscopic constant (Kf) of solid solvent and molecular mass of the solute using cooling curve method and transition temperature of a salt hydrate.
- To find out the miscibility temperature of phenol–water system as well as CST of phenol.
- To construct phase diagram & determine the eutectic composition and eutectic temperature.
- To learn about experimental demonstration of Conductometric and Potentiometric titration of strong acid against strong base
- To evaluate the kinetic study of ester hydrolysis and potassium iodide –persulphate system.

Course Title: Elective-1: Nanochemistry and Technology

- To understand the basic concepts of nanomaterials in the field of nanotechnology as well as the differences of nanomaterials with their bulk counterparts.
- To acquire the knowledge on various synthesis methods of nanomaterials and their extraordinary properties like electrical, mechanical and optical.
- To learn about different methodologies used in fabrication of nanomaterials and focuses on CNT nanocomposites and dendrimers.
- To explore the knowledge about wide applications in various fields like electronics,medicine and industries.
- Understand about the toxicity of nanomaterials in health, environmental and social issues.

Course Title: Elective-2: Industrial Chemistry

- To learn about needs of industrial requirements, types of fuels, waste management system, application of the industrial catalyst like palladium, platinum. titanium and Raney nickel.
- To acquire knowledge about petrochemicals industry, crude oil, composition of crude oil synthetic petrol process for synthetic petrol.
- To understand the preparation and properties of organic solvents like DMSO, DMF Dioxane and THF.
- To equip about manufacture of Cl2, caustic soda and chlorates of Na and K, oils, synthetic detergents and shampoo.
- To gain knowledge about metallurgy of V, Cr, Mn, Pt, U and Th.

Course Title: Elective-3: Pharmaceutical Chemistry

- To gain knowledge about the common diseases and their cure, understand the pharmacodynamics and pharmacokinetics medicinal plant.
- To understand the mechanism of drug action, absorption of drugs, assay and metabolism of drugs.
- To acquire an idea about drugs used as anaestheics, analgesics, antibiotics, know about the treatment of AIDS and cancer.
- To recognize common body ailments – diabetes and cholesterol – hypoglycemic drugs, cardiovascular drugs and psychedelic drugs.
- To get awareness about pharmaceutical industries and their functioning.

Course Title: Elective-4: Applied Electrochemistry

- To explain the electrochemical process in industry, electrochemical cell reactions and special feature of electro-organic synthesis
- To acquire the knowledge of electrodeposition of metals,electro refining, electro chemical purification, recovery of metals during hydro metallurgy
- To understand the fundamental principles of electroplating, factors affecting electroplating, Hull cell experiments
- To describe basic principle of chemical and electrical energies, batteries , fuel cells
- To explain the stability of metals, emf series, factors affecting corrosion, prevention of corrosion, Pourbaix and Evan's diagram

Course Title: Elective - 5: Polymer Chemistry

- To know the chemistry behind the various polymers and their preparations.
- To understand the properties of various polymers and their intended applications
- To have an idea on moulding of polymers , to fabricate innovative shapes.
- To know the methods and preparation of commercial polymers
- To gain a knowledge on biopolymers and biomaterials

Course Title: Allied Chemistry – I (For Mathematics & Physics Students)

- Students gain in-depth knowledge about the theories of chemical bonding, nuclear reactions and its applications.
- Evaluate the efficiencies and uses of various fuels and fertilizers.
- Explain the type of hybridization, electronic effect and mechanism involved in the organic reactions.
- Apply various thermodynamic principles, systems and phase rule.
- Explained various methods to identify an appropriate method for the separation of chemical components

Course Title: Allied Chemistry - II

- To write the IUPAC name for complex, different theories to explain the bonding in coordination compounds and water technology.
- To explain the preparation and property of carbohydrate, amino acids and nucleic acids.
- To apply/demonstrate the electrochemistry principles in corrosion, electroplating and fuel cells.
- To identify the reaction rate, order for chemical reaction and explain the purpose of a catalyst.
- To outline the various type of photochemical process.

Course Title: Allied Chemistry – I (For Botany and Zoology Students)

- State the theories of chemical bonding, nuclear reactions and its applications.
- Evaluate the efficiencies and uses of various fuels and fertilizers
- Explain the type of hybridization, electronic effect and mechanism involved in the organic reactions
- Demonstrate the structure and uses of antibiotics, anaesthetics, antipyretics and artificial sugars
- Analyse various methods to identify an appropriate method for the separation of chemical components

Course Title: Allied Chemistry – II (For Botany and Zoology Students)

- To write the IUPAC name for complex, different theories to explain the bonding in coordination compounds and water technology.
- To explain the preparation and property of carbohydrate.
- To enlighten the biological role of transition metals, amino acids and nucleic acids.
- To apply/demonstrate the electrochemistry principles in corrosion, electroplating and fuel cells.
- To outline the various type of photochemical process.

Course Title: Allied Chemistry Practical (Common for Mathematics, Physics, Botany and Zoology students)

- Explore the concept of chemistry in their respective disciplines on applied aspect.
- Evolve interdisciplinary aspects in the higher studies.
- Understand the principles of chemistry in the day-to day life.

Course Title: Inter-Disciplinary Elective Chemistry in Everyday Life

- Prepare various milk products for enterprenal development.
- Identify food adulterants and also composition of various food items.
- Aware of various drugs and therapeutic use of medicinal plants.
- Expertise in industrial processes and manufacturing chemical items.
- Understand the chemistry of polymers and their uses in various goods.

10. B.Sc (Plant Biology & Biotechnology) Programme Outcome:

PO 1 : Provide the needed statistical tools to experience inter disciplinary and cross disciplinary study and to discern the multi- disciplinary scope of biological science.

PO 2 : Additional skills in multidisciplinary study offers the scope to the demands of recent advances in biological sciences.

PO 3 : Demonstrable skills in the core discipline enhance the prospects of employment and higher research.

PO 4 : Encouraging group participation in laboratory work and plant nursery and eco-club activities imparts team spirit and team work amidst students.

PO 5 : Participation in inter departmental competitions hones communication and subject knowledge and peer gauging.

B.Sc (Plant Biology & Biotechnology) Programme Specific Outcome:

PSO 1 : Demonstrable understanding of molecules, cells, systems, organisms, ecosystems and use comparative approach to explain the evolution of organism and understand the genetic diversity of the flora and fauna.

PSO 2 : The subject knowledge enables to successfully endeavour in the fields like plant explorer, conservationist, ecologist, environment consultant, horticulturist, plant Physiologist, nursery manager, genetics and molecular biologist, taxonomist, plant pathologist, and farming consultant.

B.Sc (Plant Biology & Biotechnology) Course Outcome:

Course Title: Algae & Bryophytes

- To explain and identify the basic concepts and life cycle patterns of Algae and Bryophytes
- Discuss the significances of Algae and Bryophytes in this changing world for future generation.
- Explain the evidence supporting the evolution of plants from Algae and to acquire knowledge on the morphological and anatomical structure of Bryophytes.
- Explain the morphological diversity of Bryophytes and to understand the economic importance of the Bryophytes.
- Familiarize the databases and online resources available for Algae and Bryophytes

Course Title: Nursery and Landscaping- Non-Major Elective – I

- Explain the principles of vegetative propagation.
- Relate theoretical and practical knowledge to establish home gardens scientifically.
- List and categorize types of soils, chemicals, fertilizers, and Integrated Pest Management.
- Outline a fundamental understanding of plant identification, selection, use, and maintenance of plant material best suited for conventional and sustainable landscapes.
- Relate and familiarize with grafting, layering and seedling culture

Course Title: Allied Botany – I

- Explain the structure and reproduction of certain Cryptogams and Gymnosperms
- Relate the organization of prokaryotic and eukaryotic cell, structure and function of organelles and cell division.
- Explain the plant cell, tissues, and internal structures of stem, root and leaves.
- Comparative study of the different plant groups with representative examples including Virus, Bacteria, Algae, Fungi, Lichens, Bryophytes, Pteridophytes and Gymnosperms
- Demonstrate the simple tissues from fresh plant material and prepare permanent slides. Study of simple and complex tissues (xylem)

Course Title: Fungi, Plant Pathology and Lichenology

- Describe the general characteristics of Fungi and Algae and its ultrastructure. Identify advantages and disadvantages of these organisms.
- Discuss the Biodiversity, Morphological diversity and economic importance of Fungi
- Explain the prevention and control measures of plant diseases and its effect in agriculture
- Examine the plant diseases and its pathogens for crop management in agriculture
- Evaluate the ecological significances of lichens and to gain knowledge on Fruticose lichens

Course Title: Mushroom Cultivation - Non-Major Elective – II

- Explain cultivation of different types of edible Mushrooms
- Assess Climatic requirement for Mushroom cultivation
- Complete the requirement of composting for Mushroom cultivation & different methods of composting
- Examine the diseases affecting the Mushrooms and develop their control measures. Expertise in harvesting methods of Mushrooms for cultivation
- Describe the grading, packing and storing methods of Mushrooms and to know about preparation of its value-added products

Course Title: Allied Botany – II

- Describe the major groups of vascular plants and their phylogenetic relationships. Understand the basic principles involved in classification, naming and identification of Angiosperms
- Explain photosynthesis - (apparatus, process, regulation and assimilatory powers), Nitrogen fixation (sites, genetic control and assimilation)
- Explain interactions of various environmental factors. Describe ecological succession – causes, process and types of succession
- Explain the embryo types and anatomy of the embryo and structure of ovule
- Discuss about the characteristics, techniques, principles and application of plant tissue culture

Course Title: Algae and Bryophytes, Fungi, Plant Pathology and Lichenology

- Outline the classification of Algae and Bryophytes upto order
- Discuss the biological significance of the given specimen
- Identify the morphology and anatomy of Algae and Bryophytes
- Investigate their significance and relate structure and function, draw and label diagrams of the specimen
- Identify and familiarize the specimens during field visit

Course Title: Allied Botany – II

- Identify the morphology and anatomy of Algae, Fungi, Bryophytes, Pteridophytes and Gymnosperm and to investigate their significance and relate structure and function, draw and label diagrams of the specimen
- Identify meristems, tissues, stem, root through permanent slides and photographs.
- Identify the Structure and development of dicot and monocot embryos through dissection.
- Identify observe and sketching the floral parts of the plants belonging to different families.
- Discuss the application of vital and physical forces theories on plant physiology most preferably ascent of sap, transpiration, mineral nutrition in plants and phloem transport through experiment

Course Title: Anatomy, Microtechnique and Embryology of Angiosperms

- Discuss the classification of tissues on the basis of structure and function and to gain knowledge in the Primary and secondary anatomical characters and development of Root, Stem, Leaf (Dicot and Monocot).
- Explain the techniques of microscopic slides making, microscopic measurements and methods of identification of some organic compounds in plant cells.
- Explain the making of temporary microscopic slides, using different cutting techniques and permanent microscopic slides using paraffin method.
- To Prepare large plant Material through Dry, Wet, and Pressing method detect the presence of different groups of organic compounds in plant
- Outline on double fertilization and their significance and to know about the Structure and development of dicot and monocot embryos.

Course Title: Anatomy, Microtechnique and Embryology of Angiosperms

- Identify meristems, tissues, stem, root through permanent slides and photographs.
- Identify the Structure and development of dicot and monocot embryos through dissection.
- Examine the steps involved in Smear/Squash Method and from Prepared Slides.
- Identify the ovule types and developmental stages of embryo sac using permanent slides
- Identify the Types of endosperm and seed dispersal mechanisms by specimen

Course Title: Pteridophytes, Gymnosperms and Paleobotany

- To describe the morphological, reproductive and anatomical structure of Pteridophytes and Gymnosperms.
- Outline the salient features of stellar evolution and relate the latest trends in classification, vegetative morphology and reproductive biology of Gymnosperms.
- Describe the features and reproductive adaptations of conifers and other gymnosperms.
- To explain about fossils and fossilization and to understand about geological time scale.
- After getting through this paleobotany, students would be able to know about Palynology, its branches and their importance, they would be able to isolate Palynomorphs from Sedimentary Rock samples through different maceration techniques.

Course Title: Pteridophytes, Gymnosperms & Paleobotany

- To Identify the Pteridophytes morphology and anatomy of both vegetative and reproductive parts through dissection
- To Identify the Gymnosperm morphology and anatomy of both vegetative and reproductive parts through dissection
- To Identify the fossil genera of Pteridophytes and Gymnosperms
- To Predict the types of fossilization of plants
- To Identify and familiarize the lower vascular Plants distributed in any ecosystem

Course Title: Morphology, Taxonomy of Angiosperms and Economic Botany

- Describe the major groups of vascular plants and their phylogenetic relationships.
- List the basic principles involved in classification, naming and identification of angiospermic plants.
- To Find the unknown plants to species level with help of Taxonomical tools such as Keys and Monographs
- Describe morphological and floral characters in technical terms of given Families.
- To recognize the diverse aspects of human cultural endeavors to plant resources, and to gain a better understanding and perspective of the origins, histories, and roles of important plants and plant products to the development of human culture

Course Title: Cell Biology, Molecular Biology and Evolution

- Describe the level of molecules, cells, systems, organisms and ecosystems
- Explain structure and function of cell and cell organelles, using Compound Microscope and elucidation of Ultra structure from Electron Microphotographs and to learn the measurement of Cell Size
- Compare the organization of prokaryotic and eukaryotic cell, structure and function of cell organelles including cell division.
- Discuss the molecular mechanisms by which DNA controls development, growth or morphological characteristics of organisms and relate gene regulation

- Describe the Theory of Evolution considering Darwinism and Modern Synthetic Theory and Geological Time Scale and describe phytogeographical Realms

Course Title: Microbiology

- To describe diversity of microorganisms, bacterial cell structure and function, microbial growth and metabolism, and the ways to control their growth by physical and chemical means
- Explain the practical skills in fundamental microbiological techniques and to gain knowledge on microbial growth and sterilization techniques
- Classify and apply the scientific method of investigation and hypothesis testing and perform inoculating bacteria with different cultivation technique
- Investigate the role of microorganisms in production of industrial enzymes, antibiotics, biopolymer
- Explain the role of microorganisms in food production and preservation, and their ability to cause food-borne infections

Course Title: Ecology, Phytogeography and Remote Sensing

- Discuss the morphological and anatomical adaptations of hydrophytes, mesophytes and xerophytes.
- Explain interactions of various environmental factors. Describe ecological succession – causes, process and types of succession
- Explain biodiversity – thread, cause and conservation of biodiversity (In-situ and Ex –situ) Field visit to familiarize students with ecology of different sites.
- Describe pollution, types, causes symptoms and remedial measures and to describe the phytogeographical region of India.
- Compare the natural patterns and relationships between plants and their environment by organizing groups of plant species into functional vegetation categories.

Course Title: Horticulture & Mushroom Cultivation - Inter Disciplinary Elective

- To list the horticultural practices and activities of large-scale plant production.
- Explain horticultural skills and knowledge to operate various business entities found in the horticultural industry
- List a fundamental understanding of landscape construction, irrigation design and constructing conventional and sustainable landscapes
- List the requirement of composting for Mushroom cultivation & different methods of composting
- Determine the most important species of mushrooms and knows the basic ways of the cultivation of each of them

Course Title: Morphology, Taxonomy of Angiosperm & Economic Botany, Cell Biology, Molecular Biology and Evolution Microbiology, Plant Ecology & Phytogeography-Practical

- Identify the anatomical feature of root, stem and leaf in addition to variation or anomalies. To provide knowledge on the structure of anther and ovule

- Identify observe and sketching the floral parts of the plants belonging to different families.
- Explain the steps involved in Smear/Squash Method and from Prepared Slides.
- Identify Describe the Theory of Evolution considering Darwinism and Modern Synthetic Theory, evolutionary scientists and Geological time scale
- Demonstrate the process in remote Sensing, types of satellite mapping and vegetation mapping and familiarize the specimens during field visit

Course Title: Genetics, Plant Breeding & Biostatistics

- To compare the classical Mendelian genetics, modified Mendelian theories like allelic and gene interactions including epistasis, complementary genes, multiple alleles, quantitative inheritance.
- Explain the mechanism of linkage and crossing over, chromosome mapping, sex determination in various organisms, sex linked inheritance, nuclear inheritance, population genetics
- Outline different breeding techniques and the application of modern amenities for the process like the use of genetic engineering, mutation breeding, heterosis breeding and breeding for resistance
- Find the plant adaptation that are applicable to agricultural and natural systems.
- Recognize the importance of data collection and its role in determining scope of inference.

Course Title: Plant Physiology and Biochemistry

- Describe the characteristic features of water which helps in the biological systems, transpiration types, features and mechanisms.
- Explain the processes related to the ascent of sap, uptake of nutrients and translocation of sugars.
- Examine photosynthesis- (apparatus, process, regulation and assimilatory powers), Nitrogen fixation- (sites, genetic control and assimilation)
- List the role of phytohormones in plant growth, development, movement (types and feature), photomorphogenesis, seed germination and seed dormancy.
- Explain the plant metabolic reactions, components and functioning of Plant chemicals.

Course Title: Plant Biotechnology

- Describe the isolation and cultivation of economically important microbes plant cells.
- Explain tissue culture methods and study the suitable culture media and its composition.
- Relate the mechanisms of plant cell signalling and gene regulation.
- Discuss the different methods for transformation of plants or plant cells, including their specific advantages and applications.
- Relate plant biotechnology applications within forestry, agriculture, and production of bio products, in pharmaceuticals, tanneries, dairy and bio-fuels

Course Title: Herbal Botany - Elective – I

- Explain method for identification and authentication of herbal drugs
- Explain basic principles of traditional medicinal systems with method of preparation and standardization of Ayurvedic, Siddha, Unani formulations

- Describe benefits of various plants as nutraceuticals in ailments and also the herb-food interaction of various plant drugs
- Describe about herbs or natural origin drugs as raw materials for preparation of cosmetics, excipients, conventional herbal formulation and novel dosage forms like phytosomes
- Explain methods for selection, processing of herbal drugs as raw materials for herbal drug preparation

Course Title: Preservation of Fruits and Vegetables- Elective – II

- To acquaint with properties and role of various constituents in foods, interaction and changes during processing.
- Discuss the proper handling technologies of fruits and vegetables to reduce post-harvest losses
- List the principles and methods of preservation of fruits and vegetables into various products
- To acquaint with principles of different techniques used in processing and preservation of foods
- Explain the essentials of Intellectual Property Rights, nutritional security, standard protocol for food quality parameters and control systems, food standards, regulations, specifications.

Course Title: Genetics, Plant Breeding & Biostatistics, Plant Physiology & Biochemistry, Plant Biotechnology-Practical

- Discuss the basic principles of genetics, Law of Mendel, Gene interaction, Allelic and non- allelic genes.
- Construct a histogram, pie chat and line diagram of plants within the plants.
- Describe more about the characteristics, techniques, principles and application of plant tissue culture
- Discuss the application of vital and physical forces theories on plant physiology most preferably ascent of sap, transpiration, mineral nutrition in plants and phloem transport
- Identify Glucose and Protein Estimation and the bio-production of plant secondary metabolites.

11. B.Sc (Advanced Zoology & Biotechnology) Programme Outcome:

PO 1 : Demonstrate an understanding of biology at the level of molecules, cells, systems, organisms and ecosystems

PO 2 : Demonstrate an understanding of key concepts in evolutionary biology, ecology, neurobiology, cell biology, molecular biology, biochemistry, genetics, developmental biology and physiology

PO 3 : Demonstrate scientific quantitative skills, such as the ability to evaluate experimental design, read graphs, and understand and use information from scientific papers

PO 4 : Demonstrate skill in communication of scientific data in standard format

PO 5 : Demonstrate the Genetic Engineering and Recombinant DNA technology

B.Sc (Advanced Zoology & Biotechnology) Programme Specific Outcome:

PSO 1 : Knowledge about the nature and basic concepts of biological science and evolutionary relationships of major group of animals.

PSO 2 : Recognize the functions of the organism at the level of gene, genome, cell, tissue, organ,and organ-system

B.Sc (Advanced Zoology & Biotechnology) Course Outcome:

Course Title: Diversity and Functional Anatomy of Invertebrates

- Knowledge on basic life functions of unicellular organisms. Understand the morphology, anatomy, reproduction and life cycle of Paramecium and Plasmodium.
- Understand Cellular organization in Porifera (Sycon) and Coelenterate (Obelia and Aurelia) and appreciation of canal system in Sponges and polymorphic forms in Colenterates
- Understand the morphology, anatomy, life history of Taenia solium and Ascaris. Gain knowledge on parasitic adaptations in Platyhelminthes, biological significance of nematode parasites in humans, Excretory organs in Annelida and Metamerism in Annelida
- Understand the organization of Penaeus and Pila with appreciation on significance of larval forms and foot in Molluscs. Know the economic importance of Mollusca
- Knowledge on Echinoderms and Balanoglossus and systematic importance

Course Title: Aquaculture

- Analyze the physical and chemical characteristic features of water bodies in fisheries.
- Understand the types of culture system and its advantages in fisheries.
- Describe the Selection criteria and feed formulation for cultivable species. Knowledge on maintenance and management of different types of fish ponds.
- Understand the importance of induced breeding in Indian major carps and gain knowledge on live feed and carp culture.
- Understand the techniques practiced in culturing of fishes and oysters.
- Acquire knowledge on culture of marine and freshwater prawns. Understand the impact of pathogens on fish and prawn industry. Explain the use of crafts and gears in fishing technology. Highlight the various methods adopted in fish preservation and processing and agencies involved in the Aquaculture.

Course Title: Allied Zoology –I

- Understand the general characters and classification of invertebrates. Gain knowledge on cellular organization, morphology, anatomy and life history of Protozoa, Porifera, Colenterata and Platyhelminthes.
- Discuss the morphology, anatomy, larval forms and distinctive characters of Phylum Annelida, Arthropoda, Mollusca and Echinodermata.

- Understand the distinctive characters and classification of Chordata. Gain knowledge on affinities of Prochordates. Describe the general characters and classification of class Pisces with an example.
- Knowledge on morphology and anatomy of class Amphibia and Reptilia.
- Compare and contrast between class Aves and Mammalia

Course Title: Diversity and Functional Anatomy of Chordates

- Describe the basic and distinctive characters of each classes. Discuss the development and affinities of Cephalochordata and Explain the organization of Cyclostomata and migration in Pteromyzon
- Understand the development and affinities of Hemichordata.
- Understand the development and affinities of Urochordata. Acquire knowledge on morphology and functional anatomy of Labeo and Rana hexadactyla. Understand the importance of accessory respiratory organs, types of fins in fishes for identification and discuss on parental care in Amphibia
- Explain morphology and functional anatomy of Columba livia and Calotes versicolor.
- Gain knowledge on arcades and fossa, migration in birds and Palate in Birds
- Understand the morphology and functional anatomy of Oryctolagus cuniculus and acquire knowledge on dentition in mammals.

Course Title: Practical I: Invertebrata and Chordata

- Identification and classification of the specimen upto order
- Highlight on the biological significance of the given animal and Relate the structure and function
- Understand the morphology and anatomy of Invertebrate and Chordate specimen through dissection
- Identify Invertebrate and Chordate specimens during field visit
- Mounting of mouthparts of Cockroach, Mosquito, appendages of prawn and Ctenoid Scale in mugil and Placoid scale in shark and learn their significance

Course Title: Allied Zoology – II

- Describe fundamental features of an animal cell. Understand the cell structure and function and the metabolic processes of cells in terms of cellular organelles, membranes and biological molecules. Acquire knowledge on the concepts of molecular structure of genes and the inborn errors of metabolism. Highlight the role and application of genetic engineering.
- Understand the basic concepts of developmental biology. Explain the process of gametogenesis and fertilization. Discuss cleavage and gastrulation in chick.
- Discuss in depth the physiology of the Digestive, Excretory and Cardiovascular systems.
- Understand the basic concept of Ecology and gain knowledge on environmental degradation treatment and greenhouse effect.
- Discuss the significance of Darwinism and Lamarckism. Explain the factors responsible for speciation.

Course Title: Allied Zoology Practical

- Learn to identify and classify the Specimen
- Understand the biological significance of the biological specimen
- Understand the morphology and anatomy of Invertebrate and Chordate specimen through dissection
- Mounting of mouthparts of Cockroach, Mosquito and appendages of prawn and learn their significance.

Course Title: Public Health and Hygiene

- Outline the scope of Public health and hygiene. Compare the Nutritional deficiencies and nutritional requirement for special group of children.
- Identify various sources of pollution on their impact on the environment and its control measures.
- Analyse the causative agents, pathogenicity and control measures of communicable diseases.
- Enumerate the cause, symptoms, prevention, control, early diagnosis and treatment of non-communicable diseases.
- Gain knowledge on first-aid and nursing. Analyse the role of Government, World Health Organization and Non - governmental Voluntary Health Organizations in Health education.

Course Title: Cell and Molecular Biology

- Understand the fundamental features of prokaryotic and eukaryotic cells and methods used to examine them. Gain knowledge on different models of plasma membrane
- Understand the cell structure and function and the metabolic processes of Endoplasmic reticulum, Golgi complex and Microbodies
- Discuss the role of mitochondria and lysosomes in cell physiology. Outline the process of cell autophagy
- Describe the structure and functions of nucleus and centrioles
- Highlight the steps involved in cell cycle and cell division, cell aging. Acquire knowledge on intercellular and intracellular signalling.

Course Title: Genetics and Evolution

- Understand Mendel's law; To predict the outcome of crosses including the use of Punnett square.
- Explain the chromosomal basis of sex determination and apply that understanding to predict the sex individuals with normal and abnormal complements of sex chromosomes. And understand the structure of DNA, RNA and mechanism of DNA replication.; Highlight the types of mutation
- Knowledge on sex-linked characteristics and their transmissions, linkage and crossing over; Describe human genetics with reference to normal and abnormal karyotypes
- Compare Lamarckism and Darwinism; living and extinct fossils, importance of Mimicry and colouration; Discuss about the Geological time scale, convergent, divergent, parallel evolution and adaptive radiation in mammals
- Understand the role of genetics mechanism in evolution; and explain the key concept of genetic drift, founder’s principle; trace the evolution of man

Course Title: Practical II - Cell Biology and Genetics

- Understand the use and handling of microscope
- Demonstrate blood smear preparation and enumeration of RBC and WBC
- Demonstrate various cell stages during mitosis and meiosis; Mounting of buccal epithelium and observation
- Observation and study of prepared histology slides
- Observation of common mutants; study on normal and abnormal karyotype and identification of human blood group.

Course Title: Developmental Biology and Immunology

- Understand the basic concepts of developmental biology
- Describe the mechanism and physiology of fertilization. Compare the process of cleavage, Blastulation, gastrulation, tubulation in frog and chick
- Understand the key concepts of development of membranes and formation of placenta, biochemical basis of embryology, regeneration and metamorphosis. Knowledge on application of Reproductive technology
- Discuss history of immunology and organization of immune system
- Highlight the structure, types and properties of antigens, immunoglobulins. Knowledge on techniques used in immunology

Course Title: Biotechnology and Nanotechnology

- Understand the history and Indian scenario in Biotechnology and its application in agriculture, food and pharmaceutical industry and beverages. Describe the Structure and reproduction of E.coli and Bacteriophage
- Understand the steps involved in gene cloning; Compare the methods of DNA cloning in different types of cloning vectors
- Discuss the techniques and importance of gene cloning in E.coli.
- Highlight the principle, techniques and importance of plant and animal cell culture
- Understand the fundamental principles of nanotechnology and their application in medicine, environment, food and Veterinary

Course Title: Animal Physiology, Biochemistry and Endocrinology

- Understand the basis of enzymes and its regulation. Highlight the role of enzymes in digestion and digestion by symbionts. Discuss the mechanism of absorption.
- Discuss in depth the structure and physiology of Respiratory, Muscle, Excretory, Circulatory and Nervous system
- Acquire knowledge on Structure and Metabolism of carbohydrate, protein and lipids and its regulation.
- Understand the basic concepts of hormones and their mode of action and gonadal hormones in mammals. Outline the hormonal control of metabolism, development, somatic pigmentation and reproduction in insects. Discuss physiology in relation to reproduction.
- Discuss the structure, functions and biological actions of endocrine glands.

Course Title: Biostatistics and Computer Application in Life Science

- Apply basic statistical concepts commonly used in Life Sciences; Explain how statistical techniques studied are incorporated in the analysis of research data. Calculate descriptive statistics and able to draw graphs; Compute a sample mean, sample variance, and a sample standard deviation.
- Understand normal distribution and hypothesis testing. Knowledge on Regression analysis and Theories of probability.
- Understand the meaning and basic components of a computer system. Explain computer algorithms and highlight milestones in hardware and software development techniques
- Discuss data storage devices used in computer applications.
- Acquire knowledge on MS Word and MS Excel and Highlight the advantages, limitations and applications of internet

Course Title: Interdisciplinary Elective (IDE) – Wildlife Conservation

- Understand the importance and need for wildlife conservation. Explain the causes of wildlife depletion.
- Acquire knowledge on population estimation and wildlife photography.
- Outline the wildlife health care and confliction and control measures
- Highlight wildlife management and legislation.
- Knowledge on wildlife protection

Course Title: Environmental Biology & Taxonomy

- Demonstrate an understanding of the principles of ecology and ecosystem
- Understand the importance of biogeochemical cycles and obtain knowledge on ecological succession.
- Knowledge on freshwater and marine habitat, National and International Environmental organizations, Red Data Book and Wildlife management.
- Understand the perspectives of systematics and history, classification, procedure and importance of taxonomy.
- Highlight on objectives and rules for nomenclature type system and priority for different taxa. Describe the population structure of species.

Course Title: Genetic Engineering and Recombinant DNA Technology

- Understand the basic concepts of gene cloning. Discuss the importance of enzymes and plasmids used in genetic engineering
- Acquire knowledge on cloning vectors for E.coli and identification of recombinants and structure and reproduction of bacteriophages
- Describe cloning vectors for yeast and fungi and identification of recombinants from gene library and methods of clone identification
- Obtain knowledge on various techniques used in genetic engineering and recombinant DNA technology and application of rDNA technology in Medicine, Agriculture and Environment.

- Explain DNA sequencing method. Understanding the application of genetic engineering in medicine, alcohol production and vaccine production.

Course Title: Microbiology and Industrial Biotechnology

- Understand the history of Microbiology. Knowledge on basic concepts of biogenesis and abiogenesis, Koch Postulates. Understand the Principal, Working procedure and application of Microscopy
- Acquire knowledge on classification of microorganisms Discuss the morphology of Bacteria, Viruses and Fungi with major emphasis on bacterial structure specially cell wall. Demonstrate Gram positive and Gram negative bacteria and understand basis of microbial spores
- Gain knowledge on microbial growth and sterilization techniques
- Discuss the importance of food microbiology, dairy microbiology, water microbiology and soil microbiology
- Explain the role of microorganisms in production of industrial enzymes, antibiotics, biopolymer, biopreservative, recombinant proteins and its applications; Acquire knowledge on the products of animal and plant cell culture.

Course Title: Medical Laboratory Techniques and Bioinstrumentation

- Basic knowledge on collection of samples, maintaining records and preparation of reports
- Demonstrate laboratory practice standards in safety precaution and first – aid treatment.
- Analyse routine human medical samples
- Discuss the causative organisms, mode of transmission, pathogenicity, symptoms and preventive measures of infectious diseases in man
- Understand the Principles and use of the instruments utilized in common laboratories.

