

**S.R.R. & C.V.R.
GOVERNMENT DEGREE
COLLEGE (A), VIJAYAWADA
– 520 004**



COURSE OUTCOMES (COs)

S.R.R. & C.V.R. Government Degree College (A), Vijayawada
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COURSE OUTCOMES (COs)



UG COURSE OUTCOMES (COs):

FIRST LANGUAGE

ENGLISH

ENG N-1001: General English-1

- CO1:** Use grammar effectively in writing and speaking.
- CO2:** Demonstrate the use of good vocabulary.
- CO3:** Demonstrate good writing skills.
- CO4:** Soft Skills in Professional and Daily Life.
- CO5:** Use the tools of Communication.

ENG N-2001: English Praxis Course – IIA Course in Reading and Writing Skills

- CO1:** Use Reading Skills effectively
- CO2:** Interpret different types of texts.
- CO3:** Repository of active vocabulary
- CO4:** Good writing strategies.
- CO5:** Independent writing Skills

ENG N-3001: English Praxis Course – IIIA Course in Conversational Skills

- CO1:** Speak fluently in English.
- CO2:** Confident social interaction.
- CO3:** Face professional discourse
- CO4:** Demonstrate critical thinking.
- CO5:** Good conversational skills from professional interviews.

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COURSE OUTCOMES (COs)

SPECIAL ENGLISH

SPE N-1110: An Introduction to the English Literature (600-1500)

- CO1:** The Learners will be able to know the features of Old, Middle English and Renaissance periods.
- CO2:** The Learners will be able to review the aspects of different literary genres, forms and terms.
- CO3:** The Learners will be able to identify the characteristics of Poetry, Drama, and Literary Criticism.
- CO4:** The Learners will be able to Interpret Literature of the periods mentioned, critically
- CO5:** The Students will become good interpreters of Literature and Life

SPE N-2110: An Introduction to the English Language and Literature-2

- CO1:** The students understand the trends of the literary periods
- CO2:** The students understand how to critically appreciate Literature
- CO3:** the students understand how the social conditions have their bearing on Literature
- CO4:** The students will Learn the critical analysis of the Literary Concepts
- CO5:** The students develop creative skills of Literature

SPE N-3110: An Introduction to Restoration and Augustan Literature (1660 – 1750)

- CO1:** The students will understand the Augustan Period and Victorian Periods
- CO2:** The students understand the Social changes affecting the Literature
- CO3:** The students will assess the trends and movements of the Literary periods
- CO4:** The students appreciate the Literary genres of the ages
- CO5:** The students critically analyze the Literature and its values

SPE N-4110-1: An Introduction to Romantic and Victorian (1757-1901)

- CO1:** The students will understand the literature of Romantic Period
- CO2:** The students understand the Social changes affecting the Literature
- CO3:** The students will assess the trends and movements of the Literary periods
- CO4:** The students appreciate the Literary genres of the ages
- CO5:** The students critically analyze the Literature and its values

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SPE N-4110-2: A Study of the English Language

- CO1:** The students will understand the Trends of English Language
- CO2:** The students understand the Contemporary changes affecting English Language.
- CO3:** The students will learn the employable skills of English Language
- CO4:** The students will practice Communication and Soft Skills
- CO5:** The Students develop all Language skills

SPE 5110-5: An outline of 20th Century Literature

- CO1:** students learn English methodology for online Teaching
- CO2:** Students practice online Skills for MOOCS etc...for Certification
- CO3:** Students practice English Language Skills as Content
- CO4:** Students learn how to register for Online Platforms to act as teachers
- CO5:** Students get global skills through online teaching

SPE 5110-6: Glimpses of World Literature

- CO1:** students learn English for Journalism
- CO2:** Students practice Skills in English for Advertising
- CO3:** Students secure employable Skills for Journalism in English
- CO4:** Students practice English Language for Advertising and Types
- CO5:** Students learn how to gather and use information in English

SPE 7110: A Study of Literary Criticism

- CO1:** Students will have apprenticeships in Industries
- CO2:** students will understand how to implement their skills in future
- CO3:** Students learn employable Skills
- CO4:** Students practice for Internships and get Job ready
- CO5:** Students practice language Skills, Communication and Soft Skills

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COURSE OUTCOMES (COs)

SECOND LANGUAGE

TELUGU

TEL N-1002: General Telugu-1

- CO1:** Appreciates sweetness of poetic form of literature
- CO2:** Analyses the changes in literature with changing time
- CO3:** Familiarizes with the writings of various writers and poets
- CO4:** Builds personality through study of classical poetry
- CO5:** Learns the basic concepts of grammar

TEL N-2001: Adhunika Telugu Sahityam

- CO1:** Understands the modern literature in Telugu and its uniqueness
- CO2:** Gains insight into contemporary modern processes such as text poetry, story, novel, drama, criticism
- CO3:** Learns about modern literary forms
- CO4:** Promotes awareness of moral values through study of Stories
- CO5:** Gains social, political and cultural consciousness through modern Telugu fictio

TEL N-3002: Srujanatmaka Rachana

- CO1:** Students will learn creative skills through Telugu Language and Literature
- CO2:** Understands all the aspects of our mother tongue and its importance for our existence
- CO3:** Understands the emergence of new aspects through the development and evolution of various modern Literary forms
- CO4:** Job opportunities can be found in the creative and media sectors
- CO5:** Students will know the job opportunities in the field of translation

SPECIAL TELUGU

SPT N-1111: Pracheena Kavithaa Parichayam

- CO1:** Understands the development of Telegu poetry
- CO2:** Enjoys the classic “Mahabharatham”, observes the values hidden in the stories.
- CO3:** Learns about genres of time reflecting different issues of the society

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- CO4:** Understands qualities of prabandha yugam and effect of the luxurious living of 16th century
- CO5:** Familiarizes to poets like pothana and koravi Goparaju and analyses the uniqueness of their poetry

SPT N-2111: Adhunika Kavitha Parichayam

- CO1:** Becomes familiarised to different styles of writers and different dialects of the language
- CO2:** understands the reflection of social issues in writings of modern poetry and short stories
- CO3:** Learns about modern literary forms
- CO4:** Understands the emergence of new aspects through novels, short stories and plays
- CO5:** Gains social, political and cultural consciousness

SPT N-3111: Prachina Telugu Sahitya Charitra

- CO1:** Learn about the history and culture of telugu language and literature
- CO2:** Learn the structure and changes of literature in different ages
- CO3:** Understands the evolution of various literary forms
- CO4:** Understands all the aspects of our mother tongue and its importance for our existence
- CO5:** Students will learn creative skills through Telugu Language and Literature

SPT N-4111-1: Adhunika Telugu Sahitya Charitra

- CO1:** Appreciates sweetness of poetic form of Modern literature
- CO2:** Familiarizes with the writings of various writers and poets
- CO3:** understands the reflection of social issues in writings of modern poetry and short stories
- CO4:** Understands the revolution in Modern Literature caused by Marxism
- CO5:** Understands modern literary forms

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SPT N-4111-2: Telugu Sahitya Vimarsha

CO1: Familiarizes with Alankaras

CO2: Learns about theories of Kavya

CO3: Learns about theories of Dhvani, Rasa swarupam and Rasa nishta

CO4: Learns about theories of Dhvani

CO5: Improves knowledge among the students about criticism theories

SPT-5111-5: Bhasha Shastra & Mandalika Vignanam

CO1: Understands the evolution of Telugu Language

CO2: Insights into Dravidian Languages

CO3: Learns different dialect forms in literature

CO4: Learns basic concepts of Modern Grammar

CO5: Learns different theories of linguistics

SPT-5111-6: Bala Vyakaranam, Chandassu & alankaralu

CO1: Learns the basic concepts of grammar

CO2: Knows about Alankaras

CO3: Develops awareness about Prosody

CO4: Understands classical Poetry

CO5: Develops creative writing

SPT-7111A: Alankara Shastra

CO1: Familiarizes with Alankaras

CO2: Learns about theories of Kavya

CO3: Learns about theories of Rasa swarupam and Rasa nishta

CO4: Learns about theories of Dhvani

CO5: Improves knowledge among the students about criticism theories

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HINDI

HIN N-1004: GENERAL HINDI-1

- CO1:** To able to understand the definition and types of Essay and Story
- CO2:** To be able to understand the Essays by Mahaveer Prasad Dwivedi, Ramdhari Simh Dinakar and Acharya Ramchandra Suklu.
- CO3:** To able to understand the stories by Upanyas Samrat Munshi Premchand, Naatak Samrat Jaya Sankar Prasad and Chandradhar Sharma Guleri
- CO4:** To able to understand the Grammar Ling, Vachan, Vilom Sabh, Vaachya and Vaakya Suddi
- CO5:** To able to understand Letter Writings : Chutti Pathr, Pithji ko Pathr and Mithr ko Pathr

HIN N-2004: GENERAL HINDI-2

- CO1:** To able to understand the essays by Dr.G.Sundar Reddy, Sardar Purna Simh and Sadana Mourya
- CO2:** To be able to understand the Stories by Mohan Rakesh, Sri. Bala Souri Reddy and Chitra Mudgal
- CO3:** To be able to understand Grammar : Kaarak, Sandhi Viched and Varthani dosh.
- CO4:** To able to understand Karyalyeen Hindi
- CO5:** To able to understand Letter Writings : Aavedan Pathr

HIN N-3004: GENERAL HINDI-3

- CO1:** To able to Understand the meaning and concept of Kavitha by Maithili Saran Gupt, Suryakanth Thripati Nirala and Bhavani Prasad Misra
- CO2:** To able to understand various forms of Functional Hindi according to its area of application
- CO3:** To able to understand the importance of translation
- CO4:** To able to understand History of Hindi Literature and its Classification
- CO5:** To able to understand Bhakthi Kaal Sahitya : Jnanasraye Saakha and Premasraye Saakha

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SANSKRIT

SAN N-1003: GENERAL SANSKRIT-1

- CO1:** To be able to understand the definition and types of Essay and Story of Ramayana by Valmiki Maharshi.
- CO2:** To be able to understand the Essays by Pandit Ogeti Parikshith Sharma, and Dr. Samudrala Lakshmanaiah
- CO3:** To be able to understand the Stories from Hitopadesa by Narayana Pandita.
- CO4:** To be able to understand the Grammar Declensions Shabdhas, Conjugations dhatus.
- CO5:** To be able to understand the Grammar Conjunctions Sandhi, Compounds Samasa

SAN N-2003: GENERAL SANSKRIT-2

- CO1:** To be able to understand the essays by KavikulaGuru Kalidasa & Mahakavi Ashwaghosha.
- CO2:** To be able to understand the Stories by King Bhija, Sri Pattabhi Rama Rao & Dr. Dhulipala Ramakrishna.
- CO3:** To be able to understand the Stories by Dandi Mahakavi & MahaLinga Sastri
- CO4:** To be able to understand Grammar Declensions Shabdhas, & Conjugations Dhatus.
- CO5:** To be able to understand the Grammar Conjunctions Sandhi, & Compounds Samasa.

SAN N-3003: GENERAL SANSKRIT-3

- CO1:** To be able to understand the Essays of Bhasa Nataka chakram by Bhasa MahaKavi
- CO2:** To be able to understand the Various forms of Functional Sanskrit according to its area of application
- CO3:** To be able to understand the importance of Upanishads & Bhagavadgita
- CO4:** To be able to understand the Alankaras
- CO5:** To be able to understand the Halanta Shabdhas

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URDU

URD N-1005: General Urdu-1

- CO1:** Introduce to Urdu Novel, short story and writers
- CO2:** An introduction of Urdu Poetry (Nazm) some specific poets and their Nazms, learning of critic and description
- CO3:** Learning of articles writing and introduction of some specific articles of authors.
- CO4:** Knowledge of Urdu (Ghazal). A special part of Poetry. An introduction of Poets and their Poetic source.
- CO5:** Knowledge of Urdu language, developments of language and origins. History of Urdu development.

URD N-2005: General Urdu-2

- CO1:** The classical and Modern Poets of Urdu and their poetry
- CO2:** To create interest and awareness about the Indian Heritage and Culture
- CO3:** To create interest in Poetry Recitation among the students
- CO4:** Developing Research skills in Literature
- CO5:** The students in speaking, reading and writing skills.

URD N-3005: General Urdu-3

- CO1:** Know about the Urdu Novel, Drama, Afsana and Dastan
- CO2:** All basic concepts of Urdu
- CO3:** The basic and essential knowledge of Urdu frictions
- CO4:** The students in speaking, reading and writing skills.
- CO5:** The students can write own essays in Urdu language

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ARTS

ECONOMICS

ECO N-1101: Micro Economic Analysis

- CO1:** Basic concepts of microeconomics such as laws of demand, supply, elasticity, and consumer behaviour
- CO2:** Application of indifference curve analysis in deriving demand curves, price effect, income effect and substitution effect
- CO3:** Theories of production like law of variable proportion, law of returns to scale and theories of cost
- CO4:** Price and output determination in various markets
- CO5:** Factor pricing and distribution of income

ECO N-2101: Macro Economic Analysis

- CO1** Concept and methods of measuring National income
- CO2:** Theories of Income, Employment, consumption function and investment function
- CO3:** Monetary economics like theories of money and banking system
- CO4:** Causes and consequences of Inflation and Trade cycles
- CO5:** Functions of financial institutions and markets

ECO N-3101: Development Economics

- CO1:** Various concepts and indicators relating to economic development and inclusive growth
- CO2:** Factors contributing for economic growth and obstacles to economic development
- CO3:** Theories of economic growth and development
- CO4:** Techniques and strategies implementing for economic development
- CO5:** Role and importance of state and financial institutions in economic development

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ECO N-4101-1: Economic development- India and Andhra Pradesh

- CO1:** Economic development through plans
- CO2:** National Income and social issues including COVID
- CO3:** Agriculture and industrial development
- CO4:** Indian Tax structure, public expenditure, and debt
- CO5:** Andhra Pradesh Economy after bifurcation in 2014

ECO N-4101-2: Statistical Methods for Economics

- CO1:** Importance of statistics and its application
- CO2:** Collection of data, tabulation, and diagrammatic representation
- CO3:** Solves and analyze the statistical problems by using central tendency, correlation, regression, and time series
- CO4:** Interpret data and suggest solutions to economic problem
- CO5:** Trains students in economic research

ECO-5101-5: Contemporary Indian Economy

- CO1:** Characteristics of Indian Economy and trends in the growth of National Income
- CO2:** Magnitude of poverty, unemployment, and impact of globalization
- CO3:** Rural and urban development through plans with special reference to Andhra Pradesh
- CO4:** Agricultural development and support system
- CO5:** Industrial and infrastructure development in India and A

ECO-5101-6: Quantitative Techniques

- CO1:** Importance of statistics and its application
- CO2:** Collection of data, tabulation, and diagrammatic representation
- CO3:** Different calculus and its economic application
- CO4:** Solves statistical problems by using various formulas and measures relating to central tendency, dispersion, and correlation
- CO5:** Functions and types of Matrix.

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ECO-7101A: Agricultural Economics

- CO1:** Nature and scope of agricultural economics and various concepts of production function
- CO2:** Growth and productivity trends in Indian agriculture with special reference to Andhra Pradesh
- CO3:** Agricultural credit and sources of finance
- CO4:** Systems of farming, new agricultural strategy, green revolution and its impact
- CO5:** Agricultural marketing and market regulations

HISTORY

HIS N-1102: Ancient Indian History and Culture

- CO1:** Literary & Archaeological Sources will be known to the students
- CO2:** students will be able to know the vedic culture and will get the knowledge of ancient religions
- CO3:** Sources of ancient India, Civilizations like Indus and Aryan, political and religious changes
- CO4:** Sources of ancient India, Civilizations like Indus and Aryan
- CO5:** The knowledge of Sources of ancient India, Civilizations like Indus and Aryan, political and religious changes in 6th century B.C., Mauryan Empire etc are studied is acquired

HIS N-2102: Early Medieval Indian History

- CO1:** The knowledge Harsha & His Times: Administration, Religion, Economy and Culture from 7th to 11th Century A. D. will be studied.
- CO2:** The students will acquire Age of later Pallavas during 7th& 8th Centuries A. D
- CO3:** Conditions in India on the eve of Turkish Invasions will be known to the students
- CO4:** The reign of Delhi Sultanate (1290 to 1526 A.D.) will be studied
- CO5:** Students will acquire the knowledge of Cultural Development in India between 13th& 15th Centuries A. D

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HIS N-3102: Late Medieval and Colonial History

- CO1:** India from 1526 to 1707 A. D
- CO2:** Administration, Economy, Society and Cultural Developments under the Mughals
- CO3:** India under Colonial Hegemony
- CO4:** Economic Policies of the British (1757-1857)
- CO5:** Anti-Colonial Upsurge –Peasant & Tribal Revolts - 1857 Revolt – Nature & Causes.

HIS N-4101-1: History & Culture of Andhra (from 1512 to 1956 AD)

- CO1:** Social, Religious & Self-Respect Movements will be known
- CO2:** Students are able to understand about the Growth of Nationalism in the 2nd Half of 19th Century
- CO3:** Freedom Struggle from 1885 to 1920
- CO4:** students will be inspired by Freedom Struggle from 1920 to 1947
- CO5:** Students can interpret the significance of Muslim League & the Growth of Communalism.

HIS N-4102-2: History of Modern World (from 15th AD to 1945 AD)

- CO1:** cause - course results
- CO2:** causes and consequences of revolution
- CO3:** role of Bismarck in unification of Germany, contribution of Cavour in Italy
- CO4:** effects caused by the war
- CO5:** they will know about the formation of UNO

HIS 5101-5: History of modern world

- CO1:** Geographical Discoveries raise curiosity among students
- CO2:** Students will know about The Renaissance Movement
- CO3:** Emergence of Nation States
- CO4:** American revolution will be studied by the students
- CO5:** French revolution will be known to the students

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HIS 5102-6: Andhra History

- CO1:** Age of Kakatiyas and reddy kingdom will be studied
- CO2:** Students enjoy to know about the wealth of Vijayanagara empire
- CO3:** Students can identify the relics of Kutubshahis
- CO4:** Students will know european invasion
- CO5:** students can analyse the effect of British reign in Andhra

HIS-7102-A: HISTORY OF MODERN EUROPE

- CO1:** Industrial Revolution: Origin, Nature and Impact.
- CO2:** Unification Movements in Italy & Germany and their Impact
- CO3:** Communist Revolution in Russia, Causes
- CO4:** Students can discuss about the ill effects of World War I
- CO5:** World war-II

POLITICAL SCIENCE

POL N-1103: Basic Concepts of Political Science

- CO1:** Understand the basic concepts of Political Science like State, Nation, Freedom, Equality & Justice et.
- CO2:** Aware of latest topics like Women's Rights in India and Relationship between Rights & Duties.
- CO3:** Examine different approaches to the study of Political Science and also their impact.
- CO4:** Inculcate the spirit of Nationalism in young minds with the core values of the Institution.
- CO5:** To know about the law and sources of law liberalism, individualism, socialism and Marxism

POL N-2103: Concepts theories and institutions

- CO1:** The student is able to understand the various forms of Governments like democracy, monarchy etc.,
- CO2:** The student understands the various powers of Government and the importance of separation of powers

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- CO3:** The student is able to understand functions of legislature and judiciary : CO4
The student is able to understand political parties and political process in the context of India
- CO5:** Election procedure is necessary to improve knowledge and perception of Society & State.

POL N-3103: Indian Constitution

- CO1:** students can understand the historical evolution of Indian Constitution
- CO2:** students have to learn and acquire in-depth knowledge of the working of the Constitution.
- CO3:** To explore philosophical and historical foundations of Indian Constitution and how it works in actual situation
- CO4:** To appreciate the importance of fundamental rights directive principles.
- CO5:** To know the evolution of Indian Constitution, Fundamental Duties & Supreme Court which help students to prepare for competitive exams.

POL N-4103-1: Indian Political Process

- CO1:** By studying this paper the student is able to understand theory of modernization
- CO2:** The student is able to understand Marxian approach and capitalism
- CO3:** The student is able to understand the role of casteism in Indian Politics.
- CO4:** The student is able to understand the role state towards the religion.
- CO5:** The student is able to understand NITI Ayog, finance commission and CVC and also able to understand the ideologies of various parties.

POL N-4103-2: Western Political Thought

- CO1:** Western Political Thought can take students on a political philosophical journey from Plato to Karl Marx.
- CO2:** Students can comprehend various ideas like different types of rights, social contract theory, which broadens the minds of students.

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- CO3:** Liberal Democratic thought helps students understand and promote democracy in functioning governance.
- CO4:** Marxian thought encourages students to oppose oppressive state power and fight for their genuine rights.
- CO5:** Knowledge of western political thought provides the basic knowledge of Western Political thinking.

POL 5103-5: Indian Political Thought

- CO1:** Indian Political Thought motivates students to know rich thinking of Indian Political Philosophers.
- CO2:** Traditions of Ancient Indian Political thought helps students to understand the background of historical events which influenced their minds.
- CO3:** Religious Nationalism thinking help students understand the impact of religion on politics and the need for promotion of secular thinking
- CO4:** Modern Political Thinkers like Gandhi, Nehru and Ambedkar influence young minds to appreciate freedom struggle and disown social evils of the time
- CO5:** Helps the student to understand the ethos of Indian Political thinkers for inculcating core values.

POL 5103-6: Western Political Thought

- CO1:** Western Political Thought can take students on a political philosophical journey from Plato to Karl Marx.
- CO2:** Students can comprehend various ideas like different types of rights, social contract theory, which broadens the minds of students.
- CO3:** Liberal Democratic thought help students understand and promote democracy in functioning governance.
- CO4:** Marxian thought encourages students to oppose oppressive state power and fight for their genuine rights.
- CO5:** Knowledge of western political thought provides the basic knowledge of Western Political thinking.

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POL 7103C: Local Self Government

- CO1:** To create knowledge on the evolution of local self-Governments in India
- CO2:** To educate the students about the composition and functions of local bodies
- CO3:** To educate the students and create an idea on 73rd and 74th constitutional amendments
- CO4:** To tell the students about the various types of resources to the local bodies
- CO5:** To create more knowledge on present electoral system in local governments

POL 8103C1: International Relations

- CO1:** The student is able to understand the balance of power, collective security, diplomacy etc.,
- CO2:** The student is able to understand Woodrow Wilson's idealism, realism of Hans Morgenthau.
- CO3:** Student may know the causes of 1st and 2nd world war
- CO4:** Students have an overall idea how the cold war began and how arms race increases across the world.
- CO5:** The student is able to understand the role of UNO in the protection of peace.

POL 8103C2: India Foreign Policy

- CO1 The student is acquainted with Indian foreign policy, continuity and changes
- CO2 The students are able to understand the role of India in non-aligned movement.
- CO3 Student understand the protection of International Peace by UNO
- CO4 The student is able know the indo-pak relations indo-china relations etc.,
- CO5 The student is able to know about the composition of SAARC and its functions

PWPOL-8103C3: Project Work

- CO1:** The main objective of Project-based learning (PBL) is a student-centered pedagogy.
- CO2:** It involves a dynamic classroom approach in which it is believed that students acquire a deeper knowledge through active exploration of real-world challenges and problems.

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- CO3:** Students learn about a subject by working for an extended period of time to investigate and respond to a complex question, challenge, or problem.
- CO4:** It is a style of active learning and inquiry-based learning.
- CO5:** PBL contrasts with paper-based, rote memorization, or teacher-led instruction that presents established facts or portrays a smooth path to knowledge by instead posing questions, problems or scenarios

PSYCHOLOGY

PSY N-1105: General Psychology I

- CO1:** Students will be able to acquire the knowledge about the Historical foundations and Research methods used in psychology.
- CO2:** Students will know about the relation between mind and body because behavior depends on the Biological basis of Individual.
- CO3:** Students can become aware of the Central Nervous System and the importance of the Hormones & Sensory Process in Behavior.
- CO4:** To understand the Attention and Perception, its types and organizations.
- CO5:** Students will clearly understand the learning process and theories, and also understand the Role of Motivation and Maturation in Learning.

PSY N-2105: General Psychology II

- CO1:** Students will know about the Meaning and types of memory, Methods of measuring memory, Forgetting and its causes.
- CO2:** Students can become aware of Concepts of Reasoning, Problem Solving and Critical Thinking.
- CO3:** To understand the Types and Theories of Motivation and Emotion.
- CO4:** Students will clearly understand about Intelligence and its Measurement, Role of heredity and environment in intelligence.
- CO5:** Students will be able to acquire the knowledge about Status of Consciousness and Drug Induced State of Consciousness.