Course Title: Economic Entomology and Pest Management

- Describe the basics of insect structure and functions
- Identify and Discuss beneficial and harmful insects
- Explain the insect pests of stored grains and knowledge on insect vectors of plants, animals and man
- Discuss insect pest control methods
- Explain the basic principles of insecticide formulation, environmental pollution and also able to understand the precautions in handling pesticide

Course Title: Practical III - Animal Physiology, Biochemistry, Developmental Biology and Immunology

- Understanding the principle, working procedure and applications of BP apparatus, Respirometer and Kymograph
- Knowledge on digestive enzymes in cockroach, detection of nitrogenous waste products and estimation of oxygen consumption

- Understand the principle, procedure and significance of qualitative analysis of sugar; understand the principle of estimation of glycogen and protein
- Describe the structure and significance of histological slides, specimens and materials related to developmental biology
- Explain the principle, working mechanism and applications of techniques used in immunology

Course Title: Practical IV- Environmental Biology, Biotechnology and Microbiology

- Understand the principle, methodology and significance of estimation of oxygen, salinity, carbon dioxide, carbonates, bicarbonates and calcium in the given water samples
- Demonstration of PCR, blotting techniques, staining techniques and media preparations
- Knowledge on identification of planktons; and adaptation of aquatic and terrestrial animals based on the study of museum specimens; and microbial slides
- Understand the basic principle on instrumentation
- Knowledge on natural ecosystem during field visit

12. B.Sc (Biotechnology) Programme Outcome:

PO 1 : Dissipate knowledge of fundamental conceptual approach in the fields of Biotechnology.
PO 2 : Familiarize the mechanisms involved in the specific fields of Biotechnology.
PO 3 : Opportunities and challenges discussions pertaining to the field of Biotechnology.
PO 4 : Analysis and apply the new cut edge technologies in the field of Biotechnology.
PO 5 : Demonstration of sustainable development through the skills acquired through Biotechnology.

B.Sc (Biotechnology) Programme Specific Outcome:

PSO 1 : Critical knowledge and analytical skills will be acquiring to be readily placed in various job roles in industry.
PSO 2 : Professional status attainment in the core fields like Fermentation technology, Health care industries: therapeutic agent development like Vaccine production and formulation nutraceutical product development and formulations, diagnostic kit development, Food industry, and also in the lateral fields like as Patent officers, Biostatisticians, In-silico fields like bioelectronics, bioinformatics, in the field of environmental sustainability, Bioentrepreneurs to support the biobased industries, Science communicators which are the need of the hour in today's world.

B.Sc (Biotechnology) Course Outcome:

Course Title: Cell Biology

- To analyse and explain the organization of living organism and to assess the role of different organelles and components of a cell.
- To evaluate the various cell theories
- To interpret the DNA replication and gene expression
- To demonstrate the overview of transcription and translation of eukaryotic cells and its regulatory mechanism.
- To analyse the types of cellular communication and to assess the phases of cell cycle and their role in cancer biology.

Course Title: Chemistry

- To explain the basics of the chemical reaction
- To identify the types of chemical reaction and factor influencing the chemical reactions
- To connect the importance of functional groups.
- To recognize and relate the chemical configuration and its importance.
- To demonstrate the green chemistry

Course Title: Cell Biology and Chemistry

- To handle the microscope for studying the special properties of cells
- To distinguish various types of prokaryotic and eukaryotic cells
- To identify the strength of the solute in the give solution.
- To analyse the pH of the given sample.
- To describe the concept of normality, molarity, molality, equivalent weight and its related calculations.

Course Title: Biotechnology for Society Welfare

- To inculcate the importance of sustainable development.
- To identify the bio-based industries and their importance
- To interrupt the role of Biotechnology in environmental pollution mitigation.
- To define Bioentrepreneurship
- To interpret the impact of biotechnology upon the development of therapeutic agents

Course Title: Human Physiology

- To promote critical thinking associated with human anatomy and physiology as they are the foundation for molecular events and tissue engineering.
- To illustrate the anatomy and physiological importance of Skeletal and muscular system
- To identify and appreciate anatomy and physiology of Nervous system
- To demonstrate the anatomical and physiological importance of Circulatory system
- To interpret the various system of human body.

Course Title: Biochemistry

- To gain knowledge about early earth atmosphere and theory related to formation of biomolecules on earth based upon the case study
- To relate classification and functions of biomolecules relate to health management.
- To establish ideas, principals, concepts and techniques drawn from the study of biomolecules
- To analyse the wide range of agriculture, medical and industrial application and product discovery.
- To apply the major theories and research procedures to contemporary social demands

Course Title: Biochemistry and Bioinstrumentation and Biotechniques (Practical)

- To apply the titrimetric principles in acid base estimations.
- To explain and evaluate the quantitative analysis of biomolecules by colorimetric methods.
- To apply the major theory and practical knowledge to contemporary industrial demands
- To become proficient in instrumentation handling with the respective SOPs'.
- To carry out small research projects on their own.

Course Title: Bioinstrumentation and Biotechniques

- To explain the definition and calculations involved in sample preparation.
- To justify basic principles, working, types and applications of centrifuge.
- To describe the general principle and working of different chromatography types
- To prepare the solutions for sample extraction
- To examine principle, instrumentation and applications of various spectroscopic methods.

Course Title: Marine Biotechnology

- To appreciate the importance of marine eco-system
- To demonstrate concept of genetic engineering in the betterment of aquatic culture.
- To identify the marine based bio- product production
- To illustrate the effective sustainable management of marine eco-system
- To connect the concepts of Biotechnological approaches for mitigation of marine pollution

Course Title: Herbal Science

- To demonstrate the traditional phytomedication.
- To interpret the various plants with therapeutic properties with Guru Nanak College campus.
- To differentiate the herbs and the medications.
- To extract and analyse the phytochemicals from plant samples.
- To maintain the herbal garden and to demonstrate its applications

Course Title: Genetics

- To compile the milestones in the history of classical and modern genetics
- To demonstrate the classical Mendelian experiments

- To explain the methods and principles of genetic recombination
- To discuss the theories and mechanism of evolution
- To recall the principles of molecular bass of inheritance, variation and genetic diseases.

Course Title: Genetics and Immunotechnology (Practicals)

- To analyze the karyotypes of human chromosome using photomicrograph
- To differentiate the male, female, wild and mutant types of drosophila and to observe the various metamorphic stages.
- To culture genetic model- drosophila and to observe stages of its life cycle
- To analyze the karyotypes of human chromosome using photomicrograph
- To demonstrate the different types of human blood cells and distinguish the phagocytic cells.

Course Title: Immunology and Immunotechnology

- To discuss the immune responses in host cells.
- To distinguish the evolution of immune response among Animalia kingdom.
- To discuss the clearance of immune responses and hypersensitivity responses.
- To stimulate the critical thinking related to Transplantation immunology and to decide about the tissue matching assays.
- To demonstrate the immuno- techniques and its application in disease diagnosis.

Course Title: Genetic Engineering

- To explain the mechanism of enzymes involved in Recombinant technology
- To select appropriate types of vectors and expression systems for molecular cloning
- To screen and distinguish the Transformants and Non-Transformants
- To use the molecular techniques for analyzing the biomolecules
- To apply the principles of genetic engineering in the field of agriculture, medicine and research.

Course Title: Genetic Engineering and Microbiology (Practicals)

- To demonstrate the biomolecules: Protein, DNA and RNA by centrifugation and electrophoretic methods
- To estimate the biomolecules using the UV-spectroscopy analyses
- To demonstrate the amplification of DNA by PCR
- To apply the microbes for agricultural benefits.
- To demonstrate the different culture methodologies involved.

Course Title: Microbiology

- To determine the evolution of microbes.
- To describe the sterilization techniques of microbes.
- To discuss the various biochemical test for the bacterial identifications.

- To identify the role of microbes in agriculture, environmental, food preparation, microbial pathogenesis
- To demonstrate the negative host parasite interactions and the mechanism of antibiotics in microbicidal activity.

Course Title: Environmental Studies

- To criticize the environmental studies as multidisciplinary field
- To illustrate all the natural resources involved in commercial utilization and also for economic growth
- To define and correlate the different types of ecosystems and their importance
- To induce analytical and critical thinking about the biodiversity
- To prioritize and develop the alternative approaches for various pollution mitigation

Course Title: Molecular Developmental Biology

- To recall and discuss the various fertilization, cleavage, blastula and gastrulation.
- T differentiate the cleavage, blastulation among frog, chick and humans
- To classify and compile the signaling processes of embryonic development process.
- To interpret the embryonic development and the role of genes involved in molecular development of organisms.
- To diagnoses the medical implication of embryonic development

Course Title: Bioprocess Technology

- To practice the specific fermentation technologies.
- To differentiate the usage of the different types of fermenters.
- To formulate the media and microbial concentrations required for up-stream processes.
- To practice the down-stream processes
- To determine the bio-based products.

Course Title: Bioinformatics and Biostatistics

- To explain about the importance of bioinformatics and its scopes
- To acquire idea about different types of biological databases and data retrieval
- To discuss different methods of sequence alignment and its computational tools.
- To explain in detail about protein database, comparison of protein sequences, database searching and its structure prediction.
- To describe microarray technology for gene expression studies.

Course Title: Pharmaceutical Biotechnology

- To compare and screen the microbes of pharmaceutical values
- To explain the series of steps involved in drug development process
- To determine the fate of drug in human body

- To demonstrate the phase involved in pre-clinical and clinical trials
- To analyse the various drug formulation, drug administration and drug description methods
- To clarify the protocols in achieving drug approval and marketing

Course Title: Molecular Developmental Biology, Bioprocess Technology and Bioinformatics (Practicals)

- To gain knowledge about the embryonic development by using Drosophila and embryonated chick embryo.
- To learn different types of early developmental stages using frog samples.
- To explain the parts of the industrial grade fermenters.
- To apply the principles of fermentation techniques for wine, citric acid and amylase production and downstream processes.
- To know about the online biological databases.

Course Title: Intellectual Property Rights (IDE)

- To explain the history and classification of intellectual property rights.
- To outline the various international treaties gave rise to IPR laws.
- To assess and discuss the scope of Indian Copyrights and patent Act.
- To evaluate the scope of invention for its eligibility to be patented.
- To explain industrial designs and Trade Marks.

Course Title: Plant Biotechnology

- To assess the plant genome and its collective gene family and the organization of chloroplast and mitochondria
- To compare the various plant viral vectors and to use the efficient method for genetic transformation.
- To use novel technologies for the transgenic plant production.
- To evaluate the application of Plant Biotechnology.

Course Title: Animal Biotechnology

- To demonstrate animal cell culture techniques
- To realize the significance of transgenic and cloning technology
- To use appropriate molecular techniques for disease diagnosis.
- To discuss the assisted reproductive techniques.
- To distinguish the properties of stem cells and can correlate it with tissue engineering

Course Title: Biosafety, Bioethics and Intellectual Property Rights

- To assess the risk in biotechnological research and evaluate the different levels of Biosafety
- To learn to design and carry out experiments in an ethical manner
- To explain research ethics and analyse the importance of plagiarism

- To demonstrate the importance of IPR and its types
- To assess the risk in biotechnological research and evaluate the different levels of Biosafety

Course Title: Environmental Biotechnology

- To describe the role of Indian Biotechnological Industries.
- To demonstrate the value added product production.
- To discuss the Indian Bio-based industries.
- To recite the Indian Environmental standards.
- To demonstrate the role of Biotechnological techniques for pollution mitigation.

Course Title: Food Biotechnology

- To have a detailed insight about the importance of food in day to day life.
- To learn about the role of Biotechnological methods involved in the production of bio fortified food.
- To learn about global and Indian standards about food storage, preservation and sale of food.
- To discuss about the Indian food safety regulations.
- To visit food industry and to define the food industry job roles.

Course Title: Plant Biotechnology & Animal Biotechnology (Practicals)

- To design and outline the requisites of a Plant tissue culture laboratory
- To demonstrate the callus development and Micropropagation of plants.
- To isolate beneficial bacteria and bacterial consortium for production of secondary metabolites involved plant growth.
- To isolate and count the animal cells from various tissues
- To demonstrate the preparation of single cell suspension, to establish primary culture and process of subpassage.

13. B.Sc (Visual Communication) Programme Outcome:

PO 1 : Understanding the basic concepts of communication, media and culture, media ethics and law

PO 2 : Analyze the relevant topics In advertising and its strategies

PO 3 : Maximize the skills in the use of basic tools, such as mastery of material, equipment, handling cameras, film, lighting, digital technology process in black & white and in color print and work with non-silver materials

PO 4 : The ability to combine the use of drawing, two-dimensional design, and color, beginning with basic studies and continuing the development of advanced capabilities

PO 5 : Equipped to build the digital technology process by adapting , modeling and animations

B.Sc (Visual Communication) Programme Specific Outcome:

PSO 1 : Develop a thorough knowledge of media creatively, extensively, interpret and career focused. Well-equipped in all the practical with latest and current industry based technologies. Faculties have vast experience in industrial area give the impact of this to the students. The department has high-end well developed infrastructure.

PSO 2 : The highlight of the department is that it focuses on the student's placement during their course of studies, which gains experience and exposed to each desired field. On the whole, communicate effectively by oral, written, graphical and technological means and also have competency in English.

B.Sc (Visual Communication) Course Outcome:

Course Title: Introduction to Visual Communication

- Critically Understand the Impact of Communication on the Transformation and Progression of the Society
- Examine the Communication Differences When Working With Various Formats of Visual Communication
- Understand the basics of communication.
- Learn the importance of communication.
- Able to apply the concepts of visual communication

Course Title: Visual Art

- Learn the visual elements and principles
- Understand the perceptive.
- Able to apply the color theory.
- Understand the Human anatomy.
- Able to sketch indoor and outdoor study

Course Title: Basic Photography

- Maximize the basic tools of the camera and its necessaries.
- Know the image editing
- Understand the evolution of photography
- Know the techniques of basic things such as Exposure, ISO,
- Aperture and shutter speed.
- Interpret the formats in image

Course Title: Non –Major Elective Visual Literacy

- Interpret the content of visual images
- Examine the social impact of visual images

- Discuss an image's purpose, audience, and ownership
- Visualize internally
- Communicate visually

Course Title: Film Studies

- Understand the history of Cinema
- Learn the stages of production
- Analyze the different techniques in editing
- Study about the popular directors and film criticism
- Know the film club activities and international cinemas

Course Title: Vector Graphics

- Create black and white and multi-colour posters and brochures
- Apply the principles of design
- Able to do creative works with graphics
- Designing the photo graphics elements
- Analyze and make full use of Adobe Illustrator

Course Title: Visual Design

- Understand the concept of visualization
- Ability to know the types of dots,lines,curves.
- To understand about the calligraphy and typography.
- To learn about the patterns,designs,textes.
- To identify various creation of poster, brochure, templates etc.,

Course Title: Non Major Elective Media Culture and Society

- Understand the functions of media
- Ability to know the religion and culture of our society
- To understand the role of media towards the society
- To learn about the shaping and development of culture and society through media
- To identify the relationship between internet and social media.

Course Title: Television Production

- Acquire Technical Knowledge Needed For Audio Visual Content Production
- Resolve and execute standard pre-production skills including planning, scripting, budgeting, and crew and equipment selection. (SLO-2)
- Write increasingly complex scripts and program proposals demonstrating increased ability to combine writing and visual presentation techniques and audience effect.
- Categorize and explain different show rundowns and broadcast approaches including fictional narrative, documentary and alternative approaches

- Explore increasingly complex approaches to program production including both visual and audio aspects of communication.
- Plan group projects exploring how productions are developed in a professional way.

Course Title: Digital Advertising

- Understand the roles and functions of advertising
- Ability to apply the basic concepts in advertising
- Understand the various structures and functions of advertising agency
- Get familiar with the market media research
- Able to create various forms of advertisements.

Course Title: Script Writing

- To express ideas fluently in standard screenwriting format at an advanced level.
- To craft character-based stories with clear conflicts at an advanced level.
- To analyse film and television structure at an advanced level.
- To workshop creative ideas at an advanced level.
- To complete full-length scripts that are geared toward a specific budget

Course Title: Photography

- Technical command of the photographic medium to determine in the composition, exposure and print quality in both digital and analog.
- To accumulate sense in the photographic field and make astute compositional decisions in their work.
- To clearly communicate the content and context of the student work visually.
- To use a variety of brainstorming techniques to generate novel ideas of value to solve problems.
- To demonstrate artistry work by creating images that evoke an emotional response.

Course Title: Visual Text Analysis

- Understand the signs and its meaning making process
- Ability to know the types of signs and quotes
- Understand about the psycho analytic criticism
- Learn about the Marxian analysis of visuals
- Identify various medium of communication

Course Title: Audio Production

- Handle microphones in field
- Accumulate the knowledge of sound device practically
- Practice in dubbing, sound effects.
- Accumulate the skills in the field of sound mixing.
- Learn techniques and aesthetics of the sound.

Course Title: Multimedia

- Familiarize about the principles of 3D animation
- Understand the basic concepts of tools
- Can create a 3D applying certain principles
- Ability to recognize the frame work of animations
- Know the designs and animating theory

Course Title: Media Ethics and Law

- Learn about media determinants
- Know about various medium ethics
- Understand the media culture and it's values
- Learn about the media ideology and media personal
- Know about important acts

Course Title: Television Production

- Operate essential post production equipment for audio and video editing
- Operate an audio mixer correctly, setting levels, balancing multiple inputs and meeting professional standards for quality.
- Participate as crew member in multiple student productions intended for broadcast on cable television.
- Utilize studio cameras, tripods, microphones, lights, dimmer boards, character generator, switcher/special effects generator with digitalvideo effects (DVE).

Course Title: Visual Effects

- Familiarize about the basic principles of visual effect sequences.
- Learn about storyboarding and pre visualizing.
- Know the requirement of productions.
- Analysis film making terminology to communicate effectively.
- Gain the knowledge of 3D camera, compositing, rendering and final output.

Course Title: Understanding Films

- Recognize types of films, their impact on society, and their roles in our lives
- Recall the concepts behind storytelling, Mise en Scène, and cinematography
- Identify ways sound contributes to movies
- List the roles of directors and critics in the film industry
- Identify types of movie genres and various editing styles

Course Title: Media Organization

- Know the principles and theories of management
- Ability to plan about media kits and conferences

- Learn the PR tools and publicity
- Understand the ethical codes and cyber crimes
- Interpret the operational modes of media

Course Title: Advertising Photography

- Understand the art of making photo advertisement.
- Learn the basics of product lightings.
- Evaluate the Industry standards in advertisement photography.
- Creative ways of doing product Advertisements
- Know the commercial photography strategies.

Course Title: Film Appreciation

- Recognize Types of Films, Their Impact on Society, And Their Roles in Our Lives
- Recall the Concepts behind Storytelling, Mise En Scène, and Cinematography
- Identify Ways Sound Contributes To Movies
- List the Roles of Directors and Critics in the Film Industry
- Identify Types of Movie Genres and Various Editing Styles

Course Title: Internship

- Get exposed in the media industry for a period of time.
- Get specialized in the particular area of their desired field.
- Learn day to day activities in the commercial space.
- Accumulate he discipline and time management skills in production.
- Gain knowledge and techniques directly from the industrial experts.

Course Title: Project

- Know the script for the short film
- Learn the poster design for the short film
- Evaluate the audience feedback in the form of survey
- Learn to create the portfolio of their works
- Find out the quality of their produced work.

14. M.Sc (Chemistry) Programme Outcome:

PO 1: Acquire a broad learning in advances in chemistry that stresses scientific reasoning and analytical problem solving with a molecular perspective and develop the ability to communicate scientific information in written and oral formats

PO 2: Expose broader experimentation in chemistry on applied aspect and also using modern instrumentation to understand the importance of the chemical transformation for high throughput applications.

PO 3: Investigate the interdisciplinary nature of chemistry in biology, medicine, materials science to excel in R&D for the benefit of societal needs. Have extra acquaintance in humanities other than chemistry.

PO 4: Execute the laboratory skills needed to design, and interpret chemical research; acquire a foundation of research in chemistry

PO 5: Develop the skills required to succeed in higher learning in chemistry, in the chemical industry and in academic profession.

M.Sc (Chemistry) Programme Specific Outcome:

PSO 1 : Adopt to the major scientific and technological challenges in research, industry as they are well trained in experimental techniques like synthesis, separation, distillation, crystallization *etc*.

PSO 2 : Compete in the international, National, state level assessments.

M.Sc (Chemistry) Course Outcome:

Course Title: - Organic Chemistry – I

- Identify the absolute configuration of molecules – D/L, R/S, erythro/threo,meso/dl, E-Z, Pro R, Pro S, Re and Si face.
- Apply the concept of conformational analysis for cyclic and acycic systems.
- Determine the reaction mechanism by kinetic and non-kinetic Methods,mechanism and applications of aliphatic nucleophilic substitution reactions.
- Get a detailed picture of electrophilic,nucleophilic and free radical addition reaction mechanisms with stereochemical aspects. Mechanism of carbene, nitrene intermediates and application in name reactions.
- Explain the reaction mechanism and stereochemistry of E1, E2 and E1CBand to predict its regioselectivity.

Course Title: Inorganic Chemistry – I

- Discuss and compare the various theories of bonding in coordination complexes.
- Evaluate and apply about the formation, reaction mechanism, stability constant, and the various methods of determination of stability constant and the stereochemistry of the inorganic complexes.
- Explain and interpret the electronic and magnetic properties of coordination complexes.
- Outline the mechanism of electron transfer reactions and Marcus Hush theory and predict the substitution reaction of complexes.
- Explain about the inorganic cages, clusters and rings which are very much useful for leading current research area of materials science.

Course Title: Physical Chemistry – I

- Analyze the need for quantum mechanics, relate quantum mechanical operators to observables and the use of operator algebra to solve simple eigen value equations, relate molecular phenomena viz translational, rotational and vibrational motion to model systems and solve Schrodinger equation to arrive at the eigen values.
- Distinguish molecular and crystallographic symmetry, to assign point group for molecules, apply multi symmetry operations to derive character tables.
- Gain knowledge of symmetry based selection rules for vibrational and electronic spectroscopy and predict the IR and Raman activity of a molecule.
- Acquire in depth knowledge about theories of chemical kinetics and to calculate specific rate, activation energy and frequency factor
- Calculate Michaelis Menten constant for enzyme – substrate binding by Linewearver- Burk plot.

Course Title: Elective – 1 Analytical Chemistry

- Develop analytical skill in chemistry; to evolve proper analytical data and practice to report the results with uncertainty component.
- Explore the analysis of complex chemical materials/manufactured chemical matrices very systematically with suitable analytical methods.
- Demonstrate the instrumental based chemical analysis in all the arena of chemical processes and products through separations, quantifications and structural determination of chemicals.
- Establish the competency of chemical analysis in the applied research, chemical processes and testing/quality control laboratories with regulatory compliances.
- Design new analytical routes for the day to day evolution of newly discovered chemical products.

Course Title: Organic Chemistry - II

- Use oxidation and reduction reagent for preparing a new synthetic compound.
- Apply the concept of aromaticity to identify aromatic, anti-aromatic and non - aromatic compounds.
- Apply logically the concept of direction for both electrophilic and nucleophilic reactions in aromatic compounds.
- Identify the different types of rearrangement reactions and predict the mechanisms involved.
- Use the Woodward-Hoffmann rule to predict the stereochemistry of product under thermal and photochemical conditions for different types of pericyclic reaction.

Course Title: Inorganic Chemistry - II

- Analyze the structure, bonding, preparation and reactivity of organometallic compounds.
- Assess about synthetically useful transformations including oxidations, reductions, organometallic reactions, and reactions of electron deficient species. The emphasis will be on developing a mechanistic understanding of selectivity and synthetic strategy.
- Gain information on the mechanism of the catalytic processes of organometallic
- complexes that is useful for the current synthetic organic chemistry field.

- Identify elaborately on the content of biological inorganic processes that helps the students in the future research of biomimmetics and computational chemistry.
- Utilize the complete knowledge on the oxygen carriers and iron sulphur proteins and able to analyze how metal ions take part in biological system and their physiological effect on biological system and to compile photosynthesis and photosystem1 & photosystem2, vitamin B12 model system and their reaction.

Course Title: Physical Chemistry - II

- Analyse the mechanism of acid –base and enzyme catalysed reactions.
- Distinguish various adsorption isotherms and heterogeneous catalyst reactions.
- Gain knowledge about kinetics of complex reactions and fast reactions.
- Derive eigen values and wave functions of H and He atom using approximation methods. Concept of antisymmetric wave function and solve Hartree and HartreeFock equation for helium atom.
- Apply Molecular orbital and valence bond treatment to simple homonuclear diatomicmolecules-H+ and H2, MOT of higher diatomic molecules, HMO treatment of simple conjugated systems.

Course Title: Organic Chemistry Practical

- To get hands-on experience in the separation of two component mixture, purification and identification of the functional groups present.
- To Expertise in various preparatory methods of organic compounds by single and double stage methods
- To use various purification techniques and extraction methods involving natural products.

Course Title: Inorganic Chemistry Practical

- Analyse the given inorganic mixture containing both common and rare cations.
- Explore their knowledge in the volumetric analysis of metal ions.
- Prepare the metal complexes in good yield.
- Separate the metal ions through chromatography techniques.

Course Title: Physical Chemistry Practical

- Determine the order and calculate the rate constant for the reaction.
- Draw and interpret the phase diagram of two component systems.
- Apply distribution law to find the partition coefficient and equilibrium constant.
- Verify Freundlich adsorption isotherm.

Course Title: Organic Chemistry – III

- Predict the structure based on electronic and vibrational transitions
- Identify different techniques and judicially use them as per requirements
- Interpret spectra based on UV, IR, Mass and NMR to predict the structure of the target molecule

- Selecte the proper ionization method and interpretation of mass spectra to arrive at the structure of the target molecule .
- Synthesize new molecules based on different types of photochemical reactions

Course Title: Inorganic Chemistry – III

- Demonstrate the bonding properties related structural identification of coordination complexes and to compute magnetic properties based structural determination of coordination complexes and some specific inorganic elements using IR, UV-Visible and Raman spectroscopy.
- Discuss the principle and instrumentation of Electron Spin Resonance spectroscopy and its applications and to apply to the free electron character available in a molecular entity to predict structure of complexes.
- Compare the principles, chemical shifts, coupling constants, and application of 1H,19 F,31 P and solid state NMR spectroscopy and to discuss the Principle and Instrumentation of Photoelectron Spectroscopy, Interpretation of Vibrational spectral data for ionized (M+) species.
- Explain the various types of inorganic photochemical reactions, mechanism of solar energy conversion using ruthenium bipyridyl complexes.
- Predict the photo processes in inorganic, and apply in the development of sensitized solar cells - photo catalysis.

Course Title: Physical Chemistry – III

- Discuss knowledge about the principle of micro wave, Infrared spectroscopy.
- Apply the knowledge gained to using UV -Visible spectroscopy and apply mass spectroscopy to find the fragmentation pattern of molecules.
- Understand partial molar properties and its significance, fugacity, thermodynamics of ideal and non-ideal binary solution.
- Analyze about Debye Huckle theory of strong electrolytes, ion-ion interaction, limiting law, Onsager equation, Bjerrum ion association concept.
- Explain the models of electrical double, mechanism of one electron transfer electrode reaction, theories of Corrosion.

Course Title: Elective – 5 - Chemistry of Natural Products

- Explain the fundamental concept of nucleic acids and its functioning.
- Propose the total synthesis of peptide and to elucidate the structure of various steroids..
- Write the synthesis of camphor α, β- carotenoids and lycopene.
- Outline the synthesis of complex organic compounds like morphine cocaine reserpine and synthesis of flavones iso flavones and anthocyanin.
- Gain expertise in the bio synthesis of cholesterol terpenoids alkaloids amino acids and bile acid.

Course Title: Organic Chemistry – IV

- Apply the retrosynthetic approach to develop methodology for synthesising new compounds involving C-C and C=C.

- Logically approach the usage of various reagents for organic synthesis
- Apply the methodology involved in advanced name reactions for synthesising new compounds
- Approach synthesis of complex organic compounds in a logical manner.
- Apply green chemistry principle for synthesis of organic compounds. Explain the fundamental concept of nucleic acids and its functioning.

Course Title: Inorganic Chemistry – IV

- Explain the complete description of chemistry behind the solids and to analyze the preparation, characterization of solids and describe the principles concerning solid state structures.
- Describe specific crystal structures by applying basic crystallographic concepts.
- Demonstrate the specific crystal structures by applying basic crystallographic concepts and describe the experimental use of the diffraction phenomenon and give an account of the generation of X-ray radiation and its effects of on matter
- Analyze the Size dependent properties of nanomaterials. Quantum dots and quantum effects and to apply them and to synthesize nanomaterials.
- Demonstrate the various applications of nanomaterials and utilize their knowledge to develop novel nanomaterials during their research in the future.

Course Title: - Physical Chemistry – IV

- Analyze and apply concepts of partition function to heat capacities of solids and gases, black body radiation, electron gas in metals.
- Gain knowledge on basic concepts of ensembles, statistical probabilities in the filling of atomic and molecular energy levels, partition functions and their derivation.
- Explain the fundamentals of photochemistry, Absorption and Emission of radiation, Stern Volmer analysis. Quantum efficiency and Molecular structure and photo physical and photo chemical reactivity.
- Demonstrate the fast reaction techniques such as flash photolysis and fluorescence and life time measurements.
- Design molecular structure, bond angle, bond length and electron density.
- Calculate bond energy, enthalpy, entropy and free energy of constructed molecules.
- Draw and visualize both small and big molecules using online tools and to perform online molecular docking analysis

Course Title: -Electro Analytical Chemistry Practical

- Explain the principle of conductivity, potentiometry and colorimetry experiments.
- Determine the strength of unknown solutions by potentiometric and conductometric methods.
- Determine the strength of unknown solutions by colorimetry

Course Title: Analytical Chemistry Practical

- Imbibe the techniques of analysis of complex chemical materials
- Quantitative estimation of organic compounds and inorganic metal ions
- Interpret all specrto-analytical data for molecular identification

Course Title: EDE – 1-Nutrition & Dietetics

- Acquire knowledge about importance of nutrition and diseases caused by malnutrition
- Get an awareness on role of vitamins , minerals and water in diet
- Gain knowledge on types of diets for various diseases.

Course Title: EDE – 2-Applied Chemistry

- Gain knowledge on fuels, fertilizers and water technology.
- Detect adulterants in food and get an awareness about artificial sugar and beverages.
- Differentiate various polymer materials
- Acquire knowledge on various diseases and drugs
- Understand the concepts of nanomaterials

Course Title: EDE – 3 - Environmental Science

- Identify various pollutions and its hazards
- Demonstrate the types of waste and their management
- Understand the facts of toxicology and global warming
- Apply the green chemical concepts in existing chemical reactions
- Create an awareness on disaster management and emergency preparedness

Course Title: EDE – 4 -Forensic Science

- Study of poisons, mode of action, detection and estimation of poisons, basics of pesticides and insecticides
- Acquiring knowledge about classification and characteristics of explosives, chemical synthesis of explosives like TNT, RDX, post blast residue collection and analysis.
- Investigation of crimes, forged signatures, checking original currency notes, detection of gold purity
- Investigation of tracks and traces, DNA finger printing for tissue identification, detecting steroid consumption in athletes and race horses.
- Study of chemistry of fire, types, fire scene patterns, collection of arson evidence, investigation of clue materials.

15. M.Sc (Mathematics) Programme Outcome:

PO 1 : Develop specific knowledge in main subfields of pure and applied mathematics to apply them independently to solve problems of real-life situations.

PO 2 : Demonstrate an understanding of Abstract Algebra, Analysis, Differential, Difference Equations, Topology, Geometry, Graphs, Fuzzy Sets, Statistics, Stochastic Processes, Mechanics, Number Theory, Calculus of Variations & Integral Equations, Programming in C++ and Operations Research.