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PSY N-3105: Social Psychology I

- CO1:** Students can become aware of the definition, nature and scope of social psychology.
- CO2:** To understand the theories of attribution and Social Perception.
- CO3:** Students will clearly understand about the Impression formation and management.
- CO4:** Students will know about the distinctive features of attitudes and reducing cognitive dissonance.
- CO5:** Students will be able to acquire the knowledge about Communication and barriers to effective communication.

PSY N-4105-1: Social Psychology-1

- CO1:** Students will be able to acquire the knowledge about the Historical foundations and Research methods used in psychology.
- CO2:** Students will know about the relation between mind and body because behavior depends on biological basis of Individual.
- CO3:** Students can become aware of Central Nervous System and the importance of the Hormones & Sensory Process in Behavior.
- CO4:** To understand the Attention and Perception, its types and organization's.
- CO5:** Student will clearly understand about the learning process and theories, also understands the Role of Motivation and Maturation in Learning.

PSY N-4105-2: Social Psychology-II

- CO1:** To understand the Nature and definition of prejudice, origin and formation of prejudice,
- CO2:** Student will clearly understand about social, personal, situational factors and theoretical perspectives on Aggression.
- CO3:** Students will be able to acquire the knowledge about Role status norms cohesiveness and conformity.
- CO4:** Students will know about the social facilitation, social loafing and social inhibition.
- CO5:** Students can become aware of definitions of leader and traits of a leader.

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COURSE OUTCOMES (COs)

PSY-5105-5: Educational Psychology

- CO1:** Student will clearly understand about the importance and methods of educational psychology
- CO2:** Students will be able to acquire the knowledge about General principles of growth and development.
- CO3:** Students will know about the Process of Learning, Nature of Learning, Learning curves and Plateaus in learning.
- CO4:** Students can become aware of Theories of Transfer of learning and Factors influencing transfer of learning.
- CO5:** To understand the methods of memorization and theories of Forgetting.

PSY-5105-6: Abnormal Psychology II

- CO1:** Students will be able to acquire the knowledge about Definition of abnormal Psychology, past and present views and treatment.
- CO2:** Students will know about the Classification of disorders and causes of abnormality.
- CO3:** Students can become aware of anxiety disorder, Phobias, Panic disorder, obsessive-compulsive disorder and Post – traumatic stress disorder.
- CO4:** To understand the Nature and symptoms of somatoform disorders.
- CO5:** Student will clearly understand about Amnesia and fugue dissociative identity disorder

PSY-7105: Counselling Psychology

- CO1:** Students will know about the Meaning and definition of counselling.
- CO2:** Students can become aware of Counselling in an educational setting - Role of teacher in counselling.
- CO3:** To understand the Stages of Counselling, Major goals of counselling.
- CO4:** Students will clearly understand about Non-verbal communication in an interview.
- CO5:** Students will be able to acquire the knowledge about Counselling families, Marriage counselling, Pre-marital counselling and Counselling women.

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COURSE OUTCOMES (COs)

JOURNALISM

JOU N-1106: History of Journalism and Mass media

- CO1:** Students would be able to understand basics of Journalism
- CO2:** Students would be able to knowing the communication skills
- CO3:** Students would be able to know the History of Journalism I
- CO4:** Students would be able to know the History of Print and Electronic media
- CO5:** Students would be able to know the eminent Personalities in Journalism

JOU N-2106: Principles of communication

- CO1:** Students would be able to develop the basic elements of communication
- CO2:** Students would be able to acquaint themselves with the various type of communication
- CO3:** Students would be able to know the theories of communication
- CO4:** Students would be able to inculcate the knowledge of communication models
- CO5:** Students would be able to strengthen the 7 C's of communication

JOU N-3106: Journalism Writing Skills

- CO1:** Students would be having the knowledge of the theories, methods and practice of gathering information and news writing
- CO2:** Students know about the basics of news writing
- CO3:** Students would be able to understand different writing techniques
- CO4:** Students would be able to having the knowledge of computer literacy and Desk Top Publishing
- CO5:** Students would be able to create understanding of various Print media content

JOU N-4106-1: Reporting and Editing

- CO1:** Students would be able to understand the basics of Reporting
- CO2:** Students would be able to create understanding of specialized reporting
- CO3:** Students would be able to develop the general understanding of culture and sports reporting

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COURSE OUTCOMES (COs)

CO4: Students would be able to understand the process of editing for various platforms

CO5: Students would be able to understand about the dummy, Printing and Layout

JOU N-4106-2: Photojournalism

CO1: Learner would know the concepts and importance of Photography

CO2: Learner would be able to understand Photo coverage and Photo Journalism

CO3: Learner would be ready to join any media organization as photojournalist

CO4: Learner would know the importance of Photo features

CO5: Learner would know the technical specifications in Photo Industry

JOU 5106-5: Radio and Television Journalism

CO1: Student would be able to undertake Radio Program Production in Different formats

CO2: Students would be able to know the History of Radio

CO3: Students would be able to make radio programs and jingles

CO4: Students would acquire knowledge in skills and techniques of TV program Production

CO5: Students would get knowledge in presentation and anchoring of TV programs

JOU 5106-6: Media Laws and Ethics

CO1: Students would be able to know the basics of Law

CO2: Students would be able to acquire knowledge of Indian Constitution

CO3: Students would be able to know the Ethics in Journalism

CO4: Students would be able to know the freedom of the press

CO5: Students would be able to know about the Article 19(1)a of Indian Constitution and Article 19(2)

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COURSE OUTCOMES (COs)

JOU 7106: Public Relations

- CO1:** Students would learn about the definitions and concepts of Public relations, publicity, propaganda, advertising and e- PR
- CO2:** Students would gain knowledge about the tools of Public relations
- CO3:** Students would learn the basics of public relations writings
- CO4:** Students would gain knowledge about the basic ethics and laws of public relations
- CO5:** Students would become the knowledge to become PR professional

TRAVEL & TOURISM

TTM 1107: Concepts of Tourism

- CO1:** Defines Eco Tourism
- CO2:** Understands Travel & Tourism through ages
- CO3:** Understands types of infrastructure
- CO4:** understands concept of demand & supply of tourism
- CO5:** Analyses the impacts of tourism

TTM 2107: Tourism policy, planning and development

- CO1:** Understands the introduction to planning
- CO2:** Comprehends the approaches of planning in tourism
- CO3:** Planning for tourism in India
- CO4:** Interprets the relations between tourism and weather and climate
- CO5:** Can assess the tourism facilities

TTM 3107: Travel Management

- CO1:** acquires the knowledge of Travel agencies
- CO2:** Understands travel agency and tour operator
- CO3:** Travel formalities will be known
- CO4:** Requirement and usage of internet is studied
- CO5:** e-signs Tourism itinerary

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COURSE OUTCOMES (COs)

TTM 5107-5: Tourism resources of India

- CO1:** Knowledge of History and its importance in tourism
- CO2:** Historical, cultural and religious tourism resources of India
- CO3:** Natural Tourism Resources of India
- CO4:** Catalyst of Tourism development in India
- CO5:** Important tourism Circuits

TTM 5107-6: Tourism Management

- CO1:** Knowledge about Fundamentals of Management
- CO2:** Importance of Management
- CO3:** Know about Tourism organisations intergovernmental & International
- CO4:** Comprehend International tourism organizations
- CO5:** infer destination management

TTM-7107-A: Tourism Marketing

- CO1:** Understanding of Marketing concept
- CO2:** understanding of Market research
- CO3:** Marketing Mix in Tourism Industry
- CO4:** knowledge of promotion and distribution
- CO5:** Necessary attributes for a ideal tourist destination, destination marketing

PUBLIC ADMINISTRATION

PUB N-1109: Theories of Public Administration

- CO1:** Understanding public administration basic concepts.
- CO2:** Wilsonian explanation of public administration and its difference with politics
- CO3:** Students are able to get knowledge of various theories of public administration.
- CO4:** Student aware of practical understanding of administration theories.
- CO5:** Theoretical analysis for better understanding the administrative system.

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COURSE OUTCOMES (COs)

PUB N-2109: Principles of Public Administration

- CO1:** Understanding public administration basis principles provided by serious authors
- CO2:** Explanation of public administration dichotomy.
- CO3:** Students able to get knowledge of various principles of public administration in-depth.
- CO4:** Student aware of practical understanding of administration principles
- CO5:** Analysis of the principles for better understanding the administrative system.

PUB N-3109: Indian Administration

- CO1:** Understanding Indian administration basic concepts.
- CO2:** Students can easily understand the Indian administrative system.
- CO3:** Students able to get knowledge of various Indian administrative institutions.
- CO4:** Students are aware of practical understanding of Indian administration and its institutional arrangement.
- CO5:** Theoretical analysis of the Indian bureaucracy in detail.

PUB N-4109-1: Indian Administration challenges

- CO1:** Understanding Indian administration basic issues.
- CO2:** Students can easily understand the challenges of the Indian administrative system.
- CO3:** Students able to get knowledge of various issues and challenges Indian administration.
- CO4:** Students are aware of practical understanding of Indian administration and its issues.
- CO5:** Theoretical analysis of the Indian bureaucracy and its issues and challenges.

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COURSE OUTCOMES (COs)

PUB N-4109-2: Management of Resources

- CO1:** Understand the Meaning, Nature and Scope of Human Resource Management.
- CO2:** Critically examine the concepts of Recruitment, Selection, Appointment and Promotion.
- CO3:** Have a glance at Performance Appraisal - Rewards and Incentives Management.
- CO4:** Get a clear idea on issues in HRM - Downsizing, Outsourcing, Consultancies.
- CO5:** Understand the concept of Budget-Preparation, Enactment and Execution

PUB-5109-5: Public Policy

- CO1:** The students will be able to understand the significance and types of public policy.
- CO2:** Understanding concepts of social welfare policies such as education policies, health policies and environment policy.
- CO3:** Students will understand the importance of citizen and administration interface.
- CO4:** To introduce the students with different policies formulated and implemented at national level.
- CO5:** The course will also provide some elementary knowledge about Public Policy organs in India.

PUB 5109-6: E- Governance

- CO1:** To understand the meaning and concept of E-Governance.
- CO2:** Explain the E-Governance processes vis-à-vis its application to different stakeholders.
- CO3:** To identify the challenges of effective implementation of E-Governance at education, health, and commerce.
- CO4:** To comprehend the scope of E-Governance at Government Departments and institutions.
- CO5:** Identify the issues and challenges in E-Governance applications.

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COURSE OUTCOMES (COs)

PUB 7109A: Environmental Administration

- CO1:** To have a better understanding on Environment, elements and Significance.
- CO2:** To Examine the causes of Environmental Pollution.
- CO3:** To observe the Environmental Policy prior to Independence and after independence.
- CO4:** To have a glance at the Constitutional aspects of Environmental Law.
- CO5:** To examine the Judicial response on the protection of Environment.

PHILOSOPHY

PLY N-1108: Indian Philosophy-I

- CO1:** The Indian philosophy is very much a need for Indian society.
- CO2:** All students must learn the Indian thought and values.
- CO3:** Students should follow the ethics of Indian society.
- CO4:** Students support's integrity of the nation while they follow Indian philosophy.
- CO5:** Students learn about Buddhism

PLY N-2108: Indian Philosophy-II

- CO1:** The Indian philosophy is very much a need to Indian society.
- CO2:** All students must learn the Indian thought and values.
- CO3:** Students should follow the ethics of Indian society.
- CO4:** Students support's integrity of nation while they follow Indian philosophy
- CO5:** Students learns about 6 systems of Indian Philosophy

PLY N-3108: Western Philosophy-I

- CO1:** Understand the sophists Socrates his problem and method.
- CO2:** Criticism of Plato's doctrine of ideas & classical logic, matter and forms.
- CO3:** Understand the epistemology
- CO4:** Concept of substance-mind body relation, Pre establishment Harmony, Doctrines of monadology
- CO5:** Students learn about the Rationalism

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COURSE OUTCOMES (COs)

PLY N-4108-1: Western Philosophy-II

- CO1:** Western philosophy stands on rationality.
- CO2:** Western philosophy project's many thinker's on various fields.
- CO3:** It inculcates the young minds towards rationalism.
- CO4:** Students learn dialectical arguments through western philosophy.
- CO5:** Students learn logical positivism and existentialism

PLY N-4108-2: Ethics

- CO1:** Understand the nature of ethics and basic concepts.
- CO2:** Understand the four cardinal virtues of Plato.
- CO3:** Understand the theories of punishment ad Kant's theories of categorical imperative. Ethical theory of intuitionism.
- CO4:** Understand the Hedonism, psychological and ethical & ethical theories Bentham and JS Mill, G.E Moore 's
- CO5:** Students will understand formalism of Immanuel Kant

PLY 5108-5: Ethics

- CO1:** Understand the nature of ethics and basic concepts.
- CO2:** Understand the four cardinal virtues of Plato.
- CO3:** Understand the theories of punishment and Kant's theories of categorical imperative ethical theory of intuitionism.
- CO4:** Understand the Hedonism, psychological and ethical & ethical theories Bentham and JS Mill, G.E Moore 's
- CO5:** Students will understand formalism of Immanuel Kant

PLY 5108-6: Logic & Scientific Method

- CO1:** Understand the importance of logic & fundamental laws of thought.
- CO2:** Understand the Aristotelian classification of Categorical Propositions.
- CO3:** Understand the Categorical Syllogism
- CO4:** Understand the Venn diagrams & figures and moods of categorical syllogism, basic truth tables and symbolic logic.
- CO5:** Students understand the symbolic logic

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COURSE OUTCOMES (COs)

PLY 7108-A: Contemporary Indian Philosophy

- CO1:** Understand Modern Indian thought, renaissance and Hindu reformation movement.
- CO2:** Understand Swami Vivekananda life, thought, Practical Vedanta
- CO3:** Understand Dr. Sarvepalli Radhakrishna philosophy and Absolute theories
- CO4:** Understand Mahatma Gandhi satyagraha, Ahimsa, Religion and morality
- CO5:** Sri Aurobindo Super mind and divine life humanity.

SCIENCE

MATHEMATICS

MAT N-1301: Differential Equations

- CO1:** Students will understand the concepts of first order and first degree Differential Equations and problem solving on it
- CO2:** Students will analyze Orthogonal Trajectories and first order but not of first-degree Differential Equations
- CO3:** Students will acknowledge the concepts of Higher order linear differential equations
- CO4:** Students will know the concepts of non-homogeneous linear differential equations
- CO5:** Students will get the knowledge of problem solving on higher order linear differential equations by the method of variation of parameters.

MAT-N-2301: Three-Dimensional Analytical Solid Geometry

- CO1:** Students will acquire the knowledge of planes
- CO2:** Students will get basic idea about recognition of lines and rotational symmetries
- CO3:** Students will understand the properties of spheres
- CO4:** Students will acknowledge the concept of cones
- CO5:** Students will know the concept of cylinder

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COURSE OUTCOMES (COs)

MAT N-3301: Abstract Algebra

- CO1:** Students will understand the concepts of Groups with illustrations
- CO2:** Students will acquire knowledge on subgroups and cosets
- CO3:** Students will get the concepts of Normal subgroups
- CO4:** Students will know the about the group homomorphism
- CO5:** Students will obtain the idea of permutations and cyclic groups

MAT N-4301-1: Real Analysis

- CO1:** Students will analyze the concept of testing of convergence of a sequence PS03d
- CO2:** Students will apply appropriate method to test convergence of a given series
- CO3:** Students will know about the concept of continuity of a real valued function
- CO4:** Students will get the knowledge on differentiability of a function defined on subsets of the real line
- CO5:** Students will obtain the knowledge on integrability of real valued functions.

MAT N 4301-2: Linear Algebra

- CO1:** To analyze the concepts of vector space and subspace
- CO2:** To understand the dimension of a vector space
- CO3:** To learn about the linear transformation of vector spaces
- CO4:** To analyze the concepts of system of linear equations, eigenvalues and eigenvectors
- CO5:** To acquire knowledge on Inner product spaces

MAT 5301-5: Ring Theory and Vector Calculus

- CO1:** To understand the ring theoretical concepts
- CO2:** To obtain the concept of ring homomorphism
- CO3:** To get knowledge of vector differentiation and differential operators
- CO4:** To analyze the concepts of derivation and integration of vectors in rectangular, cylindrical and spherical coordinate systems
- CO5:** To get knowledge about the applications of Green's Theorem, Gauss divergence Theorem and Stoke's Theorem

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COURSE OUTCOMES (COs)

MAT 5301-6: Linear Algebra

- CO1:** To analyze the concepts of vector space and subspace
- CO2:** To understand the dimension of a vector space
- CO3:** To learn about the linear transformation of vector spaces
- CO4:** To analyze the concepts of system of linear equations, eigenvalues and eigenvectors
- CO5:** To acquire knowledge on Inner product spaces

MAT 7301: Numerical Analysis

- CO1:** To analyze the error incumbent in any such numerical approximation and to understand different concepts in Numerical Analysis
- CO2:** To gain the procedure of finding the solution of equations and derivation of interpolation formulae
- CO3:** To derive numerical methods for approximating the solution of problems of continuous mathematics
- CO4:** To understand the concept on Newton's, Gauss, Stirling and Bessel's formula
- CO5:** To understand the concept of Lagrange's and Newton's divided difference formula

PHYSICS

PHY N-1302: Mechanics, Waves & oscillations

- CO1:** In Physics and engineering vector analysis is applied to simplify the description of electromagnetic or gravitational fields, fluid flow etc.
- CO2:** Students understand how Multi stage rocket velocities are customized using the Variable mass system equation of motion.
- CO3:** The formula to lower the Processional velocities to get stabilized rotatory motion for vehicles like devices is understood. Proper material of specific elastic constants be chosen to bear the applied stress.
- CO4:** Motion of planets is understood from central forces and based on those artificial satellites launched in orbits. Relativity concept of time is used in GPS.
- CO5:** Understand the space -time concept and mass energy equivalence relation.

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COURSE OUTCOMES (COs)

PHY N-2302: Waves and Oscillations

- CO1:** Superposition of SHM, Lissajous figures are used to analyse the electromagnetic waves.
- CO2:** Resonance condition for Mechanical oscillator is used to get maximum work from the oscillator.
- CO3:** Complicated and periodic functions like electromagnetic signals are easily analyzed using Fourier analysis
- CO4:** The concept to obtain Harmonious sound from the Vibrations of strings in musical instruments.
- CO5:** Production of Ultrasonics and their applications in medical, industrial fields is understood.

PHY N-3302: Wave Optics

- CO1:** Student get the understanding of the cause of aberrations in lenses derives elimination methods
- CO2:** Wavelength of light is determined using interference properties of light and their applications.
- CO3:** The better method is chosen either Fraunhofer or Fresnel to analyse the Diffraction of light based on the obstacle and light wavelength determination using Grating.
- CO4:** The concepts of production of various types of polarized lights and their applications
- CO5:** Laser production principle and its energy density; principle of optical fiber communication and Holography and their applications.

PHY N-4302-1: Thermodynamics and Heat radiation

- CO1:** From the concept of Transport phenomena in gases viscosity, thermal conduction and diffusion coefficient are deduced.
- CO2:** The concept of thermodynamic laws means decrease in available form of energy (work) in the universe which leads to more disorder and more information in the system.

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COURSE OUTCOMES (COs)

- CO3:** Students can derive Any thermodynamic expressions easily from Maxwell's thermodynamic relations.
- CO4:** The molecular concept in joule Thomson effect and its applications in refrigeration systems.
- CO5:** Quantum concept solved Ultraviolet catastrophe of black body radiation spectrum and design of pyrometers to measure high temperature bodies.

PHY N-4302-2: Modern Physics

- CO1:** Develop an understanding on the concepts of Atomic and Modern Physics, basic elementary quantum mechanics and nuclear physics. Spectroscopic concepts will lead to analysis of solid and liquid materials.
- CO2:** Develop critical understanding of concept of Matter waves and Uncertainty principle. Quantum concepts enable the learner to calculate the velocities, momentum and energies of electronic levels.
- CO3:** "Examine the basic properties of nuclei, characteristics of Nuclear forces, salient Features of nuclear models"
- CO4:** Classifies Elementary particles based on their mass, charge, spin, half-life and Interaction.
- CO5:** Concepts of Solid-state Physics will help in understanding crystal structures. Concepts of superconductivity will help in understanding the principles of creation of heavy electro-magnetic fields and its applications.

PHY 5302-5: Electricity, Magnetism & Electronics

- CO1:** Application of the easy method to derive electric field, potential for different shapes of conductors using Gauss law.
- CO2:** To understand the principles and working of concepts of electric and electromagnetic equipment
- CO3:** Student get knowledge of correlation of electric and magnetic fields and the concept of electromagnetic wave constant velocity

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COURSE OUTCOMES (COs)

- CO4:** Working of semiconductor diodes, transistors, FET are the basic components in any electronic device design that are understood by the student.
- CO5:** Number systems, conversions, Logic gates and adders will help the student in understanding the basic circuits of computer hardware.

PHY 5302-6: Modern Physics

- CO1:** Spectroscopic concepts will lead to analysis of solid and liquid materials
- CO2:** Concepts of de-Broglie hypothesis and uncertainty principles lead to Wave mechanic concepts.
- CO3:** Quantum concepts enable the learner to calculate the velocities, momentum and energies of electronic levels.
- CO4:** Concepts of Radioactivity leads to the field of Nuclear Physics.
- CO5:** Concepts of Solid-state Physics will help in understanding crystal structures, Concepts of superconductivity will help in understanding the principles of creation of heavy electromagnetic fields and its applications.

PHY 7302: Renewable Energy

- CO1:** Concepts of Energy sources, Energy Conservation & Efficiency, Energy storage are introduced.
- CO2:** understanding Concepts of Solar energy, Wind energy technology etc. and their production mechanisms.
- CO3:** Understanding radiative properties of materials, fabrications of Solar cells & their applications will lead the students into Solar PV industries.
- CO4:** Understanding atmosphere and forecasting methods, instrumentation will give knowledge to students of Radar station operations.
- CO5:** Understanding the working of Power supplies, Rectifiers, amplifiers and oscillators will be helpful in pursuing higher studies at postgraduate level.

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COURSE OUTCOMES (COs)

ELECTRONICS

ELE N-1303: BASIC CIRCUIT THEORY & LAB

- CO1:** Study and verify the circuits in a systematic manner suitable for analysis and design.
- CO2:** Understands how to formulate circuit analysis problems in a mathematically tractable way with an emphasis on solving linear systems of equations
- CO3:** Analyze the electric circuit using network theorems
- CO4:** Determine Sinusoidal steady state response and develop the experimental skill on signal generator, CRO etc.
- CO5:** Understand the two-port network parameters with an ability to find out two-port network parameters & overall response for interconnection of two-port networks.

ELE N-2303: ELECTRONIC DEVICES & CIRCUITS AND LAB

- CO1:** Illustrate about rectifiers, transistor and FET amplifiers and its biasing. Also compare the performances of its low frequency models.
- CO2:** Describe the frequency response of MOSFET and BJT amplifiers.
- CO3:** Explain the concepts of feedback and construct feedback amplifiers and oscillators.
- CO4:** To introduce students to various modulation and demodulation techniques of analog communications
- CO5:** To analyse different parameters of analog communication techniques.

ELE N-3303: DIGITAL ELECTRONICS & LAB

- CO1:** Understand and represent numbers in powers of base and converting one from the other, carry out arithmetic operations
- CO2:** Understand basic logic gates, concepts of Boolean algebra and techniques to reduce/simplify Boolean expressions
- CO3:** Analyze and design combinational as well as sequential circuits .
- CO4:** operation and performance of microprocessors.
- CO5:** To understand RISC based microprocessors.

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COURSE OUTCOMES (COs)

ELE 4303-1: MICROPROCESSOR SYSTEMS

- CO1:** To understand Architecture & pin diagram of 8085 Microprocessor
- CO2:** Familiarize the modes and functional block diagram of 8086 pins.
- CO3:** Student can List and describe memory and addressing modes
- CO4:** understanding of serial communication interfaces, programming & ability to interface various peripheral devices with a microprocessor.
- CO5:** Understanding of the ARM architecture, instruction set & the ability to program using ARM processors.