PO 3 : Demonstrate skills in analyzing concepts and solving given problems at a high level of abstraction.

PO 4 : Inculcate scientific knowledge in varying research areas of core and elective subjects through the curriculum where the summer internship is being a part.

PO 5 : Create ability to apply mathematical methodologies in various sectors like banking, IT, TNPSC, UPSC, etc.

M.Sc (Mathematics) Programme Specific Outcome:

PSO 1 : Establish knowledge of the basics as well as advanced level in each core subject through extra classes too, whenever needed, which make students of different performing levels, age categories learn with ease and compete with each other.

PSO 2 : Generate students as motivated Teachers in Schools & Colleges as Researchers and as successful professionals in the various other fields by providing one to one interactions with the students to develop their skills in curricular & co-curricular activities.

M.Sc (Mathematics) Course Outcome:

Course Title: Algebra-I

- Discuss of equivalence relation on finite set, equivalence class, order of equivalence class and using it find the results about finite group and study the Sylow's theorem and the application of Sylow's theorem.
- Built up a new group using a given group and one of its automorphisms, Discussion of the structure of an arbitrary finite abelian group such as fundamental theorem on finite Abelian group.
- Study the canonical forms, triangular forms and nilpotent transformations.
- Study the Jordan form, rational canonical form and companion matrix of the polynomial on finite dimensional vector space V over F and linear transformation T.
- Discuss Trace, Transpose, Hermition, Unitary and Normal of linear transformation, solving the problems.

Course Title: Real Analysis-I

- Discuss functions of bounded variation, a class of functions closely related to monotonic functions.
- Study the Riemann-Stieltjes integral and its properties and related problems.
- Discuss the Riemann integral and its properties and related problems.
- Study the sequence of functions and related problems.
- Discuss the pointwise convergence and uniform convergence and related problems.

Course Title: Ordinary Differential Equations

- Demonstrate the second order homogeneous equations-Initial value problems-Linear dependence and independence-Wronskian and a formula for Wronskian.
- Use knowledge the homogeneous and non-homogeneous equation of order n –Initial value problems-Annihilator method to solve non-homogeneous equation.
- Build up the initial value problems -Existence and uniqueness theorems – Solutions to solve a non- homogeneous equation.
- Communicate the second order equations with regular singular points –Exceptional cases –Bessel equation.
- Apply the ODE with variable separated – Exact equation – Method of successive approximations – the Lipschitz condition – Convergence of the successive approximations and the existence theorem.

Course Title: Graph Theory

- Demonstrate Graphs, Sub graphs and Trees which helps in real-life to track the path or know the direction of the road using GPS.
- Demonstrate Cut Vertices and Edge Connectivity and Vertex Connectivity which is a vital component in designing different Networks like Neural, Molecular and Communication etc.
- Demonstrate Euler Tours, Hamilton Cycles and Edge Chromatic Number that aids to create circuits and in geographical map coloring.
- Demonstrate Independent Sets, Cliques and Vertex Colorings to find the optimal lines in Communication Network.
- Demonstrate Plane, Planar Graphs and to study related Theorems on it which helps to find the uninterrupted gas pipe lines simulations in Civil Engineering.

Course Title: Fuzzy Sets and their Applications

- Fuzzy sets and various operations on fuzzy sets are introduced.
- Fuzzy graph, fuzzy relations and fuzzy subset induced by a mapping are learnt.
- Similitude, Dissimilitude, order relations are discussed.
- Reduced polynomial forms and composition of intervals are introduced.
- Fuzzy groupoids, Fuzzy monoids and Fuzzy groups are analyzed.

Course Title: Algebra-II

- Establish the relation of one field to another and the degree of extension field.
- Determine the root of a given polynomial $p(x) \in F[x]$ on extension field K over F.
- Study the Galois group associated with a polynomial $p(x) \in F[x]$ and the relationship between roots of a polynomials and its Galois group.
- Determine all possible finite fields and many of their important properties and discussion of Wedderburn's theorem, Finite division rings on finite fields.
- Contemplate the solvability by radicals which helps to find the Galois group of irreducible polynomials over the Rationals and to derive the theorem of Frobenius.

Course Title: Real Analysis-II

- Discuss a class of measurable sets on the real line and the measurable functions and related problems.
- Study the approximation to measurable sets by intervals or by open sets lead to results on approximation to the integral of a measurable function and compare the lebesgue and Riemann integrals.
- Discuss the Fourier series and Fourier integrals and related problems.
- Study the Directional derivative and the total derivative and related problems.
- Discuss Implicit functions and Extremum problems and related properties.

Course Title: Partial Differential Equations

- Demonstrate the comprehensive knowledge to classification of Second Order PDE – Canonical Forms.
- Recognize the importance of Occurrence of the Laplace and Poisson Equations.
- Plan and execute the Occurrence of the Diffusion Equation –Boundary Conditions and problems.
- Apply the Occurrence of the Wave Equation – Derivation of One-dimensional Wave Equation – Solution of One-dimensional Wave Equation by Canonical Reduction – The Initial Value Problem.
- Core competencies the Green's function for Laplace equation – the methods of Images – the eigen function method.

Course Title: Probability Theory

- Knowledge on Random Events, Random Variables Distributions and Distribution Functions.
- Recognize the importance of Parameters, Order Parameters of the Distribution and Two types of Regression.
- Apply Characteristic Functions and its Properties.
- Build up on various Probability Distributions.
- Execute on Limit Theorems and Laws of Large Numbers.

Course Title: Object Oriented Programming with C++

- Outline the essential Structures, Functions and Function Overloading of C++ Programming Language.
- Understand Classes, Objects, Program with C++, Static Members, Objects as Arguments, Friend Functions and Returning Objects.
- Elaborate Constructors, Destructors, Multiple Constructors in a Class and Rules for Overloading Operators.
- Explain the concepts of Inheritance, Pointers, Virtual Functions and Polymorphism.
- Describe Managing Console I/O Operations, Classes for File Stream Operations and File Modes.

Course Title: Practical for Programming with C++

- Calculate arithmetic operations of numbers in programming language.
- Enumerate Fibonacci series, Armstrong numbers in programming.
- Elaborate Constructors, Destructors in C++ programming.
- Use the Constructors overloading, Destructors overloading in C++ programming.
- Implement multiple and multilevel inheritance in C++.

Course Title: Complex Analysis-I

- Establish the Cauchy's Integral Formula - The Integral formula - Higher derivatives.
- Demonstrate the general form of Cauchy's Theorem: Chains and cycles- Simple Connectivity – Homology.
- Evaluate Definite Integrals and Harmonic Functions and related problems.
- Contemplate Harmonic Functions and Power Series Expansions and exercise problems.
- Demonstrate Partial Fractions and Entire Functions.

Course Title: Topology

- Discuss the topological space, open and closed sets, limit points and continuous
- functions are introduced as natural generalizations of the real line and Euclidean space.
- Study the connectedness and compactness and related problems.
- Discuss the countability and separation axioms and related exercises.
- Study the product topology and Tychon off theorem and related problems.
- Discuss the homotopy of paths and fundamental group and related exercises.

Course Title: Operations Research

- Formulate linear integer programming models and discuss the solution techniques using branch-and-bound algorithm and cutting plane algorithm.
- Explain Dynamic Programming Models along with computations by recursion and applications to problem of Dimensionality.

- Understanding the meaning of inventory control as well as various forms and functional role of inventory, use the economic order quantity (EOQ) to minimize the inventory cost, compute the reorder level (ROL).
- Understand various components or parts of a queuing system, Identify and examine situation that general queuing problems, understand distinct among several queuing models and derive performance measures for each of them.
- Analyze the general Nonlinear Programming algorithm, Gradient method and Quadratic Programming.

Course Title: Mechanics

- Demonstrate the Generalized Co-ordinates, Virtual Work, Energy and Momentum.
- Apply the Lagrange's equation for holonomic, non-holonomic systems, Ignorable coordinates, Routhian function are learnt. Differential equations of motion are derived using the above methods.
- Knowledge on Hamilton's Principle, Equations and Other Variational Principles.
- Build up Hamilton-Jacobi form and Stackels conditions are derived.
- Analysis the Differential Forms, Generating Functions, Special Transformations and Lagrange and Poisson Brackets.

Course Title: Difference Equations

- Explain the Difference Calculus, First order equations, and General results for linear equation with solving linear equation.
- Discuss the Equations with variable coefficients - Nonlinear equations that can be linearized.
- Apply the z - transform and solving the linear difference equation using z - transform.
- Compute the problems in second-order linear equation, Sturmian Theory, and Green's function.
- Explain the concept of Disconjugacy, Riccati equation, and Oscillation.

Course Title: Number Theory & Cryptography

- Discuss about Elementary Number Theory, Time Estimates for doing arithmetic, divisibility and Euclidean algorithm, Congruence, Application to factoring and related problems.
- Study about Introduction to Classical Crypto systems, some simple crypto systems, Enciphering matrices DES and related problems.
- Discuss about Finite Fields, Quadratic Residues, Reciprocity and relate problems.
- Study about the Public Key Cryptography, The idea of public key Cryptography, RSA, Discrete log, Knapsack, Zero-knowledge protocols & oblivious transfer and related problems.
- Discuss about the Primality, Factoring, Elliptic curves and Elliptic curve crypto systems, Pseudoprimes, The Rho method, Fermat factorization and factor bases, the continued fraction method, uniform convergence and related problems.

Course Title: Complex Analysis-II

- Demonstrate Riemann Zeta Function and Normal Families, Product development – Extension of □(s) to the whole plane, the zeros of zeta function, Equicontinuity, Normality and compactness, Arzela's theorem and Families of analytic functions.
- Demonstrate Riemann mapping Theorem, Boundary Behaviour, Use of the Reflection Principle. Conformal mappings of polygons, Schwarz-Christoffel formula, Mapping of a rectangle, Harmonic Functions, Functions with mean value property and Harnack's principle.
- Comprehend Elliptic functions, simply periodic functions and doubly periodic functions.
- Impart knowledge on Weierstrass Theory, Weierstrass p-function, functions □and □(s), The differential equation, modular equation □(□), The Conformal mapping by □(□) and related problems.
- Elaborate Analytic Continuation, The Weiesrtrass Theory, Germs and Sheaves, Sections and Riemann surfaces, Analytic continuation along Arcs, Homotopic curves, The Monodromy Theorem and Branch points and related problems.

Course Title: Differential Geometry

- Knowledge of the Curves, parametrisation, arc length, level curves, curvature, plane and space curves and related problems.
- Recognize the importance of the patches, smooth surfaces, tangents, normals, orientability, Examples of surfaces, Lengths of curves on surfaces, the first fundamental form, isometries, surface area and related problems.
- Demonstrate the second fundamental form, Curvature of curves on a surface, normal, principal, Gaussian and mean curvatures, Gauss map and related exercises.
- Apply on geodesics, geodesic equations, Geodesics as shortest paths, geodesic coordinates and related problems.
- Analysis the theorem a Egregium, isometries of surfaces, Codazzi – Mainardi Equations, compact surfaces of constant Gaussian curvature and related exercises.

Course Title: Functional Analysis

- Discuss the Normed spaces, Continuity of linear maps, Hahn-Banach Theorems, Banach Spaces and related problems.
- Study the Uniform boundedness principle, Closed Graph and Open Mapping theorems, Bounded Inverse Theorem, Spectrum of a bounded operator and related problems.
- Discuss the Duals and Transposes, Weak and weak *convergence, Reflexivity and related exercises.
- Study the Inner Product Spaces, Orthonormal sets, Best approximation, Projection and Riesz-Representaion theorems and related problems.
- Discuss the Bounded operators and adjoints, Normal, unitary and Self-adjoint Operators, Spectrum and Numerical range and related exercises.

Course Title: Calculus of Variations & Integral Equations

- State the defining Variational Problems with Fixed Boundaries.
- Compute the Variational Problems with Moving Boundaries.
- Discuss the Integral Equations to solve the related problems.
- Formulate the conversion of ordinary differential equations into integral equations.
- Explain the concept of homogeneous Fredholm integral equations.

Course Title: Stochastic Processes

- State the defining properties of various stochastic process models.
- Sample on a computer any type of continuous or discrete time stochastic process.
- Identify appropriate stochastic process model(s) for a given research or applied problem.
- Provide logical and coherent proofs of important theoretic results.
- Apply the theory to model real phenomena and answer some questions in applied sciences.

16. M.Sc (Zoology) Programme Outcome:

PO 1 : To acquire knowledge on classification and phylogeny of animals.
PO 2 : To analyze complex interactions among the various animals of different phyla.
PO 3 : To compare the physiological processes of animals and role of organ systems.
PO 4 : To perform environmental conservation and protection of endangered species.
PO 5 : To establish employment opportunities in Industries, Research and Education, Bioethics, Patenting, Environmental Protection, Conservation, Technical and Medical Profession.

M.Sc (Zoology) Programme Specific Outcome:

PSO 1 : To Prepare the Students to Compete and clear competitive exams like **CSIR – NET in Life Sciences, GATE, UGC-NET in Environmental Sciences, SET (Life Sciences),** IFS etc.; and to facilitate students in acquiring knowledge to become entrepreneurs in the field of Aquaculture related fields, Ornamental fishes and Entomology.

PSO 2 : To carry out research in the thrust areas of Life Sciences like Fishery biology, Animal diversity, Environmental Monitoring, Cell and Molecular Biology, Biotechnology, Bioinformatics and exposing them to research activities through Training on various Research Methodological tools, Organizing National and International Conferences and Workshops.

M.Sc (Zoology) Course Outcome:

Course Title: Functional Morphology and Phylogeny of Invertebrates

- To explain the reproduction and cell differentiation in Porifera.
- To discuss the polymorphism and metamerism of coelenterate.

- To discuss pheromones in insect and endocrine organs in Crustacea.
- To describe the larval forms and its evolutionary significance of echinoderms.
- To analyze the advanced features of cephalopods and torsion in gastropods.

Course Title: Cell and Molecular Biology

- To demonstrate cytological techniques, chromatography, autoradiography, electrophoresis, blotting techniques and tissue culture- cell imaging.
- To explain the structural organization and function of intracellular organelles.
- To discuss the enzymology of DNA and RNA, replication and types of RNA.
- To explain the Genetic code, RNA processing, information transfer in prokaryotes and eukaryotes
- To evaluate the signaling concepts, cell surface receptors and pathways of intracellular signal transduction.

Course Title: Genetics – A Molecular Approach

- To analyze the concept of gene, the Regulation of genes and the mechanism of epigenetics.
- To plan and design projects on epigenetics.
- To explain Chromosomal aberrations in human beings.
- To prepare flowchart on pedigree analysis.
- To analyze and interpret the causes, types and the mechanism of mutation.

Course Title: Fish Biology & Fisheries

- To explain the fish digestion, physiology of digestion and respiratory behavior of primitive vertebrates.
- To produce fish seed through induced breeding techniques and identify the emerging diseases in aquaculture industry.
- To apply hybridization techniques to produce the new variety of fish species.
- To build hatchery for producing finfish and shellfish.
- To develop technology for larval and nursery rearing of fish and prawn.

Course Title: Functional Morphology and Phylogeny of Chordates

- To describe the physiology of digestion in vertebrates and symbiotic digestion in ruminants.
- To discuss the evolutionary and structural peculiarities of Cyclostomata, Dipnoi and Coelocanth fishes.
- To list out the economic importance of fishes and parental care in fishes.
- To discuss the origin and evolution of mammals and its adaptive radiation.
- To compare the heart, Urinogenital organs, excretion and the types of circulating fluids.

Course Title: Comparative Animal Physiology

- To describe and demonstrate various histochemical techniques in tissue processing and to localize the macromolecules.

- To culture drosophila and identify the mutants.
- To compare the known amino acids from the unknown using thin layer chromatography CO 4
- To demonstrate the RQ, salt loss and salt gain in fishes.
- To estimate the amount of Hb, bleeding time, clotting time, ESR in human blood and to prepare the human karyotype and identify the syndromes.

Course Title: Microbiology

- To discuss the History, scope, Milestones in microbiology, microbial taxonomy, classification, bacterial physiology, growth, nutritional requirements and enumeration of bacteria.
- To list out the pathogenic microbes, its cure, control and prevention.
- To list out the role of microbes in the environment.
- To discuss the role of microorganisms in food production.
- To evaluate the industrial uses of microbes and the types of bioreactors.

Course Title: Aquarium Fishes

- To identify the fresh and marine water aquarium fishes of India and its export potential.
- To develop and formulate feed for aquaculture industry.
- To setup the aquarium tanks for commercial purpose.
- To produce ornamental fishes through induced breeding techniques and identify the emerging disease in ornamental fishes.
- To produce ornamental fish for export purpose.

Course Title: Practical – I - Invertebrata, Chordata and Fishery Biology

- To analyze the evolution of different types of coelom in invertebrates and its economic importance.
- To explain the digestive and nervous system of prawn, gryllotalpha, grasshopper, sepia by dissecting and displaying the system.
- To explain the arterial and venous system of shark and teleost by dissecting and displaying the system
- To describe the parasites of fish, seaweed species, live feed organisms and its use in research.
- To determine the fish Morphometry, gonado-somatic index, fecundity and the age of fish using scale method.

Course Title: Practical – II - Cell and Molecular Biology, Genetics, Microbiology and Animal Physiology

- To measure the blood volume, plasma volume and to demonstrate the blood group system in humans.
- To measure the blood pressure, ECG in human and analyze the results.
- To explain the respiratory and respiratory parts of the body comparatively between animal groups.

- To identify the major features of the brain and spinal cord to describe the structural and functional relationships between these structures and to apply this knowledge to further research and clinical studies.
- To explain the role of endocrine system in maintaining homeostasis, the consequences of under and over production of hormones.

Course Title: Developmental Biology

- To explain the gametogenesis, fertilization and early developmental stages in animals.
- To elaborate the hormonal control of ovulation and pregnancy.
- To explain medical implication of developmental biology.
- To study the application of modern technique in developmental biology.
- To analyze the different involved in human cryopreservation and cloning.

Course Title: Entomology

- To identify insects, their habitats and physiology.
- To explain the insect characters and their economic importance.
- To evaluate insects as crop pest and their habitats.
- To prepare various methods of pest control for agricultural purpose.
- To formulate the pesticides, plant protection appliances and pest management.

Course Title: Environmental Biology

- To describe the major biomes with the special references.
- To analyze the population ecology and its growth curve in the concept of meta- population and age structured population.
- To discuss the different approaches of biodiversity management and conservation.
- To bring awareness about different environmental pollutants and its remediation.
- To study the radiation ecology and its effects on biosphere.

Course Title: Biophysics and Biostatistics

- To apply the methods of histochemistry in tissue processing
- To demonstrate and apply the different types of Chromatography, Electrophoresis and Spectroscopic techniques in biological investigations.
- To explain the phenomenon of radioactivity and the biological applications of radio isotopes.
- To compile, classify and design statistical data into different diagrammatic and graphical forms.
- To compute, analyze, correlate and interpret the statistical data for the measures of dispersion and for the measures of central tendencies.

Course Title: Maternity and Child Care

- To discuss the morphological and hormonal changes during menstrual cycle.
- To describe the mechanism of fertilization, implantation and about twins.

- To highlight the importance of birth control, its types and the causes of infertility.
- To discuss the treatments for infertility and various testing methods of pregnancy.
- To learn the nutrition, vaccination schedules and theories of child behavior.

Course Title: Research Methodology

- To explain the fundamentals of research and characteristics of scientific method.
- To identify the research problem and design the research accordingly.
- To analyze and interpret the data using various statistical methods, charts and diagrams.
- To get exposure in journals, impact factor, plagiarism and ethical issues in research.
- To identify different softwares for paper formatting, Reference Management and for detection of Plagiarism Biopiracy.

Course Title: Biochemistry

- To explain the biomolecules and their characteristic nature.
- To demonstrate and analyze the clinical and biochemical tests based on the metabolism.
- To classify proteins and its metabolisms.
- To classify lipids and its metabolisms.
- To list out the xenobiotic compounds and their role in human body.

Course Title: Immunology

- To describe the scope of immunology, types of immunity, about lymphoid organs and Antigen class determinants.
- To explain HLA in Transplantation Immunology, Tumour immunology, autoimmune diseases and types of hypersensitivity.
- To determine the structure, functions and types of Immunoglobulins.
- To list down the process of Hybridoma technology and antigen antibody reactions.
- To explain the tumor suppressor genes, metastasis and therapeutic interventions of uncontrolled cell growth.

Course Title: Evolution of Life

- To explain the evolutionary thoughts and factors with the reference of Lamarckism and Darwinism.
- To discuss the cosmic evolution and origin of life (prokaryotes and eukaryotes).
- To study the paleontological and geological time scale.
- To describe the concept of natural selection and genetic polymorphism.
- To analyze animal coloration and mimicry, micro and macro evolution and types of adaptation.

Course Title: Practical – III - Developmental Biology, Entomology and Environmental Biology

- To prepare the histological slides of organogenesis and observe different hours of chick embryo.
- To explain induced ovulation, Egg density and fertilization in fish.

- To identify the pest of stored grains, vegetables, pulses and its control.
- To compare the known amino acids from the unknown using thin layer chromatography.
- To analyze the hydro biological parameters in different water samples and demonstrate the RQ, salt loss and salt gain in fishes.

Course Title: Practical – IV - Immunology and Biochemistry

- To demonstrate the Immuno-Electrophoresis.
- To estimate the protein content from fish tissue by Lowry's method.
- To estimate the carbohydrate from fish tissue by anthrone method.
- To estimate the lipid from fish tissue by Zak's method.
- To detect the amino acid by TLC Method.

17. Allied Mathematics Course Outcome:

Course Title: Mathematics - I

- Demonstrate knowledge in computing solutions to Summation series involving Binomial, Exponential and Logarithmic Series
- Compute the eigen values and eigen vectors of a given matrix and apply Cayley Hamilton theorem in computing the integrals powers and also the inverse of a given matrix.
- Knowledge in solving polynomial equations including reciprocal equations and application of Newton's method in finding approximate roots to the polynomial equations..
- Compute radius of curvature using Cartesian co-ordinates and also evaluate maxima and minima of functions involving two variables.
- Demonstrate skill in the expansion of Trigonometric functions and compute solutions to problems involving Hyperbolic and Inverse hyperbolic functions.

Course Title: Allied Mathematics

- Compute the eigen values and eigen vectors. Apply Cayley Hamilton theorem
- Solve the Polynomial equations, Reciprocal equations and approximations by Newton's method numerically
- Solve Algebraic equations numerically by Gauss seidel and Gauss Jordan methods.
- Find the inverse of the matrix using Gauss Elimination method.
- Evaluate the positive roots of an equation using bisection, False Position and Newton Raphson method
- Evaluate the integrals numerically by Trapezoidal, Simpson's 1/3 and 3/8 rule and Weddle's rule

Course Title: Analytical and Logical Reasoning

- Compute missing numbers, sequence of numbers, number series
- Analyze statement and assumptions, statement and conclusion.
- Discuss verbal reasoning, coding and decoding with alpha numeric characters, blood relationship

- Use direction sense test and data interpretation from bar diagram and pie chart
- Use venn diagram for data interpretation and use image series for identification

Course Title: Mathematics - II

- Demonstrate skill in computing integrations containing an integer parameter
- Identify the concept of difference tables and use them in computing problems involving Newton and Lagrange formulae.
- Knowledge in solving second order differential equations involving constant coefficients.
- Skill in computing solutions to partial differential equations of different types.
- Identify the basics of Laplace transformation and apply different properties in computing problems.

Course Title: Operations Research

- Explain LPP and solve LPP by Graphical and simplex method
- Formulate LPP to Transportation problem, Find initial solution using North west corner method, Least cost method and Vogle's Approximation method. Find optimal solution using MODI method.
- Formulate LPP to Assignment Problem, Solve by Hungarian method
- Demonstrate Sequencing Problem and solve n-jobs through 2,3,m machines.
- Solve two person zero sum games by Minimax principle, Dominance property
- Solve 2xm and mx2 games by graphical method
- Draw Networks and discuss the critical path by Floats and PERT techniques

Course Title: Operation Research

- Identify and develop operation research models from the verbal description of the real system. Formulate the Linear Programming Problem. Evaluate the LPP using Graphical Method
- Formulate LPP to Transportation problem, Evaluate the initial solution using North west corner method, Least cost method and Vogle's Approximation method
- Develop a report that describes the model and solving transportation,assignment problems using different techniques.
- Demonstrate the method of sequencing problem by n jobs through 2 machines, n jobs through 3 machines
- Use CPM and PERT techniques to plan, schedule and control project techniques
- Formulate LPP to Assignment Problem, and Find the solution of Minimization, Maximization case in assignment problem, unbalanced assignment problem by Hungarian method

Course Title: Statistics-I

- Discuss Sampling and types of data
- Create graphs and diagrams for different types of data.
- Evaluate measures of central value for different types of data

- Compute Measures of Dispersion like Mean deviation, quartile deviation and standard deviation for different types of data.
- Compare and study the relationship of two variables using correlation and regression lines
- Analyze various methods of finding index numbers for weighted and unweighted variables over two different periods

Course Title: Business Mathematics

- Analysis and application of set theory through operators and functions
- Identify and utilize Binominal Theorem, Exponential and Logarithmic Series
- Assess limits and continuity. Differentiate polynomial equations. Locally maximize and minimize functions and apply them to cost, revenue and profit functions.
- Identify and evaluate equations through ratios and proportions. Compute possible outcomes through permutations and combinations and its application on real life scenarios.
- Compute basic interests on financial instruments such as bills, loans, savings and annuity. Solve for variables multi-variable equations with matrices

Course Title: Business Statistics - I

- Discuss quantitative and qualitative data, primary and secondary data, collection of data, census method and sampling method
- Create the Diagrammatic and graphical representation of data using Simple bar diagram, Multiple bar diagram, sub-divided bar diagram, Deviation bar diagram, Histogram and Pie diagram.
- Evaluate the Measures of Central tendency – Mean, median and mode for the given data
- Find the measure of Dispersion - Range, Quartile Deviation, Mean Deviation , Standard Deviation
- Compute measures of Skewness for various types of data
- Convert real-world problems into probability models. Discuss the concepts of probability, conditional probability and Baye's theorem and its applications.

Course Title: Statistical Methods and Their Applications

- Evaluate the Measures of Central tendency – Mean, median and mode for the given data and find the measure of Dispersion - Range, Quartile Deviation, Mean Deviation , Standard Deviation
- Convert real-world problems into probability models. Discuss the concepts of probability, conditional probability and Baye's theorem and its applications.
- Evaluate correlation between two variables and identify its types. Formulate the simple linear regression equation for a set of data.
- Discuss the test of significance based on t, chi-square and F distributions with respect to mean and variance.
- Prepare ANOVA table. . Designs of experiments carry them out and analyze the data they yield.

Course Title: Statistical Methods and Their Applications - Practical

- Compute univariate and bivariate frequency distribution with samples of size not proceeding 200

- Create the Diagrammatic and graphical representation of data using Simple bar diagram, Multiple bar diagram, sub-divided bar diagram, Deviation bar diagram, Histogram and Pie diagram, Cumulative frequency curve and Lorenz curves.
- Compute various measures of location, dispersion, moments, skewness and kurtosis
- Compare two variables using correlation and regression lines.
- Discuss the test of significance based on t, chi-square and F distributions with respect to mean and variance.
- Prepare ANOVA table, Randomization, Latin square. Designs of experiments carry them out and analyze the data they yield

Course Title: Business Statistics - II

- Outline Index Numbers: Simple aggregative, simple average of price relative method, weighted average of price relative method and weighted aggregative method, Fixed and Chain base Index , Cost of Living Index
- Analysis of sampling method, sampling error, central limit theorem and estimating population parameters, computing mean population for large sample and small sample
- Evaluate correlation between two variables and identify its types with use of rank correlation.
- Formulate the simple linear regression equation for a set of data, uses of regression, and difference between correlation and regression.
- Discuss about the Time Series Analysis using Secular trend: Graphic or free hand method, Method of semi average, Moving average and least square
- Explain Method of least squares to fit a straight line-Seasonal variation: Method of simple average.

Course Title: Business Statistics and Operations Research

- Identify and compute measures of central tendency of sample visually mean, median and mode and verify empirical relation. Computation measures of dispersion of samples and their coefficients and Infer meaning there hence
- Identify and compute rank-correlation with correction of repeated ranks. Compute regression equations and estimate value of independent variable and compute correlation coefficient. Testing hypothesis through F chi square test.
- Analysis of Time Series and indices, measurement of trends and perform statistical quality control
- Compute linear programs through graphical and simplex methods
- Compute transportation and assignment problems

Course Title: Statistics-II

- Discuss various components of time series. Compute the trend values for secular and seasonal variations
- Discuss probability ,apply Baye's theorem to problems. Evaluate expectations
- Identify the different types of probability distributions ,use them to solve real life problems.

- Explain test of hypothesis ,its significance and various types of statistical tests for one and two samples, uses.
- Test of hypothesis for more than 2 samples using ANOVA

SCHOOL OF COMMERCE

18. B.Com (General) Programme Outcome:

PO 1 : Outline the fundamentals of commerce viz., business studies, finance, accounting and management.

PO 2 : Recognize various managerial and accounting skills needed for better professional opportunities.

PO 3 : Examine the capabilities in varied areas developing communication skills with an aim towards holistic development of learners.

PO 4 : Develop the capability of decision making at personal and professional levels and inculcate entrepreneurial skills.

PO 5 : Synthesis the knowledge to face the challenges in competitive global environment.

B.Com (General) Programme Specific Outcome:

PSO 1 : Apply Management accounting concepts in determining and managing Costs, Revenue, Pricing and budgetary techniques.

PSO 2 : Generate proactive decisions pertaining to business solutions with regard to application of economic principles and techniques at micro and macro

B.Com (General) Course Outcome:

Course Title: Financial Accounting

- To study the basic concepts and Accounting Standards.
- To understand the procedures of Accounting under Single entry system.
- To foster knowledge on Depreciation Accounting.
- To get exposure to insurance claims and Bank reconciliation statement.
- To acquire knowledge and applicability of Departmental accounts.

Course Title: Principles of Management

- To enable the students to acquire knowledge on principles of management
- To know the concepts and functions of management
- To learn the importance, types, process and techniques of decision making
- To understand the Organisation structure and its importance
- To develop the knowledge in coordination and controlling techniques.

Course Title: Economics for Business Decision

- To acquire knowledge about definition and importance of business economics
- To explain the consumer behaviour theory like Demand and elasticity of demand.
- To outline the concept of consumer behaviour theories
- To understand the concepts of cost, nature of production and its relationship to Business operations.
- To analyze the causes and consequences of different market conditions.

Course Title: Analytical and Logical Reasoning

- To enable students to learn to describe the problem-solving process
- To make the students identify various problem-solving techniques and apply these in solving business problems
- To understand thinking models and practice exercises to help in thinking outside-the box and generate a larger solution space
- To understand creativity and blocks to creativity
- To arrive at objective, well-reasoned decisions in a reasonable time.

Course Title: Advanced Financial Accounting

- To demonstrate the accounting procedure for Branch Accounts under debtors system and stock& debtors system.
- To explain the concept of Hire purchase transactions, calculation of interests and various accounting treatments of Hire purchase & Instalment system.
- To compile the accounting procedure for admission and treatment of goodwill.
- To analyze the accounting treatment of retirement of partnership and death of a Partner, executors account.
- To discuss the various procedures for accounting treatment of Dissolution, Garner Vs Murray, and piece meal distribution.

Course Title: Marketing Management

- To develop an understanding about the basic concepts of marketing.
- To determine the various methods of promotion in marketing.
- To provide an insight on the various marketing channels along with modern technology.
- To understand the consumer behaviour process & marketing ethics.
- To demonstrate the concept of product life cycle and pricing.

Course Title: Indian Economic Development

- To know about the concepts of Economic development and Economic Growth.
- To acquire knowledge about calculating the National Income.
- To know about poverty, Unemployment, Inequalities and population
- To learn about Role of LSI and SSI.
- To enhance the knowledge of the students to learn about the economic planning.

Course Title: Importance of Emotional Intelligence

- To evoke knowledge amongst students on Emotional Intelligence.
- To make students understand the importance of self-awareness and self-development.
- To outline the Students about Positive and Negative traits.
- To demonstrate about self- Analysis.

Course Title: Corporate Accounting

- To prepare the journal entries of issue of shares and compute underwriter's liabilities.
- To demonstrate thorough knowledge of relevant accounting treatment of redemption of preference shares and the ability to find the profit prior to incorporation of companies.
- To demonstrate thorough knowledge in preparation of financial statements of companies as per the provisions of companies Act 2013.
- To select the appropriate methods of valuation of shares and goodwill and perform the accounting treatment of the company.
- To learn about the concepts of various procedures for alteration of share capital and accounting treatment in respect of internal reconstruction of a company.

Course Title: Management Accounting

- To enable the students to acquire sound knowledge of concepts, methods and techniques of management accounting.
- To apply the analytical skills associated with the interpretation of accounting reports.
- To evaluate the results of profitability, liquidity, solvency and efficiency levels in the business.
- To communicate the knowledge about fund flow and cash flow statements under (AS-3) and also the concept of budgetary control.
- To evaluate the classification of budgets.

Course Title: Business Communication

- To discuss the importance and essentials of communication in business activities.
- To draft the various types of business letter and to practice the same.
- To demonstrate the various types of business enquiries.
- To compile the different types of correspondence relating to the company and secretarial practice.
- To utilize the knowledge about the vital role played by computer in business entities.

Course Title: Business and Corporate Laws

- To inherit the knowledge on the legal aspects involved in business.
- To impart the performance of contract as per Indian Contract Act, 1872.
- To create and demonstrate the knowledge about sale of goods Act 1930.
- To demonstrate Memorandum and Articles of Association.
- To make the students to understand Meetings of the company.

Course Title: Business Statisitics - I

- To communicate the origin and basics about the statistics.
- To demonstrate the classifications, tabulation of data including diagrammatic and graphical methods.
- To analyze the knowledge of measures of central tendency – Mean, Median, Mode, Geometric Mean and Harmonic Mean.
- To explain the characteristics of the range, Quartile deviation, mean deviation, variance, and the standard deviation.
- To evaluate the measures of skewness – Karl Pearson's coefficient of skewness and Bowley's Coefficient of Skewness.

Course Title: Advanced Corporate Accounting

- To understand the accounting concepts and policies related to accounting standards and to identify the relationship for financial reporting purposes.
- To demonstrate a thorough knowledge of relating accounting treatment and the ability to apply them to solve banking company's financial statement based on Indian Accounting Standard.
- To demonstrate a thorough knowledge of relating accounting treatment and the ability to apply them to solve General insurance company's financial statement based on Indian Accounting Standard.
- To analyze the accounting procedure of amalgamation of companies, absorption & external reconstruction of companies
- To understand thorough knowledge about the procedure of preparing liquidator's final statement of accounts at the time of winding up of the companies.

Course Title: Financial Management

- To understand how crucial financial decisions are taken in a firm and gain insight into wealth maximization and profit maximization.
- To understand the cost of capital, importance of leverage and capitalization.
- To Demonstrate the Theories of capital structure.
- To formulate dividend decisions in a firm.
- To select and apply techniques for short term financial needs of the firm using working capital management concepts.

Course Title: Goods & Service Tax and Customs Laws

- To discuss the classification and methods, tax system in India, Objectives of taxation, and Cannons of taxation
- To outline the Concepts, Definitions and Types of Custom duties.
- To explain the Various assessment procedures and valuation of goods, Clearance of goods
- To understand the Prohibition of Importation and exportation of goods under Customs Act, powers of various customs officers.

- To demonstrate the applicability and non-applicability of GST, Exemptions, role of GST Council
- To discuss the provisions and rules relating to Supply, Types of goods, and Input Tax credit under GST.
- To compile the various provisions and Importance for Registration, Cancellation.

Course Title: Banking and Financial Services

- To comprehend the Indian Financial system through banking and financial services.
- To enlighten the students about the financial services available to develop our economy.
- To create awareness on E-Banking Services.
- To know about the Banking Ombudsman and Redressal Committees.
- To inculcate the types of financial services available in the financial markets.
- To enhance the knowledge on mutual funds' investments, venture capital and credit rating.

Course Title: Business Statisitics – II

- To discuss the scope of correlation and use of regression analysis to estimate the relationship between two variables and its applications
- To analyze the use of time series models for forecasting and the limitations of the methods
- To utilize the necessary set of skills in using statistical tool and technique of index number for price level changes.
- To communicate the methods of interpolation & extrapolation.
- To compile the various methods of statistical tools of quality monitoring including control charts

Course Title: Environmental Studies

- To create awareness among the Students community about the Environmental Issues, Causes and Remedies.

Course Title: Cost Accounting

- To compile the basic concepts used in cost accounting.
- To compute selling price through cost sheets.
- To outline the basic principles of materials, control and the latest techniques in inventory control.
- To evaluate the various methods of labor cost control and calculation of remuneration and wages.
- To explain the classification of the overheads, and distribution of overheads through primary and secondary distribution.

Course Title: Entrepreneurial Development

- To discuss the concept of entrepreneurship and its importance.
- To analyze the scope of various financial institutions for the enhancement of small entrepreneurs.
- To utilize the various technical tools for the business premises and encounter business ventures.
- To communicate the important values of EDPs and the Government role played in ED.
- To design the valuable approaches in the changing economic scenario and to apply the same for the improvement of small scale entrepreneurs.

Course Title: Income Tax Theory, Law and Practice – I

- To understand the basic concepts & definitions under the Income Tax Act, 1961.
- To ascertain the residential status of an assessee and its incidence of tax.
- To compute salary income under the head salaries.
- To learn the concepts of Annual value associated deductions & the calculation of income from House property.
- To compute the income from Business & Profession.

Course Title: Practical Auditing

- To brief about concepts of auditing and its usage in various fields.
- To demonstrate the scope, features of vouching and verification of Assets and Liabilities.
- To learn about the depreciation, reserves and provisions and auditors duty.
- To study the appointment of auditor, their responsibilities and presentation of audit report.
- To know the audit procedure in service sector.

Course Title: Elements of Income Tax (IDE)

- To understand the basic concepts & definitions under the Income Tax Act,1961.
- To ascertain the residential status of an assessee and its incidence of tax.
- To compute salary income under the head salaries.
- To learn the concepts of Annual value associated deductions & the calculation of income from House property.
- To compute the income from other sources

Course Title: Advanced Cost Accounting

- To enable students to acquire the versatile knowledge in costing for various service industries.
- To make them to understand the techniques of cost control and decision making.
- To enable the students to prepare operating cost sheet for services sector.
- To know the marginal costing techniques and decisions making.
- To learn concept of process costing and uses.

Course Title: Income Tax Law & Practice-II

- To compute Income from "Capital Gain" under section 45 to 55, and to analyse the various exemptions under the capital gains
- To analyze the various provisions contained under section 56 to 59 of the Income tax Act, 1961 under the heads "Income from Other Sources"
- To outline the various provisions relating to "Aggregation of income" and "Set-Off and Carry Forward of Losses"
- To prepare gross total income and to analyse the provisions under section 80 C to 80U relating to individuals

- To Compile the procedure for computation of tax on income for assessment of individual for the current assessment year under the Income Tax Act., 1961

Course Title: Business Environment

- To enable the students to scan the business environment and appraise various factors which influence on business performance
- To know the political environment and government intervention in the Business industry.
- To find out the Social and cultural factors in the Business environment.
- To value the economic factors indicators of Business growth.
- To find the technological advancement of Business environment.

Course Title: Human Resource Management

- To explain the importance of Human Resource Management and its Processes concerned with various management activities and to run an effective organization.
- To outline different methods and techniques of Training and Performance Appraisal that are used in an organization
- To assess the different methods and techniques relating to administration and to retain the human resources.
- To discuss the various mechanisms in HR environment that are capable of applying the principles and techniques as professionals for developing human resources in an organization.
- To predict the different faces of executives and preparing policies and practices based on it and Human Resource audit

Course Title: Computing Skills

- The major objective in introducing the Computer Skills course is to impart training for students in Microsoft Office which has different components like Ms word, MS Excel, Ms Access, Power point etc., at two levels based on their knowledge and exposure.
- It provides essential skills for the user to get adapted to any work environment, as most of the systems in any workplace have MS-Office installed for their day to day activities. The course is highly practice oriented rather than regular class room teaching.

19. B.Com (Corporate Secretaryship) Programme Outcome:

PO 1 : Identify Basic knowledge and techniques in the area of commerce and Management enabling the students to become professionals.

PO 2 : Prepare students on analytical and problem-solving skills in various fields of management, business, accounting, tax, finance and law.

PO 3 : Apply provisions of company‟s amendment act 2013 to face the real time corporate scenario.

PO 4 : Comply with the legal requirements pertaining to the company Secretarial Practice, Corporate Governance and industrial law.

PO 5 : Generate hands on experience through internships and projects

B.Com (Corporate Secretaryship) Programme Specific Outcome:

PSO 1 : Recognize secretarial skills required for company Secretary.

PSO 2 : Develop knowledge on Direct and Indirect Taxes

B.Com (Corporate Secretaryship) Course Outcome:

Course Title: Financial Accounting

- To study the basic concepts and Accounting Standards.
- To understand the procedures of Accounting under Single entry system.
- To foster knowledge on Depreciation Accounting.
- To get exposure to insurance claims and Bank reconciliation statement.
- To acquire knowledge and applicability of Departmental accounts.

Course Title: Principles of Management

- To enable the students to acquire knowledge on principles of management
- To know the concepts and functions of management
- To learn the importance, types, process and techniques of decision making
- To understand the Organisation structure and its importance
- To develop the knowledge in coordination and controlling techniques

Course Title: Corporate E-Management

- To outline the introduction to computer, classification and its uses in business.
- To discuss the Operating System, Hardware & Software and computer networks
- To demonstrate a basic uses of Internet, E-mail in current scenario and be aware of
- To identify the basic concepts & elements of Multimedia and their use in both education and entertainment.
- To communicate the legal framework of E – Commerce and assess the various modes of Electronic Payment system

Course Title: Advanced Financial Accounting

- To demonstrate the accounting procedure for Branch Accounts under debtors system and stock& debtors system.
- To explain the concept of Hire purchase transactions, calculation of interests and various accounting treatments of Hire purchase & Installments system.
- To compile the accounting procedure for admission and treatment of goodwill.
- To analyze the accounting treatment of retirement of partnership and death of a Partner, executors account.
- To discuss the various procedures for accounting treatment of Dissolution, Garner Vs Murray, and piecemeal distribution.

Course Title: Marketing Management

- To develop an understanding about the basic concepts of marketing.
- To determine the various methods of promotion in marketing.
- To provide an insight on the various marketing channels along with modern technology.
- To understand the consumer behavior process & marketing ethics.
- To demonstrate the concept of product life cycle and pricing.

Course Title: Corporate Governance

- To discuss the various corporate sectors and their functions, Elements of good corporate governance, Governance manual
- To demonstrate the shareholders vs stakeholders approach and welfare of stakeholders
- To outline the due diligence, functions, advantages, guidelines for issue of Initial public offer (IPO), Sweat equity shares & Employee stock option scheme (ESOS).
- To demonstrate the various committees and their functions which are prevailing in the corporate sector/Companies Act 2013
- To explain the various corporate social responsibilities (CSR) Practices & Social Audit and its importance.

Course Title: Corporate Accounting

- To prepare the journal entries of issue of shares and compute underwriter's liabilities.
- To demonstrate thorough knowledge of relevant accounting treatment of redemption of preference shares and the ability to find the profit prior to incorporation of companies.
- To demonstrate thorough knowledge in preparation of financial statements of companies as per the provisions of Companies Act 2013.
- To select the appropriate methods of valuation of shares and goodwill and perform the accounting treatment of the company.
- To learn about the concepts of various procedures for alteration of share capital and accounting treatment in respect of internal reconstruction of a company

Course Title: Management Accounting

- To enable the students to acquire sound knowledge of concepts, methods and techniques of management accounting.
- To apply the analytical skills associated with the interpretation of accounting reports.
- To evaluate the results of profitability, liquidity, solvency and efficiency levels in the business.
- To communicate the knowledge about fund flow and cash flow statements under (AS-3) and also the concept of budgetary control.
- To evaluate the classification of budgets.

Course Title: Business Communication

- To discuss the importance and essentials of communication in business activities.
- To draft the various types of business letter and to practice the same.

- To demonstrate the various types of business enquiries.
- To compile the different types of correspondence relating to the company and secretarial practice.
- To utilize the knowledge about the vital role played by computer in business entities.

Course Title: Company Law and Secretarial Practice – I

- To outline the knowledge about the provisions of the Companies Act 2013.
- To utilize the legal procedures relating to the formation of a company.
- To selection of various sources like shares and debentures to raise the capital of a company through the issue of the prospects.
- To demonstrate different kinds of capital, company and its objectives.
- To communicate the students to differentiate the meaning regarding members and shareholder of a company and the powers subject to them.

Course Title: Business Statistics – I

- Communicate the origin and basics about the statistics.
- Analyze the knowledge of measures of central tendency – Mean, Median, Mode, Geometric Mean and Harmonic Mean.
- Explain the characteristics of the range, Quartile deviation, mean deviation, variance, and the standard deviation.
- Evaluate the measures of skewness – Karl Pearson's coefficient of skewness and Bowley's Coefficient of Skewness.
- Analyze the properties of Probability and its applications

Course Title: Advanced Corporate Accounting

- To understand the accounting concepts and policies related to accounting standards and to identify the relationship for financial reporting purposes.
- To demonstrate a thorough knowledge of relating accounting treatment and the ability to apply them to solve banking company's financial statement based on Indian Accounting Standard.
- To demonstrate a thorough knowledge of relating accounting treatment and the ability to apply them to solve General insurance company's financial statement based on Indian Accounting Standard.
- To analyze the accounting procedure of amalgamation of companies, absorption & external reconstruction of companies
- To understand thorough knowledge about the procedure of preparing liquidator's final statement of accounts at the time of winding up of the companies.

Course Title: Financial Management

- To understand how crucial financial decisions are taken in a firm and gain insight into wealth maximization and profit maximization.
- To understand the cost of capital, importance of leverage and capitalization.
- To Demonstrate the Theories of capital structure.

- To formulate dividend decisions in a firm.
- To select and apply techniques for short term financial needs of the firm using working capital management concepts.

Course Title: Goods & Service Tax and Customs Laws

- To discuss the classification and methods, tax system in India, Objectives of taxation, and Cannons of taxation
- To outline the Concepts, Definitions and Types of Custom duties.
- To explain the Various assessment procedures and valuation of goods, Clearance of goods
- To understand the Prohibition of Importation and exportation of goods under customs Act, powers of various customs officers.
- To demonstrate the applicability and non-applicability of GST, Exemptions, role of GST Council
- To discuss the provisions and rules relating to Supply, Types of goods, and Input Tax credit under GST.
- To compile the various provisions and Importance for Registration, Cancellation.

Course Title: Company Law & Secretarial Practice – II

- To compile the knowledge about the various provisions of Borrowing powers, debentures and its types, Secretarial duties relating to Borrowing powers
- To outline the legal procedures relating to the types, Appointment, functions, duties, powers, remuneration of the Directors and Key managerial personnel and their appointments, Secretarial duties relating to appointment of directors
- To demonstrate the provisions for conducting the meetings of the companies, elements of valid meeting, resolution, and voting methods. Secretarial duties relating to conduct of meeting
- To explain the concepts about the role of an auditor, different kinds of Audits, and their objectives, provisions for payment of dividend, and books of accounts. Secretarial duties relating to maintenance of books of accounts
- To analyze the causes and circumstances of winding up and differentiate a Compulsory and Voluntary winding up of the company.

Course Title: Business Statistics – II

- Discuss the scope of Karl Pearson's Coefficient of correlation and Spearman's Rank correlation.
- Discuss the scope of regression and use of regression analysis to estimate the relationship between two variables and its applications.
- Enable the students to acquire sound knowledge of concepts, methods and techniques of sampling techniques.
- Analyses the use of time series models for forecasting and the limitations of the methods.
- Utilize the necessary set of skills in using statistical tool and technique of index number for price level changes.

Course Title: Cost Accounting

- To compile the basic concepts used in cost accounting.
- To compute selling price through cost sheet.
- To outline the basic principles of materials control and the latest techniques in inventory control.
- To explain the classification of the overheads, and Distribution of Overheads under Primary and Secondary distribution.
- To evaluate the various surfaces of labor cost control, various methods of remuneration and calculation of wages.

Course Title: Entrepreneurial Development

- To discuss the concept of entrepreneurship and its importance.
- To analyze the scope of various financial institutions for the enhancement of small entrepreneurs.
- To utilize the various technical tools for the business premises and encounter business ventures.
- To communicate the important values of EDPs and the Government role in ED.
- To design the valuable approaches in the changing economic scenario and to apply the same for the improvement of small scale entrepreneurs.

Course Title: Income Tax Law & Practice-I

- To understand the basic concepts & definitions under the Income Tax Act,1961.
- To ascertain the residential status of an assessee and its incidence of tax.
- To compute salary income under the head salaries.
- To learn the concepts of Annual value associated deductions & the calculation of income from House property.
- To compute the income from Business & Profession.

Course Title: Practical Auditing

- To Brief about concepts of auditing and its usage in various fields.
- To demonstrate the scope, features of vouching and verification of assets and liabilities.
- To learn about the depreciation reserves, provisions and auditors duty.
- To study the appointment of auditors, their responsibilities and presentation of audit report.
- To know the audit procedures in service sectors.

Course Title: IDE Paper – Elements of Income Tax

- To understand the basic concepts & definitions under the Income Tax Act,1961.
- To ascertain the residential status of an assessee and its incidence of tax.
- To compute salary income under the head salaries.
- To learn the concepts of Annual value associated deductions & the calculation of income from House property.
- To compute the income from other sources

Course Title: Securites Law & Markets Operations

- To discuss the Basic Knowledge of SEBI Guidelines for new issue market and investors protection on it.
- To describe the role of stock market and the various role played by its intermediaries.
- To demonstrate the functions of Stock Exchange, mechanics, types and also listing of Securities.
- To prepare the concept about trading pattern in OTCEI, NSE and other Index numbers.
- To formulate an idea about the Demat Trading, and Mutual funds.

Course Title: Income Tax Law & Practice-II

- To compute "Income from Capital Gain" under section 45 to 55, and to analyze the various exemptions under the capital gains
- To analyze the various provisions contained under section 56 to 59 of the Income tax Act, 1961 under the heads "Income from Other Sources"
- To outline the various provisions relating to "Aggregation of income" and "Set-Off and Carry Forward of Losses"
- To prepare gross total income and to analyze the provisions under section 80 C to 80U relating to individuals
- To compile the procedure for computation of tax on income for assessment of individual for the current assessment year under the Income Tax Act., 1961

Course Title: Commercial & Industrial Law

- To revise the Important Concepts and terms in Business law and Classifications of Indian Contract Act
- To outline the Knowledge of the essential elements of contracts, Capacity of Parties, Performance of Contract, Breach of Contract and its remedies
- To discuss the Knowledge about Bailment, Pledge, Indemnity and guarantee and its differences.
- To demonstrate the Factories Act 1948, and women empowerment.
- To analyse the Industrial Disputes Act

Course Title: Human Resource Management

- To explain the importance of Human Resource Management and its Processes concerned with various management activities and to run an effective organization.
- To outline different methods and techniques of Training and Performance Appraisal that are used in an organization
- To assess the different methods and techniques relating to administration and to retain the human resources.
- To discuss the various mechanisms in HR environment that are capable of applying the principles and techniques as professionals for developing human resources in an organization.
- To predict the different faces of executives and preparing policies and practices based on it and Human Resource audit

Course Title: Application Oriented: Institutional Training

- Acquire institutional experience the nature of schools as workplaces and their associated values, routines and cultures
- Demonstrate professional skills that pertain directly to the institutional experience
- Analyse the various department activities and their responsibilities.
- Formulate the organization structure, layout.
- Describe the organization's financial statement analysis.
- Prepare the report based on the training experience.

20. B.Com (Accounting & Finance) Programme Outcome:

PO 1 : Explain the Fundamentals of Commerce, Accounting and Finance.

PO 2 : Apply accounting concepts & theories to enter the work environment with confidence & strength.

PO 3 : Prioritize & work in solving dynamic challenges of the business environment.

PO 4 : Summarize the knowledge acquired over the period of study making the learners industry ready with enhanced job skills

PO 5 : Develop quantitative aptitude, presentation and analytical skills of the students.

B.Com (Accounting & Finance) Programme Specific Outcome:

PSO 1 : Analyze the financials of business, manage investment portfolios and working capital of business.

PSO 2 : Measure National Economic Progress and assess Domestic & Global Trade movements.

B.Com (Accounting & Finance) Course Outcome:

Course Title: Financial Accounting

- To apply accounting techniques for bringing real business by using journal, ledger, cash book and trial balance
- To allocate common expenditures of the organization among various incomes and expenses by using final accounts
- To demonstrate a thorough working record of personal debtors and creditors are properly maintained
- To evaluate the business events under different methods of depreciation
- Apply the errors of rectification which is very useful in business.

Course Title: Principles of Management

- To understand what should be done to accomplish given tasks and to handle situations which arise in management.
- To establish the principles different approaches in modern school of thought

- To Setup the objectives, target for formulating an action plan to achieve them
- To invent the students about different types of organizational structure.
- To put ideas and concepts to work in co-ordination the organizations' processes & systems

Course Title: Business and International Economics

- To define the main concepts and describe the models and methods used in economic analysis
- To formulate real world issues in the language of economic modelling
- To apply and use economic models to analyze these issues
- To assess the potential and limitations of the models and methods used in economic analysis
- The student must be able to graphically depict a market in competitive equilibrium, recognize and list factors leading to a change in market demand and market supply, graphically depict the impact of the changes on the market, and verbally summarize the impact of the changes on the market.
- The student must be able to distinguish between a change in demand (supply) and a change in quantity demanded (supplied).
- To define the conception of consumer behaviour and reveal its importance in the context of marketing.
- To identify factors that influence consumer behaviour.
- To examine the consumer decision-making process.
- To describe the target market and determine the positioning strategy according to consumer characteristics and behavior
- Understand the general equilibrium relationship between factor endowments, the location of production, and international trade
- Use general equilibrium techniques to analyze a variety of issues in international trade includingthe links between trade and wage inequality and the effects of trade policy
- Understand the implications of imperfect competition, increasing returns to scale, and transport costs for patterns of international trade, the conduct of trade policy, and the location of economic activity in space
- Understand the working and applications of models of Foreign Direct Investment
- know some of the empirical evidence relating to international trade, the geographical concentration of production, and Foreign Direct Investment
- Use and adapt economic models to address key issues in international trade.
- They will learn how international trade is affected by fluctuations in exchange rates

Course Title: Advanced Financial Accounting

- To apply accounting techniques for bringing a real picture of business processes in Branch Accounting.
- To allocate common expenditures of the organization among various departments on appropriate basis
- To apply the accounting problems which is very useful to maintain their accounts in Big Malls
- To evaluate the business events under different stages in the life of the partnership.
- To demonstrate a thorough working knowledge of accounting in partnership organizations.

Course Title: Marketing Management

- To understand the basis of marketing and its importance in today's scenario
- To assess factors affecting marketing environment
- To familiarize with various market segments in marketing and behavior of consumers
- To understand the 4 P's of marketing i.e, Product, Place, Price and Promotion.
- To analyze the recent trends in marketing.

Course Title: Allied Paper Banking

- To understand a thorough working knowledge of banks
- To utilize the different activities of the banks.
- To analyze the theoretical knowledge of bank accounts
- To calculate the rate of interest for the loan getting from the banks
- To use of the negotiable instruments in their future

Course Title: Corporate Accounting

- Students would acquire knowledge regarding issues of shares at par, premium and discount. They get to know about how to pass journal entries regarding issue, forfeiture, calls in arrears, calls in advance and pro-rata allotment.
- To prepare Capital Redemption Account and Balance Sheet as per Companies Act and also prepare Pre & Post incorporation calculations, Profit and Loss A/c and Balance Sheet.
- To practice the skill of preparation of Balance Sheet Schedule wise.
- To understand valuation of goodwill under Average Profit, Super Profit, Annuity Method and Capitalisation of Super profit method. They also know how to value shares under Net Asset Method, Yield Method, Fair Value Method.
- To gain knowledge on Alteration of Capital and Internal reconstruction.

Course Title: Management Accounting

- To know about the basics of management accounting.
- To interpret the financial statements
- To know about the ratios and find the liquidity and solvency position of the company
- To prepare working capital statements and fund flow statements.
- To prepare cash flow statements and different types of budget.

Course Title: Business Communication

- To understand the basics of communication and its importance which aids in taking important business decisions in communication.
- To comprehend various channels of communication and can chart out various business letters with different layouts.
- To design and develop letters and resume by their own in relation to personal and Business correspondence.

- To prepare Internal and external business correspondence effectively such as letters to directors, shareholders etc.
- To empower handling various modern forms of communication tools and even through social media and applications in the current business scenario.

Course Title: Business and Corporate Laws

- To get practical knowledge about Contracts and agreements.
- To familiarize with various types of contracts
- To apply the principles of sale goods act in their business.
- To prepare Documents related to establishment of companies
- To learn the rules and regulations regarding foreign Exchange.

Course Title: Advanced Corporate Accounting

- To gain adequate knowledge about Amalgamation, Absorption, external reconstruction and preparation of Balance Sheet.
- To be proficient in the preparation of consolidated Balance Sheet & Holding Company
- To prepare Profit & Loss account, Balance Sheet according to schedules and prepare Revenue Account for Insurance Companies.
- To imparted training in the area of liquidator's final statement of account and Final statement of Affairs List A to H
- To describe the theoretical perspective of Accounting Standards and how it is used in Accounts.

Course Title: Financial Management

- To recognize the full worth of finance utilized in the organization.
- To evaluate the value of funds to be invested in the business, by considering the risk involved.
- To investigate the investing policies taken into consideration after risk & return comparison
- To calculate, how much of the company's earnings will it pay to share holders
- To formulate the long term investments & recording of costs, methods and effects too.

Course Title: Goods & Service Tax and Customs Laws

- To understand the direct taxes and indirect taxes.
- To become well-versed in customs formalities
- To apply the procedure of central excise duty in the business
- To understand the meaning, benefit applicability and exclusions of GST.
- To apply the Goods and service tax framework, conditions, valuations and payment involved for their business in the future.
- To implement the registration rules, regulations and refund procedures involved in GST.

Course Title: Financial Services

- To list the financial services and understand the broad services
- To have an in-depth understanding of the working of various service providers and institutions
- To identify the leasing and factoring service advantages
- To be familiar with Credit Rating Procedures.
- To understand various mutual fund investment opportunities

Course Title: Cost Accounting

- To get a clear picture about cost, costing, installation of costing system in an Industry
- To prepare a cost sheet, tender/quotation and maintain records for issue of materials under a computerized environment.
- To impart knowledge relating to Labour Cost, Labour Turnover and different types of piece rate system
- To understand the allocation of expenses and calculation of Machine Hour Rate
- To prepare Process account, contract account and operating statement for transportation.

Course Title: Entrepreneurial Development

- To become aware about Entrepreneurship.
- To learn about different Sources of finance to start a business.
- To analyze the factors, business ideas for selecting a business.
- To acquire knowledge about Entrepreneurial Development Programmes.
- To relate the ED programme and economic development of the country

Course Title: Income Tax Theory, Law and Practice – I

- To know the basic concepts of tax and to compute income under various heads.
- To charge income under the head salaries.
- To compute income under the head House property under the given circumstances.
- To calculate income under the head business and profession.
- To know the basic concepts under the Income Tax Administration Act and about Income Tax authorities.

Course Title: Practical Auditing

- To get in depth knowledge about the concepts of auditing.
- To outline the steps involved in vouching, verification, valuation of assets and liabilities in the organization.
- To view the process of appointment procedures relating to auditors of the company.
- To recognize the powers and rights, duties of an auditor.
- To apply the computerized system of auditing methods in their business.

Course Title: Indian Constitution and Human Rights (IDE)

- To learn the fundamentals of the Indian Constitution and the rights & duties of the citizens of India
- To explore the three wings of the Government and the judiciary bodies
- To demonstrate the edifice of the Indian Governance & the electoral systems
- To comprehend the term human rights & its classification
- To appreciate the role of human rights commission worldwide and the role of educational institutions in promoting human rights

Course Title: Working Capital Management

- To consume working capital optimally and ultimately to maximize shareholders wealth.
- To prepare and put together a Source and Use statement in a good way to strategize on creative ways to finance the business startup / expansion programmes
- To interpret the cash flow and liquidity position of investments and acquisitions.
- To manage the receivables in the firm and maintain the company's professional image and cash flows.
- To plan for management, inventory orders, inventory tracking and inventory turnover

Course Title: Income Tax Law & Practice-II

- To calculate income under the head capital gains.
- To compute income from other sources.
- To club the income and to set off losses and carry forward losses.
- To know the various deductions that are applicable while calculating income tax.
- To compute tax liability.

Course Title: Security Analysis and Portfolio Management

- To demonstrate a thorough knowledge on Investment areas and kinds of investors
- To empower themselves on handling various government and non-government financial investment avenues.
- To enlighten themselves on basics of stock exchange in India and the regulatory developments.
- To understand the basics of trading mechanisms and investors rights and obligations.

Course Title: Human Resource Management

- To become familiar in the concepts of HRM
- To know about different types of training methods applied by the organization in their workplace.
- To illustrate different types of remuneration and incentive systems prevailing in the organization
- To manage and organize the industrial disputes, labor problems, trade union functions involved in the organizations.
- To deduce concepts involved in HR Audit.

Course Title: Project

- To apply fundamental and disciplinary concepts and methods in ways appropriate to their principal areas of study.
- To demonstrate skill and knowledge of current information and technological tools and techniques specific to the professional field of study.
- To use effectively oral, written and visual communication.
- To identify, analyze, and solve problems creatively through sustained critical investigation.
- To integrate information from multiple sources.

21. B.Com (Honours) Programme Outcome:

PO 1 : Convert Students as real time Professionals in the areas of finance, accounting and taxation.
PO 2 : Prepare Students to face the challenges in the current job market.
PO 3 : Apply the knowledge gained in the field of finance, law, taxation, treasury, accounting, etc. and in teaching fields.
PO 4 : Analyse and interpret various case studies related to Marketing, HR, Finance, Management, Accounting, Accounting standards, Income Tax and GST.
PO 5 : Combine theoretical and practical knowledge through internship and projects

B.Com (Honours) Programme Specific Outcome:

PSO 1 : Examine the Conceptual knowledge in accounting standards to pursue professional courses
PSO 2 : Prepare students to be proficient in the field of Commerce, Logistics and Supply Chain Management, Research, Corporate Ethics and Governance and Tax.