ELE 4303-2: MICROCONTROLLER AND INTERFACING

- CO1:** Proficiency in development tools assembler, compiler, simulator, and debugger for microcontrollers.
- CO2:** Proficiency in data types and directives, understanding of port organization, ability to work with interrupts and timers.
- CO3:** Comprehensive understanding of addressing modes & accessing memory, proficiency in using the instruction set.
- CO4:** Ability to write and execute programs in assembly language.
- CO5:** Ability to interface programmable devices & the practical applications of microcontrollers.

ELE 5303-5: 8085 Microprocessor

- CO1:** To understand the basic architecture of 16 bit and 32 bit microprocessors.
- CO2:** To understand interfacing of a 16 bit microprocessor with memory and peripheral chips involving system design.
- CO3:** To understand techniques for faster execution of instructions and improve speed of processor
- CO4:** operation and performance of microprocessors.
- CO5:** To understand RISC based microprocessors.

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COURSE OUTCOMES (COs)

ELE 5303-6: Electronic communication

- CO1:** To understand the concepts of microcontroller-based system
- CO2:** To enable design of microcontroller-based systems.
- CO3:** To enable programming of microcontroller-based systems.
- CO4:** To aware of instruction sets and address modes
- CO5:** To know about the interfacing Circuits.

ELE 7303: Micro Controllers

- CO1:** Proficiency in development tools assembler, compiler, simulator, and debugger for microcontrollers.
- CO2:** Proficiency in data types and directives, understanding of port organization, ability to work with interrupts and timers.
- CO3:** Comprehensive understanding of addressing modes & accessing memory, proficiency in using the instruction set.
- CO4:** Ability to write and execute programs in assembly language.
- CO5:** Ability to interface programmable devices & the practical applications of microcontrollers.

CHEMISTRY

CHE N-1304: Inorganic and Physical Chemistry

- CO1:** Understand the concepts of nature of elements
- CO2:** Analyse the intermolecular interactions among solid, liquid and gases
- CO3:** Correlating the energy changes with potentials
- CO4:** Apply the concepts of common Ion effect, solubility product to qualitative analysis
- CO5:** Interpret reactions of different elements in periodic table

CHE N-2304: Organic and General Chemistry

- CO1:** Understand the differential behavior of organic compounds
- CO2:** Formulate the mechanism of organic reactions
- CO3:** Identify many organic reaction mechanisms
- CO4:** Correlate the stereo chemical properties of organic compounds and reactions.
- CO5:** Learn the concepts of hybridization to understand structure and bonding in molecules

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COURSE OUTCOMES (COs)

CHE N-3304: Organic Chemistry and Spectroscopy

- CO1:** Understand the preparation and reactions of different functional groups
- CO2:** Acquire the knowledge of application of modern spectroscopic techniques
- CO3:** Write plausible mechanisms for any relevant reaction
- CO4:** Learn the basic concepts of spectroscopy
- CO5:** Analyse the reactions of different functional groups

CHE N-4304-1: Inorganic, Organic and Physical Chemistry

- CO1:** Learn the photochemical laws
- CO2:** Understand the reactions of multifunctional group organic molecules
- CO3:** Co-relate the basic concepts of thermodynamics to Chemical reactions
- CO4:** Analyse the reactions of different N groups
- CO5:** Apply the knowledge of Photo-chemistry to chemical reactions

CHE N 4304-2: Inorganic & Physical Chemistry

- CO1:** Understand basic concepts of coordination compounds
- CO2:** correlate the bonding, structure, reactivity in biological system
- CO3:** Learnt about phase diagrams of different systems for purification of metals.
- CO4:** Apply the Conductivity measurements for strong and weak electrolytes
- CO5:** Analyse the reaction rates and orders

CHE 5305-5: Inorganic, Physical and Organic Chemistry

- CO1:** Understand the postulates of the different theories of bonding
- CO2:** Correlate relation between stability and factors
- CO3:** Build the idea of Nitrogen based organic compounds and their properties.
- CO4:** Learn the energy changes that could occur in chemical reactions
- CO5:** Analyse the reactions of multifunctional group organic compounds

CHE 5305-6: Inorganic, Organic and Physical Chemistry

- CO1:** Understand the reactivity of metal complexes
- CO2:** Write mechanisms for reactions of heterocyclic compounds
- CO3:** Analyse how rates and half-life changes with concentration of reactants.
- CO4:** Learn the different laws of photochemistry
- CO5:** Apply the concepts of thermodynamics to Chemical reactions

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COURSE OUTCOMES (COs)

CHE 7304: Environmental Chemistry

- CO1:** To understand the scope and importance of environment
- CO2:** To know various resources available in nature
- CO3:** To have a broad idea of water quality parameters
- CO4:** To learn toxicology of hazardous metals
- CO5:** To build an idea of energy dynamics of ecosystems

COMPUTER SCIENCE

CSC N-1305: PROBLEM SOLVING IN C

- CO1:** Understand the evolution and functionality of a Digital Computer.
- CO2:** Develop an algorithm for solving a given problem
- CO3:** Convert algorithms into executable C programs.
- CO4:** Choose suitable 'C' language constructs like decision making statements, Array processing, functions, structures and Pointers, etc. to solve a given problem.
- CO5:** Develop multi file programs.

CSC N-2305: DATA STRUCTURES USING C

- CO1:** Understand different types of data structures and metrics for measuring efficiency.
- CO2:** Simulate the operations of linear data structures.
- CO3:** Simulate the operations of non-linear data structures.
- CO4:** Analyze the performance of various searching and sorting algorithms.
- CO5:** Apply the knowledge of data structures to solve real time problems.

CSC N-3305: DATABASE MANAGEMENT SYSTEMS

- CO1:** Familiarize the fundamental concepts of DBMS with special emphasis on relational data model.
- CO2:** Design database using ER diagrams.
- CO3:** Apply normalization to reduce redundancy in database.
- CO4:** Demonstrate the DDL and DML commands.
- CO5:** Develop SQL, PL/SQL programs

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COURSE OUTCOMES (COs)

CSC N-4305-1: OBJECT ORIENTED PROGRAMMING THROUGH JAVA

- CO1:** Understand the benefits of a well-structured program
- CO2:** Understand different computer programming paradigms
- CO3:** Understand underlying principles of Object Oriented Programming in Java
- CO4:** Develop problem-solving and programming skills using OOP concepts
- CO5:** Develop the ability to solve real-world problems through software development in high-level programming language like Java.

CSC N 4305-1: OBJECT ORIENTED PROGRAMMING THROUGH JAVA

- CO1:** Understand the benefits of a well-structured program
- CO2:** Understand different computer programming paradigms
- CO3:** Understand underlying principles of Object-Oriented Programming in Java
- CO4:** Develop problem-solving and programming skills using OOP concepts
- CO5:** Develop the ability to solve real-world problems through software development in high-level programming language like Java

CSC N-4305-2: OPERATING SYSTEMS

- CO1:** Differentiate the types of operating systems
- CO2:** Choose appropriate process scheduling algorithms to improve system performance.
- CO3:** Analyze memory management techniques, concepts of virtual memory and disk scheduling.
- CO4:** Understand the implementation of file systems and directories along with the interfacing of IO devices with the operating system.
- CO5:** Choose an appropriate algorithm to avoid deadlocks.

CSC-5305-5: DATABASE MANAGEMENT SYSTEMS

- CO1:** Familiarize the fundamental concepts of DBMS with special emphasis on relational data model.
- CO2:** Design database using ER diagrams.
- CO3:** Apply normalization to reduce redundancy in database.
- CO4:** Demonstrate the DDL and DML commands.
- CO5:** Develop SQL, PL/SQL programs

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COURSE OUTCOMES (COs)

CSC-5305-6: SOFTWARE ENGINEERING

- CO1:** Estimate the effort, duration and cost of a project.
- CO2:** Develop SRS document for a project.
- CO3:** Develop a detailed design for a project
- CO4:** Develop user friendly interface suitable for a project.
- CO5:** Design test cases to estimate the quality of the project

CSC-7305: Operating Systems

- CO1:** Differentiate the types of operating systems
- CO2:** Choose appropriate process scheduling algorithm to improve system performance
- CO3:** Analyze memory management techniques, concepts of virtual memory and disk scheduling
- CO4:** Understand the implementation of file systems and directories along with the interfacing of IO devices with the operating system
- CO5:** Choose an appropriate algorithm to avoid deadlocks

STATISTICS

STA N-1306: Descriptive Statistics

- CO1:** Acquire knowledge of Statistics and its scope and importance in various areas such as Medical, Engineering, Agricultural and Social Sciences etc
- CO2:** knowledge of various types of data, their organization and evaluation of summary measures such as measures of central tendency and dispersion etc.
- CO3:** knowledge of other types of data reflecting quality characteristics including concepts of independence and association between two attributes
- CO4:** insights into preliminary exploration of different types of data
- CO5:** Knowledge of correlation, regression analysis, regression diagnostics, partial and multiple correlations.

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COURSE OUTCOMES (COs)

STA N-2306: Probability Theory & Distributions

- CO1:** Acquire ability to distinguish between random and non-random experiments
- CO2:** knowledge to conceptualize the probabilities of events including frequentist and axiomatic approach. Simultaneously, they will learn the notion of conditional probability including the concept of Bayes' Theorem
- CO3:** knowledge related to concept of discrete and continuous random variables and their probability distributions including expectation and moments
- CO4:** knowledge of important discrete and continuous distributions such as Binomial, Poisson, Geometric, Negative Binomial and Hyper-geometric, normal, uniform, exponential, beta and gamma distributions
- CO5:** acumen to apply standard discrete and continuous probability distributions to different situations.

STA N-3306: Statistical Inference

- CO1:** Acquire concept of random sample from a distribution, sampling distribution of a statistic, standard error of important estimates such as mean and proportions
- CO2:** Concept of law of large numbers and their uses and central limit theorem and its uses in statistics
- CO3:** Knowledge about important inferential aspects such as point estimation, test of hypotheses and associated concepts
- CO4:** Knowledge about inferences from Binomial, Poisson and Normal distributions as illustrations
- CO5:** Concept about non-parametric method and some important non-parametric tests.

STA N-4306-1: Sampling Techniques & Design of Experiments

- CO1:** Get Introduced to various statistical sampling schemes such as simple, stratified and systematic sampling
- CO2:** An idea of conducting the sample surveys and selecting appropriate sampling techniques
- CO3:** Knowledge about comparing various sampling techniques
- CO4:** Carry out one way and two-way Analysis of Variance
- CO5:** Understand the basic terms and use appropriate experimental designs to analyze the experimental data

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COURSE OUTCOMES (COs)

STA N-4306-2: Applied Statistics

- CO1:** Know about components of time series, measurement of trend by fitting and plotting of straight line, parabola K No and Moving Average method
- CO2:** measurement of Seasonal Indices by Ratio-to Trend, Ratio-to-Moving Average and Link Relative methods
- CO3:** measurement of trend by various growth curves such as modified exponential, Gompertz and logistic curve,
- CO4:** Interpret and use a range of index numbers commonly used in the business sector
- CO5:** Measurement of mortality, Fertility, population growth rates and Construction and implementation of life tables.

STA 5306-5: Sampling Techniques & Design of Experiments

- CO1:** Get Introduced to various statistical sampling schemes such as simple, stratified and systematic sampling
- CO2:** An idea of conducting the sample surveys and selecting appropriate sampling techniques
- CO3:** Knowledge about comparing various sampling techniques
- CO4:** Carry out one way and two-way Analysis of Variance
- CO5:** Understand the basic terms and use appropriate experimental designs to analyze the experimental data

STA 5306-6: Quality & Reliability

- CO1:** understand the concept of quality control in industry
- CO2:** apply the techniques of process control for checking and diagnosis of lack of quality
- CO3:** apply the sampling and rectification plans to control the quality of product
- CO4:** understand the reliability of successful running of an item and learn hazard function exponential distribution as a special case

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COURSE OUTCOMES (COs)

STA 7306A: Applied Statistics

- CO1:** Able to study a times series for estimating the effect of its components trend and seasonal variations by different methods
- CO2:** understand various types of index numbers and apply an appropriate formula to find index of various items and also study the cost of living of a group of people and calculate their deflated figures
- CO3:** apply various mortality, fertility and reproduction rates to study and compare various places regarding death and birth
- CO4:** construct and analyze life tables.

BOTANY

BOT N-1321: Microbial Diversity, Algae and Fungi

- CO1:** Students will be able to acquire, articulate, retain and apply specialized skills and knowledge relevant to Microbiology
- CO2:** Able to explore the diversity of microorganisms and microbial communities as well as their significance to humans and nature.
- CO3:** To Understand the classification, Structure, reproduction and Life History of Algae and Fungi
- CO4:** To understand history, relevance of microbiology and classification of Microorganisms and special groups of Bacteria
- CO5:** To understand bacterial cell structure, Nutrition, Reproduction and Economic importance, Virus structure, Replication, Viral diseases.

BOT N-2321: Diversity of Archegoniate & Plant Anatomy

- CO1:** Able to realize the economic importance and significance of local Timbers
- CO2:** Gain knowledge about Classification, General Characters of Archegoniate and gymnosperms
- CO3:** Know about Structure, Reproduction and Life History of Archegoniate
- CO4:** Gain knowledge about, Tissues and Tissue Systems, Anomalous Secondary Growth
- CO5:** Gain knowledge about Evolution of Sporophytes in Bryophytes, Heterospory and seed habit, Stellar Evolution in pteridophytes.

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COURSE OUTCOMES (COs)

BOT N-3321: Plant Taxonomy and Embryology

- CO1:** Students will gain knowledge and understanding about Systematic study economic importance of 8 families
- CO2:** Detailed understanding about development of male and female gametophyte and embryo sacs
- CO3:** Clear Understanding about Pollination and Fertilization mechanism and Endosperms, embryos and Polyembryony.
- CO4:** students will gain knowledge about Taxonomic Components, Taxonomic Resources and Botanical Nomenclature
- CO5:** Students will know about Types of Classifications and Phylogeny.

BOT 4321-1: Plant Physiology and Metabolism

- CO1:** students will gain knowledge about various types of Plant water relationships
- CO2:** students will gain knowledge about Mechanism and Significance of Nitrogen Fixation, Major and Minor elements and Enzymes
- CO3:** Thorough understanding on Photosynthesis, Photorespiration and Translocation in Plant Metabolism.
- CO4:** understanding Respiration and Lipid Metabolism processes
- CO5:** Understanding processes of Plant Growth Phytohormones, flowering, senescence and ageing.

BOT N-4321-2: Cell Biology, Genetics and Plant Breeding

- CO1:** gain knowledge about Structure and functions of cell and cell Organelles, Chromosomes.
- CO2:** gain knowledge about Structure, functions and Replication of DNA, RNA
- CO3:** understand about Mendel's laws, chromosome theory of inheritance, Linkage and Crossing over.
- CO4:** Clear understanding about objectives of plant Breeding and Crop improvement methods
- CO5:** Clear understanding about Breeding, Crop improvement, Biotechnology, Mutations, Somaclonal variations and Molecular Breeding

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COURSE OUTCOMES (COs)

BOT 5321-5: Cell Biology, Genetics and Plant Breeding

- CO1:** gain knowledge about Structure and functions of cell and cell Organelles, Chromosomes.
- CO2:** gain knowledge about Structure, functions and Replication of DNA, RNA
- CO3:** understand about Mendel's laws, chromosome theory of inheritance, Linkage and Crossing over.
- CO4:** Clear understanding about objectives of plant Breeding and Crop improvement methods
- CO5:** Clear understanding about Breeding, Crop improvement, Biotechnology, Mutations, Somaclonal variations and Molecular Breeding

BOT 5321-6: Plant Ecology and Phytogeography

- CO1:** Gain knowledge about Ecology, Climatic, Edaphic and Biotic factors.
- CO2:** Gain knowledge about concepts and components of Ecosystem and Bio geo chemical cycles.
- CO3:** Clear understanding about Population characteristics, Ecotypes, Plant communities and Interaction between plant communities.
- CO4:** Clear understanding about Phytogeography and endemism
- CO5:** Clear understanding about levels and loss of Biodiversity hotspots, Seedbanks

BOT 7321B: Plant Tissue Culture and its Biotechnological Applications

- CO1:** Gaining overall knowledge about Principles and types of tissue cultures
- CO2:** understanding the Methodology, sterilization, Culture media, Phytohormones in tissue culture
- CO3:** Able to understand the processes of Callus culture, Somatic embryogenesis, Endosperm culture, Cryopreservation and embryo rescue techniques
- CO4:** know about the concepts of Restriction Endonucleases, Cloning vectors and Gene Cloning, gene transfer methods and transgenics
- CO5:** Students can unravel the applications of biotechnology like genetic engineering, genetic Modifications and Transgenics

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COURSE OUTCOMES (COs)

ZOOLOGY

ZOO N-1322: Animal diversity of Invertebrates

- CO1:** Know the General characters and classification of Invertebrate phyla and Hemichordata
- CO2:** Understand the type studies of Elphidium, Sycon, Fasciola hepatica, Leech, and Prawn.
- CO3:** Explain canal system in Sponges, corals and coral reef formation, Polymorphism in Coelenterates.
- CO4:** Able to setup a Vermiculture Unit
- CO5:** Learn about various invertebrate larval forms

ZOO N-2322: Animal diversity of vertebrates

- CO1:** Describe general taxonomic rules on animal classification of chordates
- CO2:** Classify Protochordata to Mammalia with taxonomic keys
- CO3:** Understand Mammals with specific structural adaptations
- CO4:** Understand the significance of dentition and evolutionary significance
- CO5:** Understand the origin and evolutionary relationship of different phyla from Prochordata to mammalia.

ZOO N-3322: Cell Biology, Genetics and Evolution

- CO1:** understands the basic unit of the living organisms and to differentiate the organisms by their cell structure.
- CO2:** Describe fine structure and function of plasma membrane and different cell organelles of eukaryotic cell
- CO3:** To understand the history of origin of branch of genetics, gain knowledge on heredity, interaction of genes, various types of inheritance patterns existing in animals
- CO4:** Acquiring in-depth knowledge on various aspects of genetics involved in sex determination, human karyotyping and mutations of chromosomes resulting in various disorders
- CO5:** Understand the principles and forces of evolution of life on earth, the process of evolution of new species

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COURSE OUTCOMES (COs)

ZOO N-4322-1: Physiology, Cellular Metabolism & Embryology

- CO1:** Understand the functions of important animal physiological systems including digestion, cardio-respiratory and renal systems.
- CO2:** Understand the muscular system and the neuro-endocrine regulation of animal growth, development and metabolism
- CO3:** Understand the muscular system and the neuro-endocrine regulation of animal growth, development and metabolism with a special knowledge of hormonal control of human reproduction.
- CO4:** Learn about the current environmental issues based on ecological principles
- CO5:** Describe the key events in early embryonic development starting from the formation of gametes up to gastrulation and formation of primary germ layers.

ZOO N 4322-2: Immunology & Animal Biotechnology

- CO1:** To get knowledge of the organs of Immune system, types of immunity, cells and organs of immunity.
- CO2:** To describe immunological response as to how it is triggered (antigens) and regulated (antibodies)
- CO3:** Understand the applications of Biotechnology in the fields of industry and agriculture including animal cell/tissue culture, stem cell technology and genetic engineering.
- CO4:** Get familiar with the tools and techniques of animal biotechnology.
- CO5:** To empower students with latest biotechnology techniques

ZOO 5322-5: Animal Biotechnology

- CO1:** Gain knowledge on Tools of Recombinant DNA technology
- CO2:** Understand the Techniques of Recombinant DNA technology
- CO3:** Understand the applications of animal cell/tissue culture, stem cell technology and genetic engineering.
- CO4:** Analyze the impact of Reproductive Technologies & Transgenic Animals
- CO5:** Understand the applications of Biotechnology in the fields of industry and agriculture

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COURSE OUTCOMES (COs)

ZOO 5322-6: Animal Husbandry

- CO1:** Gain knowledge on Poultry farming, Management of chicks, growers and layers, Broilers.
- CO2:** Know about the Principles of feeding and Poultry diseases
- CO3:** Familiar with Selection, care and handling of hatching eggs
- CO4:** Identify different cattle breeds and get familiar with different dairy operations
- CO5:** Acquainted with the care and management of dairy farm

ZOO 7322A: Immunology

- CO1:** Know the Basic concepts in Immunology, Innate and adaptive immunity, Cells and organs of Immune system
- CO2:** Understand the Basic properties of antigens, B and T cell epitopes, haptens and adjuvants, Factors influencing immunogenicity.
- CO3:** Acquainted with the Structure of antibody, Classes and functions of antibodies, Monoclonal antibodies
- CO4:** Analyze the Structure and functions of major histocompatibility complexes, Exogenous and Endogenous pathways of antigen presentation and processing.
- CO5:** Understand the immune mechanisms in disease control, vaccination, process of immune interactions.

ZOO 8322-1: Principles of Aquaculture

- CO1:** Understand basic principles of aquaculture
- CO2:** Understand types of aquaculture and cultivable species
- CO3:** Understand aquafarm's structure and seed procurement
- CO4:** Skill in management of carps and prawns
- CO5:** Skill in culture of shrimps, ornamental fish, pearl oysters

ZOO 8322-2: Aquaculture Management

- CO1:** Skill of breeding in hatchery management
- CO2:** Skill in management of water quality
- CO3:** understand feed formulation
- CO4:** Understand disease management
- CO5:** skill in marketing and extension activities

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COURSE OUTCOMES (COs)

ZOO 8322: Postharvest Technology

- CO1:** Skill in post harvest technology
- CO2:** understand principles of preservation
- CO3:** understand types of fish and fish products
- CO4:** Understanding the quality management
- CO5:** Understanding the certification process

MICRO BIOLOGY

MB N-1324: Introduction to Microbiology and Microbial Diversity

- CO1:** Students will be able to illustrate the contributions made by the prominent Scientists for development of Microbiology
- CO2:** Students will able to differentiate a large number of bacteria by their salient characteristics
- CO3:** Know general characteristics of Viruses, Algae, Fungi and protozoa
- CO4:** Perform pure culture techniques and techniques for preservation and maintenance of stock cultures
- CO5:** Understand Principles of Microscopy. Analyse various techniques used for Sterilization and Disinfection techniques.

MB N-2324: Microbial Biochemistry and Metabolic

- CO1:** Students able to describe the nutritional forms of bacteria and bacterial growth kinetics and methods to measure bacterial growth
- CO2:** Students will understand bacterial respiration, metabolism, photosynthesis and fermentations
- CO3:** Knowledge on classification of carbohydrates as structural and storage components, Classification of lipids and amino acids
- CO4:** Students will able to understand structure and functions of nucleic acids
- CO5:** Students will able to understand enzyme catalysis and kinetics

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COURSE OUTCOMES (COs)

MB N-3324: Microbial Genetics and Molecular Biology

- CO1:** Understand the structure and functions of DNA, RNA, plasmids, transposons and bacterial replication
- CO2:** Students will understand various mutations in DNA
- CO3:** Develop knowledge on genetic code and recombination in bacteria
- CO4:** Students acquire basic concepts of gene expression
- CO5:** Get knowledge on regulation of gene expression in prokaryotes

MB N 4324-1: Medical Microbiology and Immunology

- CO1:** Students will demonstrate on collection, handling and processing of laboratory specimens
- CO2:** Develop information on epidemiology, treatment and control of infectious diseases
- CO3:** Student can safeguard him& society and can work diagnostics and hospitals.
- CO4:** Explain No-specific body defense and the immune response
- CO5:** Understand structure and properties of Antigen and antibodies

MB N 4324-2: Industrial Microbiology

- CO1:** Summarize the importance of microbes used in industries and understand Screening methods and techniques involved in strain improvement
- CO2:** Demonstrate the different types of fermenters and fermentation media
- CO3:** Understand role of microbes in various industries like pharmaceutical, bioleaching and textiles.
- CO4:** Discuss various growth parameters required for industrial products
- CO5:** Self-reliance in the industrial application of Microbiology in life and industry and entrepreneurship can be established with the gained knowledge.

MB 5324-5: Environmental and Agricultural Microbiology

- CO1:** The student will have fundamental concepts in soil microbiology and soil water and aero microbial diversity and microbial interactions
- CO2:** Students will understand basic concepts in treatment of drinking water

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COURSE OUTCOMES (COs)

- CO3:** Understand the role of microorganisms in treatment of solid and liquid waste
- CO4:** Students will acquire knowledge on application of microorganisms in agro – environmental fields.
- CO5:** Get fundamental concepts in principles of plant disease control and

MB 5324-6: Food and Industrial Microbiology

- CO1:** Students will demonstrate with the wide diversity of microbes and their potential for use in industrial microbiology
- CO2:** Students will be able to understand principles of food preservation
- CO3:** Understand Screening methods and techniques involved in strain improvement
- CO4:** Get basic information on design of fermenter, fermentation processes and downstream process
- CO5:** Self-reliance in the industrial application of Microbiology in life and industry and entrepreneurship can be established with the gained knowledge.

MB 7324A: Microbial Biotechnology

- CO1:** Students should be able to demonstrate with the wide diversity of microbes and their potential use in medicine, agriculture and industry
- CO2:** Students will understand the production of recombinant vaccines
- CO3:** Students will get knowledge on microbial transformation of steroids and sterols
- CO4:** Students will understand the production methodology for bioethanol and biodiesel
- CO5:** Students will get outlines of intellectual property rights

MB 8324-A1: Microbial Diagnosis in Health Clinics

- CO1:** Develop knowledge and skills on microbiological laboratory skills for identification of pathogens
- CO2:** Students will demonstrate the collection of clinical samples
- CO3:** Students will get knowledge on staining techniques
- CO4:** Students able to perform diagnostic techniques
- CO5:** To understand drug resistance

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COURSE OUTCOMES (COs)

MB 8324-A2: Microbial Quality Control in Food and Pharmaceutical Industries

- CO1:** Develop skills on disinfection of instruments and equipment in laboratory and Hospitals
- CO2:** To understand the techniques like MPN and direct microscopic methods
- CO3:** Students will get basic principles in serological techniques
- CO4:** Students will perform Enrichment culture technique and detection of specific microorganisms
- CO5:** Students will understand concepts Hazard analysis of critical control point (HACCP)

MB 8324-A3: Biofertilizers and Biopesticides

- CO1:** Develop knowledge and skills on mass multiplication and field application of bio fertilizers and bio pesticides.
- CO2:** To get knowledge on mass multiplication and field application of Azotobacter, and Azospirillum
- CO3:** Knowledge on mass multiplication and field application of phosphate solubilizing microbes
- CO4:** Mass inoculums production and field application of mycorrhizae
- CO5:** To understand the concept of bio insecticides

BIOCHEMISTRY

BC N-1325: Biomolecules

- CO1:** Gain knowledge in the chemistry of biomolecules that make up all the living organisms.
- CO2:** Understand the significance of biomolecules in living organisms and the effects of their alterations in disease conditions
- CO3:** The students will be able to correlate the reactions of carbohydrates, amino acids, and lipids for identification tests and biochemical pathways
- CO4:** The practical's will give the expertise to the student for analysis of any biological sample for identification of its chemical composition.
- CO5:** The student will be able to understand the characterization of biomolecules in research.

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COURSE OUTCOMES (COs)

BC N-2325: Analytical Techniques

- CO1:** Understand the principle of analytical techniques and applications in separating cells and biomolecules
- CO2:** Will be able to apply theoretical knowledge in the optimization of chromatographic separation
- CO3:** Illustrate the working principles and applications underlying electrophoresis, centrifugation techniques
- CO4:** Can understand the principle and the instrumentation of a spectrophotometer
- CO5:** Expertise to the student in isolation of bacteria

BC N-3325: Enzymology Bioenergetics and Metabolism

- CO1:** Students will learn the basics of enzymology and will be familiar with the kinetics of enzyme action
- CO2:** Students will understand the basics of enzyme action and control their activity by using inhibitors
- CO3:** Understand the use of inhibitors in designing drugs.
- CO4:** Understanding the steps in metabolic pathways helps interpret inborn errors of metabolism.
- CO5:** Can relate the thermodynamic principles to energy transformation in living systems.

BC N-4325-1: Physiology, Nutrition and Clinical Biochemistry

- CO1:** Will learn about different physiological systems and their functioning in normal and diseased conditions.
- CO2:** Understand the hormones, their functions, and the diseases due to alterations in levels
- CO3:** Will know the nutritional importance of proteins, carbohydrates, lipids, vitamins, and minerals and their RDA.
- CO4:** Can diagnose the reason for different pathological conditions
- CO5:** Enable the student to perform diagnostic tests, work in clinical laboratories, and assist physicians.

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COURSE OUTCOMES (COs)

BCN-4325-2: Microbiology and Immunology

- CO1:** It helps understand types of immunity, antigens-antibodies and their properties and immune responses.
- CO2:** Understanding of immune mechanisms in disease control, vaccination, the process of immune interactions in clinical science.
- CO3:** Allows the student to create insight as to how to improve their immune system and good health
- CO4:** Understanding of types of hypersensitivity reactions and autoimmune diseases can be used to interpret the diseased conditions in the laboratory.
- CO5:** Understanding different types of endocrine glands, can interpret the deficiency and the overproduction of hormones to various health conditions.

BC N-5325-5: Microbiology and Immunology

- CO1:** Gives an in-depth knowledge of tissues, cells, and molecules involved in host defense mechanisms.
- CO2:** It helps understand types of immunity, antigens-antibody reactions, and immune responses
- CO3:** Understand the pathology of diseases caused by microorganisms and disease control mechanisms
- CO4:** Allows the student to create insight to improve their immunity and good health
- CO5:** Interpret the diseased conditions in the laboratory-based on reports.

BC N 5325-6: Molecular Biology & rDNA Technology

- CO1:** To impart a detailed understanding of critical molecular biology events in Prokaryotes and eukaryotes
- CO2:** To give a detailed explanation about gene regulation at transcription level
- CO3:** Students can develop a comprehensive understanding of DNA Repair mechanism
- CO4:** apply their knowledge in rDNA technology to produce new genetically modified organisms.
- CO5:** The strong foundation in rDNA technology will provide good opportunities for students to work in various industries.

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COURSE OUTCOMES (COs)

BC 7325: Physiology, Nutritional and Clinical Biochemistry

- CO1:** Understanding the functioning of organ and organ systems and alterations in disease
- CO2:** Apply the principles of RDA as dietitian
- CO3:** Skill in diagnostic tests, make them capable of working in clinical laboratories.
- CO4:** The knowledge in diagnosis helps to find the root cause to assist physicians.
- CO5:** Understand the functioning of endocrine glands and Homeostasis

FOOD TECHNOLOGY

FT N-1328: Food and Nutrition

- CO1:** Know the Functions of food
- CO2:** Acquiring knowledge about macro and micronutrients and their functions
- CO3:** Know the consequences of deficiency of taking nutrients
- CO4:** Understand the importance of non-nutrients in human nutrition
- CO5:** Apply the concepts of nutrition and food and its relation to health

FT N-2328: Fundamentals of Food Technology

- CO1:** Understand the evolution and current trends in food processing
- CO2:** Apply knowledge in describing the structure and composition of various foods
- CO3:** Understand physical and chemical changes that takes place in foods
- CO4:** Have knowledge on microbial spoilage of food and safe food handling practices
- CO5:** Get an overview of some of the methods of processing of plant and animal foods.

FT N-3328: Food Preservation Technology

- CO1:** Know the role of microorganisms in food preservation
- CO2:** Understand the concept of different processing and preservation technologies
- CO3:** Use specific preservation techniques for specific food preservation
- CO4:** Apply these preservative methods to avoid surplus wastage of seasonal foods
- CO5:** Apply various preservation methods in food industries

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COURSE OUTCOMES (COs)

FT N-4328-1: Technology of Plant Foods

- CO1:** Learn about machinery involved in processing of various foodstuffs
- CO2:** Understand processing methods for various plant foods
- CO3:** Comprehend various changes that occur during food processing and storage
- CO4:** Understands several applications concern with food processing from raw material stage to the end product stage
- CO5:** With the help of new and novel technologies the students would be able to develop new and better products.

FT N-4328-2 Technology of Animal Foods

- CO1:** Know the handling of animal foods
- CO2:** Understand about the various processing methods of livestock
- CO3:** Understand about the various processing methods of egg, milk and fish
- CO4:** Handle different preservation techniques of animal foods to extend the shelf life
- CO5:** Identify and develop number of by-products from animal foods

HORTICULTURE

HOR N-1321: Fundamentals of Horticulture and Soil Science

- CO1:** Understand the Horticulture divisions, Scope and potential of horticulture products, Fruit and vegetable zones in India and Andhra Pradesh.
- CO2:** Classify the horticulture plants based on soil and climate and understanding about olericulture and floriculture.
- CO3:** Illustrate different systems of planting in an orchard and predict the number of plants in a given land, pruning and training methods and procedures.
- CO4:** Understand the environmental factors on horticultural crops
- CO5:** Knowledge about integrated nutrient management and demonstrating the skills of soil testing.

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COURSE OUTCOMES (COs)

HOR N-2321: Plant Propagation and Nursery Management

- CO1:** Demonstrate skills on vegetative propagation of plants.
- CO2:** Explain sexual and asexual propagation methods of plants.
- CO3:** Demonstrate the techniques on raising of different types of nursery beds, role of various propagation structures in horticulture
- CO4:** Understand the regulation to establish a plant nursery, quality parameters and different routine activities in the nursery.
- CO5:** Understand the economics of a plant nursery and can maintain necessary records.

COMMERCE

GENERAL

FA N-1201: Fundamentals of Accounting

- CO1:** Develop the skill of recording financial transactions and preparation of reports in accordance with GAAP
- CO2:** Identify transactions and events that need to be recorded in the books of accounts
- CO3:** The students will be able to identify the errors in the recording of Accounting Books and rectify them.
- CO4:** Analyze the difference between cash book and pass book in terms of balance and make reconciliation.
- CO5:** Equip with the knowledge of accounting process and preparation of final accounts of sole traders.

BOM N-1202: Business Organization and Management

- CO1:** Describe the Social Responsibility of Business towards the society.
- CO2:** Understand different forms of business organizations.
- CO3:** Comprehend the nature of Joint Stock Company and formalities to promote a Company
- CO4:** Design and plan to register a business firm. Prepare different documents to register a company at his own
- CO5:** Articulate New models of business organizations

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COURSE OUTCOMES (COs)

BE N-1203: Business Environment

- CO1:** Understand the concept of business environment
- CO2:** Define Internal and External elements affecting business environment.
- CO3:** Explain the economic trends and its effect on Government policies
- CO4:** Critically examine the recent developments in economic and business policies of the Government
- CO5:** Develops new ideas for creating a good business environment.

FA N-2204: Financial Accounting

- CO1:** Determine the useful life and value of the depreciable assets and maintenance of Reserves in business entities.
- CO2:** The learners would gain the knowledge and importance of reserves in the business organisation
- CO3:** The students are well aware about the negotiable instruments and aware of the role and significance of bills in the business transactions.
- CO4:** Understand the concept of consignment and learn the accounting treatment of the various aspects of consignment.
- CO5:** Analyze the accounting process and preparation of accounts in joint ventures.

BEC N-2205: Business Economics

- CO1:** Describe the nature of economics in dealing with the issues of scarcity of resources
- CO2:** Analyze supply and demand analysis and its impact on consumer behaviour.
- CO3:** Evaluate the factors, such as production and costs affecting firms' behaviour
- CO4:** Recognize market failure and the role of government in dealing with those failures
- CO5:** Apply economic models for managerial problems, identify their relationships, and formulate the decision-making tools to be applied for business.

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COURSE OUTCOMES (COs)

BTP N-2206: Banking Theory & Practice

- CO1:** Understand the basic concepts of banks and functions of commercial banks.
- CO2:** Demonstrate an awareness of law and practice in a banking context
- CO3:** Critically examine the current scenario of Indian Banking system.
- CO4:** Students will clearly understand the relationship between banks and its customers (wants/needs)
- CO5:** Students will get a clear idea about Collecting Banker and Paying Banker Concepts.

AA N-3207: Advanced Accounting

- CO1:** Understand the concept of Non-profit organisations and its accounting process
- CO2:** Comprehend the concept of single-entry system and preparation of statement of affairs
- CO3:** Familiarize the Accounting Treatment in the Books of Hire Purchaser and Hire Vendor
- CO4:** Prepare financial statements for partnership firm on dissolution of the firm.
- CO5:** Employ critical thinking skills to understand the concepts dissolution of the firm and dissolution of partnership.

BS N-3208: Business Statistics

- CO1:** The students will familiarise the basic concepts of statistics
- CO2:** The learners would gain practical exposure on calculation of measures of averages
- CO3:** Students will be able to calculate Range, Quartile Deviation, Mean Deviation, Standard Deviation and Coefficient of Variation.
- CO4:** The practical revelation on calculation of measures of correlation and regression by using the computers
- CO5:** To provide practical exposure on calculation of trend analysis.

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COURSE OUTCOMES (COs)

MKT N-3209: Marketing

- CO1:** Develop an idea about marketing and marketing environment
- CO2:** Understand the consumer behaviour and market segmentation process
- CO3:** Comprehend The product life cycle and product line decisions
- CO4:** Formulate new marketing strategies for pricing of a new product
- CO5:** Develop new product line and sales promotion techniques for a given product.

CA N-4210: Corporate Accounting

- CO1:** Understand the Accounting treatment of Share Capital and be aware of the process of book building.
- CO2:** Cultivate an understanding about the issue and redemption of shares and debentures
- CO3:** The students would have an idea on goodwill
- CO4:** Able to evaluate the shares with various methods
- CO5:** Comprehend the important provisions of Companies Act, 2013 and prepare final accounts of a company with Adjustments.

CMA N-4211: Cost and Management Accounting

- CO1:** Students can Understand various costing methods and management techniques.
- CO2:** Students can Apply Cost and Management accounting methods for both manufacturing and service industry.
- CO3:** Demonstrate Preparation of cost sheets, quotations, and tenders to the organization for different works.
- CO4:** Learners can Analyze cost-volume-profit techniques to determine optimal managerial decisions.
- CO5:** Students can Prepare an analysis of various special decisions, using relevant management techniques.

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COURSE OUTCOMES (COs)

ITX N-4212: Income Tax

- CO1:** Learners Acquire complete knowledge of Tax evasion, tax avoidance and tax planning
- CO2:** Understand the provisions and compute Income tax for various sources
- CO3:** Learners can grasp amendments made from time to time in the Finance Act.
- CO4:** Students can understand how to Compute total income and define tax complicacies and structure.
- CO5:** Students can Prepare and File IT returns of Individuals on his own.

BLS N-4213: Business Laws

- CO1:** Understand the legal environment of business and laws of business.
- CO2:** Highlight the security aspects in the present cyber-crime scenario.
- CO3:** Apply basic legal knowledge to Business transactions.
- CO4:** Engage critical thinking to predict outcomes and recommend appropriate action on issues relating to business associations and legal issues.
- CO5:** Understand the various provisions of company laws.

AUD N-4214: Auditing

- CO1:** Understanding the meaning and necessity of audit in modern era
- CO2:** Comprehend the role of auditor in avoiding the corporate frauds
- CO3:** Identify the steps involved in performing audit process
- CO4:** Determine the appropriate audit report for a given audit situation

GST N-4215: Goods and Service Tax

- CO1:** Understand the basic principles underlying the Indirect Taxation Statutes
- CO2:** Examine the method of tax credit. Input and Output Tax credit and Cross Utilisation
- CO3:** Identify and analyze the procedural aspects under different applicable statutes related to GST
- CO4:** Compute the assessable value of transactions related to goods and services for levy of and determination of duty liability
- CO5:** Develop various GST Returns and reports for business transactions Tally.

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COURSE OUTCOMES (COs)

COA 5213: Cost Accounting

- CO1:** Students would be able to reconcile cost and financial statements.
- CO2:** Students would classify costs and would be able to prepare a cost sheet for manufacturing and trading concerns.
- CO3:** Apply the methods implicated in cost for a better industrial performance
- CO4:** Recognize the importance of material issues and its pricing
- CO5:** Understand the several cost concepts involved in business

CG-5214: Commercial Geography

- CO1:** Students can express human and economic activities taking place
- CO2:** The student should be knowing the bases of commercial and marketing activities related to the earth.
- CO3:** To acquaint the students with the importance of human resources, agricultural produce, mineral and their distribution in the world, to acquire specific knowledge about the production of food – crops in the world – their consumption and short-falls.
- CO4:** To know the geographic location of India with reference to her physical environments.
- CO5:** To note, shift and change from primitive activities, and to understand the different stages of agricultural development.

GST-5215: Fundamentals of GST

- CO1:** understand the significance of GST and the justification for introducing GST in India
- CO2:** Identify and analyze the procedural aspects under different applicable statutes related to GST
- CO3:** have technical knowledge regarding registration and filing returns under GST
- CO4:** identify the transactions levied under IGST
- CO5:** expertise in computation and cross Utilisation of Input Tax credit

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COURSE OUTCOMES (COs)

CB 5216- E: Central Banking

- CO1:** the student knows and understands the basic tasks of central banks in market economies, the legal basis of trimming their operations
- CO2:** The student knows and understands the basic tasks of central banks in market economies, the legal basis of trim their operations
- CO3:** Students understand the nature of inflation and its main economic and social consequences.
- CO4:** Students under the Regulation and supervision of Reserve Bank over Commercial banks
- CO5:** Student understands the functions of Reserve Bank of India

RFC 5217-E: Rural & Farm Credit

- CO1:** Make the students knowledgeable and skilful to help the society on aware the rural development scheme.
- CO2:** Inculcate about the scope, importance and sources of microfinance, SHGS and women empowerment
- CO3:** To understand different categories of rural development policies and programmes and its impact on rural poverty and unemployment.
- CO4:** To understand the problem of rural sector, backwardness, income inequalities, regional imbalances, gender disparities and remedial measures.
- CO5:** Acquire the knowledge on rural industries and entrepreneurship.

MKT 6219: MARKETING

- CO1:** to understand the marketing Environment
- CO2:** to understand the consumer buying behavior in purchasing product
- CO3:** to know the pricing methods used in marketing the product
- CO4:** to understand the product mix, labelling package mechanism in company
- CO5:** to create aware on distribution channels in marketing, online marketing

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COURSE OUTCOMES (COs)

AUD 6220: Auditing

- CO1:** Students can Comprehend the role of Auditor in avoiding the corporate frauds
- CO2:** Students can Identify the steps involved in performing Audit process
- CO3:** Learners can Determine the appropriate Audit Report for a given audit situation
- CO4:** Students can Apply Auditing practices to different types of business entities
- CO5:** students can Plan an Audit by considering concepts of evidence, risk and materiality.

MAC 6221: Management Accounting

- CO1:** Explain the application of management accounting and the various tools used
- CO2:** students will be able to Apply management accounting and its objectives in facilitating decision making
- CO3:** students can Prepare analyses of various special decisions, using relevant management techniques.
- CO4:** Learners will be able to Prepare a master budget and demonstrate an understanding of the relationship between the components
- CO5:** students can Prepare Cash Flow and Funds Flow statements this helps in planning for intermediate and long-term finances.

FNS 6222-E: Financial Services

- CO1:** Understand the role and function of the financial system in reference to the macro economy
- CO2:** Demonstrate an awareness of the current structure and regulation of the Indian financial services sector
- CO3:** Evaluate and create strategies to promote financial products and services.
- CO4:** Manage businesses with different tools and techniques.
- CO5:** Identify the factors that affect interest rates and evaluate relationships between the prices of securities and interest rates

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COURSE OUTCOMES (COs)

MFS 6223-E: Marketing of Financial Services

- CO1:** define, explain and illustrate some of the frameworks and approaches that are helpful in marketing financial services
- CO2:** describe how: marketing contributes to success in modern financial institutions;
- CO3:** discuss how: segmentation is used to understand and manage customer behaviour
- CO4:** outline how to identify which customers to target
- CO5:** outline how to efficiently manage multiple product or brand portfolios across multiple customer segments, and how to develop an effective marketing strategy in modern financial service organisations.

COMPUTER APPLICATIONS

CAR N-1251: Information Technology

- CO1:** Basics of computer hardware and software.
- CO2:** Basic use of a computer
- CO3:** Basic documents, charts, spreadsheets and presentation
- CO4:** Documents using MS office
- CO5:** Create spreadsheets, charts and presentations.

CAR N-2251: Ecommerce & Web Designing

- CO1:** E- Commerce and the role of Management
- CO2:** Emphasis on Internet Technologies
- CO3:** principles of e-Business and e- Commerce
- CO4:** publish web pages using HTML5, CSS3 and JavaScript
- CO5:** development of a virtual e - commerce site

CAR N-3251: Programming with c & c++

- CO1:** concepts of streams, classes, functions, data and objects.
- CO2:** using pointers, constructors, destructors
- CO3:** concept of function overloading, operator overloading
- CO4:** exception handling, generic programming.
- CO5:** OOPs concepts with the help of programs

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COURSE OUTCOMES (COs)

CAR N-4251: Database Management System

- CO1:** database structure and its design
- CO2:** data models used for database design
- CO3:** database transactions and data recovery
- CO4:** DML,DDL,DCL commands
- CO5:** php/mysql structure and its design.

CAR 5251-1: Programming in C

- CO1:** working of a digital computer
- CO2:** algorithm to solve the problem
- CO3:** solution to a problem
- CO4:** 'C' language constructs in the right way
- CO5:** Design, develop and test programs written in 'C'

CAR 5251-2: Database Management System

- CO1:** database structure and its design
- CO2:** data models used for database design
- CO3:** database transactions and data recovery
- CO4:** DML,DDL,DCL commands
- CO5:** php/mysql structure and its design.

CAR 5251-1: Web Technology

- CO1:** Webpage design and Web services implementation
- CO2:** Dynamic Web site design and implementation
- CO3:** Create interactive web pages
- CO4:** Web server architecture and implementation
- CO5:** DHTML design and web services implementation

CAR-6251-2: E-Commerce

- CO1:** E- Commerce and the role of Management
- CO2:** Emphasis on Internet Technologie
- CO3:** principles of e-Business and e- Commerce
- CO4:** publish web pages using HTML5, CSS3 and Javascript
- CO5:** development of a virtual e - commerce site

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COURSE OUTCOMES (COs)

CAR-6251-3: PHP & MYSQL

- CO1:** PHP scripts to handle HTML forms.
- CO2:** Including modifiers, operators, and metacharacters
- CO3:** Manipulate files and directories.
- CO4:** Database tasks using the PHP language
- CO5:** Web application tasks by writing PHP programs.

CAR-6251-1: Tally

- CO1:** certificate to work with well-known accounting software i.e. Tally ERP.9
- CO2:** create company, enter accounting voucher entries including
- CO3:** do reconcile bank statement
- CO4:** accrual adjustments, and also print financial statements
- CO5:** employed as tally data entry operators

BANKING INSURANCE & FINANCIAL SERVICES

IBS N-1209: Indian Banking System

- CO1:** To provide the better understanding of the functions of commercial banks and the regulatory functions of RBI and SEBI
- CO2:** To make aware of Innovation of banking systems.
- CO3:** To acquaint the students with how the credit control measures works like Repo rate, Reverse Repo rate, CRR etc.
- CO4:** To summarize with different banks with different credit facilities.
- CO5:** To make understand about the relationship between banker and customer and also the responsibilities of collecting and paying bankers.

BTP N-2206: Banking Theory& Practice

- CO1:** Understand the basic concepts of banks and functions of commercial banks
- CO2:** Demonstrate an awareness of law and practice in a banking context
- CO3:** Engage in critical analysis of the practice of banking law
- CO4:** Organize information as it relates to the regulation of banking products and services
- CO5:** Critically examine the current scenario of Indian banking system

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COURSE OUTCOMES (COs)

IRM N-3209: Insurance and Risk Management

- CO1:** Understand the concept of Non-Profit organisations and its accounting process
- CO2:** Comprehend the concept of single - entry system and preparation of statement of affairs
- CO3:** Familiarize with the legal formalities at the time of dissolution of the firm
- CO4:** Prepare financial statements for partnership firm on dissolution of the firm
- CO5:** Employ critical thinking skills to understand the difference between the dissolution of the firm and dissolution of partnership

FS N-4214: Financial Services

- CO1:** Understand the role and function of the financial system in reference to the macro economy
- CO2:** Demonstrate an awareness of the current structure and regulation of the Indian financial services sector
- CO3:** Evaluate and create strategies to promote financial products and services
- CO4:** Manage businesses with different tools and techniques
- CO5:** Identify the factors that affect interest rates and evaluate relationships between the prices of securities and interest rates

FM N-4215: Financial Markets

- CO1:** Make an informed judgement about whether or to what extent a financial market satisfies the conditions of an efficient market
- CO2:** Identify the main factors that could detract from the efficiency
- CO3:** Defines the functions of financial markets and intermediary institutions
- CO4:** Explains why interest rates changes
- CO5:** Understand the reasons of financial crisis

BBA

BBA N-1271: Principles of Management

- CO1:** Understand the concepts related to business management
- CO2:** Demonstrate the role, skills and functions of management

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COURSE OUTCOMES (COs)

- CO3:** analyse effective specialization PPM knowledge to diagnose and solve.
- CO4:** Organizational development and optimal managerial Decisions
- CO5:** Understands the complexities associated with management of human resources in the organisation and integrates the learning in handling the complexities.