B.Com (Honours) Course Outcome:

Course Title: Financial Accounting –I

- To analyze and ascertain the financial results using trading, profit &loss and balance sheet.
- To examine about receipts and payments account, income and expenditure account.
- To identify the errors and rectifying it.
- To study about depreciation and its types.
- To learn about single entry and double entry system of book keeping.

Course Title: Marketing Practice

- To study about basic concepts of marketing and demand of customers
- To ascertain about internal and external factors relating to marketing environment.
- To analyze about changes in taste, preference and attitude of customers
- To examine about 4Ps in marketing mix.
- To learn about changes in trends due to changing technology.

Course Title: Principles of Management

- To familiarize with nature and scope of management
- To study the concept of planning and decision making
- To understand the process in allocating resources and assigning tasks in an organization.
- Providing exposure to business or managerial situations.
- To study the concept of Management by objectives and helps the students deal with organization goals.

Course Title: Business Economics

- To study the concept of nature and scope of economics.
- To understand the role of economics in business decisions.
- To analyse the concept of four factors of production (Land, Labour, Capital, Organization)
- To comprehend the concept of cost, revenue and break-even analysis.
- To acquire the knowledge of National Income, National Product and National expenditure.

Course Title: Analytical and Logical Reasoning

- To enable students to learn to describe the problems-solving process
- To make the students identify various problem- solving techniques and apply these in solving business problem.
- To understand thinking models and practice exercises to help in thinking outside- the box and generate a larger solution space.
- To understand creativity and blocks to creativity.
- To arrive at objective, will- reasoned decisions in a reasonable time.

Course Title: Financial Accounting –II

- To acquire knowledge about company and its financial statements.
- To study about the head office and branch accounts.
- To explain the head office and branch accounts and maintain too.
- To study and acquire the knowledge of partners admission, retirement death and insolvency of partner.
- To know and study about basics of tally.

Course Title: Banking Theory and Practice

- To know the basic concepts importance and dynamics of banking business.
- To know about the types of bank account – To fill in the pay-in slip
- To acquire knowledge about negotiable instruments, crossing a cheque, etc., endorsement, to know about duration and rules.
- To have a clear idea of Banking Regulation Act.
- To apprehend about the banking Ombudsman.

Course Title: Services Marketing & Customer Relationship Management

- Study on introduction of service marketing with its classification
- Interpreting the different service marketing mix and its objectives
- Applying different promotion mix in service marketing
- Analyses on relationship management between consumers and service providers
- Combining the different relationship management concept with different service marketing techniques

Course Title: Business Policy and Environment

- To provide an overview and familiarize with the nature.
- To impart practical knowledge and analysis of SWOT & SAP.
- To intuit the global environment and decode the strategies for globalization.
- To decipher the agreements and current issues in Business Environment and IPR.
- To discern the Corporate Communication and make out the Social Networking.

Course Title: Fundamentals of Corporate Communication

- To enable the students to acquire knowledge about the importance of communication in today's competitive business environment
- To learn the significance of Corporate Communication
- To know the principles of effective Communication and overcome the barriers of Communication
- To familiarize the various mode of communication network.
- To develop the report writing skill Business Correspondence

Course Title: Corporate Accounting

- To study about Issue of shares and debentures, underwriting of shares and debentures.
- To acquire knowledge about profits prior to incorporation and merging of companies.
- To understand about final accounts of joint stock companies as per Schedule V1
- To know about the concept of liquidation and preparation of liquidator's final statement of receipts and payments.
- To understand the concept of alteration of share capital, internal reconstruction and reduction of capital.

Course Title: Business Law

- To understand the concept of general concepts.
- To study about discharge of contracts and its remedies.
- To enable the students to learn and understand the special contracts.
- To acquire knowledge about sale of goods, conditions & warranties, transfer of property.
- An insight into indemnity, guarantee, bailment, pledge, lien, hypothecation and mortgage.

Course Title: Business Mathematics

- To enhance the knowledge in basics of mathematics.
- To understand the concept of bionominal, exponential and logarithmic series.
- To apply basic concepts of differential calculus.
- To study about concepts of permutation, combination and algebra.
- To familiarize with mathematical concepts and their application in general business operation.

Course Title: Financial Services

- To know and study about financial services.
- An overview of credit rating, commercial bill financing and consumer finance.
- To study the concept about insurance, factoring and leasing.
- An insight into merchant banking and mutual funds.
- To acquire knowledge on securitization.

Course Title: Logistics and Supply Chain Management

- To study about the concepts of logistics.
- To acquire knowledge on elements of logistics and supply chain management.
- To familiarize the various mode of transportation network.
- An insight on emerging technologies in logistics and supply chain management.
- To learn and understand about legal aspects of shipping, insurance aspects of logistics.

Course Title: International Trade

- To study about international trade and its importance.
- To acquire knowledge about Balance of trade and Balance of transport.
- To provide an insight on export management.
- To identify the sources of import finance and import procedure.
- To gain knowledge on international economic organizations and its functions.

Course Title: Business Statistics and Operations Research

- Outline on the various methods of calculating the Mean, Median and Mode
- Understanding the widely used mathematical method wherein the numerical expression is used to calculate the linear related variables
- Applying study on the series of values of a quantity obtained at successive times, often with equal intervals between them
- Analysing the method of mathematically based analysis for providing a quantitative basis for management decision
- Evaluating on assigning sources and jobs to destinations and machines

Course Title: Insurance and Risk Management

- To study on how to handle a risk, to identify monitor and to manage the risk.
- In order to reduce the negative impact on organization
- To identify the commercial risks and to know the different policies and contracts.
- To impart the knowledge on compensation paid by the employer and the employee
- To study the importance of privatizing the insurance business in India
- The overview of risk management techniques and tools towards loss of life, health, and retirement planning

Course Title: Special Accounts

- To familiarize the procedure for valuing the goodwill and shares of Companies to acquire a business.
- To understand the different types of assets with the intention of amalgamation or absorption.
- To compute the accounting treatment for holding and subsidiary to path the company after the acquisition.
- To analyse the different schedules practiced by the banking company accounts in India as well as insurance company
- To Evaluate the different types of insurance- life insurance and general insurance

Course Title: Company Law

- Defining the facts or condition of being with another or others, especially in a way that provides friendships and enjoyment
- Explaining the formal documents that is required by and filed with the SEC that provides details about an investment offering for sale to the public
- Classifying the money invested in a company by the shareholders
- Analysing the relationship of a person who has signed the memorandum of association with the company
- Evaluating the process of planning, organizing, leading and controlling the efforts of company members

Course Title: Financial Management

- A brief analysis on meaning, scope of FM and roles of Finance manager and to know time value of money.
- To perceive different decision-making tools like cost of capital, leverages and capital structures.
- Importance of Return on Investment (Capital Budgeting) and its techniques.
- Be aware of payout ratios retained earnings and capital for daily workings.
- Get to know different type of markets for financial instruments.

Course Title: Entrepreneurial Development

- To create awareness about competencies of entrepreneurship.
- To motivate and overcome the burdens related to entrepreneurs.
- To identify the stages involved in setting up of small business units.
- To familiarize with the requisites needed for being successful entrepreneur.
- To motivate students to start self-employment.

Course Title: Environmental Studies Syllabus

- To know the importance of environmental studies and method so conservation of natural resources.
- Describe the structure and function of an ecosystem and Identity the values and conservation of bio-diversity.
- To Analyze the existing renewable and non-renewable resources
- Differentiate conventional and non-conventional energy resources
- Analyze different pollution control measures and Demonstrate different international environmental policies

Course Title: Cost Accounting

- To know Nature and significance of Cost accounting and financial accounting.
- To understand about Labour cost and contract costing.
- To study about concepts of valuation of inventories.
- To assist the students to learn the concept of overheads and marginal costing.
- To prepare students for professional courses.

Course Title: Corporate Ethics and Governance

- To understand the concept of corporate ethics
- To provide an insight on ethical management in an entity
- To apply the concept of company's social responsibility towards society and its stakeholders
- To study about the need and role of corporate governance.
- To acquire the knowledge on powers and functions of statutory body SEBI

Course Title: Income Tax Law and Practice-I

- To understand the basic concepts of Income tax
- To categories individuals in order to residential status in India.
- To give an insight into the different heads of income and the authorities under the Act.
- To help the students in computation of income tax.
- To study about the number of exemptions and the exemption amounts for taxpayers.

Course Title: Accounting Standards

- Define accounting standards, its meaning, benefits, standard setting process etc
- Describe AS 1 (manner of disclosure of accounts , its deviations)
- Application of AS 2 (valuation of inventory, its methods) AS 3 (cash flow statement and its methods)
- Analyze AS 5(net profit or loss for the period) AS 6(depreciation accounting), AS 9(revenue recognition), AS 10(fixed assets)
- Deduce value of investments from AS 13, amalgamation and its types from AS 14 etc

Course Title: Practical Auditing

- To identify the difference kinds of audit
- To know and study about the plan and conduct of audit
- To apply evidences for Audit sampling
- To analyze the roles and responsibilities of company auditor
- To acquire knowledge about audit report and its types

Course Title: Research Methodology

- To provide insight on research, types of research.
- To identify the research problems.
- To acquire knowledge about the sampling techniques.
- To study the possibilities of sampling error.
- To apply measurement & scaling techniques.

Course Title: Value Education

- Values are socially accepted norms to evaluate objects, persons, and situations that form part and parcel of sociality.
- A value system is a set of consistent values and measures.
- Knowledge of the values are inculcated through education.
- It contributes in forming true human being, who is able to face life and make it meaningful.

Course Title: Management Accounting

- To understand the concept of Management Accounting.
- To learn the concept of Comparative Statement, Common size statement and Trend Analysis.
- To assists the students to learn the concept of Ratio Analysis.
- To study about the Fund Flow and Cash Flow Statements.
- To learn the concept of Marginal cost Techniques and CVP Analysis.

Course Title: Human Resource Management

- To understand about the nature of human resources.
- To acquire knowledge on various techniques of HRM.

- To provide knowledge on latest trends in managing human resources in organization.
- To analyze the collective bargaining of employees to protect the interest of worker
- To ascertain the human resource audit in order to receive every aspect of management of HR.

Course Title: Security Analysis and Portfolio Management

- To acquire knowledge on nature and scope of investment
- To identify avenues for the investment of personal funds.
- To analyse the various investment options available in terms of risk and return.
- To know the basic concept of portfolio management.
- To know about investors preference towards investment.

Course Title: Income Tax Law and Practice-II

- To acquire knowledge on capital gains and exemptions.
- To study about income from other sources.
- Appling concepts relating to clubbing provisions
- To gain insight on permissible deductions from gross total income – Sec 80C,80CC,80D,80G.
- To study about advance payment of tax and filing of income tax.

Course Title: Business Taxation

- To familiarize with basic concepts of direct and indirect tax.
- To acquire knowledge on central excise duty and its types.
- To study about government policies implemented after GST.
- To understand the procedure for computation of various indirect taxes.
- To know about income tax filing.

22. M.Com (General) Programme Outcome:

PO 1 : Aims to provide students with the knowledge, tools of analysis and skills with which they can understand and participate in the modern business, accounting and economic world to achieve success in their career.

PO 2 : To equip the students to face the modern-day challenges in commerce and business.

PO 3 : Enhances critical thinking mind-set and the ability to identify and formulate research problems, design tools, analyse and interpret data, and synthesize the information to provide valid conclusions.

PO 4 : Exhibit self-confidence and awareness of general issues prevailing in the society and communicate effectively with the accounting, commerce, management, business, banking and professional fraternity and with society at large through digital and non-digital mediums.

PO 5 : To educate and train the students to solve practical problems in the realm of commerce and business management through case study analysis, role playing and brainstorming methods.

M.Com (General) Programme Specific Outcome:

PSO 1 : To Impart the ethical values and norms required for facing the challenges of growing Trade, Industry and Research.

PSO 2 : : To provide expertise in Marketing, HR, Finance, Management, Accounting, Accounting standards, Income Tax and GST.

M.Com (General) Course Outcome:

Course Title: Advanced Corporate Accounting and Accounting Standardsi

- Justify the importance of the rules of Double entry system in issue of shares.
- Solve problems relating to valuation of goodwill and shares by using different methods.
- Explain the concept of alteration of Share Capital, Amalgamation, Absorption and Reconstruction
- Illustrate the accounting procedure with respect to Liquidation of Companies
- Discuss the various provisions relating to mandatory Accounting Standards
- Develop skills in the preparation of accounting statements and in their analysis.

Course Title: Financial Management

- Examine the role of financial management in investment and dividend decisions
- Assess the various costs related to Capital.
- Justify the financing decisions relating to capital structure.
- Analyse the significance and computation of leverages
- Apply the working capital management strategies and its determinants
- Develop the required skills in financial analysis and decision making

Course Title: Organisational Behaviour

- Examine the Various Organisational Behaviour models.
- Compare and contrast the Individual as well as Group Behaviour
- Evaluate the Transactional analysis on Quality of Work Life
- Examine the various dimensions of Conflicts Management.
- Create and maintain organizational culture and climate.
- Impart knowledge on organizational dynamics.

Course Title: Managerial Economics

- Analyse the approaches of Managerial economics for managerial decision making
- Forecast the business through Demand Analysis.
- Assess the cost as well as the capital investment analysis
- Inspect the market structure for pricing and output determination.
- Design Pricing objectives, methods and approaches

- Synthesize the expertise on the application of economic theories and concepts to business decisions

Course Title: Accounting for Specialised Institutions

- Examine the proceedings for preparation of Profit and Loss Account and Balance Sheet of Holding and Subsidiary Companies.
- Assess the different schedules of Banking Companies on loans and advances.
- Facilitate the students relating to generation of revenues and claims of General and Life Insurance Companies.
- Analyse the procedures on accounting system of Electricity and Non-Electrical companies
- Familiarize with different types of packages and containers in packaging and shipping company accounts.
- Categorize accounting practices of various specialized institutions and to update the knowledge of accounting standards

Course Title: Advanced Cost and Management Accounting

- Examine the essentials of costing system and its installation.
- Prioritize the assessment of process costing towards normal and abnormal losses and gains
- Design budgets and evaluate through effective budgetary control.
- Assess the preparation and interpretation of financial statement analysis
- Construct the cash flow and fund flow analysis.
- Develop the skills of students in preparation of cost and management accounting statements.

Course Title: Marketing of Services

- Analyze the nature and classification of services in marketing implications.
- Assess the marketing strategies for different service firms
- Examine the product support and pricing of services.
- Evaluate the Financial services and marketing of non-profit firms
- Design Customer Relationship Management and relationship marketing towards customer satisfaction
- Construct specialized knowledge on marketing skills and marketing practices of service sector.

Course Title: Advanced Business Statistics

- Assess the Times Series and Trend Analysis
- Prioritize the Index numbers and cost of living index
- Measure the usage of Probability distributions
- Compare and contrast Probability binomial and poisson distribution
- Analyse the different sampling techniques and distributions
- Construct expertise in statistics methods and applications for statistical analysis.

Course Title: Income Tax Law and Practice

- Examine the Income exempt from taxes, commutation of pension and provident funds
- Assess the income from house property and compute income from business or profession.
- Rate the capital gains and its computation under income from other sources
- Endorse to club their income and set-off of their losses with other heads of income
- Inspect the power and duties of Central Board of Direct Taxes and IT assessing officers.
- Construct the practical acquaintance on income tax provisions

Course Title: Knowledge Management

- Assess the Knowledge Management Strategies to analyse the benefit of knowledge economy
- Create knowledge architecture based on tacit and explicit knowledge
- Identify the knowledge culture enablers and tools for collaborative platforms
- Evaluate the Knowledge culture change and enhancement programs
- Plan the knowledge careers and organizational knowledge role classification
- Construct policies for managing human resources in organization inclusive of knowledge Management tools.

Course Title: Research Methodology

- Examine the Research Design of various types of research.
- Compare and contrast the different methods of data collection and its presentation
- Complete the analysis of Correlation and Regression to arrive inferences.
- Create the formulation of Hypothesis and testing of Hypothesis
- Construct the Research Reports based on the analysis.
- Analyse the research problems through systematic research methodology

Course Title: Fundamentals of Information Technology

- Justify the implications of information Technology in business.
- Categorize the Operating Systems and ICT Tools
- Assess the Hardware and Software requirements of Internet and Network Topologies
- Examine the extrapolations of word documents and Excel sheets.
- Create business reports in Ms-Access and design Presentation using comprehensive tools.
- Inspect the usage of computer applications in business.

Course Title: Accounting for Managers

- Compare and contrast the pricing decisions under special circumstances.
- Investigate into Differential costing in managerial decision making
- Assess the various Capital Investment Decisions
- Examine the Transfer pricing and performance measurement
- Compose the cost and management analysis on activity based
- Apply advanced managerial accounting concepts in order to make more effective decisions in simulated and actual business situations

Course Title: Indirect Taxes

- Analyse the Emphasis on contribution to Government revenues through taxation.
- Investigate into the levy and collection of Customs Duty.
- Highlight the implementation of Goods and Services Tax in India.
- Examine the Registration process and provisions in GST
- Inspect the challenges for the Government regarding the implementation of GST.
- Implement the practical exposure on filing of GST returns.

Course Title: Industrial Relations and Labour Welfare

- Investigate into industrial relations problems in Public Sector.
- Identify availability of Government Machinery to attain industrial peace to solve industrial disputes.
- Analyse the various labour welfare measures and funding schemes.
- Examine the safety and security measures taken to implement labour welfare
- Categorize the different types of labour and analyse their problems and solutions.
- Compose knowledge on managing industrial relations.

Course Title: Change Management

- Analyse the nature of Change Management and its impact
- Examine the progress and challenges in organizational Change Management.
- Equip to manage the complex major changes and resistance to change.
- Mapping up of cultural attributes to change and its resistance
- Investigate the different models for systems approach towards change management.
- Manage the business in the changing business environment.

Course Title: Advertisement and Salesmanship

- Discuss the components of marketing communications
- Equip with advertisement objectives, budgeting and identification of target advertisement
- Evaluation of Media mix and strategies
- Examine the role of salesmanship in direct selling
- Explain the International advertising strategy
- Enable the students to compete in the marketing environment through advertisement

Course Title: Consumer Rights and Education

- Equip the students with consumer movement in India
- Analyse the ill effects of consumerism.
- Discuss the rights and responsibilities of consumers.
- Highlight the consumer Protection Act and its provisions.
- Categorize the consumer organizations and various grievance redressal.
- Examine the consumer care mechanism in private and public sector.

Course Title: Project plus Viva Voce

- Apply the Research Methodology into Projects
- Collection of Literature Review and identification of research gap
- Prioritize the nature of data and its collection
- Application of Statistical tools to infer the findings
- Prepare the Project reports
- Suggest the solutions for the tribulations of research study

Course Title: Computerized Accounting

- Introduces TALLY software and integrate with financial accounting
- Creation of Accounts and Inventory Masters
- Preparation of financial and inventory statements
- Position the voucher entries into real time business
- Construct the technology oriented modules for financial records.
- Manage the business transactions effectively and accurately

SCHOOL OF MANAGEMENT

23. B.B.A Programme Outcome:

PO 1 : Application of knowledge of management theories and practices to solve business problems
PO 2 : Fostering analytical and critical thinking abilities for data-based decision making
PO 3 : Making students abreast with the E business solutions in the current environment
PO 4 : Improvement in ability to develop ethical and value-based leadership ability
PO 5 : Building the ability to understand the business environment.

B.B.A Programme Specific Outcome:

PSO 1 : Providing knowledge in event management
PSO 2 : Fostering analytical abilities to E-Business

B.B.A Course Outcome:

Course Title: Financial Accounting

- Explain the basic concepts of accounting.
- Basics of Sole trading Concern and Balance Sheet.
- Understand the preparation of suspense Account
- Acquire knowledge about depreciation and loss of Stock
- Study about Single entry and double entry system

Course Title: Principles of Management

- Understand the importance and levels of Management.
- Explain the planning procedure and decision process.
- Understand the types of organization, power and Authority
- Acquire knowledge about recruitment , selection and control process
- Aware of business ethics and moral responsibility

Course Title: Managerial Economics

- Acquire knowledge about micro and macroeconomic bases of business decisions in a business organization
- Identify the theory of demand and supply
- Understand the strategies, including costing, pricing, product differentiation, and market environment according to the natures of products and the structures of the markets.
- Production and cost structure under different stages of production.
- Analyze the pricing and output decisions under various market structure.

Course Title: E- Business

- Knowledge on opportunities and goals of E- Business.
- Get practical knowledge on Network infrastructure for E- Business
- Understand the concept of Internet Payment System
- Know about B2B models
- Acquire knowledge about WAP and Networking Standards

Course Title: Marketing Management

- Explain the concepts of marketing approaches and marketing mix.
- Segmentation, Targeting and Positioning in Marketing.
- Aware of PLC, NPD, Packaging & Labelling.
- Explain about advertisement publicity & public relations.
- Acquire knowledge about channels of distribution.

Course Title: International Economics

- Understand the basic difference between inter-regional and international trade, and the different theories related to international trade.
- Importance of maintaining equilibrium in the balance of payments and suggests suitable measures to correct disequilibrium.
- Get familiar with the process of international exports and the documentation procedure
- Acquire knowledge about Foreign exchange markets, exchange rates, and balance of payments
- Study the evolution and the functions of international organizations

Course Title: International Trade

- Analyze the models of International Trade
- Understand the concepts of BOP and exchange rate
- Acquire the knowledge about the concepts in export management, trade documentation and export finance in foreign trade
- Be familiar with the history, evolution and the recent developments in the international organizations
- Contribution and involvement of India in the international organizations.

Course Title: Business Environment

- Understand the multidisciplinary nature of environmental studies
- Aware of bio diversity and its conservation
- Relate Environment and business
- Introduce to the concepts and ideas behind Green Entrepreneurship
- Understand Human Rights

Course Title: Management Accounting

- Explain the three primary purposes of management accounting namely, inventory valuation, decision support and cost control.
- Study of traditional and contemporary costing approaches for the above purposes.
- Identifying the different costs for product costing contexts such as job-order, process or joint-product systems
- Develop and apply standards and budgets for planning and controlling purposes.
- Apply incremental analysis to a range of business scenarios.

Course Title: Business communication

- Understanding of the basic principles of effective Communication.
- Knowledge on business letters.
- Hands on experience in business Correspondence letters
- Acquire knowledge about Agenda, minutes, circular and notes
- Identify the modern forms of communication

Course Title: Business and corporate law

- Identify the principles behind law of contract
- Get equipped with the validity of contracts
- Understand various special contracts
- Build a general awareness about the principles behind, companies and partnerships
- Concepts about shares, debentures, and the procedures for the conduct of meetings

Course Title: Organizational Behaviour

- Manage conflict amongst groups in business environment
- Comprehend and apply motivational theories in the workplace
- Identify changes within organizations and power and politics in organizations
- Evaluate the appropriateness of various leadership styles and conflict management strategies used in organizations
- Analyze individual and group behaviour, and understand the implications of organizational behaviour on the process of management.

Course Title: Financial Management

- Identify financial sources and the role of managing it.
- Aware of Capital structure & equity proportion.
- Understand the concept of cost of Capital
- Acquire knowledge about dividend policies
- Capital Budgeting and the factors influencing the working capital.

Course Title: Goods & Service Tax and Customs Law

- Basic principles underlying the provisions of indirect tax laws and to develop a broad understanding of the tax laws and accepted tax practices.
- Enable the students to learn the concepts indirect tax and GST from the pre-GST period to post-GST period
- Aware of the structure and benefits of GST
- Understand the relevant provisions of Goods & Service Tax.
- Identify the difference between GST and VAT

Course Title: Financial Services

- Acquire knowledge about financial services in India as Indian Financial System, Financial Markets, Banking and Insurance Sector in India and Recent Trends in Accounting and Finance
- Acquainted with current financial practices
- Knowledge on Financial Markets
- Features of lease agreements and the concepts of Hire purchase
- Acquire knowledge about mutual funds and the institutions involved in it.

Course Title: Business Taxation

- Introduction to Taxation concepts and articles of it.
- Understand the importance of taxation policies.
- Study the history of taxation, canons of taxation and the classification.
- Analyze the Taxation Forms and Reports.
- Gain knowledge about registration and refund procedure under GST

Course Title: Business Research

- Basic concepts of research process in business.
- Research design and sampling techniques
- Understand the concept of questionnaire and graphical representation
- Acquire knowledge about hypothesis testing and test of significance
- Knowledge on how to write a research report

Course Title: Entrepreneurial Development

- Basic concepts of Entrepreneurship.
- Identify the Entrepreneurial Development Agencies
- Understand the concept of Project Management
- Acquire knowledge about EDP
- Differentiate between Economic Development & Entrepreneurial growth

Course Title: Management Information System

- Enable students to handle and scientifically analyze the various aspects of business while he commence a business
- Familiar with the concepts of system and databases.
- Aware of the fundamental principles of computer-based information systems analysis and design and develop an understanding of the principles and techniques used.
- Role of information systems in today's competitive business environment.
- Understanding the different decision support systems.

Course Title: Operations Management

- Basic concepts of Production management.
- Study about production planning control
- Understand the concept of plant location & layout
- Acquire knowledge about work and method study
- Nuances in quality control & types of inspection

Course Title: Event Management

- Develop best practice in the development and delivery of successful conferences and corporate gatherings
- Understand the key elements of a conference and the processes involved in venue selection, registration, catering, accommodation, transport, theming, security and entertainment
- Aware of the management essentials such as developing budgets, critical paths, work breakdown structures, risk mitigation and contingency planning.
- Acquire the skills to successfully plan, market and implement a large event as part of a team
- Apply a variety of sound decision-making, conflict resolution, and problem-solving techniques

Course Title: Managerial Skill Development

- Enable the students to develop their public speaking skills and get themselves prepared for the competitive examinations.
- Develop skills to organize effective meetings, conferences, seminars, audience analysis etc
- Acquire knowledge about nonverbal and verbal communications which would be helpful in interviews and group discussions
- Introduce best practice and skills in conducting Trade Fairs, Group Consultancy, Product and Concept Awareness Campaigns and Situation Analysis
- Skill for the betterment of oral presentations, conducting meetings, reporting of projects, reporting of case analysis, answering in Viva Voce, and Assignment writing.

Course Title: Customer Relationship Management

- Identify the benefits of value creation for the customers.
- Gain an understanding of key concepts , technologies and best practices of CRM
- Measure the customer equity and the importance of customer retention to the organization
- Analyze the different processes and design the strategic framework for CRM integration in the existing functions of the organizations.
- Understanding on the role of customer relationship and its effectiveness in the development of a business

Course Title: Advertising management and Sales Promotion

- Study the basic concepts of Advertising & copy development.
- Knowledge on Mass Media & budget planning
- Understand the concept of advertising agencies
- Practical knowledge about sales promotion
- Need for measuring advertisement effectiveness

Course Title: Services Marketing

- Know the theoretical and practical basis for service.
- Understand the basic concept of service quality
- Extended marketing mix for service marketing
- Acquire knowledge of marketing issues associated with service productivity, perceived quality, customer satisfaction, communication gap, delivery gap and loyalty
- Analyze the marketing of services like finance, health, education, hospitality, professional serviced and public utility services

Course Title: Human Resource Management

- Understand concept, principles and practices of H.R.M.
- Learn the importance of HR Planning
- Exposure to Recruitment and Selection Process though Practice work.

- Application of training and development, personnel record reports and audit.
- Acquire an in-depth understanding of how aligning HR strategically with business can be a competitive and sustainable advantage

24. B.Com (Bank Management) Programme Outcome:

PO 1 : Imparting knowledge on various financial services
PO 2 : Training students on nuances of banking communication
PO 3 : Application of the knowledge of accounting fundamentals, and techniques relevant to banking
PO 4 : Making students understand ethical standards with reference to accounting practices
PO 5 : Encouragement of entrepreneurship among students

B.Com (Bank Management) Programme Specific Outcome:

PSO 1 : Acquiring analytical and problem-solving skills in various disciplines of management, business, accounting, tax, finance, and law pertaining to banking
PSO 2 : Providing practical exposure to practices of banking

B.Com (Bank Management) Course Outcome:

Course Title: Financial Accounting

- Understand the fundamentals of accounting and an outline of Indian Accounting Standards and compute final accounts with adjustments
- Explain the methods of single-entry system of accounting
- Compute various methods of depreciation
- Compute and evaluate insurance claims and demonstrate BRS
- Understand the scope and preparation of departmental accounts.

Course Title: Principles of Management

- Have an overview of the fundamentals of management principles.
- Study the evolution of management, theories and approaches of management
- Analyse the importance of planning and decision making in management.
- Learn the concepts of organising, delegation, decentralization, departmentation and organisation structure in a management set-up.
- Discuss the essential requisites of co-ordination, process of controlling and the importance of MIS

Course Title: Monetary Economics

- Understand the origin and role of money in capitalist, socialist and mixed economies.
- Analyse the value and utilization of money in market.
- Have an insight into the monetary standards and system of note issue

- Understand the concept of money supply, price level and keynesian approach
- Get a deeper insight into the phases of business cycle , theories and impact of inflation and deflation in an economy.

Course Title: Analytical and Logical Reasoning

- Identify and re-construct arguments in articles, news, editorials, advertisements etc.
- Evaluate both deductive and inductive arguments, and identify fallacies in argumentative discourse
- Make sound arguments based on mathematical reasoning and/or careful analysis of data.
- Effectively communicate the substance and meaning of mathematical problems and solutions.
- Explore and apply key concepts in logical thinking to business problems

Course Title: Advanced Financial Accounting

- Apply the concept and compute Profit or loss made by Branches of Business.
- Learn the concepts of hire purchase accounting and instalment purchase system.
- Learn the accounting aspects and treatment in case of admission
- Learn the accounting aspects and treatment in case of retirement and death of a partner
- Understand the accounting treatment in case of dissolution of partnership and modes of dissolution

Course Title: Marketing Management

- Understand the fundamentals of marketing and relationship of marketing with other functional areas
- Analyse the concept of buyer behaviour and market segmentation
- Understand the characteristics of product and pricing.
- Elaborate on the channels of distribution
- Study the impact of promotion and advertising

Course Title: International Economics

- Know the importance of international trade and theories behind it.
- Get an overview of the concepts of Balance of Trade and Balance of Payments, causes of disequilibrium and various exchange rates.
- Get into details of Export Management, export procedure and documents, export promotion, export pricing and export finance.
- Study at length on various International Economic Organizations and its Functions.
- Elaborate on the WTO and various Trade Liberalization.

Course Title: Importance of Emotional Intelligence

- Demonstrate emotional intelligence and realize the benefits of high emotional intelligence at workplace
- Increased self-awareness by identifying personal patterns

- Ability to positively handle negative traits.
- Analyse positive traits and apply them in workplace.
- Demonstrate SWOT analysis and create the art of celebrating life

Course Title: Corporate Accounting

- Learn the concepts and accounting treatment for Issue, forfeiture, reissue and compare the various forms of underwriting of shares and calculation of Underwriters' liability.
- Understand the accounting treatment for redemption of preference shares at par, premium and to distinguish capital and revenue profits.
- Prepare Company's Final Accounts as per Schedule VI of the Companies Act.
- Explain the different methods of Valuation of good will and shares in companies.
- Evaluate the procedure of alteration of share capital and internal reconstruction

Course Title: Management Accounting

- Gain an insight into the knowledge on the fundamentals of management accounting.
- Learn to compute and interpret using different ratios.
- Analyse and compute funds flow statements, preparation of working capital statement and funds from operation.
- Analyse and compute cash flow statements as per AS –3.
- Understand the significane and preparation of various budgets and exercise control over the deployment of funds.