BBA N-1272: Managerial Economics

- CO1:** Develop an understanding of the applications of managerial economics
- CO2:** Assess the relationships between short-run and long-run costs.
- CO3:** Explain uniform pricing and how it relates to price discrimination and total revenue.
- CO4:** Discuss optimization and utility including consumer behavior.
- CO5:** Interpret regression analysis and discuss why it's employed in decision-making.

BBA N-1273: Quantitative Techniques for Managers

- CO1:** Under stands various quantitative & statistical method
- CO2:** Understands data Draw inference from Data
- CO3:** Calculate and interpret statistical values by using statistical tool correlation
- CO4:** Calculate and interpret statistical values by using statistical tool
- CO5:** Demonstrate an ability to apply various statistical tool to solve business problems.

BBA-2274: Accounting for Managers

- CO1:** Develop an awareness and understanding of the accounting process
- CO2:** Understand and apply course concepts to analyse common business management decisions.
- CO3:** Understand the nature and role of the four principle financial statements
- CO4:** Develop group work and communication skills.
- CO5:** Ability to read, interpret and analyse financial statements

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COURSE OUTCOMES (COs)

BBA N-2275: Fundamentals of Marketing

- CO1:** Critically evaluate the key analytical frameworks and tools used in marketing
- CO2:** Critically evaluate the marketing function and the role it plays in achieving organisational success both in commercial and non-commercial settings
- CO3:** Apply key marketing theories, frameworks and tools to solve Marketing problems
- CO4:** Evaluate and act upon the ethical and environmental concerns linked to marketing activities
- CO5:** Utilise information of a firm's external and internal marketing environment to identify and prioritise appropriate marketing strategies

BBA N-2276: E-commerce

- CO1:** E- Commerce and the role of Management
- CO2:** Emphasis on Internet Technologies
- CO3:** principles of e-Business and e- Commerce
- CO4:** publish web pages using HTML5, CSS3 and JavaScript
- CO5:** development of a virtual e - commerce site

BBA N-3277: ORGANIZATIONAL BEHAVIOUR

- CO1:** Explain how individual differences such personalities, perception, attitudes, and ethics, effect employee performance and describe how managers can capitalize on employee's diversity
- CO2:** students will be able to apply different motivational theories and methods to increase the individual productivity and job satisfaction of employees
- CO3:** Student will be able to identify the characteristics of successful teams in order to function effectively as a team members and leaders
- CO4:** Students will be able to demonstrate how to make better decisions both individually and in group.
- CO5:** Students will be able to analyze the interpersonal communication process to increase their effectiveness as communicators.

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COURSE OUTCOMES (COs)

BBA N-3278: FINANCIAL MANAGEMENT

- CO1:** Explain the concept of fundamental financial concepts, especially time value of money
- CO2:** Apply capital budgeting projects
- CO3:** Analyze the main ways of raising capital and their respective advantages and disadvantages in different circumstances
- CO4:** Integrate the concept and apply the financial concepts to calculate ratios and do the capital budgeting
- CO5:** Demonstrate an understanding of the overall role and importance of the finance function.

BBA N-3279: HUMAN RESOURCE MANAGEMENT

- CO1:** To develop the understanding of the concept of human resource management and to understand its relevance in organizations
- CO2:** To develop necessary skill set for application of various HR issues
- CO3:** To analyse the strategic issues and strategies required to select and develop manpower resources.
- CO4:** To integrate the knowledge of HR concepts to take correct business decisions
- CO5:** Students will be able to analyse the interpersonal communication process to increase their effectiveness as communicators

BBA N-4280: Training and Development

- CO1:** Integrated perspectives on the role of HRM in modern business. Ability to plan human resources and implement techniques for job design
- CO2:** to develop an understanding of the evaluation of training & development from a tactical to a strategic function
- CO3:** to understand the concept of training audit training evaluation.
- CO4:** to understands various strategies used by the organizations to measure performance & reward for the same
- CO5:** Understand various training methods and their applicability in different organizational situations.

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COURSE OUTCOMES (COs)

BBA N-4281: Business Law

- CO1:** To provide a brief idea about the framework of Indian Business laws.
- CO2:** Understand the legal environment of business and laws of business
- CO3:** Apply basic legal knowledge to business transactions.
- CO4:** Understand the various provisions of company law. CO5 Integrate concept of business law with foreign trade.

BBA N-4282: Medium and Small Enterprise Management

- CO1:** Need for small scale Industries establishment
- CO2:** financial assistance for small scale industries
- CO3:** state level schemes for small scale industries
- CO4:** central level financial assistance
- CO5:** to know the procedure for establishment for small scale industries

BBA N-4283: International Business

- CO1:** Apply current business phenomenon and to evaluate the global business environment in the terms of economic, social and legal aspects
- CO2:** Analyse the principle of international business and strategies adopted by firms to expand globally
- CO3:** Integrate concept in international business concepts with functioning of global trade
- CO4:** Explain the concept in international business with respect to foreign trade/international business
- CO5:** Compare and contrast cultures and societies globally using socioeconomic and cultural frameworks.

BBA N-4284: Cost & Management Accounting

- CO1:** understand various costing methods and management techniques
- CO2:** Apply Cost and Management accounting methods for both manufacturing and service industries

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COURSE OUTCOMES (COs)

- CO3:** prepare cost sheets, quotations and tenders to the organisation for different works
- CO4:** Analyse cost volume profit techniques to determine optimal managerial decisions
- CO5:** compare and contrast the financial statements of firms and interpret the results

BBA N-4285: Financial Services

- CO1:** demonstrate an awareness of the current structure and regulation of the Indian Financial service sector
- CO2:** evaluate and create strategies to promote financial products and services
- CO3:** manage business with different tools and techniques
- CO4:** identify the factors that affect interest rates and evaluate relationships between the prices of securities and interest rates
- CO5:** Understand the role and function of the financial system in reference to the macro economy

BBA 5283: E-Commerce

- CO1:** E- Commerce and the role of Management
- CO2:** Emphasis on Internet Technologies
- CO3:** principles of e-Business and e- Commerce
- CO4:** publish web pages using HTML5, CSS3 and Javascript
- CO5:** development of a virtual e - commerce site

BBA 5284: Business Law

- CO1:** To provide a brief idea about the framework of Indian Business laws.
- CO2:** Understand the legal environment of business and laws of business
- CO3:** Apply basic legal knowledge to business transactions.
- CO4:** Understand the various provisions of company law.
- CO5:** Integrate concept of business law with foreign trade

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COURSE OUTCOMES (COs)

BBA-5285: Taxation

- CO1:** Explain the various terms related to goods and service tax (GST)
- CO2:** Identifies the technical terms related to Income Tax.
- CO3:** Compute income from salaries, house property, business/profession, capital gains and income from other sources
- CO4:** Explain what is Tax evasion and Tax avoidance and Tax planning
- CO5:** File returns.

BBA-5286-E: Global Marketing

- CO1:** Develop and understanding of major issues related to Global marketing
- CO2:** Develop skills in research and analysing trends in Global markets and modern marketing
- CO3:** Be able to assess an organization's ability to enter and complete in international Markets
- CO4:** critically evaluate the key analytical frameworks and tools used in international marketing
- CO5:** to know the barriers for entering in Global Business

BBA-5287-E: Advertising & Media Management

- CO1:** Understand and analyze the relevant research in advertising and marketing communication.
- CO2:** Design effective visual communication for various advertising approaches that combine the use of print, online/digital, and other multimedia communication
- CO3:** Develop advertising media buying and planning strategies
- CO4:** Create and defend the strategy and execution of an ad campaign for a client(s).
- CO5:** Conduct research and analyze data to develop appropriate use metrics for advertising planning.

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COURSE OUTCOMES (COs)

BBA 6289: International business

- CO1:** Apply current business phenomena and to evaluate the global business environment in the terms of economic, social and legal aspects
- CO2:** Analyse the principle of international business and strategies adopted by firms to expand globally
- CO3:** Integrate concept in international business concepts with functioning of global trade
- CO4:** Explain business expansion abroad and key issues related to their operations in other countries.
- CO5:** Compare and contrast cultures and societies globally using socioeconomic and cultural frameworks.

BBA 6290: Medium & small enterprise Management

- CO1:** Need for small scale Industries establishment
- CO2:** financial assistance for small scale industries
- CO3:** state level schemes for small scale industries
- CO4:** central level financial assistance
- CO5:** to know the procedure for establishment for small scale industries

BBA 6291: Project Evaluation & Management

- CO1:** Following this course, students will be able to describe a project life cycle, and can skilfully map each stage in the cycle
- CO2:** Students will identify the resources needed for each stage, including involved stakeholders, tools and supplementary materials
- CO3:** Students will describe the time needed to successfully complete a project, considering factors such as task dependencies and task lengths
- CO4:** Students will be able to provide internal stakeholders with information regarding project costs by considering factors such as estimated cost, variances and profits
- CO5:** Students will be able to develop a project scope while considering factors such as customer requirements and internal/external goals

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COURSE OUTCOMES (COs)

BBA 6292-E: Marketing of Services

- CO1:** course out comes on competition of this course
- CO2:** the student will able to know how market the services
- CO3:** getting strong conceptual knowledge functional areas i marketing
- CO4:** identification of prospect customers
- CO5:** how to identify service delivery problems.

BBA 6293-E: Retail Marketing

- CO1:** Analyze evaluation of the retail industry
- CO2:** Recognize career opportunities available in retail Business
- CO3:** evaluate the elements of a competitive analysis
- CO4:** to know different retail strategies
- CO5:** identifying and understand the customer behaviour

PWBBA 6294:Project Work

- CO1:** Apply fundamental and disciplinary concepts and methods.
- CO2:** demonstrate skill and knowledge of current information and technological tools and techniques specific to the professional field of study.
- CO3:** Use effectively oral, written and visual communication.
- CO4:** identify, analyze, and solve problems creatively through sustained critical investigation.

DIGITAL MARKETING

BBA D-2275: Fundamentals of Marketing & Digital Marketing

- CO1:** Marketing concepts and marketing environment
- CO2:** The applications of digital marketing in the globalized market
- CO3:** Analyse the confluence of marketing, operations, and human resources in real-time delivery.
- CO4:** Investigate and evaluate issues in adapting to globalised markets that are constantly changing and increasingly networked.
- CO5:** Application and usage of E-mail advertisement and mobile marketing

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COURSE OUTCOMES (COs)

BBA D-2276: Business Environment

- CO1:** Understand the concept of business environment
- CO2:** Define internal and external elements affecting business environment.
- CO3:** Explain the economic trends and its effect on Government policies
- CO4:** Critically examine the recent development in economic and business policies of the Government.
- CO5:** Evaluate and judge the best business policies in Indian business environment develop the new ideas for creating good business environment

B.Voc. (LOGISTICS MANAGEMENT)

COMP V-1502: Computers (Basics of Computer Applications)

- CO1:** Demonstrate basic understanding of computer hardware and software.
- CO2:** Apply skills and concepts for basic use of a computer
- CO3:** Identify appropriate tool of MS office to prepare basic documents, charts, spreadsheets and presentations.
- CO4:** Create personal, academic and business documents using MS office.
- CO5:** Analyse data using charts and spreadsheets

BOM V-1201: Business Organization and Management

- CO1:** Describe the Social Responsibility of Business towards the society.
- CO2:** Understand different forms of business organization's.
- CO3:** Comprehend the nature of Joint Stock Company and formalities to promote a Company.
- CO4:** Design and plan to register a business firm. Prepare different documents to register a company at his own
- CO5:** Articulate New models of business organization's

BE V-1202: Business Environment

- CO1:** Understand the concept of business environment
- CO2:** Define Internal and External elements affecting business environment.
- CO3:** Explain the economic trends and its effect on Government policies
- CO4:** Critically examine the recent developments in economic and business policies of the Government
- CO5:** Develop the new ideas for creating good business environment.

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COURSE OUTCOMES (COs)

FA V-1203: Fundamentals of Accounting

- CO1:** Develop the skill of recording financial transactions and preparation of reports in accordance with GAAP.
- CO2:** Identify transactions and events that need to be recorded in the books of accounts
- CO3:** The students will be able to identify the errors in the recording of Accounting Books and rectify them.
- CO4:** Analyze the difference between cash book and pass book in terms of balance and make reconciliation.
- CO5:** Equip with the knowledge of accounting process and preparation of final accounts of sole trader.

SIP V-1204: Secretaryship and Insurance Promotion

- CO1:** Understand the field level structure and functioning of insurance sector and its role in protecting the risks
- CO2:** Comprehend pertaining skills and their application for promoting insurance coverage
- CO3:** Comprehend the role of the office secretaryship in a small and medium organisation
- CO4:** Acquire knowledge on office procedures and interpersonal skills
- CO5:** Apply the skills in preparing and presenting notes, letters, statements, reports in different situations

ET V-1205: Economies of Transport

- CO1:** Study the main benefits of air transport economies, as well as, identify measures and analyse them.
- CO2:** National economic footprints from aviation sectors
- CO3:** understand the key demand and supply factors affecting
- CO4:** understand the international trade routes of water transport
- CO5:** analyse the price fixation of air transport

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COURSE OUTCOMES (COs)

BEC V-2207: Business Economics

- CO1:** Describe the nature of economics in dealing with the issues of scarcity of resources
- CO2:** Analyze supply and demand analysis and its impact on consumer behaviour.
- CO3:** Evaluate the factors, such as production and costs affecting firm's behaviour
- CO4:** Recognize market failure and the role of government in dealing with those failures
- CO5:** Apply economic models for managerial problems, identify their relationships, and formulate the decision-making tools to be applied for business.

BTP V-2208: Banking Theory and Practice

- CO1:** Understand the basic concepts of banks and functions of commercial banks.
- CO2:** Demonstrate an awareness of law and practice in a banking context
- CO3:** Critically examine the current scenario of Indian Banking system.
- CO4:** Students will clearly understand the relationship between banks and its customers (wants/needs)
- CO5:** Students will get a clear idea about Collecting Banker and Paying Banker Concepts

FA V-2209: Financial Accounting

- CO1:** "Determine the useful life and value of the depreciable assets and maintenance of Reserves in business entities."
- CO2:** The learners would gain the knowledge and importance of reserves in the business organisation
- CO3:** The students are wellbeing about the negotiable instruments and aware the role and significance of bills in the business transactions.
- CO4:** "Understand the concept of consignment and learn the accounting treatment of the various aspects of consignment."
- CO5:** Analyze the accounting process and preparation of accounts in joint venture.

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COURSE OUTCOMES (COs)

SCM V-2210: Supply Chain Management

- CO1:** Analyze the manufacturing operations of a firm
- CO2:** Apply sales and operations planning and manufacturing concepts
- CO3:** Apply logistics and purchasing concepts to improve supply chain operations
- CO4:** Apply quality management tools for process improvement
- CO5:** Identify the Performance Measure Methods in Supply Chain

LGM V-22: Logistics Management

- CO1:** learn logistics concepts and basic activities
- CO2:** learn how to reduce the Logistics costs to minimum by applying the techniques of Industrial Engineering.
- CO3:** Establish a logistics distribution system
- CO4:** To learn the inventory control methods.
- CO5:** Evaluate the logistics cost calculation methods.

FW/PW V-2212: Field Work / Project

- CO1:** Apply fundamental and disciplinary concepts and methods in ways appropriate to their principle areas of study.
- CO2:** demonstrate skill and knowledge of current information and technological tools and techniques specific to the professional field of study.
- CO3:** use effectively oral, written and visual communication
- CO4:** identify, analyze, and solve problems creatively through sustained critical investigation.
- CO5:** practice the skills, diligence, and commitment to excellence needed to engage in lifelong learning.

ITB N 3214: IT for Business Life Skill Course

- CO1:** basic understanding of computer hardware and software
- CO2:** basic use of a computer
- CO3:** prepare basic documents, charts, spreadsheets and presentations.
- CO4:** Create personal, academic and business documents using MS office
- CO5:** Create spreadsheets, charts and presentations.

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COURSE OUTCOMES (COs)

IM V-3219: Inventory Management

- CO1:** Material handling in industries
- CO2:** Economic order quantity
- CO3:** ratio analysis for inventory
- CO4:** Integrate important materials functions to both products and services
- CO5:** Evaluation of Performance of Materials Function

GI V-4221: General Insurance

- CO1:** Understand the field level structure and functioning of the insurance sector and its role in protecting the risks.
- CO2:** Understand the principles and characteristics of insurance contracts.
- CO3:** Understand the methods of calculating economic risks in life insurance proposals and classification of life insurance policies.
- CO4:** Understand non-life insurance and types of products
- CO5:** Understand the role, functions and administration of general insurance corporation in India.

CMA V-4222: Cost and Management Account

- CO1:** Understand various costing methods and management techniques
- CO2:** Apply Cost and Management accounting methods for both manufacturing and service industry
- CO3:** Prepare a cost sheet, quotations, and tenders to the organization for different works
- CO4:** Analyze cost-volume-profit techniques to determine optimal managerial decisions
- CO5:** Compare and contrast the financial statements of firms and interpret the results

SCM V-4223: Supply Chain Management Shipping and ocean

- CO1:** Students will be familiar with the nature and functions of supply chain management
- CO2:** They will be updated about emerging trends of the Organization
- CO3:** They are imparting necessary knowledge and skills relevant for business
- CO4:** Understand the Purchasing and Supplier Management
- CO5:** Understand the Customer Service Management and Measurement

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COURSE OUTCOMES (COs)

SOC V-4224: Shipping and Ocean Freight Management

- CO1:** Students are able to know about the shipping industry
- CO2:** They will be updated about the documentation
- CO3:** Study the importance of rights and duties involved in shipping and maritime
- CO4:** Students are able to impart the knowledge about containerization
- CO5:** The new technologies in Shipping and Ocean

EIP V-4225: Export and Import - Policies and Procedures

- CO1:** Students will be given a clear understanding regarding the procedures and documents of entire export-import
- CO2:** They are well known the various risks involved in export import business and how to overcome those risks
- CO3:** They are provided information on payment methods
- CO4:** Financing in the area of exports and the various concepts in international trade
- CO5:** Rules and conditions of International Chamber of Commerce

BEG V-4226: Business Ethics & Global Business Management

- CO1:** Students are moulded to provide the skills with which to recognise and resolve ethical issues in business
- CO2:** Students are moulded to provide the skills with which to recognise and resolve ethical issues in business
- CO3:** Students are able to know process of ethical decision-making in business
- CO4:** They are encouraged to reflect on the ethical dimension of your own decision-making in the workplace and other settings
- CO5:** They will be made to understand the principles of moral decision-making in global business and the concept of corporate social responsibility.

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COURSE OUTCOMES (COs)



PG - COURSE OUTCOMES (COs)

M.Com.

PCOM 101: Management Theory and Practice

- CO1:** To provide knowledge and understanding of the Principles of Management will enable the students gain valuable insight into the workings of business and other organization's.
- CO2:** To enable the students understand the managerial functions and practices of various.
- CO3:** To make the students understand elements of organizing and staffing.
- CO4:** To evaluate the influence of effective communication, motivation and leadership.
- CO5:** To understand the significance of managerial control and formulate best control methods.

PCOM 102: Business Economics

- CO1:** To outline expert knowledge about the concept of managerial economics, to analyze the students to understand the concepts of demand, utility and demand forecasting.
- CO2:** To Organize an insight in the basic features of production and cost function.
- CO3:** To explain the students to familiarize with different market structures and its importance.
- CO4:** To experiment impart knowledge on the concepts of pricing and pricing policy
- CO5:** To understand Pricing Practices of Firms.

PCOM 103: Business Environment

- CO1:** To understand the concept of business and elements of business environment.
- CO2:** To explain the effects of government policy on the economic environment of business.
- CO3:** To improve the ability to recognize and manage legal risks in business decision making.

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COURSE OUTCOMES (COs)

CO4: To understand and appreciate the social aspects of business.

CO5: To develop an idea of international environment and recent issues in environment.

PCOM 104: Accounting for Managers

CO1: To understand the fundamental accounting concepts and the elements of financial statement.

CO2: To acquire the knowledge on preparation of financial statements.

CO3: To understand the financial statement analysis.

CO4: To gain knowledge on various cost management techniques.

CO5: To provide hands on experience on accounting tally and gain proficiency in creating solutions in financial accounts and management.

PCOM 105: Information Technology for Business

CO1: To explain the role of Information Technology in Business.

CO2: To illustrate the Information Technology Infrastructure.

CO3: To describe Information Systems Support to for Business Functions

CO4: To represent Data, Knowledge and Implication of Decision Support Systems.

CO5: To relating Strategic Advantage and Information Technology.

PCOM 106: Quantitative Techniques

CO1: To provide students with knowledge of mathematical models for quantitative analysis of managerial problems in Industry.

CO2: To develop the ability to evaluate the forecasting models like correlation and regression analysis

CO3: To enable the students understanding probability concepts and its applications in business.

CO4: To evaluate the probability distributions and its applications in industry

CO5: To understand the significance of testing of hypothesis in managerial Decision Making.

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COURSE OUTCOMES (COs)

PCOM 201: Corporate Laws

- CO1:** To familiarize the students with the various provisions of Company Act related to health, safety and welfare.
- CO2:** To enable the students to understand Prevention of SEBI Act & Depositories Act, 1996.
- CO3:** To provide conceptual understanding about Competition Act and Consumer Protection Act.
- CO4:** To equip the students with the basic concepts of FEMA and Cyber Laws.
- CO5:** To impart knowledge on Business Ethics, Ethical practices and guidelines.

PCOM 202: Research Methodology

- CO1:** To understand basic concepts of research and formulate research problems and process.
- CO2:** To generate an awareness of research design and data collection methods.
- CO3:** To develop and understand of sampling design and techniques.
- CO4:** To understand how to analyse and interpretation of the data.
- CO5:** To provide expert knowledge about to write a research report and thesis.

PCOM 203: Human Resource Management

- CO1:** To cover the basic concepts of Human Resource management.
- CO2:** To contribute the development of human resource planning, implementation, and evaluation of employee recruitment, selection, and retention plans and processes).
- CO3:** To develop, implement, and evaluate employee orientation, training, and development programs.
- CO4:** To administer and contribute to the design and evaluation of the performance management program.
- CO5:** To develop the students' ability to learn concepts like compensation, employee welfare, and industrial relation issues.

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COURSE OUTCOMES (COs)

PCOM 204: Marketing and Public Relations

- CO1:** Conceptual understanding of marketing concepts and to know the undergone changes of marketing environment.
- CO2:** To acquired the knowledge of service quality and its determinants the student able to assess the service parameters of any organisation.
- CO3:** To understand the consumer view and his behaviour toward the product.
- CO4:** To gain knowledge on various pricing methods and techniques and way of distribution.
- CO5:** To recognize various public relation methods to reach the public.

PCOM 205: Financial Management

- CO1:** To differentiate profit from the wealth and trade-off the risk and return.
- CO2:** To provide illustration on financial management practices and policies, processes, techniques and strategies those are used in the financial management.
- CO3:** To develop knowledge on the type and characteristics of problems and the possibility of the occurrence of financial management problems.
- CO4:** To develop planning skill and monitoring skill in financial management functions effectively.
- CO5:** To apply the appropriate working capital management strategy to face the company challenges.

PCOM 206: Digital Trade

- CO1:** To remember and understand the basic concepts of E- Trade, E-commerce, E-business Internet and World Wide Web.
- CO2:** To understand how different technologies are implemented in e-Business.
- CO3:** To analyse the role of e-marketing and advertisements in e- Business.
- CO4:** To analyse the impact of CRM and SCM on e-Business.
- CO5:** To learn about different types of electronic payment system, protocols, security schemes and cashless economy.