Course Title: Business Communication

- Outline the barriers to communication and essential ways to overcome the barriers. To learn the various types of communication and their merits and demerits.
- Get an exposure to the channels of communication and the nuances of effective business letter writing
- Get an acquaintance with personnel correspondence and business correspondence
- Study the elements of presentation and rules of making effective PPTs.
- Educate the students on report writing in companies

Course Title: Business and Corporate Laws

- Understand the essential elements of a valid contract along with its classifications.
- Know about the special contracts and the parties involved.
- Understand the essence of contracts of agency and sale of Goods
- Demonstrate the essential characteristics of kinds of companies and its primary documents of importance.
- Know the different types of general meetings in a company and procedure for conduct of meetings

Course Title: Advanced Corporate Accounting

- Explain the Basics of Indian Accounting Standards and objectives of Financial Reporting
- Prepare the profit and loss account and Balance sheet of Banking Companies
- Explain the concept of Non-Performing Assets and prepare the profit and loss account and Balance sheet of Insurance Companies
- Demonstrate the concepts of Amalgamation, Absorption and External Reconstruction of Companies and its accounting treatment
- Demonstrate the concept of liquidation and prepare Liquidator's Final Statement of Accounts

Course Title: Financial Management

- Introduce the concept of Financial Management and analyse the objectives of financial management.
- Compute and analyse the cost of capital of the firm.
- Outline the concepts, theories of Capital structure and compute the proportion of debt and equity and study the concept of leverage
- Elaborate on the various dividend policies and theories
- Explain the components of working capital and Capital Budgeting Techniques

Course Title: Goods & Service Tax and Customs Laws

- Elaborate on the history of taxation and specify the cannons of taxation
- Explain the concept of customs duty and its provisions under Customs Act 1962
- Introduce the basics terms under GST
- Detail the time and value of supply of goods and services
- Elaborate on the registration, assessment and tax payment under GST.

Course Title: Financial Services

- Analyse the importance of Financial Services and economic environment
- Predict the players in financial service sector – merchant banking and to assess the types of markets and issue management
- Explain the types of leasing and various outline of factoring and hire purchase
- Plan and discuss about the features and functions, modes of VC, CRISIL, ICRA & CARE
- Analyse the various types of mutual funds

Course Title: Environmental Studies

- Demonstrate the significance of environmental economics
- Analyze the existing renewable and non-renewable resources
- Differentiate conventional and non-conventional energy resources
- Analyze different pollution control measures
- Demonstrate different international environmental policies

Course Title: Cost Accounting

- Explain the nature and scope of cost accounting, cost analysis, cost centers and profit centers.
- Demonstrate the cost sheets, reconciliation of cost and financial accounts
- Explain the concepts on material purchase EOQ, ABC analysis, VED, and issue of materials - FIFO, LIFO, HIFO, SAM, WAM.
- Design the labour cost method of wages payments and payroll procedure
- Analyse Classification, Allocation, Apportionment and control of overheads.

Course Title: Entrepreneurial Development

- Discuss about the basic concepts and functions of entrepreneurship, various types and classification of entrepreneurs and factors influencing entrepreurship.
- Outline the various Entrepreneurial Development Agencies, MSMEs and financial institutions prevailing in India and the schemes to develop entrepreurship.
- Create and demonstrate the complete Project management from Business idea generation, to appraisal and preparation of project report.
- Explain the various Entrepreneurial development programmes and to elaborate on the role, relevance and achievements of EDII.
- Communicate about the various role of entrepreneur in entrepreneurial growth with respect to Economic development with special mention to Women entrepreneurs.

Course Title: Income Tax Theory, Law and Practice I

- Analyse the features and basic concepts of Income Tax Act and residential status of different persons.
- Compute income from salaries.
- Compute income from the house property.
- Compute income from profits and gains of business and profession.
- Explain the administration of I.T. Act and power of Income tax authorities such as CBDT, PAN, etc.

Course Title: Practical Auditing

- Demonstrate the features of auditing and the evidences associated with auditing-audit programme, audit note book and audit working papers.
- Study the concepts of vouching and verification of assets and liabilities
- Outline the differences between provision and reserve and explain the audit regarding the above.
- Illustrate the provisions relating to appointment and removal of auditors.
- Outline about EDP audit and the procedure regarding the same.

Course Title: Personal Investment Planning

- Demonstrate about investment and its differences with speculation and gambling
- Discuss about various non-marketable financial assets.

- Outline the meaning of stock exchange and its functions with respect to SEBI.
- Discuss about stock brokers, speculation and their types.
- Explain about the various investment schemes like PF,PPF and bank deposits
- Analyse the various opportunities of investment and their importance for current scenario.

Course Title: Value Education

- Inculcate the value system in their real life scenarios.
- Implement the role of culture and civilization, roles and responsibilities in the society.
- Effectively follow Salient values for life such as forgiveness, ability to sacrifice, self esteem, teamwork and creative thinking.
- Reflect the human rights, social values and welfare of the citizen.
- Consider the relation between values and personal behavior affecting the achievement of sustainable future.
- Bind man and nature to preserve the environment.

Course Title: Credit and Risk Management in Banking

- Outline the Bank credit, – types of securities &legal documents, RBI directives &Various committees
- Explain the precautions to be followed while lending to Different Customers
- Demonstrate the Loan Processing – Sanctioning – Monitoring – Recovering Commercial Loans
- Assess the balance sheet, profit loss, cash flow and fund flow for corporate finance and project finance.
- Plan & evaluate the remedial measure, debt recovery tribunals, management NPA

Course Title: Income Tax Law & Practice-II

- Compute income under capital gains.
- Compute income from other sources.
- Apply the provisions relating to clubbing of income and set off and carry forward losses.
- Illustrate the permissible deductions from gross total income SEC 80C, 80CCC,80CCCD
- Discuss the assessment of individuals and computation of tax liability

Course Title: Banking Law and Practice

- Discuss the significance of Banking Regulation Act, 1949 and role of RBI
- Study the relationship between banker and customer and elaborate of KYC norms.
- Analyse the comparitive features of negotiable instruments and its types.
- Explain the different forms of E-Banking operations along with the benefits over normal banking operations highlighting the frauds associated with it.
- Analyse various forms of customer grievance redressal mechanism

Course Title: Human Resource Management

- Elucidate the concepts of HRM and emerging challenges of HRM.
- Identify the sources of recruitment, selection process and placement required through proper HR planning.
- Demonstrate various training and development methods and its effectiveness.
- Explain the outcome of performance appraisal mechanisms and its relative importance.
- Discuss the various monetary and non-monetary packages.

25. B.Com (Marketing Management) Programme Outcome:

PO 1 : Prepare the students in sales management
PO 2 : Encourage problem solving skills pertaining to sales and marketing
PO 3 : Introduce the Digital Marketing techniques
PO 4 : Encouragement interest in entrepreneurship among students
PO 5 : Sensitising the students the students to different business environment

B.Com (Marketing Management) Programme Specific Outcome:

PSO 1 : Training students in challenges in the field of Marketing
PSO 2 : Exposing students to different and latest formats of Marketing

B.Com (Marketing Management) Course Outcome:

Course Title: Financial Accounting

- Identify and discuss ethical issues retailed to the financial accounting profession.
- Plan financial statements in accordance with generally accepted accounting principles.
- Employ accepted accounting methods to evaluate and project business performance.
- Create an insight into the basics of accounting concepts and principles.
- Prepare the students to have the foothold in accounts

Course Title: Principles of Management

- Debate and interact about the management evolution and its impacts on the future managers.
- Adopt and estimate the influence of historical forces on the current practice of management
- Recognize and correct social responsibility and ethical issues involved in business situations and logically fluent own position as such issues.
- Elaborate how organizations change to a doubtful environment and recognize techniques managers use to influence and control the internal environment
- Practice the process of management's four function planning, organizing, leading and controlling outcomes of each leadership style.

Course Title: Business Economics

- Basic understanding about the economics concepts, tools and techniques for their applications in business decisions.
- Learn the basic theories in economics connected with business.
- Understanding the various economics models.
- Introduce the students to the role of international. Trade
- Study the relationship between demand and supply function

Course Title: International Marketing

- Demonstrate, meaning, functions, need and importance of international marketing
- Analysis the meaning of balance of payments and design the balance of trade
- Demonstrating in detail about various pricing strategies
- Determine the documentation procedures on import and export trading
- Discuss the WTO and global markets

Course Title: Marketing Management

- Learn the importance on brand and its impacts among customers.
- Study about the role and importance of marketing.
- Analyze how marketing helps to bridge the production and consumption gaps.
- Identify the factors influencing consumer behavior and purchase decision.
- Learn about the 4p's of marketing concepts.
- Analyze the concepts of sales distribution and its role in marketing
- Gain the concepts of various pricing strategy in marketing.

Course Title: Banking

- Gain knowledge about the various banking terms
- Educate the students on the practical applications of banking service.
- Apply knowledge on banking and financial system in India.
- Acquire knowledge about commercial banks and its products.
- Familiarize banking system in India.
- Basic understanding about the banking and create awareness

Course Title: Corporate Accounting

- Analyze the preparation of accounting for companies.
- Compute alteration of share capital.
- Gain knowledge on the accounting of share and company final accounts.
- Enable students to prepare final accounts on joint stock company
- Familiarize the students with accounting treatments adopted for raising funds and redeeming them.

Course Title: Management Accounting

- Formulate and analyze financial statements to help in managerial decision-making.
- Prepare statement like cash flow, fund flow and budgets etc. so as to enable the management to make meaningful decision and correct decision
- Revise the various tools and techniques in cost control like variance , variance analysis and budgetary control
- Use a problem solving strategy to set up and solve word problems
- Enable students to understand the need and importance of preparation of financial statements.

Course Title: Business Communication

- Demonstrate the meaning, function, types of business communication.
- Distinguish the oral and writing communication.
- Interpret the channels of communication in business.
- Illustrate the business letter layout
- Discuss the various types of business letters.

Course Title: Business and Corporate Laws

- Make the students understand about business and corporate law.
- Develop knowledge on contract and various types of contract.
- Make the students to understand the concept of sale of goods.
- Illustrate the students understand about companies and its types.
- Inherit the knowledge about the legal methodology involved business by the students.

Course Title: Supply Chain Management

- Demonstrate operation purchasing methods and techniques on supplier management and supply in specific business context
- Discuss the strategies and importance of logistics elements and describe how they affect
- Develop a sound understanding of the important role of supply chain management in today's business environment
- Analyze (big) data in supply chain
- Analyze the creation of new value in the supply chain for customers, society and the environment

Course Title: Financial Management

- Appreciate the role of finance in an organization.
- Identify sources from where funds can be raised keeping in mind the cost and risk involved.
- Make the students to familiarize the technique to be employed taking into consideration the risk and the return.
- Make them understand the various finance services.
- Demonstrate how to take capital budgeting and investment decision

Course Title: Research Methods in Business

- Create awareness about the importance of research in business
- Make the students to acquire skills and locate problem areas in organization settings, and plan, organize, design, and conduct research to help solve the identified problems.
- Understanding of the basic framework of research designs and techniques
- Develop an understanding of various research designs and techniques
- Organize and conduct research in a more appropriate manner.

Course Title: Digital Marketing

- Analyze the confluence of marketing, operations, and human resources in real-time delivery.
- Explain emerging trends in digital marketing and critically assess the use of digital marketing tools by applying relevant marketing theories and frameworks.
- Investigate and evaluate issues in adapting to globalised markets that are constantly changing and increasingly networked.
- Comprehend the importance of conversion and working with digital relationship marketing
- Analyze cross-cultural and ethical issues in globalised digital markets

Course Title: Cost Accounting

- Implement the methods of cost accounting
- Familiarize the methods of application in cost accounting
- Demonstrate how materials, labor and overhead costs are added to a product at each stage of the product cycle
- Describe how cost accounting is used for decision making and performance evaluation
- Formulate overhead using predetermined rates and activity – based costing

Course Title: Entrepreneurial Development

- Create a consciousness among students about entrepreneurship and its impotence.
- Inculcate the students about various financial academies that promoted.
- Encourage students to become entrepreneurs.
- Have the capacity to discuss destruct entrepreneurial traits
- Know the parameters to assess.

Course Title: Retail Marketing

- Demonstrate the meaning, function, factors, types and roles of retailers.
- Discuss the consumer behavior towards the retail market.
- Apply and use buying motives factors in retail business.
- Analyze the different types of store layout.
- Discuss the function of retailing in India.

Course Title: Practical Auditing

- Understand the nature and scope of auditing and related services
- Familiarize the different types of auditing
- Explain the importance of auditing in reducing information risk
- List the causes of information risk and explain how this can be reduced
- Describe assurance services and distinguish audit services from assurance services

Course Title: Tourism Management (IDE)

- Inculcate the various types of tourism sectors
- Demonstrate the impact of tourism in India's economy
- Possess skills and experience relating to the management and production of tourism in a professional setting
- Write clearly and concisely in the conventions of tourism studies.
- Plan, lead, organize and control resources for effective and efficient tourism operations.

Course Title: Sales and Distribution Management

- Discuss the role and responsibilities of a sales manager and sales force
- Analyze various types of sales distribution
- Create an outline of the essentials good advertisement copy
- Explain the various types of advertising
- Create outline of the duties and responsibility of sales force

Course Title: Advertising Management and Sales Promotion

- Learn the basic concept of advertising and sales promotion
- Understanding the various types of advertising
- Discuss the various tricks of sale promotion
- Identifying and describing the various types of advertising
- Explain the steps involved in sales force management

Course Title: Services Marketing

- Promote a customer service oriented mindset
- Create an understanding of the 'state of the art' service management thinking
- Demonstrate ability in evaluating service design
- Implement the concepts of 7P'S in service marketing
- Identify critical issues its service design including the service products and markets , building the service model and creating customer value

Course Title: Human Resource Management

- Understand the nature of human resources and its significance to the organization
- Familiarize student with the various techniques in hrm that contribute to the overall effectiveness

of an organization

- Create attention of the student to the latest trends in managing human resources in an organization
- Discuss the various hr practices in organization.
- Measuring of the various methods remuneration of personnel.

Course Title: Project Work

- Understand the community needs , problems and develop social responsibilities
- Students acquire leadership quality in group living
- Understand Research and its role of youth in Research
- Develop competence in documentation and report writing
- Students are able to develop their Analytical Skills

26. M.B.A Programme Outcome:

PO 1 : Enrichment of students in creative approaches to business issues.
PO 2 : Enhancement of critical thinking for effective decision making.
PO 3 : Application of the knowledge gained effectively in various business environment.
PO 4 : Improvement of problem solving and analytical skills for better business solutions.
PO 5 : Effective Communication with cross functional personnel.

M.B.A Programme Specific Outcome:

PSO 1 : Improvement of cross cultural understanding for better global exposure
PSO 2 : Providing exposure in dynamic behavioural zones like persuasion skills, interpersonal skills and overall personality development

M.B.A Course Outcome:

Course Title: Management Principles and Business Ethics

- Evaluate how managerial tasks of planning, organizing, and controlling executed in a variety of circumstances
- Demonstrate the ability to directing and communicating effectively as a leader.
- Foster more careful, disciplined thinking in trying to resolve ethical issues in business
- Imbibe the ethical issues in business and to adhere to the ethical codes.

Course Title: Management Information System

- Analyse the role of information technology and major types of information systems in organizations.
- Describe the database concepts and database management system software to apply in various business organisations.

- Apply Management Information Systems knowledge and skills learned to facilitate the acquisition, development, deployment, and management of information systems
- Effectively communicate strategic alternatives to facilitate decision-making through technology
- Demonstrate the ability to identify computer and network security threats

Course Title: Organisational Behaviour

- Develop better insights into one's own self Individual behaviour in groups.
- Demonstrate inferences about attitudes and behavior, when confronted with different situations that are common in modern organizations.
- Evolve a better awareness of how to be better facilitators for building effective teams as leaders themselves.
- Acquire the skills required for efficient managers to improve organizational relationships and performance.
- Manage professionals in the rapidly changing, team-oriented, culturally diverse and technologically changing modern organizations.

Course Title: Accounting for Managers

- Develop an awareness and understanding of the accounting process and fundamental accounting principles that underpin the development of financial statements.
- Illustrate the nature and role of the four principal financial statements such as income Statement, the Statement of Financial Position, the Statement of Cash Flows etc
- Interpret and analyse financial statements and combine financial analysis with other information to assess the financial performance and position of a company.
- Figure out the role of costs in organisations, their limitations to consider when developing and using budgets for planning and control in business.
- Analyse the importance of marginal cost in common business management decisions affecting profitability.

Course Title: Managerial Economics

- Develop an understanding of the applications of managerial economics and fundamentals concepts that affects decision making.
- Interpret goals of the firm ,optimization techniques, demand theory and sales estimation
- Evaluate the theories of production and figure out the different costs of production and its impact in short and long run decisions
- Analyze the various types competitive markets and explain how price is determined in each model.
- Demonstrate the key macroeconomic indicators affecting business such as fiscal policies, monetary policies etc

Course Title: Innovation and Entrepreneurship

- Illustrate the characteristics and processes associated with possessing an entrepreneurial mindset and engaging in successful appropriate entrepreneurial behaviour.
- Plan for implementing entrepreneurial activities in a globalised and competitive environment.
- Enumerate the role of innovation and creativity in creation of new business enterprise and managing growth of business
- Prepare a comprehensive business plan for an original product or service that justifies potential profitability and sustainability of the business model
- Articulate ideas in which entrepreneurs perceive opportunity, manage risk, organise resources and add value in small business

Course Title: Essentials of Language and Communication Skills

- Building the listening and speaking skill
- Develop reading and writing skills
- Improving the individual communication skills
- Outlining the intermediary communication
- Developing the social communication

Course Title: Legal Aspects of Business

- Recognize the most common forms of contract and remedies for breach of contract.
- Define the regulation in sales and the general principles in negotiable instruments
- Demonstrate comprehensively and to develop thorough knowledge in the areas governing company law.
- Develop competence in industrial disputes and application of the law to settle dispute.
- Creation and enforcement of consumer protection laws to safeguard the interest of consumers.

Course Title: Statistics and Quantitative Methods for Business

- Recognize the issues and develop an appropriate plan in business decisions through the use of probability distribution.
- Develop appropriate mathematical model to apply in real business problems.
- Interpret various statistical values and recognize their significance to the business decision-maker.
- Analyse from data the important trends in order to forecast business variables accurately.
- Analyse the concepts and practices in presenting the research report

Course Title: Human Resource Management

- Enforce the fundamentals of HRM to effectively manage an organization.
- Plan for evaluation of employee recruitment, selection, and retention plans to improve productivity and survive in the competitive environment.
- Design various HRM processes such as Recruitment, Selection, Training,

- Development, Performance appraisals and reward systems, compensation plans
- Facilitate the internal change necessary to accomplish the strategy through communicating the human resources component of the organization.
- Evaluation of the performance management program to achieve ethics and values and a sense of fair treatment to all

Course Title: Marketing Management

- Demonstrate strong conceptual knowledge in the functional area of marketing to promote any business.
- Application of Marketing research for effective decision making.
- Understanding the role of product and pricing in marketing mix decisions.
- Illustrate the role of channels of distribution and identify channels affect the marketing of products and service
- Prepare the process of selecting an appropriate segmentation approach and deciding which customer segments to target for marketing.

Course Title: Operations Management

- Evaluation of plant locations and understanding of capacity planning.
- Describe the input–process–output framework and apply them to a wide range of operations in business.
- Recognise its interfaces with other functional areas within the organisation and with its external environment
- Define the roles and responsibilities and challenges of operations managers to manage manufacturing and service operations efficiently
- Evaluating and describing proper and safe warehouse operations and techniques

Course Title: Financial Management

- Acquire the financial concepts, theories and tools necessary to manage a firm.
- Apply financial management concepts and tools to the make decisions by a manager in various environment.
- Evaluate the various investments options of firms and examine different financial markets.
- Demonstrate ability of financial management and forecast, ensuring competitiveness of a company in the long run.
- Management of working capital to increase on the firm's profitability, liquidity, risk and operating flexibility.

Course Title: Business Research Methods

- Apply research design options, methodologies and analysis methods in business research.
- Identify business problems into a concise research problems
- Implementation and evaluation of a research project.

- Recognise the importance of ethical conduct in undertaking research.
- Develop critical core competencies and skills required to draft a research report.

Course Title: Spoken and Presentation Skills

- Develop and nurture General Language Knowledge of the students to communicate effectively
- Analyse the softskills of the students and encourage them to interact with confidence.
- Illustrate the importance of verbal communication and develop the interpersonal skills to become successful professionals
- Enhance social communication skills for effective team work, conflict management and decision making
- Interpret available information to prepare and make detailed presentations

Course Title: Strategic Management

- Apply knowledge gained in basic courses to the formulation and implementation of strategy from holistic and multi-functional perspectives.
- Integrate and apply the principles in strategic decision making in organisations.
- Develop strategies that position the firm most favorably in relation to competition and influence industry structure to enhance profits
- Design to explore an organisation's vision, mission, examine
- principles, techniques and models of organisational and environmental analysis,
- Formulation and implementation such as corporate governance and business ethics for the development of effective strategic leadership

Course Title: Applied Operations Research

- Ability to develop linear programming (LP) models for shortest path, maximum flow, minimal spanning tree, critical path, minimum cost flow, and transshipment problems.
- Formulate and describe the theoretical workings of the solution methods for transportation and assignment problems.
- Construct CPM and PERT techniques, to plan, schedule, and control project activities.
- Design and solve simple issues by applying queuing theory and sequencing to improve decision making and develop critical thinking.
- Applying Game theory and replacement policies to select best course of action out of several alternative courses for the purpose of achieving objectives.

Course Title: Human Resource Development

- Demonstrate the knowledge and skills needed to effectively manage human resources
- Examine current issues, trends, practices, and processes of digitalization of HRM activities in an organisation
- Analyse the human resource challenges to have clear idea to manage cross cultural team in work place.
- Assess various employee training & development and career management strategies.

- Demonstrate a commitment to lifelong learning by participation in professional development activities through coaching and counseling

Course Title: Security Analysis and Portfolio Management

- Recognize and apply appropriate theories, principles, and concepts relevant to securities analysis and portfolio management.
- Emphasis on competing approaches to stock investment, fundamental analysis and technical analysis
- Identify, analyze and draw reasoned conclusions in selecting and presenting information on securities.
- Demonstrate the ability to develop analytical skill relevant to security valuation and portfolio management.
- Understanding of various derivatives strategies and implications for portfolio management.

Course Title: Corporate Finance

- Enumerate the role of finance and analyse the interrelationship between finance and governance
- Describe and evaluate the different sources of corporate finance such as equity, debt, retained earnings and so on.
- Evaluate the short term working capital management policies and their impact on the firm's profitability, liquidity, risk and operating flexibility
- Examine the concepts and procedures of financial reporting, including income statement, balance sheet, and statement of cash flows
- Assess how risk and the cost of capital impact on investment appraisal, and explain how such factors affect the value of a capital project.

Course Title: Merchant Banking & Financial Services

- Acquire knowledge in Indian Banking system and Banking Regulation Acts to have an overview of merchant banking activities in India
- Interpret the legal and regulatory framework, SEBI and stock exchanges operating in India
- Develop skills required in the roles of Finance and Accounting, Banking Industry, Corporate Sector etc
- Acquire advanced knowledge on concepts like mergers, acquisitions, portfolio management services, leasing and hire purchases, etc
- Analyse the functioning of the capital markets and other financial services.

Course Title: Digital Marketing

- Deepen the understanding in online opportunities to plan for online business strategy.
- Transform SEM expert by learning many facets of SEO including management of keywords.
- Target right audience through social media channels by developing effective content.
- Acquire extensive knowledge in online advertising for e-marketing.
- leverage business expansion globally through online using web analytics

Course Title: E-Commerce

- Equip with fundamentals of e-commerce to explore opportunities in India
- Analyse the e-business models to manage e-commerce
- Describe the various electronic payments and its risk
- Analyse the confluence of e- marketing to increase online sales
- Broaden the knowledge in software agents to predict future trends.

Course Title: Business Analytics

- Understand and critically apply the concepts and methods of business analytics
- Demonstrate fundamentals of artificial intelligence (AI) to administer organisations.
- Implement various machine learning algorithms in a range of real-business applications.
- Explore the interconnection and integration of the physical world and the cyber space.
- Integrate ideas from blockchain technology and implement in business projects.

Course Title: Personality development

- Highlight the importance of personal grooming
- Develop interpersonal skills
- Suggest measures to develop attitude
- Outline business presentation
- Highlight the approaches to attend a formal meeting

Course Title: Internship

- Integrate theory and practice.
- Assess interests and abilities in their field of study.
- Develop work habits and attitudes necessary for job success.
- Build a record of work experience.
- Acquire employment contacts leading directly to a full-time job following graduation from college.

Course Title: Stress Management

- Assess the symptoms, causes and effects of personal stressors.
- Monitor the effectiveness of stress management techniques.
- Practice methods to overcome stress.
- Create a adoptable stress management plan for achievement success.
- Optimise time management for effective productivity.

Course Title: Industrial Relations and Labour Welfare

- Clarity in facets of interactions between the employer and the employee and the importance of harmonious relationship in industries

- Imbibe how to interact, negotiate and transact with Trade Unions balancing and improving the relationship between the employer and the employees.
- Application of practical knowledge for workplace safety which helps identification, evaluation, and control of hazards
- Integrate the knowledge of Labour Law with Industrial Relations, Social Security and Working conditions.
- Understanding the welfare measures for special categories of labour.

Course Title: Persuasion Skills

- Highlight the importance of negotiation skills
- Learning to connect and work with people to reach the overall goals.
- Demonstrating clear briefing and listening skills for effective decision making.
- Develop self-motivation, raised aspirations and self-belief for a successful career
- Demonstrate time and resource management skills for building a conducive team environment

Course Title: Project Work

- Develops scientific approach in solving a problem
- Identification of research problem
- Knowledge on collection and tabulation of data
- Using the right tools for the analysis of data
- Correct interpretation of data and effective decision making

SCHOOL OF INFORMATION TECHNOLOGY

27. B.C.A Programme Outcome:

PO 1 : Understand the concepts of key areas in computer Applications.
PO 2 : Analyze and apply latest technologies to solve problems in the areas of computer applications.
PO 3 : Analyze and synthesis computing systems through quantitative and qualitative techniques.
PO 4 : Apply technical and professional skills to excel in business.
PO 5 : Communicate effectively in both verbal and written form.
PO 6 : Develop practical skills to provide solutions to industry, society and business.

B.C.A Programme Specific Outcomes

PSO 1 : Analyze customer requirements, apply knowledge of computing fundamentals, computing specialization and domain knowledge for the abstraction and conceptualization of computing models.
PSO 2 : Create high level design and develop reliable software systems.
PSO 3 : Able to use the techniques, skills and modern hardware and software tools necessary for

innovative software solutions.

PSO 4 : Possess leadership and managerial skills with best professional ethical practices and social concern.

PSO 5 : Able to work collaboratively as a member or leader in multidisciplinary teams.

B.C.A Course Outcome:

Course Title: Problem solving using C Programming

- This course gives exposure to Techniques of Problem Solving: Flowcharting, Algorithms.
- Understand the basic terminology used in computer programming.
- Write, compile and debug programs in C language.
- Use different data types in a computer program.
- Use different data structures and create/update basic data files.

Course Title: Problem solving using C-Practical

- This course gives exposure to hands on training in C programming
- To familiarize the student with basic concepts of computer programming and developer tools.
- To present the syntax and semantics of the "C" language as well as data types offered by the language.
- To allow the student to write their own programs using standard language infrastructure regardless of the hardware or software platform.
- To understand the role of functions involving the idea of modularity.

Course Title: Mathematics – I

- Demonstrate knowledge in computing solutions to Summation series involving Binomial, Exponential and Logarithmic Series
- Compute the eigen values and eigen vectors of a given matrix and apply Cayley Hamilton theorem in computing the integrals powers and also the inverse of a given matrix.
- Knowledge in solving polynomial equations including reciprocal equations and application of Newton's method in finding approximate roots to the polynomial equations..
- Compute radius of curvature using Cartesian co-ordinates and also evaluate maxima and minima of functions involving two variables.
- Demonstrate skill in the expansion of Trigonometric functions and compute solutions to problems involving Hyperbolic and Inverse hyperbolic functions.

Course Title: Multimedia Lab

- To Implement frame, timeline, tween, layers, and symbols for animation.
- To Make movies effectively by embedding audio/video.
- To Build multimedia web applications by various concepts.
- To Design games, movies, websites and animations.
- To Complete multimedia project with all embedded multimedia concepts

Course Title: Programming in Java

- Understanding of the principles and practice of object oriented analysis and design in the construction of robust, maintainable programs which satisfy their requirements.
- Ability to implement, compile, test and run Java programs comprising more than one class, to address a particular software problem.
- Demonstrate the principles of object oriented programming;
- Demonstrate the ability to use simple data structures like arrays in a Java program.
- Understand the concept of package, interface, multithreading and File handling in JAVA.

Course Title: Java Lab

- To understand programming language concepts, particularly Java and object- oriented concepts.
- To Write, debug, and document well-structured Java applications
- To Implement Java classes from specifications and effectively create and use objects from predefined class libraries
- To Understand the behavior of primitive data types, object references, and arrays
- To Apply decision and iteration control structures to implement algorithms

Course Title: Mathematics – II

- Demonstrate skill in computing integrations containing an integer parameter
- Identify the concept of difference tables and use them in computing problems involving Newton and Lagrange formulae.
- Knowledge in solving second order differential equations involving constant coefficients.
- Skill in computing solutions to partial differential equations of different types. Identify the basics of Laplace transformation and apply different properties in computing problems.

Course Title: E-Commerce Lab

- To understand the foundations and importance of E-commerce.
- To analyze branding and pricing strategies.
- To determine the effectiveness of market research.
- To identify and analyze user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems.
- To effectively integrate IT-based solutions into the user environment.

Course Title: Operations Research with Big Data

- To formulate a real-world problem as a mathematical programming model
- To Understand the theoretical workings of the simple method for linear programming and perform iterations of it by hand
- To Understand the relationship between a linear program and its dual, including strong duality and complementary slackness

- To Perform sensitivity analysis to determine the direction and magnitude of change of a model‘s optimal solution as the data change
- To Solve specialized linear programming problems like the transportation and assignment problems

Course Title: Mobile Application Development

- To understand concepts of mobile devices, Mobile OS Architectures, Android survival and basic apps.
- To understand android useful apps, underneath the frameworks and advanced topics.
- Ability to apply general programming knowledge in the field of developing mobile applications.
- Understanding of the specific requirements, possibilities and challenges when developing for a mobile context.
- Deploy applications to the Android marketplace for distribution.

Course Title: Mobile Application Development Lab

- Setup the development environment.
- Create a sample android application.
- Understand the various parts of an android project.
- Use the Android Emulator.
- Install and Run the application on a physical device.

Course Title: Data Structures and Algorithms

- To Demonstrate familiarity with major algorithms and data structures.
- To Analyze performance of algorithms and choose the appropriate data structure and algorithm design method for a specified application.
- To Determine which algorithm or data structure to use in different scenarios and be familiar with writing recursive methods.
- To demonstrate understanding of the abstract properties of various data structures such as stacks, queues, lists, trees and graphs and Use various data structures effectively in application programs.
- To demonstrate understanding of various sorting algorithms, including bubble sort, insertion sort, selection sort, heap sort and quick sort.