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COURSE OUTCOMES (COs)

PGEC 201: MS Excel & Tally Practical

- CO1:** To familiarize Students with basic to intermediate skills for using Excel in the classroom vis-à-vis Business Applications.
- CO2:** To provide students hands on experience on MS Excel Utilities.
- CO3:** To gain proficiency in creating solutions for Data Management and Reporting.
- CO4:** To provide hands on experience on accounting tally and gain proficiency in creating solutions in financial account and management.
- CO5:** To acquire knowledge on ledger creation and inventory creation.

PGEC 202: Human Values & Ethics

- CO1:** To provide the basic understanding about importance of Value Education, Self- Exploration, and Human aspirations.
- CO2:** To understand the importance of Process for Value Education.
- CO3:** To gain knowledge on Understanding Harmony in the Human Being.
- CO4:** To understand the concept of Harmony in Myself.
- CO5:** Understanding Harmony in the Family and Society – harmony in Human - Human Relationship.

PGEC 203: Personality Development Lab

- CO1:** To develop orientation towards business etiquettes and the proper etiquette practice for different business scenarios.
- CO2:** To learn the etiquette requirements for meeting, telephone, entertaining, internet business interaction scenarios.
- CO3:** To minimize nervousness in social situations.
- CO4:** To understand various mechanisms of conflict resolution and to know the importance of interpersonal relationships.
- CO5:** To know the importance of time management and the techniques that cope up with Stress.

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COURSE OUTCOMES (COs)

PCOM 301: Business Communication & Soft Skills

- CO1:** To explain the importance of business correspondence and different types of organizational correspondence.
- CO2:** To impart knowledge of how to communicate in business by using different modes.
- CO3:** To prepare and deliver effective business presentation with modern days technology.
- CO4:** To develop the art of business reporting system in different types of organisations.
- CO5:** To explain the importance of feedback mechanism motivating others and building team management skills.

PCOM 302: Entrepreneurship Development & Business Models

- CO1:** To understand the concept of Entrepreneurship and role of women entrepreneurs.
- CO2:** To know the importance of ideas in entrepreneurship and the ability to assess business potentiality of ideas.
- CO3:** To know the need for financial planning and preparation of business plans.
- CO4:** To analyze various business models in the emerging scenario.
- CO5:** To provide insights of business excellence models.

PCOM 303 A: Advanced Cost Accounting

- CO1:** To understand the basic concepts and processes used to determine product costs and to interpret cost accounting statements.
- CO2:** To analyse and evaluate information for cost ascertainment in process, batch and job costing.
- CO3:** To analyse and evaluate the methodology for costing of operating and service industry
- CO4:** To scrutinize various types of manufacturing waste and present a comprehensive cost system for recognizing and reporting waste costs.
- CO5:** To appraise the need for reconciliation between cost and financial accounts along with the preparation of a reconciliation statement. And explain the utility – concept and preparation of different types of budgets.

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COURSE OUTCOMES (COs)

PCOM 304A: Auditing and Assurance

- CO1:** To make student aware of the concepts, principles, and objectives of Financial Statement.
- CO2:** To provide an understanding of Auditing and Assurance Standards.
- CO3:** To develop an idea of planning and organization of Audit.
- CO4:** To acquaint the students with the various processes and principles of Investigating Accounts.
- CO5:** To understand the requisites of a good Audit Report and knowing the liabilities of an auditor.

PCOM 305A: Financial Statement analysis

- CO1:** To make student aware of the concepts, principles, and objectives of Financial Statement.
- CO2:** To provide an understanding of Gabelli Utility Trust Balance Sheet, Earnings etc.
- CO3:** Ability to analyze Financial Liabilities.
- CO4:** To understand the significance of Changes in working capital.
- CO5:** To understand the Methods of Calculating Cash Flows from Operating Activities.

PCOM 306A: Cost Accounting & Management

- CO1:** To understand the basic concepts and processes used to determine product costs and Management accounting statements.
- CO2:** To analyse and evaluate information for cost ascertainment in process, batch and job Activity based on costing System.
- CO3:** To analyse and evaluate the Life Cycle Costing of operating and service industry.
- CO4:** To scrutinize various Methods of cost Engineering and present a comprehensive cost system for recognizing and reporting waste costs.
- CO5:** To appraise the need for reconciliation between cost control and cost reduction and financial accounts along with the preparation of a reconciliation statement. And Meeting the Cost Reduction Challenges Role of Cost Accountant.

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COURSE OUTCOMES (COs)

PCOM 303B: Central Banking

- CO1:** To make student aware of the concepts, Evolution and Functions of Central Banking.
- CO2:** To provide an understanding of RBI Act, Banking Regulation Act, Foreign Exchange Management Act, Banking Ombudsman Scheme, Financial Sector Reforms. etc.
- CO3:** To develop a Central Banking in USA, UK and, European Union.
- CO4:** To acquaint the students with the RBI and Supervision of Indian Financial System.
- CO5:** To understand the Methods of Financial Development Vs. Financial Stability.

PCOM 304B: Non-Banking Financial Companies

- CO1:** To explain the role of information Structure of Financial System in India.
- CO2:** To explain the role, importance of various NBFC`s in India.
- CO3:** To explain Regulatory Framework of NBFCs in India.
- CO4:** To explain Progress and Problems of NBFCs.
- CO5:** To explain the importance of Non-Bank Financial Services Companies.

PCOM 305B: Principles of Insurance

- CO1:** Understand the various forms of investment, security Markets and other concepts.
- CO2:** Understand risks associated with investment.
- CO3:** Measure risk and return of different security instruments and portfolio.
- CO4:** Analyse the fundamental strength of stocks and predict the price trends of securities using technical analysis and valuation of stocks and fixed income securities.
- CO5:** Evaluate the performance of portfolio.

PCOM 306B: Practice of Life Insurance

- CO1:** Understand the Significance of insurance and Need for Security against economic difficulties, risk and uncertain other concepts.
- CO2:** Understand risks associated with Distinguishing characteristics.
- CO3:** Measure to Methods of calculating economic risk in life insurance proposal.
- CO4:** Analyse the fundamentals of ULIPS & Traditional Insurance, LIC Act, 1956, IRDA Act.
- CO5:** Evaluate the performance of portfolio.

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COURSE OUTCOMES (COs)

PCOM 303C: Security Analysis and Portfolio Management

- CO1:** Understand the various forms of investment, security Markets and other concepts.
- CO2:** Understand risks associated with investment.
- CO3:** Measure risk and return of different security instruments and portfolio.
- CO4:** Analyse the fundamental strength of stocks and predict the price trends of securities using technical analysis and valuation of stocks and fixed income securities.
- CO5:** Analyse the fundamental strength of stocks and predict the price trends of securities using technical analysis and valuation of stocks and fixed income securities.

PCOM 304C: Advance Auditing

- CO1:** To make student aware of the concepts, principles, and objectives of Auditing.
- CO2:** To provide an understanding of Meaning and Objectives of Verification; Process of Verification etc.
- CO3:** To develop an idea Internal Control Procedures, Techniques.
- CO4:** To acquaint the students with the various Special requirements of company audit.
- CO5:** To understand the Mutual Funds and Co-operative Societies.

PCOM 305C: Financial Reporting

- CO1:** Understand the various forms of Corporate Financial Reporting.
- CO2:** Understand Corporate Restructuring.
- CO3:** Measure of Consolidated Financial Statements of Group Companies.
- CO4:** Analyse the fundamental strength of Consolidated profit and loss account, balance sheet and cash flow statement.
- CO5:** Evaluate the Accounting and Reporting of Financial Instruments.

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COURSE OUTCOMES (COs)

PCOM 306C: Financial Markets and Services

- CO1:** To create awareness among the students about the significance of investment particularly strategic investment and finance decision-making.
- CO2:** The objective of the course is to provide students with the knowledge of merchant banking services along with guidelines of SEBI.
- CO3:** To understand Mutual Funds and the origin of venture capital.
- CO4:** To understand the types of lease agreements and factoring services in India.
- CO5:** To examine the emerging trends in financial services.

PCOM 303D: Tax Planning and Management

- CO1:** To develop of the course is to make student aware of the concepts, functions, processes and practices of Measures of the State for Tax Evasion.
- CO2:** Students are able to understand the benefits and perquisites of salaried persons.
- CO3:** It provides an understanding of the tax planning for firms and Hindu Undivided Family.
- CO4:** It provides an understanding of the tax planning on managerial decisions.
- CO5:** Students are able to understand the tax planning on foreign collaborations and joint ventures.

PCOM 304D: Goods & Service Tax

- CO1:** To develop an idea about GST, CGST, SGST and IGST.
- CO2:** To have an idea on GST Act 2017.
- CO3:** To understand the purview of GST.
- CO4:** To understand various problems and advantages on input tax credit.
- CO5:** To know the importance of practical work in GST.

PCOM 305D: Income Tax Procedure

- CO1:** To develop an idea about Residential Status and incidence of tax.
- CO2:** To have an idea on Income of Individuals; Salaries, income from house property.
- CO3:** To understand the business or profession, capital gains.
- CO4:** To understand various problems and advantages on income from other sources.
- CO5:** To know the importance of practical computation of total income.

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COURSE OUTCOMES (COs)

PCOM 306D: Business Taxation

- CO1:** To develop an idea about Income from Business or Profession.
- CO2:** To have an idea on Income from Other Sources.
- CO3:** To understand the Minimum Alternative Tax (MAT).
- CO4:** To understand various problems and advantages Tax Authorities and Administration.
- CO5:** To know the importance of practical Filing of Return and Assessment.

PGEC 301: Computerised Taxation & Filing

- CO1:** To develop orientation towards PAN, Quoting of Aadhaar number, New Form 26AS.
- CO2:** To have an idea on presentation in E-filing.
- CO3:** To understand the View e-field return, e-verification.
- CO4:** To understand various mechanisms of Computation of GTI and tax payable (individual, company).
- CO5:** To know the importance of generation of return verification form.

PGEC 302: Soft and Employability Skills

- CO1:** To develop orientation towards soft skills, technical skills, problem solving skills and overcoming the techniques of stress management.
- CO2:** To have an idea on presentation skills and communication skills.
- CO3:** To understand individual action plans and training towards event management.
- CO4:** To understand various mechanisms of team building and know the importance of teamwork.
- CO5:** To know the importance of Business and Corporate Etiquettes.

PGEC 303: Event Management

- CO1:** To develop orientation towards Event Management: Design, Size and Types of Events –Event Team – Code of Ethics.
- CO2:** To have an idea of Event Marketing – Marketing Mix – Sponsorship. Promotion.

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COURSE OUTCOMES (COs)

- CO3:** To understand Developing the Theme – Conducting Rehearsals – Providing Services: Catering, Accommodation – Managing the Environment.
- CO4:** To understand Managing Meetings. Operations and Logistics: Logistics – Policies – Procedures – Performance Standards – Functional Areas.
- CO5:** To know the importance of Occupational Safety and Health – Incident Reporting, Crowd Management and Evacuation: Crowd Management Plan – Major Risks Management.

PGEC 304: Accounting for Agriculture

- CO1:** To aware about functional classification of Government departments.
- CO2:** To learn about Financial Administration in India.
- CO3:** To defend budgetary control System for Public funds.
- CO4:** To exam the accounting system in Local Government Bodies.
- CO5:** To test the suitability of financial reporting system in Educational Institutions.

PCOM 401: MOOCS

- CO1:** To provide students with audio and video content relating with the contemporary subjects.
- CO2:** To improve the self-learning capabilities of the students.
- CO3:** To help the learners to learn continuously while doing the course and after the course completion.
- CO4:** To provide opportunity for learner to interact directly with world class teachers who are offering courses on MOOCs platform.
- CO5:** To exposed the learners with peer learning facility.

PCOM 402: International Business

- CO1:** To identify the new projects of International Business.
- CO2:** To understand Role of world Trade Organization (WTO).
- CO3:** To develop Foreign exchange market mechanism.
- CO4:** To enable the students to understand The European Union and NAFTA
- CO5:** To imparts skills in the Developing global competitiveness.

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COURSE OUTCOMES (COs)

PCOM 403A: Corporate Restructuring

- CO1:** To identify the Corporate restructuring- scope and modes of restructuring.
- CO2:** To understand SEBI takeover regulations-procedural aspects-economic aspects etc.
- CO3:** To develop funding through various types of financial instruments.
- CO4:** To enable the students to Factors influencing valuation-methods of valuation.
- CO5:** To imparts Concepts of demerger and reconstruction modes of demerger.

PCOM 404A: Corporate Accounting

- CO1:** To understand financial statements (comprising statement of comprehensive income, balance sheet, statement of cash flow, statement of changes in equity and notes to accounts) from a user perspective such an equity investor, lender, financial analyst and management.
- CO2:** To analyse the user perspective on the role of International financial reporting system.
- CO3:** To describe the importance of valuation of shares and elaborate the methods of valuation of shares.
- CO4:** To prepare the consolidated statement of financial statement and the consolidated statement of profit or loss.
- CO5:** To know the concepts of new trends in inflation accounting and human resource accounting.

PCOM 405A: Management & Cost Audit

- CO1:** Understand importance of Managerial uses of cost and management audit.
- CO2:** Describe the Techniques for assessing managerial efficiency.
- CO3:** Develop user perspective on Familiarity with industry cost structure-Precautions for including Cost Audit Report.
- CO4:** Prepare the method of Post checking work.
- CO5:** Know the concepts and new trends in Process of manufacturing-various expenses-Sales Prescribed.

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COURSE OUTCOMES (COs)

PCOM 406A: International Accounting

- CO1:** Understand importance and difficulties of international accounting comprising GAAP – IAS and its adaptation in India.
- CO2:** Describe the techniques of foreign currency translation and treatment of gains and losses.
- CO3:** Develop user perspective on the role of accounting for price level changes and harmonization of accounting practices.
- CO4:** Prepare the methods of transfer pricing and identify the process and utility of horizontal, vertical and ratio analysis.
- CO5:** Know the concepts and new trends in segment reporting and knowing the guidelines of SEBI.

PCOM 403B: Financial Institutions

- CO1:** To examine the role of the financial system in the economy.
- CO2:** To familiarize the students with the financial institutions, markets and its regulations.
- CO3:** To help the students in acquiring Analytic skills in the market analysis in the context of raising medium- and long-term funds.
- CO4:** To give the students an understanding of the behaviour of banks and other financial firms.
- CO5:** To make the students understand the role and functions of organized financial markets and financial Service Firms.

PCOM 404B: Banking and Technology

- CO1:** To explain the role of information technology in Indian Banking Industry.
- CO2:** To explain the role of electronic banking and electronic fund management.
- CO3:** To explain how integrated communication networks works in banks and the role of CRM.
- CO4:** To explain how to manage disaster management and computer security. The role of computer audit and security control aspects.
- CO5:** To explain the importance of data warehousing and data mining techniques and its advantages.

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COURSE OUTCOMES (COs)

PCOM 405B: Risk Management

- CO1:** To develop and understand what risk is, how it can be measured and transferred.
- CO2:** To familiarize students with Commercial risk management applications.
- CO3:** To discuss the matter related to Personal risk management applications.
- CO4:** To make the students understand Health and Life risk insurance in India.
- CO5:** To make them understand the controlling authorities existing in insurance

PCOM 406B: Practice of General Insurance

- CO1:** To provide the basic understanding about Risk, Insurance, principles of insurances.
- CO2:** To familiarise the students with the various types of insurances policies.
- CO3:** To provide conceptual understanding about the legal and government producers Regarding insurance policy.
- CO4:** To learn about various Channels of Distributions system in insurance system.
- CO5:** To analyse the role of Regulation System of Insurance in India.

PCOM 403C: Financial Derivatives

- CO1:** Understand the derivative products and the development of derivative trading in India.
- CO2:** Get familiar with the characteristics of the derivative options and mechanism of trading.
- CO3:** to identify suitable option trading strategies suitable to market movement.
- CO4:** to calculate option price using binomial model and BS model.
- CO5:** to develop knowledge about functioning of SWAPs and hedging strategies.

PCOM 404C: International Financial Management

- CO1:** To create awareness about the importance of international financial management and to understanding the business environment in which modern multinational corporations operate.
- CO2:** To describe the IMF's role in dealing with the financial crisis and learning about foreign exchange markets including international Parity conditions.

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COURSE OUTCOMES (COs)

- CO3:** To explore concepts of portfolio management in a global market. Understand the principles of financing.
- CO4:** To bring the cognizance of how corporate and country characteristics influence an MNC's cost of capital.
- CO5:** To study the nature of management exposure and discusses about the techniques of international capital budgeting.

PCOM 405C: Export Finance

- CO1:** To create awareness about the importance of Global Trade & Finance.
- CO2:** To describe the forms of credit, letter of credit, negotiation, rediscounting and procedures of settlement.
- CO3:** To study the nature of post shipment finance and identifying merits and limitations of foreign currency loans.
- CO4:** To explore concepts of Financing Institutions & Export Promotion.
- CO5:** To bring the cognizance of import and export financing strategies.

PCOM 406C: Financing Foreign Trade

- CO1:** To create awareness about the Methods of Foreign Trade.
- CO2:** To describe the Methods of exchange control measures in India.
- CO3:** To study the nature of post and pre shipment.
- CO4:** To explore the Methods of finance project exports.
- CO5:** To bring the cognizance of import and export financing strategies.

PCOM 403D: Goods and Service Tax & Customs

- CO1:** The objective of the course is to make student aware of the concepts, functions, processes and practices of GST.
- CO2:** Students are able to understand SGST, CGST, and IGST
- CO3:** It provides an understanding of procedure for registrations and filing process of GST returns.
- CO4:** To acquaint the students with different duties which are involved in Customs Act.
- CO5:** Students are able to understand the valuation of goods along with Customs value inclusions and exclusions.

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COURSE OUTCOMES (COs)

PCOM 404D: Direct Taxes

- CO1:** To aware of the concepts, functions, processes and practices of Income tax.
- CO2:** To understand the income tax exemptions under various heads and carry forward provisions.
- CO3:** To provide an understanding of the Calculation of income tax of agricultural income, salary income, and other incomes.
- CO4:** To acquaint the students with different modes of submission of income tax statements.
- CO5:** To understand the calculation of wealth tax and changes in wealth tax act.

PCOM 405D: Corporate Tax Planning and Management

- CO1:** The objective of the course is to make student aware of the concepts, functions, processes and practices of corporate tax.
- CO2:** Students are able to understand the benefits and perquisites of salaried persons.
- CO3:** It provides an understanding of the tax planning for firms and Hindu Undivided Family.
- CO4:** It provides an understanding of the tax planning on managerial decisions.
- CO5:** It provides an understanding of the tax planning on managerial decisions.

PCOM 406D: International Taxation Management

- CO1:** Understand the Legal Environment of International business.
- CO2:** Explain the basic principles of World Trade Organization.
- CO3:** Understand steps and procedures for regulating international marketing and corporate law.
- CO4:** Describe the agreement that relates the theories of international taxation in practice.
- CO5:** Develop an idea about corporate tax competition and coordination in the European Union.

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COURSE OUTCOMES (COs)

M.A (ENGLISH)

PENG101: Linguistics and Phonetics

- CO1:** Students will learn about language styles, dialects and key properties
- CO2:** Students will acquire knowledge of different fields of linguistic
- CO3:** Students will get acquaintance of phonetics and phonology of English language
- CO4:** Students will learn construction of words, sentences and concerned theoretical conceptions
- CO5:** Students will learn about the study of the meaning, style, register etc of language

PENG 102: Introduction to Literary Studies

- CO1:** Students will learn about various forms of literature along with literary terms
- CO2:** Students will have an overview of historical literary perspective of renaissance and restoration periods
- CO3:** Students will come to know about Augustan and Romantic periods
- CO4:** Students will acquire the knowledge of Victorian and Modern age
- CO5:** Students will get the knowledge and significance of Post-Modernism and Post-colonialism

PENG 103: Poetry - I

- CO1:** Students will come to know the background of English poetry
- CO2:** Students will learn about the Age of Chaucer and literature in that age
- CO3:** Students will know about the style of epic in poetry
- CO4:** Students will acquire the knowledge of mock epic
- CO5:** Students will study the poetry in Romantic age

PENG 104: Drama -I

- CO1:** Students will learn about drama and its various genres
- CO2:** Students will learn about eminent playwright such as Marlowe
- CO4:** Students will learn the Drama of the age of William Shakespeare
- CO5:** Students will learn of the Shakespearean age through his plays

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COURSE OUTCOMES (COs)

PENG 105: Prose and Fiction

- CO1:** Students will learn about the history of fiction and short story
- CO2:** Students will come to know the essays of Francis Bacon and Charles Lamb
- CO3:** Students will get the knowledge of Jonathan Swift's contribution
- CO4:** Students will understand the contribution of women novelists
- CO5:** Students will study the Victorian novelist Charles Dickens

PENG 201: History of English Language

- CO1:** Students will learn a brief history of English language
- CO2:** Students will come to know social and linguistic perspectives of Old English
- CO3:** Students will learn of foreign influences on English language
- CO4:** Students will understand varieties of English depending on situations
- CO5:** Students will learn of English in Indian and Global perspective

PENG 202: Poetry -II

- CO1:** Students will learn of poetic genres and movements in various literary periods
- CO2:** Students will acquire the knowledge of poetic forms, represent to poets from different ages
- CO3:** Students will learn of socio-cultural aspects of Modern Age
- CO4:** Students will come know of Movement Poets
- CO5:** Students will learn of various Twentieth century poets

PENG 203: Drama - II

- CO1:** Students will learn various theatres in English drama
- CO2:** Students will be introduced to drama and its characteristics
- CO3:** Students will learn thematic analysis of drama through Pygmalion
- CO4:** Students will come to know of absurd drama
- CO5:** Students will study of modern drama and dramatists such as T.S. Eliot and John Osborn

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COURSE OUTCOMES (COs)

PENG 204: Prose and Fiction - II

- CO1:** Students will learn about the history of fiction and short story
- CO2:** Students will come to know social and cultural aspects of British Novel
- CO3:** Students will study of contribution of women writers
- CO4:** Students will learn of modern novelists such as Somerset Maugham
- CO5:** Students will get the knowledge of Afro-American short story writer

PENG 205: Translation Studies

- CO1:** Students will learn of history of Translation
- CO2:** Students will learn of various theories of translation
- CO3:** Students will learn using translation in the analysis of literary works
- CO4:** Students will acquire the knowledge of translating of intercultural communications
- CO5:** Students will get the application knowledge of translation through project work

PENG 301: Literary Theory- I

- CO1:** Students will learn literary criticism till 20th century
- CO2:** "Students will learn theoretical literary concepts through Dr. Johnson and William Wordsworth"
- CO3:** Students will have Analytic ability in poetry
- CO4:** "Students will learn different kinds of poetic meanings and other principles"
- CO5:** Students will learn about archetypes of literature

PENG 302: "New Literatures in English"

- CO1:** Students will have a brief idea about orientalism and decolonization
- CO2:** Students will achieve skill in thematic analysis
- CO3:** Students will learn literary concepts related to colonialism
- CO4:** Students will understand race, caste and ethnicity through the text
- CO5:** Students will have an idea about feminism and other issues

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COURSE OUTCOMES (COs)

PENG 303: "Indian Literature in Translation"

- CO1:** "Students will have a brief idea about literature produced in India on relevant issues and themes"
- CO2:** "Students will develop the understanding of historical context in the development of Indian literatures"
- CO3:** Students will have a brief idea about plays in Translation
- CO4:** Students will learn to critically analyze a literary text
- CO5:** "Through translation works students will learn to identify cultural, educational and social systems depicted in the literary works"

PENG 304: "American Literature- I"

- CO1:** Students will identify major works in American literature
- CO2:** Students will improve knowledge of the classics in American literature
- CO3:** Students will learn to identify specific features in American literature
- CO4:** "Students will be able to understand the social conditions of America during various periods"
- CO5:** Students will learn to connect the text to reality

PENG 305: "English Language Teaching - I"

- CO1:** Students learn the fundamentals of Language teaching
- CO2:** Students will learn the theories of language learning
- CO3:** Students will learn various models of language learning
- CO4:** Students will learn different teaching methods
- CO5:** Students will learn different techniques of testing

PENG 306: "Academic Writing Skills"

- CO1:** Students will understand various purposes and needs of English
- CO2:** "Students learn to write various forms of writing such as essays, reports etc."
- CO3:** "Students will acquire knowledge about different types of reading skills and interpretation skills"
- CO4:** Students will learn presentation skills
- CO5:** Students will learn testing methods and evaluation methods

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COURSE OUTCOMES (COs)

PENG 307: "English Presentation and Soft Skills"

- CO1:** "Students will get acquainted with pronunciation, accent and intonation rules"
- CO2:** Students will learn seminar presentation, making ppts
- CO3:** Students will learn writing CVs, biodata etc and about body language
- CO4:** "Students will learn to balance emotion with intelligence and decision-making skills"
- CO5:** Students will learn critical thinking skills

PENG 401: MOOCS

- CO1:** Students will learn practicing MOOCS through digital platforms
- CO2:** "Students will learn to personalise the Digital Technologies by MOOCS in addition to the course of study"
- CO3:** Students will strengthen future focused learning through MOOCS
- CO4:** "Students will be independent to choose from any MOOCS choice of any platform"
- CO5:** Students will avail the online Resources through MOOCS

PENG 402.1: "English Language Teaching - II"

- CO1:** Students will learn about different approaches in language learning
- CO2:** "Students will learn the importance of curriculum and syllabus in language teaching"
- CO3:** Students will get grip on grammar, vocabulary and pronunciation
- CO4:** Students will learn LSRW skills
- CO5:** "Students will learn planning, teaching and testing techniques in language teaching and learning process"

PENG 402.2: Indian Short Story

- CO1:** Students will learn about short story writing aspects and setting
- CO2:** Students will have application knowledge through Kabuliwala
- CO3:** Students will have application knowledge through Portrait of a Lady
- CO4:** Students will have application knowledge through The Weeds
- CO5:** Students will have application knowledge through A Toast to Herself

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COURSE OUTCOMES (COs)

PENG 403.1: "American Literature - II"

- CO1:** "Students will have an understanding about social and cultural conditions reflected through American literature: Robert Frost"
- CO2:** "Students will have an understanding about social and cultural conditions reflected through American literature: Sylvia Plath"
- CO3:** "Students will have an understanding about social and cultural conditions reflected through American literature: Tennessee Williams"
- CO4:** "Students will have an understanding about social and cultural conditions reflected through American literature: Edward Albee"
- CO5:** "Students will have an understanding about social and cultural conditions reflected through American literature: Ernest Hemingway"

PENG 403.2: World Literature

- CO1:** Students will get acquainted with different cultures and writing traditions
- CO2:** Students will have an insight into World literature
- CO3:** Students will learn about Ramayana and to analyze culture and traditions
- CO4:** Students will develop an Analytic insight in analysis of Panchatantra
- CO5:** Students will get acquainted with different cultures and writing traditions: Sophocles

M.A (ECONOMICS)

PECO 101: MICRO ECONOMIC ANALYSIS – I

- CO1:** To understand the significance of theories of consumer behavior.
- CO2:** To know the importance of production analysis.
- CO3:** To analyze the concepts of cost, revenue, firm and industry equilibrium.
- CO4:** To examine the price and output and determination in perfect competition, Monopoly and Monopolistic competition markets.
- CO5:** To examine the price and output and determination in Duopoly and Oligopoly markets.