Course Title: Financial Accounting

- To understand the role of accounting and its limitations.
- To Prepare financial statements in accordance with Generally Accepted
- To demonstrate Accounting Principles.
- To Demonstrate knowledge of each step in the accounting cycle
- To Support basic level of recording and reporting of financial information for business

Course Title: Personality Enrichment

- The process of self-disclosure involves many decisions, including what, when, where, and how to disclose. Students affect for the content, contribute to perceptions of instructor credibility increased.
- Recognize their ethical responsibilities to their community, society, discipline, and profession based on various perspectives and associated standards of ethical communication.
- Demonstrate the ability to analyze a problem and devise a solution in a group.
- Demonstrate the ability to research, analyze, and reason from evidence to reach an effective conclusion or outcome.
- Develop an understanding of and practice personal and professional responsibility

Course Title: Web Technology

- To develop web pages using HTML and Cascading Style Sheets.
- To create XML documents and Schemas.
- To incorpare Knowledge of client-side (JavaScript) and server-side scripting (PHP, ASP.NET) languages to build dynamic web pages
- To Familiarize with Web Application Terminologies, Internet Tools, E – Commerce and other web services.
- To develop database applications with MYSQL.

Course Title: Web Applications Lab

- To develop a dynamic webpage by the use of java script and DHTML.
- To write a well formed / valid XML document.
- To connect a java program to a DBMS and perform insert, update and delete operations on DBMS table.
- To write a server side java application called Servlet to catch form data sent from client, process it and store it on database.
- To write a server side java application called JSP to catch form data sent from client and store it on database.

Course Title: Cloud Computing

- To understand the concept of Cloud Security.
- To Learn the Concept of Cloud Infrastructure Model.
- To Gain a clear understanding of the concepts that underlie distributed computing systems along with design and implementation issues.
- To understand key mechanisms and models for distributed systems including logical clocks, causality, vector timestamps, and distributed hash tables, consistent global stratification, election algorithms, distributed mutual exclusion, consistency, replication, fault tolerance, distributed deadlocks, recovery, and agreement protocols.
  - To learn how to design and implement distributed algorithms.

Course Title: Cost and Management Accounting

- To Understand the cost and management accounting techniques for evaluation, analysis and application in managerial decision making;
- To Compare and contrast marginal and absorption costing methods in respect of profit reporting;
- To Apply marginal and absorption costing approaches in job, batch and process environments.
- To Understand Accounting Principles.
- To Demonstrate knowledge of each step in the accounting cycle

Course Title: Tally Lab

- To Enter the accounting transactions in computerized format and find the financial result of a concern.
- To Acquire the skill of financial decision making in a systemized manner.
- To Interpret financial statements as well as evaluation of stock at the end
- To Enter accounting voucher entries including advance voucher entries.
- To Do reconcile bank statement.

Course Title: Environmental Studies

- To Know the importance of environmental studies and methods of conservation of natural resources.
- To Describe the structure and function of an ecosystem.
- To Identify the values and conservation of bio-diversity.
- To Explain the causes, effects and control measures of various types of pollutions.
- To Select the appropriate methods for waste management.

Course Title: Programming In Python

- To learn how to install Python, Start the Python shell.
- To learn to perform basic calculations, print text on the screen and create lists, and perform simple control flow operations using if statements and for loops.
- To learn how to reuse code with functions.
- To describe the semantics of Python programming language and Illustrate the process of structuring the data using lists, dictionaries, tuples, strings and sets.
- Illustrate the Object-oriented Programming concepts in Python.

Course Title: Python Lab

- To understand why Python is a useful scripting language for developers.
- To learn how to read and write files in Python.
- To learn how to design and program Python applications.
- Design programs using Python object types.
- Demonstrate the basic database design for storing data as part of a multi-step data gathering, analysis, and processing.

Course Title: Operating System

- To Understand the difference between different types of modern operating systems, virtual machines and their structure of implementation and applications.
- To Understand the difference between process & thread, issues of scheduling of user level processes / threads and their issues & use of locks, semaphores, monitors for synchronizing multiprogramming with multithreaded systems and implement them in multithreaded programs.
- To Gain knowledge about the concepts of deadlock in operating systems and how they can be managed / avoided and implement them in multiprogramming system.
- To Demonstrate the design and management concepts along with issues and challenges of main memory, virtual memory and file system.
- To Understand the types of I/O management, disk scheduling, protection and security problems faced by operating systems and how to minimize these problems.

Course Title: Relational Database Management System

- To analyze Data Base design methodology.
- To Acquire knowledge in fundamentals of Data Base Management System.
- To analyze the difference between traditional file system and DBMS.
- To handle with different Data Base languages.
- To Draw various data models for Data Base and Write queries mathematically.

Course Title: Introduction to Web Designing (HTML & CSS)

- To develop web pages using HTML and Cascading Style Sheets.
- To create XML documents and Schemas.
- To incorpare Knowledge of client-side (JavaScript) and server-side scripting (PHP, ASP.NET) languages to build dynamic web pages
- To Familiarize with Web Application Terminologies, Internet Tools, E – Commerce and other web services.
- To develop database applications with MYSQL.

Course Title: Value Education

- To Inculcate the value system in their real life scenarios.
- To Implement the role of culture and civilization, roles and responsibilities in the society.
- To Effectively follow Salient values for life such as forgiveness, ability to sacrifice, self esteem, teamwork and creative thinking.
- To Reflect the human rights, social values and welfare of the citizen.
- To consider the relation between values and personal behavior affecting the achievement of a sustainable future.

Course Title: Software Engineering

- To apply the software engineering lifecycle by demonstrating competence in communication, planning, analysis, design, construction, and deployment
- To work in one or more significant application domains
- To develop and deliver quality software
- To demonstrate an understanding of and apply current theories, models, and techniques that provide a basis for the software lifecycle
- To demonstrate an ability to use the techniques and tools necessary for engineering practice

Course Title: R - Programming

- To Master the use of the R and R-Studio interactive environment.
- To Expand R by installing R packages.
- To Explore and understand how to use the R documentation.
- To Read Structured Data into R from various sources.
- To Understand the different data types in R.

Course Title: R – Programming Lab

- To Master the use of the R and R-Studio interactive environment.
- To Expand R by installing R packages.
- To Explore and understand how to use the R documentation.
- To Read Structured Data into R from various sources.
- To Understand the different data types in R.

Course Title: Mini Project

- Acquire knowledge about the software development stages such as analysis, design, coding, testing and maintaining the project.
- Students can able to design an effective software using various application
- To provide students hands on experience on, troubleshooting, maintenance, fabrication, innovation, record keeping, documentation etc thereby enhancing the skill and competency part of technical education.
- To promote the concept of entrepreneurship.
- To inculcate innovative thinking and thereby preparing students for main project

Course Title: Data Communication and Networking

- To understand the fundamental concepts of computer networking and provide the knowledge of different protocols at different layers of models.
- To understand the techniques used to share network bandwidth among the multiple users and provide the depth knowledge of DLL fundamentals.
- Learn how the data is transferred between the computers over the network.
- To learn about the synchronization in distributed systems and thread implementations
- To gain knowledge about distributed file systems

Course Title: Information Security

- Develop a basic understanding of cryptography, how it has evolved, and some key encryption techniques used today.
- Develop an understanding of security policies (such as authentication, integrity and confidentiality)
- Develop protocols to implement such policies in the form of message exchanges.
- Identify factors driving the need for network security.
- Determine and analyze software vulnerabilities and security solutions to reduce the risk of exploitation.

Course Title: Computer Architecture

- Students will understand the sequence and execution of microinstructions.
- Students will understand Input and output peripheral devices and their communication with the rest of the computer components.
- Students will understand the major components of a computer including CPU, Memory, I/O and storage.
- Analyze some of the design issues in terms of speed, technology, cost, performance.
- Use appropriate tools to design verify and test the CPU architecture.

Course Title: Relational Database Management System

- To analyze Data Base design methodology.
- To Acquire knowledge in fundamentals of Data Base Management System.
- To analyze the difference between traditional file system and DBMS.
- To handle with different Data Base languages.
- To Draw various data models for Data Base and Write queries mathematically.

Course Title: Introduction to Web Designing (HTML & CSS)

- To develop web pages using HTML and Cascading Style Sheets.
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- To Familiarize with Web Application Terminologies, Internet Tools, E – Commerce and other web services.
- To develop database applications with MYSQL.

Course Title: E-Commerce

- To Understand the foundations and importance of E-commerce.
- To Analyze branding and pricing strategies.
- To Determine the effectiveness of market research.
- To identify and analyze user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems.
- To effectively integrate IT-based solutions into the user environment.

Course Title: Client / Server Computing

- To Understand the basics and evolution of c/s computing
- To Understand about the c/s applications and operating systems
- To Learn the client hardware and software and GUI environment
- To Understand about the types of servers and network managing environment
- To Learn the platform independence transaction processing, testing and diagnostic tools and backup & recovery mechanisms

Course Title: Data Communication and Networking

- To understand the fundamental concepts of computer networking and provide the knowledge of different protocols at different layers of models.
- To understand the techniques used to share network bandwidth among the multiple users and provide the depth knowledge of DLL fundamentals.
- Learn how the data is transferred between the computers over the network.
- To learn about the synchronization in distributed systems and thread implementations
- To gain knowledge about distributed file systems

Course Title: UNIX Programming

- To Access a file using the relative and pathname
- To Erase, Copy a file, Move a file, Cut columns of data from a file
- To Create a directory and Display the contents of a directory
- To Change the working directory
- To Return and Remove to the home directory

Course Title: Data Mining

- Understand the functionality of the various data mining and data warehousing component
- Analyzing techniques of various data
- Understand different methodologies used in data mining and data ware housing.
- Compare different approaches of data ware housing and data mining with various technologies.
- Evaluate the performance of different data-mining algorithms.

28. B.Sc (Computer Science) Programme Outcome:

PO 1 : Implement knowledge of computing fundamentals, computing specialization and domain knowledge for the abstraction and conceptualization of computing models.

PO 2 : Identify and Analyze user needs and use them in the selection, creation of high level reliable software systems.

PO 3 : Use the techniques, skills and modern hardware and software tools necessary for innovative software solutions.

PO 4 : Employ essential IT support skills gained to install, configure, secure and ability to do preliminary Troubleshooting.

PO 5 : Collaborate effectively with teams to accomplish shared computing design, evaluation, or implementation goals.

B.Sc (Computer Science) Programme Specific Outcome:

PSO 1 : Employ appropriate concepts of problem solving methods for varied applications

PSO 2 : Develop aptitude to meet the challenges and keep themselves abreast of the upcoming trends in the IT industry

B.Sc (Computer Science) Course Outcome:

Course Title: Problem Solving using C Programming

- Design Programming using statements
- Demonstrate Control flow verification
- Explain importance function in avoidance of code redundancy
- Discuss manipulation of Array and structure
- Compute external file data through file handling methods

Course Title: Practical - Problem Solving using C Lab

- Demonstrate calculator through arithmetic operators
- Demonstrate logical and relational operators using Condition statements
- Illustrate iteration using ‘for, while and do ... while statement and switch statement
- Demonstrate and compute Fibonacci series using function
- Demonstrate factorial of number using recursive function

Course Title: Practical – Multimedia Lab

- Apply selection tools
- Demonstrate separation of background object and combining images
- Illustrate Transform tools
- Handle colors, black and white
- Apply animation filters and design visiting card

Course Title: Analysis of Algorithms and Data Structures

- Discuss design principles and concepts of algorithms and Analyze the efficiency of algorithms using time and space complexity
- Compare the computational efficiency of various sorting and searching techniques
- Analyze various static data structures like array implementation of stack and queue
- Compare static data structures with dynamic data structures such as linked list
- Demonstrate the data structures tree and graphs and their traversal methods

Course Title: Practical - Analysis of Algorithms and Data Structures using C Lab

- Illustration of iterative algorithmic technique with insertion sort, bubble sort and selection sort
- Demonstrate divide and conquer algorithm using quick and merge sort
- Explain algorithmic technique backtracking using heap sort
- Implement stack and apply stack for applications like postfix expression and evaluation of expressions
- Discuss dynamic data structures linked list and doubly linked list and their applications in formulating data structures like trees and graphs

Course Title: E-Commerce Lab

- Understand basic HTML tags
- Use table tag
- Design and validate form controls
- Familiarize various types of CSS
- Develop a simple E- Commerce Web Site

Course Title: Programming in Java

- Demonstrate object oriented programming through real time entities
- Apply string buffer class to provide flexible memory management
- Create own packages and handle runtime errors by exception handler
- Compare and analyze I/O streams and utility Packages
- Demonstrate GUI through AWT controls

Course Title: Practical - Programming in Java Lab

- Revive basic programming like arithmetic operation and decision making statements
- Apply object oriented concepts class and object
- Demonstrate polymorphism through method overloading and method overriding
- Create basic applet programs
- Design web page by using different layouts and AWT controls

Course Title: VB.NET Programming and Database Management Systems

- Design and construct application using elements in .net framework
- Determine decision structure and iterations
- Create an vb.net program using functions, menus and toolbars
- Build vb.net program using MDI form
- Illustrate vb.net program with database connection

Course Title: Practical - RDBMS withVB.NET Lab

- Explain the concept of click event and change event
- Create a web form using tools
- Demonstrate calculation, input validation using compare validator, request field validator

- Discuss variables, hyperlink and methods
- Design and build vb.net program to connect database

Course Title: Operating Systems

- Demonstrate how operating system acts as user interface and various types of Operating systems
- Identify components of operating system and their functions
- Discuss various process management concepts like scheduling
- Illustrate concurrent processing , mutual exclusion and synchronizations and Deadlock
- Elucidate Memory management techniques like paging, segmentation, demand paging

Course Title: Digital Logic and Computer Architecture

- Evaluate Number systems and number system conversion
- Demonstrate the structure, function and characteristics of computer systems
- Identify the elements of instruction sets, registers and its types
- Elucidate various levels of memory hierarchy and stack organization.
- Discuss about the approach of micro programmed control codes

Course Title: Programming in Python

- Use if-else statements and switch-case statements to write programs in Python to tackle any decision-making scenario
- Explain store and retrieve information using variables
- Apply how to write loops and decision statements in Python.
- Identify how to use lists, tuples, and dictionaries in Python programs
- Determine how to use exception handling in Python applications for error handling

Course Title: Practical – Python Programming Lab

- Acquire programming skills in core Python.
- Acquire Object Oriented Skills in Python
- Develop the skill of designing Graphical user Interfaces in Python
- Develop the ability to write database applications in Python
- Develop cost-effective robust applications using the latest Python trends and technologie

Course Title: Practical Internet and its Applications Lab

- Design webpage with different text formats
- Demonstrate web pages with background and foreground images
- Build web pages with tables
- Design applications to view more than one web page in a single window using frame tag
- Create Simple websites

Course Title: Software Engineering

- Plan the development process through software life cycle models
- Predict and estimate software cost
- Compare and select software design techniques
- Fix and review milestones, walkthrough and inspection
- Implement the software as per standards and guidelines

Course Title: Web Programming with PHP and MySQL

- Demonstrate the way arrays are handled in PHP
- Create user defined functions with PHP
- Explain sessions and cookies
- Identify My SQL tools
- Connect My SQL with PHP, process result set queries

Course Title: Practical - Web Programming with PHP and MySQL Lab

- Design simple web page using PHP
- Create Sessions and Cookies
- Demonstrate simple application to Validate input
- Use aggregate functions
- Demonstrate connecting My-SQL with PHP

Course Title: Data Communication and Networking

- Explain the concepts of Network Topology and OSI reference models
- Discuss the concepts of error correction and error detection
- Analyze the concepts of Multiplexing and Telephone Systems
- Evaluate the concept of routing algorithms and client/server architecture
- Illustrate the concepts of Security and types of attacks and the authentication codes

Course Title: Data Mining

- Demonstrate advanced knowledge of data mining concepts and techniques
- Identify appropriate data mining algorithms to solve real world problem
- Compare and evaluate data mining techniques like classification, prediction, clustering and association rule mining.
- Explain the analyzing techniques of various data
- Evaluate various mining techniques on complex data objects

Course Title: Software Testing

- Analyze various testing methods like white box, black box testing and integrated testing
- Compare various testing methodologies such as system acceptance testing, performance testing and regression testing

- Analyze usability and accessibility of testing organizational structure of testing teams
- Demonstrate the steps involved in planning, managing , executing and reporting test
- Analyze and compare testing metrics

Course Title: Data Science

- Demonstrate the tools in data science.
- Explain data type, control structure and functions
- Analyze how to collect, clean and prepare a data
- Explain the method of summarizing the data
- Evaluate the data science findings

Course Title: Cloud Computing

- Describe the overall organization of data and storage
- Explain the concept of cloud computing
- Analyze the trade-offs between deploying application in the cloud and over the local infrastructure
- Compare the advantages and disadvantages of various cloud computing platforms
- Analyze the performance of scalability and availability in the underlying cloud technologies and software

Course Title: Fundamentals of Multimedia

- Explore the different roles, skill sets, jobs and equipment associated with the development of digital media.
- Examine the processes involved in producing content to meet a specific communication goal toward a target audience
- Identify and describe the function of the general skill sets in the multimedia industry
- Identify the basic components of a multimedia project
- Identify the basic hardware and software requirements for multimedia development and playback.

Course Title: Android Application Development Practical

- Install and configure Android application development tools.
- Design and develop user Interfaces for the Android platform
- Design and develop user Interface with view displaying pictures and menus
- Explain data persistence
- Develop android service and public android application

Course Title: Artificial Intelligence

- Demonstrate knowledge of building blocks of AI as presented in terms of intelligent agents
- Analyze and formulize the problem as a state space, graph and game based techniques to solve them

- Critique intelligent algorithms for constrain satisfaction problems and also design intelligent systems for game playing
- Attain the capability to represent various real life problem domains
- Apply concept of Natural language processing to problems leading to understanding of cognitive computing

29. B.Com (Information Systems Management) Programme Outcome:

PO 1 : After completing graduation, students can get skills regarding various aspects like Marketing Manager, Selling Manager, Finance Manager, HR Manager, and Project Manager and over all Administration abilities of a Company.

PO 2 : Capability of the students to make decisions at personal & professional level will increase after completion of this course.

PO 3 : Students can independently start up their own business.

PO 4 : Students can get thorough knowledge of finance, commerce and computer programming languages.

PO 5 : The knowledge of different specializations in accounting, costing, systems and finance with the practical exposure helps the students to stand in organization.

B.Com (Information Systems Management) Programme Specific Outcome:

PSO 1 : The students can get the knowledge, skills and attitudes during the end of the B.com degree course. By goodness of the preparation, they can turn into a Manager, Accountant, Systems Manager, and Computer Programmer, Web developer, Teacher, Professor, Entrepreneur and Government employees.

PSO 2 : Students will prove themselves in different professional exams like C.A., CMA, UPSC, as well as higher education courses like MBA, MCA, MSW, and M. Com etc.

PSO 3 : The students will acquire the knowledge, skill in different areas of communication, decision making, Innovations and problem solving in day-to-day business activities.

B.Com (Information Systems Management) Course Outcome:

Course Title: Financial Accounting:

- To enable the students to learn principles and concepts of Accountancy
- Students are enabled with the Knowledge in the practical applications of accounting
- To enable the students to learn the basic concepts of Partnership Accounting, and allied aspects of accounting.
- The student will get thorough knowledge on the accounting practice prevailing in partnership firms and other allied aspects.

- To find out the technical expertise in maintaining the books of accounts. To encourage the students about maintaining the books of accounts for further reference.

Course Title: Principles of Management

- To develop knowledge about evolution of management thoughts.
- To better understanding of planning and decision making
- To give an idea about organisation structure and different types of organisation
- To make them familiarize with recruitment process and stages in selection
- To provide idea about motivation, importance of communication and Principles of coordination.

Course Title: Basic Computer Skills for Managers

- To make the students understand and demonstrate the concept of Microsoft word.
- Describe the features and functions of the categories of application.
- To make the students aware about the basic features of PowerPoint.
- TO make students develop efficiency with specific sets of skills in Microsoft excel.
- To help the students examine database concepts and explore the Microsoft Office Access environment.
- To make student build a new database with related tables.

Course Title: Analytical and Logical Reasoning

- To Identify and re-construct arguments in articles, news, editorials, advertisements etc.
- To Evaluate both deductive and inductive arguments, and identify fallacies in argumentative discourse
- To Make sound arguments based on mathematical reasoning and/or careful analysis of data.
- To Effectively communicate the substance and meaning of mathematical problems and solutions.
- To Explore and apply key concepts in logical thinking to business problems

Course Title: E-Business

- To demonstrate an understanding of the foundations and importance of E-business.
- To prepare the students understand about the key features of Internet, Intranets and Extranets and explain how they relate to each other.
- To make the students aware about the electronic payment systems.
- To obtain the knowledge of e-retailing and its services
- To understand the basic concept of M-commerce and generation of mobile wireless technology.

Course Title: Marketing Management

- Identify the basic concepts and various environmental factors affecting marketing functions.
- To enable the students to analyze the buyer behavior and market Segmentation.
- Compare and analyze the classification of goods and apply the tools of branding, packaging, pricing and labeling.

- To demonstrate the knowledge of advertising, public relations and sales promotion.
- To critically analyze the recent changes in the field of marketing and discuss the type's physical distribution.

Course Title: HTML Programming

- To familiarize students with the tags and works on with basic html programs.
- To make students work with adding graphics to html and also different attributes
- To make students understand the concept of linking of documents using hyperlink and also external document reference
- To introduce the concept of dynamic HTML.
- To make students create a form using html tags.

Course Title: Importance of Emotional Intelligence

- Demonstrate emotional intelligence and realize the benefits of high emotional intelligence at workplace
- Increased self-awareness by identifying personal patterns
- Ability to positively handle negative traits.
- Analyse positive traits and apply them in workplace.
- Demonstrate SWOT analysis and create the art of celebrating life.

Course Title: Programming in 'C'

- Identify situations where computational methods and computers would be useful.
- Choose the right data representation formats based on the requirements of the problem.
- Use the comparisons and limitations of the various programming constructs and choose the right one for the task in hand.
- Demonstrate the call by value and call by reference in functions.
- Ability to work with arrays of complex objects.

Course Title: Management Accounting

- To enlighten the students thought and knowledge on management Accounting
- Helps to give proper idea on financial statement analysis in practical point of view
- To introduce the concept of fund flow
- To introduce the concept of cash flow statement
- To develop the know-how and concept of marginal costing with practical problems

Course Title: Business Communication

- To make the students aware about the business communication.
- To understand the channels of communication and understand the structure and layout of business letters.

- To extend business communication skills through the application and exercises for personal correspondences
- To extend business communication skills through the application and exercises for business correspondences.
- To develop awareness regarding new trends in business communication, various media of communication and communication devices.

Course Title: Programming in 'C' Practical

- Employ good software engineering practices such as incremental development, data integrity checking and adherence to style guidelines.
- Design flow-chart, algorithm and program logic.
- Apply programming concepts to compile and debug c programs to find solutions.
- Demonstrate the concept of data types, loops, functions, array, pointers, string, structures and files.
- To analyze the usage of data using primitive and structured types.

Course Title: Business Statisitics – I

- To formulate complete, concise, and correct mathematical proofs.
- To frame problems using multiple mathematical and statistical representations of relevant structures and relationships and solve using standard techniques.
- To create quantitative models to solve real world problems in appropriate contexts.
- To use CPM and PERT techniques, to plan, schedule, and control project activities
- To construct linear integer programming models and discuss the solution techniques.

Course Title: RDBMS with SQL

- To lay a strong foundation into the basic principles, theory and practice of using relational databases.
- To emphasize the need, role, importance and uses of databases in applications development
- To distinguish between different models of organizing, storing and use of data
- To lay the foundation for the study and use of relational databases
- To perform E-R modeling in a given situation and provide the foundation for development of relational database structure

Course Title: Financial Management

- Identify the fundamentals of financial management, role of financial manager and sources of finance
- Demonstrate Capital structure planning and Analyse the types of leverages
- To demonstrate the concepts in Financial Management which are important to make managerial Decisions

- Demonstrate capital budgeting, working capital Management and dividend policies which are used in making financial decisions
- Able and confident to tackle practical financial problems of business.

Course Title: Research Methods in Business

- To identify the various kinds of research, objectives of doing research, research process.
- Apply various research designs and sampling techniques.
- Compare and analyse various data collecting methods, data processing and analysis.
- Identify types of hypothesis and use different testing methods
- Prepare research report and apply research methods in various areas.

Course Title: RDBMS with SQL-Practical

- To develop relational tables and be able to normalize the tables as per specific normalization forms
- To emphasize the need, role, importance and uses of databases in applications development
- To apply specific SQL statement on relational tables as per requirements
- To sensitize the learner on issues of database security and the challenges involved
- To sensitize the learner on issues of database security and the challenges involved

Course Title: Business Statistics – II

- Discuss critically the uses and limitations of statistical analysis
- Solve a range of problems using the techniques covered
- Conduct basic statistical analysis of data
- Propose the best strategy using decision making methods under uncertainty and game theory.
- Solve multi-level decision problems using dynamic programming method.

Course Title: Quantitative Aptitudes

- Analyze the Problems logically and approach the problems in a different manner.
- Understand the basic concepts of QUANTITATIVE ABILITY
- Understand the basic concepts of LOGICAL REASONING Skills
- Acquire satisfactory competency in use of VERBAL REASONING
- Solve campus placements aptitude papers covering Quantitative Ability, Logical Reasoning and Verbal Ability

Course Title: Programming in PYTHON

- Interpret the fundamental Python Syntax and Semantics.
- Express Proficiency in the handling of Strings and Function.
- Determine the method to create and manipulate python program by utilizing the data structure.
- To create python program using object and class.
- To explore the mechanism of modular programming using modules and package.

Course Title: Entrepreneurial Development

- To develop entrepreneurial awareness among students.
- Identify the process of entrepreneurship and institutional supports available to entrepreneurs and to prepare their mind set for thinking entrepreneurship as career.
- Examine the process of starting a new venture and create business plan.
- Identify the role of government in organizing EDPs
- Identify the role of entrepreneur in economic growth analyse strategic approaches in business

Course Title: Management Information System

- To understand the leadership role of Management Information Systems in achieving business competitive advantage through informed decision making.
- To analyse business information and systems to facilitate evaluation of strategic alternatives.
- To effectively understand the classification of computers and database management system.
- To demonstrate an understanding of system development lifecycle and functional information system.
- To make the student understand the key features of decision support system and business process outsourcing.

Course Title: PYTHON Programming Practical

- Describe the Numbers, Math functions, Strings.
- Express different Decision Making statements and Functions.
- Interpret Object oriented programming in Python.
- To program with the concepts of List, Tuples and Dictionaries in Python.
- Understand and summarize different File handling operations

Course Title: Inter Disciplinary Elective Essentials of Office Automation Tools and E-Mail Etiquette

- To perform documentation
- To perform accounting operations
- To perform presentation skills
- The course also helps the candidates to get acquainted with IT
- To learn General Office Skills; File Management, Record Filing, Telephone & Email Etiquette

Course Title: Elements of Cost Accounting

- Apply latest techniques and tools prevailing in software industry
- Perform under pressurizing situations
- Enhance their business and personal communication skills
- Describe roles and responsibilities of individuals in an organization
- Describe the functioning of a business organization

Course Title: PHP Programming

- Understand how server-side programming works on the web
- How to receive and process form submission data.
- Reading and writing cookies.
- Create a database in php MyAdmin.
- Read and process data in a MySQL database

Course Title: PHP Programming Practical

- PHP Basic syntax for variable types and calculations.
- Creating conditional structures
- Storing data in arrays.
- Using PHP built-in functions and creating custom functions
- Understanding POST and GET in form submission.

Course Title: Human Resource Management

- To develop the understanding of the concept of human resource management and to understand its relevance in organizations.
- To analyse the role of HR manager in guiding the work force, influence their behavior and motivate them to conduct maximum towards the achievement of organizational goals.
- To develop necessary skill set for application of various HR issues.
- To analyse the strategic issues and strategies required to select and develop manpower resources.
- To integrate the knowledge of HR concepts to take correct business decisions.

Course Title: Project Work

- Hands-on experience to the students in fields of management, marketing, information system, human resource, finance or software project management.
- Enabling them to learn the nuance of working both as an individual and as a team.

30. B.Sc (Information Technology) Programme Outcome:

PO 1 : Develop appropriate skill set, analytical abilities, and construct computer-based solutions for real life problems.

PO 2 : Solve problems in Big Data Concepts by Evaluating current real-world scenarios and use appropriate techniques.

PO 3 : Employ techniques, skills, and modern hardware and software tools necessary for Information technology.

PO 4 : Explain effectively in a variety of concepts pertaining to Information Technology and Big Data.

PO 5 : Produce results to assigned problems in a given situation by Collaborating with team members of the team at various level

B.Sc (Information Technology) Programme Specific Outcome:

PSO 1 : Employ appropriate concepts in the areas like Web services, Data Analytics, Cloud Computing, Design and Analysis of Algorithms and User Interface Design and core computing subjects and apply them in real world scenarios.

PSO 2 : Implement the knowledge and skills gained and meet the current demand of IT Industry and be successful personnel.

B.Sc (Information Technology) Course Outcome:

Course Title: Problem solving using C Programming

- Demonstrate an understanding of computer programming language concepts.
- Ability to develop simple C Programs and to use of conditional and looping statements.
- Implement functions and storage classes.
- Explore usage of Arrays, strings, structures and Unions
- Effective utilization of pointers and files.

Course Title: Problem solving using C Programming Lab

- Implement the concepts of sequential programming in C.
- Implement the concepts of Conditional Structures in C.
- Implement the iterative concepts in C.
- Implement Programs with function and perform various arithmetic operations.
- Implement C programs for manipulating strings and Arrays.

Course Title: Multimedia Lab

- Implementation of different Selection Tool.
- Implementation of Transforming and sizing.
- Implementation of images and layers.
- Implementation of Transform Tool.
- Implementation of different Filters and color tool.

Course Title: Programming in Java

- Designs will demonstrate the use of good object-oriented design principles including encapsulation and information hiding.
- Knowledge of the structure and model of the Java programming language.
- Evaluate user requirements for software functionality required to decide whether the Java programming language can meet user requirements.
- Use the Java programming language for various programming technologies.
- Propose the use of certain technologies by implementing them in the Java programming language to solve the given problem.

Course Title: Programming in Java Lab

- Implement Object Oriented programming concept using basic syntaxes of controls Structures, strings and function for developing skills of logic building activity.
- Identify classes, objects, members of a class and the relationships among them needed for a finding the solution to specific problem.
- Demonstrates how to achieve reusability using inheritance, interfaces and packages and describes faster application development can be achieved.
- Develop Java applications with threads and generics classes.
- Demonstrate understanding and use of different exception handling mechanisms and concept of multithreading for robust faster and efficient application development.

Course Title: E-Commerce Lab

- Understand basic concepts in HTML.
- Apply the concepts of Text formatting in basic web pages.
- Implement a variety of hyperlinks to connect pages and communicate with users via email link.
- Implement control images on a web page.
- Develop an E-Commerce website.

Course Title: Design and Analysis of Algorithms

- Define the basic concepts of analyze and the performance of algorithms.
- Discuss various algorithm design techniques for developing algorithms.
- Discuss various searching, sorting and graph traversal algorithms.
- To find the shortest path in multistage graph method.
- Using the search techniques find the solution for Depth First Search and Breadth First Search.

Course Title: Data Analysis using Spread Sheet

- Group cells and use outlines to manipulate the worksheet; protect data in worksheets and workbooks.
- Use of advance Excel Formula.
- Use of If conditions with advance Excel functions.
- Use a variety of data validation techniques, use advanced filters to analyse data in a list
- Share workbooks with other users.

Course Title: Data Analysis using Spread Sheet lab

- Understand Excel basic functions and charts.
- To work with mathematical text and date function.
- Implements sorting and filtering concepts in Excel.
- To work with Pivot tables.
- To share the workbook using VBA Macros.

Course Title: Operating System

- Describe the important computer system resources and the role of operating system in their management policies and algorithms.
- Understand the process management policies and scheduling of processes by CPU.
- Evaluate the requirement for process synchronization and coordination handled by operating system.
- Describe and analyze the memory management and its allocation policies.
- Identify use and evaluate the storage management policies with respect to different storage management technologies.

Course Title: Web Technology

- Understand VB Script language programming constructs.
- Understand the basic concepts of JavaScript language.
- Apply JavaScript to add dynamic content to pages that meet specific needs and interests.
- Develop web pages using ASP
- Develop a dynamic web page using client side and server-side scripting languages.

Course Title: Relational Database Management System

- Understand the conceptual models of a database using ER modelling.
- Describe the relational model in Database.
- Analyze the existing design of a database schema and apply concepts of normalization to design an optimal database
- Create and populate a database for a real-life application, with constraints and keys, using SQL
- Explain PL/SQL structure in databases.

Course Title: Web Application Lab

- Develop basic programs. Using VB Script.
- Develop basic programs using Java Script.
- Write programs to implement databases
- Develop web pages using ASP
- Develop a dynamic web page using client side and server-side scripting languages.

Course Title: Digital Marketing Lab

- Create a functional multi-page website using Word Press on a remote server.
- Use basic HTML and CSS to edit content and modify formatting in a Word Press website.
- Design and build digital marketing themes.
- Implement text and graphics formatting in web pages.
- Create web pages using Digital Marketing Plugins.

Course Title: Big Data Analytics

- Understand the key issues in big data management and its associated applications in intelligent business and scientific computing.
- Acquire fundamental enabling techniques and scalable algorithms like Hadoop; Map Reduce and NO SQL in big data analytics.
- Interpret business models and scientific computing paradigms, and apply software tools for big data analytics.
- Achieve adequate perspectives of big data analytics in various applications like recommender systems, social media applications etc.
- Modelling and design of data warehouses.

Course Title: Python Programming

- Understand the basic concepts of Python Syntax and Semantics.
- Apply the control structures in Python programs.
- Apply the functional concepts and strings in Python.
- Implement the data structure concepts in Python
- Implement the concepts of OOPS in Python.

Course Title: Python Programming Lab

- Develop the basic programs in python.
- Develop programs in python using control structures and functions.
- Implement Object oriented programming in Python.
- Apply the concepts of List, Tuples and Dictionaries in Python.
- Write programs using different File handling operations.

Course Title: Software Project Management

- Estimate project cost and perform cost-benefit evaluation among projects.
- Perform project scheduling, activity network analysis and risk management.
- Apply schedule and cost control techniques for project monitoring including contract management.
- Apply quality models in software projects for maintaining software quality and reliability.
- Use suitable project organization structure, leadership, decision and motivation styles, proper safety and ethical practices and be responsible to the society.

Course Title: Web Designing

- Identify the concepts of the World Wide Web.
- Understand the concepts of search Engine.
- Understand basic concepts in HTML.
- Distinguish and practice markup languages.
- Insert and control images on a web page.

Course Title: Internship

- Apply latest techniques and tools prevailing in software industry.
- Perform under pressurizing situations.
- Enhance their business and personal communication skills.
- Describe roles and responsibilities of individuals in an organization.
- Describe the functioning of a business organization.

Course Title: Mini Project

- Recognize the area to develop a Project within the chosen area of technology.
- Identify, discuss and justify the technical aspects of the chosen project with a comprehensive and systematic approach.
- Apply the testing techniques in Project development.
- Implement the key stages in development of the project.
- Extend or use the idea in mini project for major projects.

Course Title: Software engineering

- Understand and demonstrate basic knowledge in software engineering.
- Identify requirements analyze and prepare models.
- Plan, schedule and track the progress of the projects.
- Design & develop the software projects.
- Identify risks; manage the change to assure quality in software projects.

Course Title: R Programming

- Understand the basics of R and the different types of data structures.
- Apply the R programming structures to develop programs.
- Apply Mathematical and statistical functions in R
- Implement graphical usage in R for data analysis.
- Implement advanced statistical functions in R for data analysis.

Course Title: R Programming Lab

- Develop basic programs in R using sequential programming.
- Write programs using control structures.
- Write programs using R data structures.
- Implement the mathematical and statistical functions in R.
- Implement data visualizations with packages.

Course Title: Cloud Computing

- Analyze the Cloud computing setup with its vulnerabilities and applications using different architectures.
- Design different workflows according to requirements and apply map reduce programming model.
- Apply and design suitable Virtualization concept, Cloud Resource Management and design scheduling algorithms.
- Create combinatorial auctions for cloud resources and design scheduling algorithms for computing clouds.
- Assess cloud Storage systems and Cloud security, the risks involved, its impact and develop cloud application.

31. M.C.A Programme Outcome:

PO 1 : Identify, formulate and Analyse the current real world requirements of Clients and handle the constraints and challenges in Software Development and Construct the Software efficiently.

PO 2 : Implement knowledge gained in Information Technology to find and propose the solution for Novel Real-world problems that dynamically change in an efficient manner.

PO 3 : Design appropriate architecture and build Applications that meet the requirements of the Clients as expected by them.

PO 4 : Employ apt tools and Integrated Development Environments efficiently and accordingly learn and apply new techniques and tools for the software development.

PO 5 : Implement ethical principles and commit to professional ethics and responsibilities and norms of Software Development practices and work effectively as an individual, at different levels in diverse teams

M.C.A Programme Specific Outcome:

PSO 1 : Identify Explain and Deploy current technologies in the IT industry. Employ the requisite knowledge gained in Networking, System Software, Application Software and Database Management Systems, and be suitable for the global Industrial need.

PSO 2 : Investigate the dynamically changing real world scenario and requirements, learn continuously, be Persistent in the face of challenges, and succeed in career.

M.C.A Course Outcome:

Course Title: Operating Systems– Internals and Design Principles

- Describe the basic concepts in Operating systems like Multiprogramming, Time Sharing, Services, System calls, System programs, Process, Concurrent Processes. Explain CPU Scheduling and differentiate Scheduling algorithms

- Realize about Process Synchronization done by Operating System, Explain Classical problems in Synchronization, Inter process communications, Deadlocks and Deadlock handling
- Appraise and discriminate Storage Management methodologies like Swapping, Paging and Segmentation, Virtual memory, Page Replacement Algorithms, Free Space Management, Disk Scheduling, allocation methods, performance and reliability improvements
- Explain Files, their protection, operations, access methods, File system organization and Directory structure.
- Recognize Protection and security provided by an Operating System and realize the security Problems. Examine intrusion detection and cryptography.

Course Title: Advanced Database Management Systems

- Discuss basic concepts, need, advantages and characteristics of Database and Relational Database Management systems
- Design Entity Relationship diagram for the given Problem requirements using the appropriate notations. Create, Alter, Normalize and Delete Database Tables. . Examine Transaction Control Language commands. Understand Database Administrator's tasks and User Privileges.
- Examine data in a database precisely. Illustrate usage of Commands like, Select, Insert, Update and Delete.
- Explain basics of PL/SQL. Create and appraise Database objects like Store Procedures, Functions and triggers. Handle Exception conditions efficiently.
- Understand about MongoDB and NoSQL Databases

Course Title: Open Source Technologies

- Discuss about the fundamental concepts of HTML, CSS and understand basic manipulations
- Understand basics of JavaScript and demonstrate by creating simple applications
- Understand basics of PHP and demonstrate by creating simple applications
- Explain about Form Handling in PHP and demonstrate.
- Understand basics of AngularJS and demonstrate by creating simple application.

Course Title: Software Engineering

- Understand about basics of Software and Software Process models
- Discuss about Agile Process models and understand about Teams and Software Engineering using Cloud
- Understand about Requirement Engineering and UML models
- Discuss about the design process and models and understand quality factors, impact of Software defects and reviews
- Explain about SQA Processes and Product characteristics and discuss.

Course Title: Computer Communication and Networking

- Recognize Computer Networks, Topology, categories of networks and OSI layers
- Explain about Data Link Layer, Error Detection and handling, protocols

- Describe about Network Layer, Switching types, Connection oriented and connection less services, Routers and Routing algorithms.
- Interpret LAN protocols, Token rings, Token bus, Addressing and frame format, LAN Security, Threats etc
- Recognize TCP/IP Networking, Architecture, Internetworking, Network characteristics, Network Addressing and Routing

Course Title: Software Project Management

- Discuss about Software Project Management and problems, project planning, identifying project infrastructure, estimation, of effort, Resource allocation and project evaluation.
- Differentiate between different process models and Select technologies, Process model, Planning and Scheduling activities,
- Explain about Risk Management, Resource allocation, Monitoring and Control
- Discuss about Managing Contracts, Teams, and People.
- Discuss about Ethics, Monitoring and surveillance in work place.

Course Title: ADBMS Lab

- Analyze the given problem to develop PL /SQL code
- Create Anonymous and Named PL / SQL Procedure
- Create PL / SQL Function Procedure
- Create PL / SQL Cursors
- Create PL / SQL Triggers

Course Title: Open Source Technology Lab

- Analyse given problem
- Create web page using HTML and CSS
- Create web application using JavaScript
- Creating web page and handling forms using PHP
- Create simple PHP Programs

Course Title: Language and Communication Skill

- Understand and Apply Twinning Functions of Listening and Speaking
- Experiment Twinning Functions of Reading and Writing.
- Experiment and improve Individual Communication skills.
- Improve Intermediary Communication skills
- Develop Social Communication skills

Course Title: Data Science Using R

- Understand the need for data analytics in various verticals
- Demonstrate the role of statistics in analytics

- Apply various data structures of R in applications
- Construct codes in R using function.
- Deploy appropriate statistical concept to apply analytics to real time problems

Course Title: Artificial Intelligence

- Demonstrate fundamental understanding of the history of artificial intelligence (AI) and its foundations
- Apply basic principles of AI in solutions that require problem solving, inference, perception, knowledge representation, and learning.
- Analyse and formalize the problem as a state space, graph, design heuristics and select amongst different search or game based techniques to solve them.
- Demonstrate awareness and a fundamental understanding of various applications of AI
- Ability to apply knowledge representation, reasoning, and machine learning techniques to real-world problems

Course Title: Software Development Operations (Devops)

- Understand the fundamental of DevOps in real world applications
- Analyze Measurements and Metrics in Software projects
- Design and development project and analyze the steps need for its operations
- Identify and evaluate various testing aspects of DevOps
- Deploy real time applications using various tools.

Course Title: Advanced Java Technology

- Apply concepts of Java servlet and create efficient applications that use Java Servlet.
- Apply concepts of Java Server Pages and create efficient applications that use Java Server pages
- Employ RMI and create efficient applications
- Experiment with EJB and create efficient applications that use EJB
- Recognize Spring Framework and Beans

Course Title: Android Applications Development

- Discuss about the fundamental concepts of Android and applications developed using it.
- Identify and examine various controls used to develop Android User Interface.
- Explain file Handling, Partitions, Storage and managing data.
- Identify and Discuss about different messaging services and other android services.
- Experiment Location based services and publish android application

Course Title: Linux Administration and Network Programming

- Explain basic concepts of Linux and its Shell and File Structure.
- Implement access controls and explain about FTP
- Discuss about basic concepts of Files and process creation

- Describe about basic concepts and commonly used signal functions, semaphores and Inter process Communication.
- Experiment Socket programming and Daemon processes

Course Title: Statistics for Data Analytics

- Analyze and solve problems based on Measures of location, Measures of dispersion
- Apply the fundamental concepts of Probability to the real world need.
- Experiment problems based on Bivariate, Discrete and Continuous distributions
- Analyze problems and solve using concepts of Correlation and Regression.
- Apply the concepts of Sampling, Test of Significance based on t, F and Chi-Square with respect to mean and Variance.

Course Title: Data Science Lab

- Analyze Data and find the insight of the same using R Language
- Demonstrate Data preprocessing in R
- Construct Data modeling in R
- Analyze various algorithm in R and apply it for real time applications
- Deploy R packages for handling applications

Course Title: Advanced Java Technology Lab

- Create interactive web application using HTML and Servlet
- Create interactive web application using HTML and JSP
- Create interactive web services using RMI
- Evaluate the correctness of syntax and debug errors if any.
- Examine the output to verify correctness of the logic

Course Title: Quantitative Aptitude

- Understand and work out problems based on mathematical concepts like Numbers, HCF, LCM, Decimal Fractions, Simplification, Square Roots, Cube roots, Averages.
- Improve Quantitative Aptitude by solving problems based on numbers and ages, Surds, Indices, Percentages, Profit and Loss, Ratio and Proportion, Partnership, Chain Rule.
- Solve problems based on Time and Work, Pipes and Distances. Time and distance, Problems on Trains.
- Improve Quantitative Aptitude skills by understanding and solving problems based on Boats and Streams, Alligation, Simple Interest, Compound Interest, Logarithms, Area, Volume and Surface Area
- Analyze the given problem related to Quantitative Aptitude and solve them efficiently.

Course Title: Machine Learning

- Understand the fundamental issues and challenges of machine learning.
- Analyse the strengths and weaknesses of many popular machine learning approaches.
- Demonstrate the statistical relationships within and across Machine Learning algorithms and the paradigms of Supervised and Un-supervised learning.
- Deploy Algorithm for Regression Models to Implement Regression, Classification and Decision Trees
- Apply Artificial Neural Network models to handle uncertainty and solve problems.

Course Title: Advanced Python

- Discuss and Explain about the fundamental concepts of Python programming language.
- Explain and Demonstrate Data Wrangling, handling numerical data.
- Discuss about handling Categorical data and Data Visualization extensively.
- Explain and Discuss about implementing Machine learning using python.
- Create a full-fledged Python application to solve the given Problem.

Course Title: Object Oriented Analysis, Design and UML

- Describe Objects, Object Oriented System development, Patterns and Frameworks
- Analyze Objects, identify their attributes, methods, relationships, responsibilities
- Design classes based on Design Axioms, Describe about Object Storage and Object Interoperability.
- Design User Interface, View Layer classes and View layer interface
- Define basic concepts of UML and create Use Case Diagrams, Sequence Diagrams, State Chart Diagrams, Class Diagrams, Component Diagrams, Deployment diagrams using UML editor Star UML.

Course Title: Design and Analysis of Algorithm

- Ability to analyze the performance of algorithms.
- Ability to choose appropriate algorithm design techniques for solving problems.
- Ability to understand how the choice of data structures and the algorithm design methods impact the performance of programs.
- To clear up troubles the usage of set of rules design methods including the grasping approach, divide and overcome, dynamic programming, backtracking and department and certain.
- To understand the variations among tractable and intractable problems

Course Title: Robotic Process Automation

- Explain and Discuss about Scope and Techniques of Automation, Benefits and Applications of Robotic Process Automation.
- Explain about the key aspects like User interface of projects, Advanced UI Interactions, input methods and output methods and sequence of activities using Flow charts etc.

- Examine and understand Sequence Control flow, Delay and Break activity.
- Examine and understand Data manipulation using arrays, Data scarping, File management and Data table.
- Examine and understand Taking Control Of The Controls and Exception Handling

Course Title: MATLAB Programming

- Explain MATLAB Programming Environment and discuss about– variables, constants
- Demonstrate usage of Variable Workspace, Number and String Functions, execute simple equations.
- Experiment Vector and its operation, Statistical functions, Matrices, Built in and user defined functions.
- Implement Plotting, Graphing with ezplot; plot and setting colours on Graphs.
- Create Bar graph, Histogram, Graphical User Interface and User Interface controls.

Course Title: Visual Programming Using C# and Vb.Net

- Discuss and Implement fundamental concepts of .NET FRAMEWORK and VB.NET and about controls.
- Explain and Demonstrate usage of Control Statements, Arrays, Methods and about controls.
- Discuss about and Demonstrate Database Connectivity and additional controls used in application.
- Explain fundamental concepts of C#.
- Describe and Demonstrate application development on **.NET**

Course Title: Cloud Computing

- Discuss basics, services offered, advantages, interacting with and needs of Amazon Web Services -Cloud Computing.
- Explain Working with AWS
- Discuss about monitoring and debugging and work with a virtual machine
- Explain and Discuss about creating virtual machine and work with AWS.
- Explain and Discuss about storing Data in the Cloud

Course Title: E-Commerce

- Explain basic concepts of Ecommerce, Anatomy of Ecommerce applications and networks Infrastructure for Ecommerce.
- Describe about Internet terminologies and basic concepts, Network Architecture and Components.
- Discuss about Network security, Threats for Ecommerce, Hypertext publishing and Mercantile process models.
- Differentiate between different Electronic payment systems and explain risks involved.
- Examine different ways of Marketing and Advertising on the Internet.

Course Title: Human Resource Management

- Define and Discuss perspectives and objectives of HRM, importance of Human factors and Human resource policies
- Explain importance of Human Resource planning, forecasting. Differentiate and discuss About different Selection processes.
- Describe the process of Training and Executive Development, Explain different types of training, Purpose of training and Executive Development programme
- Explain about Sustaining Employee Interest, Compensation plan, reward, Motivation and theories of motivation
- Examine Performance and control process. Explain methods of performance evaluation.

Course Title: Software Testing

- Discuss about Purpose, of Testing, differentiate between Testing and Debugging, Differentiate between Verification and Validation and different testing approaches and types of testing.
- Explain and Examine Flow Graphs and Path Testing concepts and techniques.
- Explain and Examine Domain Testing concepts and techniques.
- Explain and Examine Syntax Testing concepts and techniques.
- Discuss about the Software testing tool Selenium and work with it

Course Title: Robotic Process Automation Lab

- Installation of RPA Packages
- Create projects that interacts with user and do some simple data manipulations.
- Create projects that demonstrates usage of decision making statements.
- Create projects that demonstrates usage of looping statements.
- Create simple automation that does recording, Scrapping, Image, Email and text automation.

Course Title: Advanced Python Lab

- Analyze the given problem with Object Oriented approach
- Formulate Algorithm for solving the given advanced problems like Data preprocessing, Regression related problems, Searching with different techniques
- Construct Python program based on the algorithm
- Evaluate the correctness of syntax and debug errors if any.
- Examine the output to verify correctness of the logic

Course Title: Data Visualization Tool

- Explain basic concepts of Tableau.
- Demonstrate and Discuss working with Data in Tableau.
- Demonstrate and Explain drawing different charts using Tableau
- Discuss and Demonstrate Geographical Visualization
- Demonstrate and Explain working with String Functions, Arithmetic Calculations, and Building Dashboard Interface

Course Title: Internship

- Understand about Real world business operations in the Industry
- Improve awareness about work culture in real world.
- Understand the working style and responsibilities of an end user or Client
- Analyze the day to day activities and problems faced by the end user or Client
- Suggest solutions to client's problems and improvements to be made in the application utilized by them.

Course Title: Project and Viva-Voce

- Analyze the problem requirements of the Organization in which they do the project and document them.
- Develop appropriate architectural and detailed designs to build software components using Object Oriented Analysis and UML diagrams.
- Construct a Real Time Application based on the design made by them.
- Evaluate the Application in all aspects
- Deploy them in Client Environment

Course Title: Architectural Design Using Star UML

- Discuss about drawing UML Diagrams.
- Explain about how to edit elements and diagrams using STAR UML.
- Describe and Implement Usecase Diagram, Sequence Diagram and Class Diagram using STAR UML
- Explain and Implement Activity Diagram, State Chart Diagram using STAR UML
- Discuss and Implement Component Diagram, Deployment Diagram using STAR UML

SCHOOL OF LANGUAGES

32. Tamil Course Outcome:

Course Title: Modern Literature Journalism (Tamil-I)

- Appreciate Modern literary forms such as New Poetry, Fiction and plays. To demonstrate the Socio-Cultural content and aesthetic quality of these forms.
- Sensitized to modern values of Social justice, tolerance, Gender equality, Women empowerment, Pluralistic values and Social harmony.
- Critically evaluate the socio-historical background of the beginning of modern literary movements and its pioneers.
- Emotionally Intelligent , creatively productive and morally sensitive
- To understand the Evolution of modern Literary forms in the Background of Socio Cultural changes.
- Demonstrate Media skills of News Editing, News presenting and compering. To write columns

Course Title: Bhakthi Literature, Minor Literature& Language Skills (Tamil-II)

- Enlightened in the spiritual wisdom of Tamil Bhakthi Literature.
- Being compassionate, tolerant, and empathetic with high Ideals of spirituality.
- Appreciate the poetics and narrative Lores in medieval literature
- To understand the ethnic and Folkloristic roots in classical literature.
- Effectively use Tamil language as a Tool of application. Ability to compile the content in dictionaries and encyclopaedia.
- Aware and sensitized to the values of Democratic, Pluralistic egalitarian Society. and book reviews

Course Title: Moral, Epic Literature and Creative Skills (Tamil-III)

- Describe the Form and content of Moral and Epic Literature in Tamil.
- Exhibit High Ideals and Moral Values in Social life as insisted in Moral and Epic Literature.
- Critically analysis the historical and Cultural background in which the Epics evolved
- Demonstrate Skills to write Poetry, Fiction and critically evaluate literary works.
- Exhibit Theatre Skills of acting, script writing and directing

Course Title: Sangam Literature and Computing Skills (Tamil-IV)

- Understand and appreciate the aesthetics and values in Folklore arts and Literature
- Exhibit performing skills of Dancing , Singings in Folklore arts
- Describe the classical qualities and poetics of Sangam Literature
- Exhibit high Human Ideals envisioned in Sangam Literature
- Demonstrate Computational Tamil Skills such as writing Blogs, Creating Tamil Apps and application of Tamil software. To Demonstrate Translation Skills and Techniques.

Basic Tamil –Non Major Elective

(Non-Major Elective to Non Tamil Students who Choose Hindi, Sanskrit and other languages as the first Language)

Course Title: Basic Tamil I

- Demonstrate proficiency in Listening, Speaking, Reading and Writing Skills in Tamil.
- Identify the parts of speech and basic grammatical elements in Tamil
- Sensitized to the socio cultural ethos of Tamil Society.

Course Title: Basic Tamil II

- Describe and practice the moral values in Tamil Literary works of Ethics.
- Demonstrate fables and moral stories in Tamil.
- Well informed in Heritage sites, Tourist Places and geography of Tamil Nadu

Advanced Tamil

(For Non Tamil Students who choose Hindi, Sanskrit and other languages as the first Language in U.G, but have passed Tamil as first language in SSLC /Matric level)

Course Title: Advanced Tamil I

- To appreciate Modern literary forms such as New Poetry, Fiction and plays. To demonstrate the socio-cultural content and aesthetic quality of these forms.
- Demonstrate media Skills of News presenting, anchoring and Interviews
- Being Sensitized to modern values of Social justice, tolerance, Gender equality, Women empowerment, Pluralistic values and social harmony.

Course Title: Advanced Tamil II

- To be enlightened in the spiritual wisdom of Tamil Bhakthi Literature.
- To be compassionate, tolerant and empathetic with high Ideals of spirituality.
- To appreciate the poetics and narrative lores in medieval literature

33. English

Course Title: Communicative English – I

- To listen actively to live Speeches/Lectures, Audio materials, etc., to identify the keywords and fully comprehend the information.
- To take notes without spelling mistakes.
- To use proper intonation while Greeting, Introducing, Asking for Permission, Apologizing, etc.
- To make short speeches and involve in live/telephonic conversations.
- To read Short Essays, Newspaper Articles, Brochures, etc., and fully understand the content.

Course Title: Communicative English –II

- To listen and infer the gist of Telephonic Messages, Announcements and Advertisements.
- To converse with strangers and communicate the information.
- To use appropriate phrases and vocabulary while asking for and giving directions.
- To demonstrate skills required for an interview such as stating, identifying, comparing, contrasting and paraphrasing.
- To use proper accent as well as rising and falling intonation

Course Title: Intermediary Level

- To take the students to the next level of learning English
- To enhance the students' creative, interpretative and critical thinking
- To skim and scan for information and draw inferences from Newspapers, Magazines and Texts/Books.
- To write Formal Letters.
- To present ideas sequentially in writing (e.g., Essays, e-mails, Letters, etc.).

Course Title: Advanced Level

- To enable the use of English with increased proficiency
- To acquire the communicative skills necessary for professional development
- To use appropriately Tenses, Voices and Degrees of Comparison.
- To write simple sentences and compose short paragraphs, letters, essays, etc.
- To use appropriately parts of speech and determiners.

UG - Soft Skills

Course Title: Introduction to Study Skills

- To help, develop and improve the vocabulary of the learners
- To help the learners develop the skill of inference
- To help the learners to acquire writing skills in English
- To improve the listening skills of the students
- To improve the students' verbal reasoning

Course Title: Life Skills

- To build the confidence of learners to face the challenges of a globalized society
- To sensitize learners' ethical, moral and social values in their work environment
- To help the students identify their Strengths and Weaknesses
- To equip the students with problem solving skills
- To help the students acquire stress management skills

Course Title: Job Oriented Skills

- To make the students job-ready
- To help learners use English language appropriate to the role or situation
- To develop their skills in technical writing
- To face interview with confidence
- To be able to write reviews

PG - Soft Skills

Course Title: Personality Enrichment

- To examine the characteristics and benefits of self-disclosure.
- To demonstrate and recognize self-awareness.
- To identify the source of stress and cope with it effectively.
- To analyze the nature of anger and effectively manage it by using various techniques.
- To use study skills, learning strategies and mnemonic devices for effective learning and set their goal in life and pursue it with determination.

Course Title: Workplace Communication Skills

- To analyze the components of a team and work towards team building.
- To identify their individual strengths and weaknesses.
- To explore elements of creativity and apply it in their career.
- To take informed decisions in their life.
- To improve communication skills required in the workplace.

Course Title: Self & Time Management Skills

- To identify what causes stress, list the various kinds of stress and formulate methods to combat stress
- To describe concept of time management and outline the limitations of time
- To scrutinize concepts like self-discipline and punctuality
- To emphasize the importance of adherence to time
- To synthesize work/ life balance

Course Title: Spoken and Presentation Skills

- To define body language
- To determine the components of a team and analyze the role of a team leader
- To determine the role functions in a group discussion.
- To measure a group performance and suggest ways to improve it.
- To evaluate performance in interviews.

34. Hindi Course Outcome:

Course Title: Prose, Functional Hindi & Translation

- To enhance the knowledge of various Hindi prose forms like satire, essay, reports, memoir.
- To identify and formulate the situation of natural disasters and identify the issues related to it.
- To learn and develop language skills through English Hindi Translations and vice-versa.
- To improve knowledge of technical words.
- To practice letter writing skills.
- To motivate to demonstrate human values in different life situations.

Course Title: Short Stories, Novelette and Creative Writing

- To analyze and evaluate the current social, cultural & political scenario of the country.
- To Prepare Newspaper and magazine report and to enhance creative skills and presentation skills.
- To plan and execute the framework of jingles creation and presentation thereby enhance the creative skills and improve language skills.
- To develop communication skills through discussions on short stories and novels.
- Identify the social problems of the current society.
- To improve critical thinking by assessment of situations and apply it to real life situation.

- To demonstrate human values learnt from short stories.
- To develop gender equality approach in students.
- To improve the emotional and ethical quotient of students.
- To motivate in creation of advertisements

Course Title: Ancient and Medieval poetry, History of Hindi literature

- To enhance knowledge of medieval Indian society's social political and cultural mellow
- To outline the basic structure of history of Hindi literature
- To identify the various poets of medieval era
- To assess and explain the impact of Hindi poets on society
- To critically evaluate the poems in political and social context
- To revise and analyze the poems of bhakti kaal
- To apply bhaktikaleen concept in modern context
- demonstrate the growth of Hindi literature over the centuries

Course Title: Modern Hindi Poetry and Literature

- To assess the impact of Indian Freedom struggle on Indian Hindi literature.
- To formulate Modern political and social ideas based on poems.
- To identify the new words and phrases that came into force after the introduction of khadi boli
- To identify and compile the growth and worth of khadi boli in 19th century.
- To discuss the various forms of poems.
- To compare the different eras of modern Hindi literature.
- To analyze the various elements of stories and novels.

Course Title: NME: Basic Hindi I

- To learn and recognize the Vowels and Consonants of Hindi Language.
- To understand and use the basic everyday words.
- To identify and understand Hindi Language in the grammatical aspects.
- To improve the communication skills of students for better employability.

Course Title: NME: Basic Hindi II

- To learn, understand and recognize the tenses used in the language.
- To improve Hindi Vocabulary.
- To compare and recognize the various parts of a sentence like verbs, Pronouns, Conjunctions.
- To learn and recognize the basics of Translation and its purpose.

35. Sanskrit Course Outcome:

Course Title: Prose & Grammar

- To set complete knowledge about letters. Can able to identify the Genders & apply in the correct places.
- Can able to classify the proper Verb and apply exactly.
- To understand and develop the skill of how to interpret the happenings in their real life.
- To illustrate the power of mind control and its benefits.
- To point out the love and discriminate it's positive and adverse effects.

Course Title: Drama and History of Drama Literature

- Can identify and use the proper case endings at the appropriate places.
- To get extensive knowledge and able to summarize the Drama Literature.
- To get extend knowledge about friendship.
- To learn how to compose our fillings in our day-to-day life.
- To acquire the knowledge of investigation.

Course Title: Poetry and History of Kavya Literature

- To understand the characteristics, rules and regulations of Maha Kavyas.
- To judge and tell the importance of keeping up the promises.
- To explain how to get friendship and the benefits out of that.
- To plan how to tackle and destroy our enemies.
- To illustrate how to join and disjoin the words according to Sanskrit grammar.

Course Title: Alankara Prosody and History of Didactic Literature.

- To apply the rules to compose poems in Sanskrit.
- To get complete knowledge and history of authors of Alankara School.
- To recognize the types of Alankaras.
- To analyze brief about Mahabharata and Gita.
- To compare and contrast friendship and acquire knowledge of to whom we can integrate.

36. French Course Outcome:

Course Title: Prescribes Text and Grammar I

- To carryout basic interaction in French.
- Develop the basic knowledge in French language and the Culture.
- Write short introductory /descriptive text.
- Enhance the knowledge of Basics French Alphabets, consonants & articles.
- To introduce yourself and or present someone in French
- French Grammar & Civilization.
- To know about France and its capital and why it's famous.

Course Title: Prescribes Text and Grammar II

- Quick revision of Foundation French
- Students will have the opportunities to perfect the skill acquired in semester I in term of grammar and sentence structure while increasing their vocabulary skill trough new scenario of communication.
- By the end of semester of this course, will have to able to Speak French on selected topic (describe the past incident, about different francophone country)
- Write descriptive text about their country, culture and the events.

Course Title: Language and Culture I

- The course is so designed that all students will be able to build on the basic skills in the French language that they have acquired after two semesters of study. Students who are motivated can now consider doing extra courses and getting their language levels certified. Students should be capable of conversing with reasonable case with a native speaker on basic aspect of everyday life.
- Given the short stories in French and students need have to translate it by own and it help the translation skill in French to English and English to French.
- Assignment work: Develop their own story based on the text read in the class.
- Library work: Francais facile series (400 words) can be read.
- One hour per week allotted for listening French.

Course Title: Language and Culture II

- This course intend to take the students to a level where they have sufficient confidence to initiate a conversation or do independent reading of simple texts in the French language.
- Reading comprehension and written expression in French are extended further through the use of short stories. Students are introduced go literary writing styles and are exposed to French writing from various cultures and can draw comparisons with legends and stories from their own culture
- By the end of the course, students will be able to compose simple text drawn from their own imagination or compare and draw parallel Course.