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COURSE OUTCOMES (COs)

PECO 102: MACRO ECONOMICS ANALYSIS - 1

- CO1:** To understand the concepts of national income.
- CO2:** To familiarize the students the basic difference between the classical and Keynesian Economics.
- CO3:** To understand the theories of consumption function and effects of consumption function.
- CO4:** To understand the theories of investment function and different types investment functions
- CO5:** To familiarize the Neo Classical and Keynesian Synthesis.

PECO 103: PUBLIC ECONOMICS

- CO1:** To understand the financial functions of Government.
- CO2:** To know the source of public revenue.
- CO3:** To familiarize about public budget and expenditure.
- CO4:** To understand the concept of public debt.
- CO5:** To give an idea about central state financial relations and to provide the complete. structure of Indian financial system.

PECO 104: EVOLUTION OF ECONOMIC DOCTRINES

- CO1:** Explains the views of classical and modern economists.
- CO2:** Discusses about the various theories of economics.
- CO3:** Applies the economic theories practically in an economy.
- CO4:** Compares the classical and modern theories of economic thought.
- CO5:** Examines the classical and modern theories of Indian school of economic thought.

PECO 105: MATHEMATICAL METHODS

- CO1:** To understand the significance of mathematical functions in economics.
- CO2:** To know role of differentiation in theory of demand and supply functions.
- CO3:** To know role of integration in the concept of consumer and producer surplus.
- CO4:** To understand the significance of matrices and determinants in economics.
- CO5:** To know the application of linear programming in economics.

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COURSE OUTCOMES (COs)

PECO 106: INTERNATIONAL TRADE: THEORY AND POLICY

- CO1:** To familiarize the theories of international trade.
- CO2:** To understand the international trade theories under imperfect competition.
- CO3:** To explain the terms of trade and gains from trade.
- CO4:** To understand the theories of trade policy.
- CO5:** To know the importance of international institution for economic integration.

PECO 201: MICRO ECONOMICS-II

- CO1:** To examine modern theories of firm.
- CO2:** To understand the various theories of distribution
- CO3:** To examine the general equilibrium analysis.
- CO4:** To know the concepts of market failure and public goods.
- CO5:** To familiarize the welfare economics concepts.

PECO 202: MACRO ECONOMICS-II

- CO1:** To analyse the theories of demand for money
- CO2:** To understand the concepts of supply of money.
- CO3:** To know the importance of business cycles.
- CO4:** To familiarize the students with theories of inflation.
- CO5:** To understand the macroeconomic policies in economic development.

PECO 203: ECONOMICS OF ENVIRONMENT

- CO1:** To know the nature and scope of environmental economics.
- CO2:** To familiarize the cause and effect of environmental degradation.
- CO3:** To understand the effect of pollution on society.
- CO4:** To know the environmental policies of government.
- CO5:** To examine environmental laws and management strategies

PECO 204: INDIAN ECONOMY

- CO1:** To understand the structure of Indian economy.
- CO2:** To examine the role of agriculture in Indian economy.
- CO3:** To know the role of industrial sector in Indian economy
- CO4:** To understand the role of service sector in Indian economy
- CO5:** To examine the importance of economic reforms in Indian economy

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COURSE OUTCOMES (COs)

PECO 205: STATISTICAL METHODS

- CO1:** To familiarize the basic statistical techniques.
- CO2:** To understand the concepts of correlation and regression.
- CO3:** Understand the addition, multiplication theorem, conditional probability
- CO4:** To explain the concepts of sampling and hypothesis testing.
- CO5:** To know the method of construction index numbers

PECO 206: COMPUTER APPLICATIONS in ECONOMICS (Computer Lab)

- CO1:** To become familiar with basic knowledge on computer
- CO2:** To draw distributive tables, graphs, trend lines.
- CO3:** Estimation of statistical tools by using software
- CO4:** Apply advanced internet application.
- CO5:** To become familiar with a statistical software like SPSS and Stata

PECO 207: ANDHRA PRADESH ECONOMY

- CO1:** To study the structure of Andhra Pradesh economy
- CO2:** To understand the role of agriculture in Andhra Pradesh economy
- CO3:** To understand the role of industry in Andhra Pradesh economy.
- CO4:** To understand the role of service sector in Andhra Pradesh economy
- CO5:** To study the achievement of welfare schemes and programs in Andhra Pradesh economy

PECO 301: ECONOMICS OF GROWTH AND DEVELOPMENT

- CO1:** Examine different factors of economic Development
- CO2:** State the Growth Models of Neo-Classical Economists
- CO3:** Discuss the important models and theories in economic growth
- CO4:** To know the theories of economic theories
- CO5:** To feminize the theories of dualism

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COURSE OUTCOMES (COs)

PECO 302: FINANCIAL INSTITUTIONS AND MARKETS

- CO1:** To examine the nature and role of financial system
- CO2:** To understand the structure and composition of money market
- CO3:** To understand the structure and composition of capital market
- CO4:** To know about the structure of Indian money market.
- CO5:** To feminize the role of financial institutions in money market

PECO 303: ECONOMICS OF INFRASTRUCTURE

- CO1:** To understand the basic structure of infrastructure economics
- CO2:** To know the development of unfractured in India
- CO3:** To finalize the government policies for regulation and reform of the Telecommunication sector.
- CO4:** To understand the reforms of education on employment
- CO5:** To understand the various role of health programs and policies

PECO 304: RESEARCH METHODOLOGY

- CO1:** Describe the Problem of objectivity in social science Research
- CO2:** Demonstrate to write the review of literature
- CO3:** Test the hypothesis for research purpose
- CO4:** Analyze to choose the data collection and their interpretation. 5. Preparation of Report writing.
- CO5:** Preparation of Report writing.

PECO 305: AGRICULTURAL ECONOMICS

- CO1:** To know the importance of agricultural economics in present scenario
- CO2:** To recall the agricultural area, production and productivity trends of Indian agriculture
- CO3:** To recall the agricultural investment programs in India
- CO4:** To understand the Government Initiatives of Indian Agriculture
- CO5:** To understand the Government programmes of Indian Agriculture

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COURSE OUTCOMES (COs)

PECO 306: RURAL DEVELOPMENT

- CO1:** To understand the various approaches to rural Development
- CO2:** To know the issues in rural development
- CO3:** To evaluate the various rural development programs in India
- CO4:** To know the institutional support to rural development
- CO5:** To understand the management of rural development projects

PECO 401: INTERNATIONAL FINANCE

- CO1:** To know the concept of balance of payments
- CO2:** To understand the adjustment mechanism in balance of payments
- CO3:** To familiarize the foreign exchange market
- CO4:** To understand the role of international capital markets in currency exchange
- CO5:** To know the functions, features and significance of IMF

PECO 402: ENTREPRENEURSHIP AND SKILL DEVELOPMENT

- CO1:** To know the Concepts of Entrepreneurship
- CO2:** To understand the role of various organization's for Entrepreneurship Development
- CO3:** To know the objectives of project report in Entrepreneurship
- CO4:** To understand the role of skill development in Entrepreneurship
- CO5:** To understand the role of skill development programs in Entrepreneurship

PECO 403 (a): INDUSTRIAL ECONOMICS

- CO1:** Explain the Importance of Industrial Economics
- CO2:** State the Methods to improve productivity and benefits to increase productivity
- CO3:** Explain the internal and external source of financing
- CO4:** Distinguish the Foreign collaboration and foreign investment
- CO5:** Understand the industrial disputes and develop the entrepreneurial skills

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COURSE OUTCOMES (COs)

PECO 403 (b): DEMOGRAPHY

- CO1:** To describe the meaning of demography and demographic profile of India
- CO2:** To describe the population trends in India
- CO3:** To describe the importance of fertility and nuptiality in demography.
- CO4:** To understand the concept of mortality.
- CO5:** To understanding the demographic issues of India

PECO 403(c): ANDHRA PRADESH ECONOMY

- CO1:** To study the structure of Andhra Pradesh economy.
- CO2:** To understand the role of agriculture in Andhra Pradesh economy
- CO3:** To understand the role of industry in Andhra Pradesh economy
- CO4:** To understand the role of service sector in Andhra Pradesh economy
- CO5:** To study the achievement of welfare schemes and programs in Andhra Pradesh economy

PECO 404(a): LABOUR ECONOMICS

- CO1:** To describe the different theories of wage determination
- CO2:** To know the composition of labour markets
- CO3:** To understands the wage policy in India.
- CO4:** To femalize the nature and scope of Industrial Relations in India
- CO5:** To understand the various labour welfare measures in India

PECO 404 (b): GENDER ECONOMICS AND DEVELOPMENT

- CO1:** To identify the importance of women studies and its status in world economies
- CO2:** To analyze the concepts of women's work and their participation in various fields
- CO3:** To know the role of women in labour markets
- CO4:** To examines the social security and protection of women
- CO5:** To evaluate the gender planning and development policies for women

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COURSE OUTCOMES (COs)

PECO 404 (c): INDIAN ECONOMIC REFORMS

- CO1:** To know the concept of economic reforms-1991
- CO2:** To understand the importance of reforms in Banking Sector
- CO3:** To understand the policies of reforms in agricultural Sector
- CO4:** To explain the impact of industrial reforms on Poverty and Employment
- CO5:** To describe the features and functions of WTO.

PECO 405: PROJECT

- CO1:** to train the students to undertake empirical studies applying their knowledge in economic
- CO2:** to demonstrate the practical implementation of the economic theory to an economic problem.
- CO3:** to learn the applications of the statistical tools and techniques of preparing project reports.
- CO4:** To understand empirical methodology, sources and nature of data and tools and methods of analysis
- CO5:** To understand the data analysis

M.A (SOCIAL WORK)

PSWO 101: Social work history and ideologies

- CO1:** To understand history and evolution of social Work profession, both in India and the West.
- CO2:** To develop insights into the origin and Development of Ideologies and Approaches to social Change.
- CO3:** To develop Skills to understand contemporary reality in its historical context.

PSWO 102: Sociology for Social Work

- CO1:** Acquaint themselves with the basic concepts of Sociology like society, community, association, culture, social change, social stratification etc.
- CO2:** Know the basic social institutions like family, marriage, kinship in a scientific way.

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COURSE OUTCOMES (COs)

- CO3:** Explain social change and the factors affecting social change. Realize the importance of cultural lag to understand social change.
- CO4:** Learn about the Constitutional Provision for the protection of minorities and other weaker section in India.
- CO5:** Learn about the Reservation Policy in India

PSWO 103: Human Growth and Development

- CO1:** To understand psychological concepts and its relevance to Social Work
- CO2:** To understand the basic concepts and processes in social psychology and its relevance to Social Work
- CO3:** To understand determinants and processes of personality development
- CO4:** To understand social attitudes and psychosocial behaviour
- CO5:** Describe how human development is the product of social, psychological, and biological factors

PSWO 104: Social work Intervention: Work with Individuals and Groups

- CO1:** To understand the individual, family and their problems and the social contextual factors affecting them.
- CO2:** To understand Social Casework as a method of Social Work practice.
- CO3:** To gain knowledge about the basic concepts, tools, techniques, processes and Skills of working with individuals.
- CO4:** To develop an understanding of application of case works in diverse settings.

PSWO 105: Work with Communities

- CO1:** To understand the fundamental concepts and components of community, community organization and social action
- CO2:** To understand the models of community organization and social action.
- CO3:** To understand the relationship of community organization and social action with other methods of social work.
- CO4:** To understand various social movements in India

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COURSE OUTCOMES (COs)

PSWO 106: Concurrent field work

- CO1:** To work in agencies working in different types of areas of Social Work practice
- CO2:** To develop work plan in consultation with agency supervisor
- CO3:** To develop capacity for observation and analysis of social realities
- CO4:** To practice the methods of working with individuals and groups
- CO5:** To develop understanding of the needs, problems and Programmes for different target groups

PSWO 201: Social Action for Social change

- CO1:** Imbibe values and commitment for the people on the margins
- CO2:** Understand the concepts relevant for application of social action and social movement in responding to the critical social reality
- CO3:** Apprise and develop skills in the use of various approaches and techniques relevant to social action and movements

PSWO 202: Social Work Research and Statistics

- CO1:** To develop ability to initiate and conduct research
- CO2:** To develop research Skills of identifying and selecting a research area and preparing research proposal
- CO3:** To develop skills of doing literature review and steps of research methodology
- CO4:** To be familiarised with the process of data analysis and report writing
- CO5:** To understand ethical considerations of research

PSWO 203: Counselling and Communication

- CO1:** Understand the nature and goals of counselling as a helping process
- CO2:** Understand the theoretical base underlying counselling practice
- CO3:** Learn to apply counselling skills while working with clients in various settings
- CO4:** Develop attitudes and inculcate values that enhance investment of self in the counselor's role.

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COURSE OUTCOMES (COs)

PSWO 204: Social Problems and Social Legislation

- CO1:** Understand changing profile of industrial and non-industrial workers
- CO2:** Provide an understanding of working conditions and conditions of work as well as workers' problems
- CO3:** Provide an insight on problems of unorganised workforce, social security measures and welfare issues to work related issues
- CO4:** Learn social work response to workplace interventions for workers' welfare

PSWO 205: Disaster Management

- CO1:** Develop understanding of disasters and disaster management
- CO2:** Acquire a critical perspective of the policy framework, institutional structures and programmes for disaster management in India
- CO3:** Understand the process and techniques of empowering communities in disaster preparedness and mitigation
- CO4:** Learn the nature and scope of psychosocial care in disaster management

PSWO 207: Concurrent field work

- CO1:** To develop ability to initiate and conduct research
- CO2:** To develop research Skills of identifying and selecting a research area and preparing research proposal
- CO3:** To develop skills of doing literature review and steps of research methodology
- CO4:** To be familiarised with the process of data analysis and report writing
- CO5:** To understand ethical considerations of research

PSWO 301: Social Policy, Planning and Development

- CO1:** To train students with a bias on practical/ experiential orientation based on scientific knowledge in advancement of sustainable urban development.
- CO2:** To develop professional personnel in design, planning and management of urban areas
- CO3:** To establish a foundation for the graduate to practice, pursue and/or participate in professional activities/development in the urban milieu
- CO4:** To engage in research on various aspects related to the urban environment
- CO5:** To train students who will create, conserve, restore and offer leadership on useful and culturally valuable and historic urban environments

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COURSE OUTCOMES (COs)

PSWO 302: Management of Development and welfare Organisations

- CO1:** Develop understanding of social welfare administration as a method of social work profession.
- CO2:** Understand various components of social welfare administration.
- CO3:** Acquire competence in the administration of social welfare and development services.

PSWO 304: Personal Management and Labour Welfare

- CO1:** Develop understanding of social welfare administration as a method of social work profession.
- CO2:** Understand various components of social welfare administration.
- CO3:** Acquire competence in the administration of social welfare and development services.

PSWO 305: Social work with Unorganised Labour

- CO1:** Understand changing profile of industrial and non-industrial workers
- CO2:** Provide an understanding of working conditions and conditions of work as well as workers' problems
- CO3:** Provide an insight on problems of unorganised workforce, social security measures and welfare issues to work related issues
- CO4:** Learn social work response to workplace interventions for workers' welfare

PSWO 306: Labour legislation and labour welfare

- CO1:** Gain insight about environmental problems and challenges in the global and national context.
- CO2:** Develop critical understanding of environmental policies, legislations and programmes.
- CO3:** Understand the strategies and approaches of environment management
- CO4:** Develop skills of social work intervention in the protection and promotion of the environment
- CO5:** Culturally valuable and historic urban environments.

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COURSE OUTCOMES (COs)

PSWO 307: Community Development

- CO1:** To train students with a bias on practical/ experiential orientation based on scientific knowledge in advancement of sustainable urban development.
- CO2:** To develop professional personnel in design, planning and management of urban areas
- CO3:** To establish a foundation for the graduate to practice, pursue and/or participate in professional activities/development in the urban milieu
- CO4:** To engage in research on various aspects related to the urban environment
- CO5:** To train students who will create, conserve, restore and offer leadership on useful.

M.A [COUNSELLING PSYCHOLOGY]

CPSY 101: Foundations of Psychology

- CO1:** Describe core concepts, theories and principles in select areas of psychology.
- CO2:** Identify key methodological approaches in psychological research.
- CO3:** Find and review psychological literature on a specific topic.
- CO4:** Evaluate knowledge claims regarding psychological theory.
- CO5:** Produce written reports that adhere to the conventions of writing for psychology.

CPSY 102: Fundamentals of counselling psychology

- CO1:** Identify counsellor's roles and responsibilities within practice environments
- CO2:** Learn historical development and its current status of counselling psychology
- CO3:** Evaluate ethical issues and dilemmas in the field of counselling psychology
- CO4:** Distinguish between guidance, psychotherapy and counselling
- CO5:** Assess boundaries of the different types of counselling

CPSY 103: Theories of personality

- CO1:** Discuss and write in an informed way about influential personality theories and constructs
- CO2:** Identify meaning and appropriate application of course concepts
- CO3:** Explain personality-related processes that underlie individual differences in behavior
- CO4:** Recognize the interaction of situational and individual characteristics on the development of personality
- CO5:** Apply course concepts to simulated life situations through the analysis of a fictional character

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COURSE OUTCOMES (COs)

CPSY 104: Research methodology

- CO1:** Understand some basic concepts of research and its methodologies
- CO2:** Identify appropriate research topics
- CO3:** Select and define appropriate research problem and parameters
- CO4:** Prepare a project proposal (to undertake a project)
- CO5:** Organize and conduct research (advanced project) in a more appropriate manner

CPSY 105: Experimental psychology practicals

- CO1:** Use scientific knowledge and different apparatus to interpret psychological phenomena.
- CO2:** Students are able to understand how scientific reasoning and knowledge of apparatus helps in interpreting psychological phenomena.
- CO3:** Ability to administer, analyse and interpret results from various psychological tools.
- CO4:** Expanded knowledge of various assessment procedures
- CO5:** Learning regarding conduction of experiments

CPSY 106: Field practice- I

- CO1:** Review the concepts of psychology through the mediums of the experiments.
- CO2:** Understand the rationale, strengths and limitations of the experimental method of gaining knowledge about mental and behavioural processes.
- CO3:** Develop skills of conducting and documenting experiments in the field of psychology.
- CO4:** Learn how to design experimental and non-experimental studies.
- CO5:** To enhance the scientific temper of the students by providing them with the experimental knowledge of psychology.

CPSY 201: Psychopathology

- CO1:** Understand the problems in defining and measuring 'abnormality' and explain different models of abnormality

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COURSE OUTCOMES (COs)

- CO2:** Describe and evaluate the criteria used in the classification and diagnosis of personality disorders, mental illness and developmental disorders
- CO3:** Critically evaluate approaches to the treatment of psychological health problems
- CO4:** Understand the ethical and social issues surrounding a diagnosis of abnormality
- CO5:** Apply material on broad theoretical perspectives to controversial social problems and issues

CPSY 202: Counselling process and skills

- CO1:** Demonstrate understanding of the principles and elements of the counselling interview.
- CO2:** Demonstrate purposeful and effective counselling skills in a counselling interview.
- CO3:** Demonstrate the ability to establish an effective helping relationship, including attending to cognition, affect and meaning.
- CO4:** Outline the role of psychological theory in application to the helping process.
- CO5:** Describe ethical issues for helpers and ways of committing to ethical professional practice.

CPSY 203: Approaches to counselling

- CO1:** Develop technique and implication of applied counselling skills in areas of practice.
- CO2:** Evaluate counselling theories & their application to the outside world.
- CO3:** Classify the role and responsibilities of a professional counsellor
- CO4:** Evaluate various psychotherapies and schools in counselling techniques.
- CO5:** Develop skills of eclectic therapeutic plans.

CPSY 204: Psychological testing

- CO1:** Analyze and apply the understanding of psychological testing.
- CO2:** Interpret and assess the role of psychological testing in various settings.
- CO3:** Effectively synthesize and apply the variations in scales and tests.
- CO4:** Recognize the various types of psychological tests
- CO5:** Organize the various steps in construction of a psychological test

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COURSE OUTCOMES (COs)

CPSY 205: Psychological testing practicals

- CO1:** Use scientific knowledge and different apparatus to interpret psychological phenomena.
- CO2:** Students are able to understand how scientific reasoning and knowledge of apparatus helps in interpreting psychological phenomena.
- CO3:** Ability to administer, analyse and interpret results from various psychological tools.
- CO4:** Expanded knowledge of various assessment procedures
- CO5:** Learning regarding conduction of experiments

CPSY 206: Field practice- II

- CO1:** Review the concepts of psychology through the mediums of the experiments.
- CO2:** Understand the rationale, strengths and limitations of the experimental method of gaining knowledge about mental and behavioural processes.
- CO3:** Develop skills of conducting and documenting experiments in the field of psychology.
- CO4:** Learn how to design experimental and non-experimental studies.
- CO5:** To enhance the scientific temper of the students by providing them with the experimental knowledge of psychology.

CPSY 301C: Fields of counselling psychology

- CO1:** To learn the need and importance of premarital counselling
- CO2:** To get knowledge about factors, steps, and therapies of family counselling
- CO3:** To improve knowledge, attitudes, and skills in assessing and addressing client's family planning (FP) needs, through individualized counselling.
- CO4:** Describe counselling skills in a legal setting and technique used by a counsellor
- CO5:** Protection of women from domestic violence Act (2005) and working with children.

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COURSE OUTCOMES (COs)

CPSY 302C: School psychology

- CO1:** Differentiate school psychology from allied fields of psychology
- CO2:** Gain insight into the history that led to the development of school psychology
- CO3:** Explain the current status of school psychology in India
- CO4:** How school psychology can lead future trends in the field of study
- CO5:** Acquire knowledge on the role of school psychologist

CPSY 303 C: Applied social psychology

- CO1:** Explain basic concepts related to culture and socialization
- CO2:** Describe theoretical perspectives explaining the influences of culture and socialization on development
- CO3:** Discuss cultural variations in child rearing practices across infancy and early childhood
- CO4:** Discuss cultural variations in child rearing practices across middle childhood and adolescence
- CO5:** Understand the unique features of socialization (including gender socialization) in the Indian context

CPSY 304 E: Indian psychology

- CO1:** Explain the historical background of the development of Indian psychology
- CO2:** Describe the meaning and scope of Indian psychology
- CO3:** Appreciate the contemporary relevance of Indian psychology in the global context
- CO4:** Describe the fundamental differences between Indian and western psychology
- CO5:** Appreciate the importance of yoga, meditation and other indigenous systems.

CPSY 305 E: Positive psychology

- CO1:** Understand the concept of self from various theoretical perspectives
- CO2:** Understand the concepts of Subjective and Objective self-awareness
- CO3:** Describe the correlates of self and their relevance in everyday life
- CO4:** Analyse factors that influence the development of self
- CO5:** Explain understand the functioning of self in different social contexts.

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COURSE OUTCOMES (COs)

CPSY 306 E: Psychology of individual differences

- CO1:** Understand the concept of individual differences
- CO2:** Define and explain the concept of personality
- CO3:** Understand the theories and types of intelligence
- CO4:** Understand Indian approach to personality
- CO5:** Describe the concept of motivation and creativity

CPSY 307: Introduction to psychology I

- CO1:** To gain a better understanding of the field of psychology both historic and current.
- CO2:** Identify the major fields of study and theoretical perspectives within psychology
- CO3:** Become familiar with the research methodology commonly used by psychologists.
- CO4:** Become familiar with the scientific method, and examine the benefits and limitations of this method of inquiry as it relates to developmental psychology.
- CO5:** To become familiar with the biological bases of behavior.

CPSY 401 C: Marital & family therapy

- CO1:** Identify Assessment Methods that will acquaint them with the fundamental aspects.
- CO2:** Explain the concept and guidelines of interviewing. It highlights the useful techniques of interviewing
- CO3:** Essential Skills for Family Assessment Unit is on assessment skills which need to be strengthened in the therapists.
- CO4:** Explain the concept of self-report scales and differentiates between interview and self-report scales.
- CO5:** Research Tools in Family Therapy Unit the emphasis is on research in clinical practice.

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COURSE OUTCOMES (COs)

CPSY 402 C: Child & adolescent counselling

- CO1:** Provide the overview and aspects from children/adolescent's social milieu which influences their development and learning.
- CO2:** Family, School and Peer Group as Social System gives them a holistic overview of the primary social systems which have an influence on the child/adolescent's development.
- CO3:** Identify the impact of Mass Media Unit highlights the impact of mass media usage and influence on children and adolescents.
- CO4:** Children in Vulnerable Situations talks about interventions to be used with children in vulnerable situations have also been outlined.
- CO5:** Assessment of Child/ Adolescent Psychopathology Unit provides a comprehensive and detailed description of various tools which can be used to assess the child/adolescent.

CPSY 403 C: Substance abuse counselling

- CO1:** Define a family and its elements and components
- CO2:** Understand substance abuse as a family problem
- CO3:** Work on the family issues in substance use
- CO4:** Understand the relationship between substance use and HIV/AIDS
- CO5:** Analyse the concept of harm reduction and various strategies for preventing HIV among drug users

CPSY 404 E: Assessment in counselling and guidance

- CO1:** Describe the meaning of psychological assessment
- CO2:** Differentiate between psychological assessment and psychological testing
- CO3:** Describe the purposes for which psychological assessment is used
- CO4:** Describe the principles and different methods of assessment
- CO5:** Describe the different types of psychological tests and select a good psychological test

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COURSE OUTCOMES (COs)

CPSY 405 E: Managing stress

- CO1:** Explain the concept of stress.
- CO2:** Describe the nature of stress.
- CO3:** Discuss the sources of stress.
- CO4:** Describe measurement of stress.
- CO5:** Discuss various models of stress.

CPSY 407 O: Introduction to psychology II

- CO1:** Develop an understanding of processes involved in learning and cognition.
- CO2:** Students will be able to articulate the basic principles, major theories, and research concerning learning and cognition.
- CO3:** Students will be able to discuss the major theories of development, critical research on development, and developmental concepts from across the life course.
- CO4:** Become familiar with the theories concerning human behavior in a social context.
- CO5:** Students will be able to identify and discuss the major theories and research from the area of social psychology.

CPSY 408 P: Project

- CO1:** Find conceptual framework of the research
- CO2:** Students demonstrate effective presentation skills.
- CO3:** Able to critically review research literature, Identify a suitable research problem
- CO4:** Statistical analysis of data, incorporate findings into the existing literature and identify implications of study.
- CO5:** Produce final dissertation outcomes of a high professional standard.

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COURSE OUTCOMES (COs)

M.A (COMPUTER SCIENCE)

PMCS 101: Data Structures

- CO1:** Design correct programs to solve problems.
- CO2:** Choose efficient data structures and apply them to solve problems.
- CO3:** Analyze the efficiency of programs based on time complexity.
- CO4:** Discuss graph structure and understand various operations on graphs and their applicability.
- CO5:** Analyze the various sorting and searching algorithms

PMCS 102: Programming and Problem-Solving using Python

- CO1:** Develop algorithmic solutions to simple computational problems.
- CO2:** Demonstrate programs using simple Python statements and expressions.
- CO3:** Explain control flow and functions concept in Python for solving problems.
- CO4:** Use Python data structures – lists, tuples & dictionaries for representing compound data.
- CO5:** Explain files, exception, modules and packages in Python for solving problems.

PMCS 103: Computer Organization

- CO1:** To understand the structure, function and characteristics of computer systems.
- CO2:** To understand the design of the various functional units and components of computers.
- CO3:** To identify the elements of modern instructions sets and their impact on processor design.
- CO4:** To explain the function of each element of a memory hierarchy,
- CO5:** To identify and compare different methods for computer I/O.

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COURSE OUTCOMES (COs)

PMCS 104: Formal Languages and Automata Theory

- CO1:** To understand the basic properties of formal languages and grammars.
- CO2:** Able to differentiate regular, context-free and recursively enumerable languages.
- CO3:** Able to design grammars to produce strings from a specific language.
- CO4:** Will acquire concepts relating to the theory of computation and computational models including decidability and intractability.
- CO5:** Design automata, regular expressions and context free grammars for accepting or generating a certain language.

PMCS 201: Design and Analysis of Algorithms

- CO1:** To design efficient algorithms using various algorithm designing strategies
- CO2:** To analyze the problem and develop the algorithms using greedy or dynamic programming strategy
- CO3:** To classify the problem and apply the appropriate graph design strategy to develop algorithm
- CO4:** Students will learn how to apply backtracking, branch and bound techniques for real time problems.
- CO5:** Students will know the concepts of P, NP and NP-Complete problems

PMCS 202: Software Engineering

- CO1:** Students will be able to decompose the given project in various phrases of a lifecycle.
- CO2:** Students will be able to choose appropriate process model depending on the user requirements.
- CO3:** Students will be able perform various life cycle activities like Analysis, Design, Implementation, Testing and Maintenance
- CO4:** "Students will be able to know various processes used in all the phrases of the product"
- CO5:** "Students can apply the knowledge, techniques, and skills in the development of a software product."

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COURSE OUTCOMES (COs)

PMCS 203: Operating Systems

- CO1:** To understand the services provided by and the design of an operating system.
- CO2:** Differentiate between programs, processes and threads.
- CO3:** Analyze different process scheduling, memory management and file allocation techniques
- CO4:** Understand flow of control through operating system in different system calls
- CO5:** Ability to develop a simple operating system

PMCS 204: Database Management Systems

- CO1:** "Demonstrate the basic elements of a relational database management system.
- CO2:** Identify the data models for relevant problems.
- CO3:** Design entity relationship and convert entity relationship diagrams into RDBMS and formulate SQL queries on the data.
- CO4:** "Demonstrate their understanding of key notions of query evaluation and optimization techniques. "
- CO5:** "Extend normalization for the development of application software's."

PMCS301: Compiler Design

- CO1:** Specify and analyse the lexical, syntactic and semantic structures of advanced language features
- CO2:** Separate the lexical, syntactic and semantic analysis into meaningful phrases for a compiler to undertake language translation
- CO3:** Ability to construct a parser and semantic analyser
- CO4:** Turn fully processed source code for a novel language into machine code for a novel computer
- CO5:** Describe techniques for intermediate code and machine code optimisation

PMCS 302: Computer Networks

- CO1:** Describe the basis and structure of an abstract layered protocol model
- CO2:** Describe, analyse and evaluate a number of datalink, network, and transport layer protocols.
- CO3:** Analyze the requirements for a given organizational structure and select the most appropriate networking architecture and technologies.
- CO4:** Understand and building the skills of subnetting and routing mechanisms.
- CO5:** Understand how the Internet works today.

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COURSE OUTCOMES (COs)

PMCS303: Principles of Programming Language

- CO1:** Students will be able to analyze programming languages. They will be able to separate syntax from semantics.
- CO2:** "Students will be able to understand how language features work like Data types, control flow, Subroutines, Data abstraction etc.
- CO3:** Students will develop a greater understanding of the issues involved in programming language design and implementation.
- CO4:** Students will learn Functional, Logic Languages like Prolog, Lisp.
- CO5:** Students will know how to analyze semantic issues associated with function implementations, including variable binding, scoping rules, parameter passing.

PMCS 304: Artificial Intelligence

- CO1:** Demonstrate fundamental understanding of the history of artificial intelligence (AI) and its foundations.
- CO2:** Apply basic principles of AI in solutions that require problem solving, inference, perception, knowledge representation, and learning.
- CO3:** To analyze and formalize the problem as a state space, graph, design heuristics
- CO4:** Understand the numerous applications and huge possibilities in the field of AI
- CO5:** Ability to express the ideas in AI research and programming language related to emerging technology.

PMCS 402.1: Big Data Analytics

- CO1:** Students will be able to understand the building blocks of Big Data
- CO2:** Ability to use HADOOP in the process of undertaking Analytics
- CO3:** learn how to run queries against on MongoDB instance to store, manipulate and retrieve data on it.
- CO4:** Implement and evaluate the data manipulation procedures using pig
- CO5:** Explore different features of Jaspersoft Studio, add reports to the design of your report.

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COURSE OUTCOMES (COs)

PMCS 402.2: Machine Learning

- CO1:** Understand a very broad collection of machine learning algorithms and problems
- CO2:** Choose and setup suitable parametric methods build nonparametric density estimates
- CO3:** Model and estimate the machine before and after fine- tuning
- CO4:** Factorize the problems using clustering and non-parametric methods
- CO5:** Model and estimate the machine before and after fine- tuning using ensemble methods

PMCS 403.1: Cloud Computing

- CO1:** To understand the principles and paradigm of Cloud Computing
- CO2:** Ability to design and deploy Cloud Infrastructure
- CO3:** Understand cloud security issues and solutions
- CO4:** Ability to understand role of Virtualization Technologies
- CO5:** Design & develop backup strategies for cloud data based on features

PMCS 403.2: DNA Computing

- CO1:** Discuss the High-Performance computing like parallel, distributed and DNA computing
- CO2:** Ability to analyze the Structure of DNA, RNA, difference between DNA and RNA, Splicing System, Polymerase chain reaction and Synthetization
- CO3:** Discuss the technologies for modern high-throughput DNA sequencing and their applications
- CO4:** Discuss the Quantum Cryptography advantages & disadvantages, DNA Cryptography advantages & disadvantages.
- CO5:** Implementation of DES using DNA, DNA ASCII Table Cryptography using DNA

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COURSE OUTCOMES (COs)

PMCS 404: Web Technologies

- CO1:** Understand, analyse and apply the role languages like HTML, CSS, XML, JavaScript and protocols in the workings of web and web applications.
- CO2:** Understand about network and security programming using Java and know about the application of dynamic page functionality in web pages using CGI, Servlets, JSP, and ASP.
- CO3:** Create and communicate between client and server using Java and create a good, effective and dynamic website.
- CO4:** Develop a dynamic webpage by the use of JavaScript and DHTML.
- CO5:** Understand and write a well-formed / valid XML document

PMCS105: PROGRAMMING AND PROBLEM-SOLVING USING PYTHON LAB

- CO1:** Use branching and looping statements to implement a given problem.
- CO2:** Implement operator overloading using member functions where it is essential.
- CO3:** Programs to demonstrate the implementation of strings.
- CO4:** Illustrates run time and compile time polymorphism
- CO5:** Implement various searching and sorting algorithms.

PMCS106: DATA STRUCTURES LAB

- CO1:** Implement basic data structures
- CO2:** implementation of various operations on stack and queue.
- CO3:** implementation of various applications of stack.
- CO4:** fundamental algorithmic problems including Tree Traversals.
- CO5:** Implement various searching and sorting algorithms.

PMCS206: UNIX OPERATING SYSTEMS LAB

- CO1:** Experiment with Unix commands and shell programming. Build 'C' program for process and file system management using system calls
- CO2:** Choose the best CPU scheduling algorithm for a given problem instance.
- CO3:** Implement various inter process communication mechanisms.
- CO4:** Identify the performance of various page replacement algorithms
- CO5:** Develop algorithm for deadlock avoidance, detection and file allocation strategies

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COURSE OUTCOMES (COs)

PMCS207: DATABASE MANAGEMENT SYSTEMS LAB

- CO1:** Infer database language commands to create simple database
- CO2:** Analyze the database using queries to retrieve records
- CO3:** Implement various advanced queries execution such as relational constraints and joins.
- CO4:** Implement various advanced queries execution such as aggregate functions and set operations.
- CO5:** Develop solutions using database concepts for real time requirements.

PMCS306: COMPILER DESIGN LAB

- CO1:** Understanding the basic principles of lexical, syntax, and semantic analysis.
- CO2:** Ability to design and implement a lexical analyzer, syntax analyzer and semantic analyzer.
- CO3:** Knowledge of code optimization techniques and implementation of code optimization.
- CO4:** Understanding of code generation and implementation of code generator for a given target architecture.
- CO5:** Familiarity with various phases of a compiler and the interaction between different phases.

PMCS307: COMPUTER NETWORKS LAB

- CO1:** Understanding of the Data Link Layer Frames
- CO2:** Ability to setup and configure a network, including addressing, subnetting, and routing.
- CO3:** Familiarity with network layer protocols
- CO4:** Knowledge of network security concepts, such as encryption
- CO5:** Hands-on experience with network programming.

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COURSE OUTCOMES (COs)

PMCS405: WEB TECHNOLOGIES LAB

- CO1:** Understanding of the basics of HTML, CSS, and JavaScript for creating dynamic web pages.
- CO2:** Hands-on experience with jQuery, including creating interactive elements and manipulating the Document Object Model (DOM).
- CO3:** Ability to use PHP for server-side scripting, including form processing and database connectivity.
- CO4:** Knowledge of common web development frameworks and libraries
- CO5:** Familiarity with web development tools and best practices, including debugging

PMCS406: PROJECT

- CO1:** Development of critical thinking and problem-solving skills through independent research and project implementation.
- CO2:** Experience in design and implementation of a substantial software project, using appropriate programming languages and tools.
- CO3:** Exposure to project management and development processes, including requirements analysis, design, testing, and documentation.
- CO4:** Development of technical writing and oral presentation skills, through documentation of the project and presentation to peers and instructors.
- CO5:** Understanding of the ethical, social, and professional responsibilities associated with software development and use.

PMCS401: INTRODUCTION TO COMPUTER VISION AND IMAGE PROCESSING

- CO1:** Describe the applications and tools of computer vision across different industries.
- CO2:** Review the fundamental concepts of digital image processing.
- CO3:** Describe the basics of image classification. Able to create image classifier using supervised learning techniques using CV Studio
- CO4:** Execute an implementation of an image classification using tools such as PyTorch
- CO5:** Evaluate the classification Performance Haar Cascade Classifiers and CNN models.

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COURSE OUTCOMES (COs)

M.A (CHEMISTRY)

OCH101: General chemistry

- CO1:** understand titrimetric analysis.
- CO2:** understand treatment of Analytic data.
- CO3:** understand different purification techniques in organic chemistry like recrystallization, distillation, steam distillation and extraction.
- CO4:** discuss the techniques of chromatography.
- CO5:** Qualifications of HPLC and GC methods.

OCH102: Organic chemistry-1

- CO1:** Understanding the main difference between aromatic, non-aromatic, and anti-aromatic compounds.
- CO2:** To understand and analyse the chemistry of reactive intermediates.
- CO3:** Understanding the mechanism and stereochemical aspects of addition reaction involving electrophiles and free radicals.
- CO4:** Understanding the types of reactions and mechanisms of the eliminations and substitutions reactions.
- CO5:** Understanding the substitution reactions of SN1, SN2 and SNi mechanisms

OCH 103: Inorganic chemistry

- CO1:** understand quantum mechanics, schrodinger's equation, linear variational principle, perturbation theory.
- CO2:** understand chemistry of non-transition element and bonding in metal pi - complexes.
- CO3:** learn the concept of hybridization and molecular orbital energy level diagram to understand structure and bonding in molecules.
- CO4:** discuss d-orbital splitting patterns in different geometries like cathedral, tetrahedral, mot, cft diagram.
- CO5:** understand metal -ligand equilibrium in solutions.

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COURSE OUTCOMES (COs)

OCH 104: physical chemistry -1

- CO1:** Understanding the classical thermodynamics of first law, second law and partial molar quantities
- CO2:** Learn the theories of surface chemistry and their factors affecting the CMC of surfactants.
- CO3:** Analyse and apply the principles of electrochemistry in real world problems.
- CO4:** Learn and understanding the theories of reactions rates.
- CO5:** Explain vibration of diatomic molecules, the vibrational spectra of diatomic molecules.

OCH105: Organic chemistry practical-1

- CO1:** To develop problem solving skills
- CO2:** To develop skills in the proper handling of apparatus and chemicals.
- CO3:** To be exposed to the different processes used in industries and their applications.
- CO4:** The students will develop skills in solvent extraction, TLC and column chromatography enable the students in organic preparation.
- CO5:** The students will get training for systematic qualitative analysis of simple organic compounds.

OCH 106: Inorganic chemistry practical -1

- CO1:** To develop problem solving skills
- CO2:** To be exposed to the different processes used in industries and their applications.
- CO3:** To develop skills in the proper handling of apparatus and chemicals.
- CO4:** The students will be able to knowledge in estimation of compounds through preliminary tests such as nature, colour and solubility of compounds.
- CO5:** the students will be able to develop skills and learning about Salt analyse and can apply their knowledge in estimation of compounds present in water, food. Etc.,

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COURSE OUTCOMES (COs)

OCH 201: Organic spectroscopy

- CO1:** understand the principles of ultraviolet /visible spectroscopy, Woodward fieser rules and applications.
- CO2:** understand the principles of IR spectroscopy, instrumentation, applications.
- CO3:** understand HNMR spectroscopy, instrumentation, chemical shifts, coupling constants, applications of HNMR spectroscopy.
- CO4:** understand how to interpret nuclear magnetic resonance spectrum
- CO5:** explain principle of mass spectroscopy, instrumentation fragmentation, applications.

OCH 202: Organic chemistry

- CO1:** Formulate mechanisms of organic reactions and identify many organic reactions mechanisms.
- CO2:** understand various terminology in stereochemistry.
- CO3:** will be able to draw stereochemical structures of different molecules, understand isolation of racemic mixture.
- CO4:** understand chemistry of nanomaterials.
- CO5:** Became aware of green chemistry and role of green chemistry in pollution reduction.

OCH 203: Inorganic chemistry -2

- CO1:** Preparative methods and various types of reactions of metal clusters compounds.
- CO2:** Understanding fundamental reaction types and mechanisms and how to combine these to understand efficient catalytic processes.
- CO3:** Identify the principles, structures and reactivity of selected coordination complexes.
- CO4:** Analyse the electronic spectra of coordination compounds.
- CO5:** Utilize the principles of transition metal coordination complexes in understanding functions of biological systems.

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COURSE OUTCOMES (COs)

OCH 204: Physical chemistry -2

- CO1:** Describe the third law of thermodynamics and partition functions.
- CO2:** Understanding the thermal characters and affecting factors of thermal behaviour and solve the problem polymer methods uses determining the molecular weight.
- CO3:** Evaluate potentiometric methods and explain the types of indicator electrodes and the derivatives and laws of electrochemistry.
- CO4:** The limitations and uses of model for the solution of applied photochemistry reaction involving chemical kinetics.
- CO5:** Understand the symmetry and plane of symmetry of molecules

OCH 207: Chemistry in daily life

- CO1:** students understand the laboratory safety symbols.
- CO2:** students will be understanding the meaning of the environmental chemistry.
- CO3:** students will be able to understand the bioinorganic chemistry and essential elements.
- CO4:** students will be able to understand the biological functions of hormones.
- CO5:** students will be able to understand the disease of action of medicinal chemistry.

OCH205: Organic chemistry practical -2

- CO1:** To develop problem solving skills
- CO2:** To be exposed to the different processes used in industries and their applications.
- CO3:** To develop skills in the proper handling of apparatus and chemicals.
- CO4:** students will learn separation of binary organic mixtures based on acid-based concept and determine of their melting point.
- CO5:** students will develop the preparations of organic compounds.

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COURSE OUTCOMES (COs)

OCH206: Physical chemistry practical -2

- CO1:** To be exposed to the different processes used in industries and their applications.
- CO2:** To develop problem solving skills
- CO3:** To develop skills in the proper handling of apparatus and chemicals.
- CO4:** students will learn how to perform acid and bases titration using a conductometry and potentiometry.
- CO5:** students will learn critical solution Temperature of phenom -water systems.

OCH301: Advanced organic spectroscopy

- CO1:** ^{13}C NMR spectroscopy and structure elucidation of compounds using ^{13}C NMR.
- CO2:** apply techniques for structure determinations of organic molecules and perform statistical analyses of chemical data by developing Analytic method.
- CO3:** understand how to interpret 2D NMR spectroscopy.
- CO4:** understand ESR spectroscopy, instrumentation and structure elucidation of compounds using ESR spectroscopy.
- CO5:** understand optical rotatory dispersion and CD spectroscopy and application of octant rule to study organic molecules.

OCH302: Organic reactions and mechanisms

- CO1:** Have the core idea about advanced organic chemistry principles and theories to develop research-oriented skills in applied organic chemistry.
- CO2:** Understand the concept and definitions of aliphatic nucleophilic and electrophilic substitution reactions, fundamentals of free radicals, tricyclic chemistry.
- CO3:** In depth knowledge about organic chemical reactions with a focus on principles for effective synthetic strategies.
- CO4:** Identify and write type of mechanism involved in photochemical reactions.
- CO5:** oxidations-reductions and their use in metallurgy.

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COURSE OUTCOMES (COs)

OCH303: Modern organic synthesis

- CO1:** Understand organometallic reagents, various organic synthesis.
- CO2:** understand the oxidation and reduction reaction in organic synthesis.
- CO3:** Students will learn about various rearrangements involved in organic synthesis.
- CO4:** The various protection and deprotection of important functional groups
- CO5:** The students will be able to understand the concept of retrosynthesis and the terms involved.

OCH 304: Natural products

- CO1:** Explain structural determinations of alkaloids.
- CO2:** Explain structural determinations of terpenoids.
- CO3:** Explain structural determinations of steroids.
- CO4:** explain structural determinations of flavonoids and isoflavones.
- CO5:** Explain structural determinations of carotenoids.

OCH305: Oorganic chemistry practical -3

- CO1:** After studying Course the student shall be able to understand the Handling of the hazardous chemicals by safely
- CO2:** Predict and analysis of the major and minor products of a variety of organic reactions.
- CO3:** Calculation of yield, percentage yield of the chemical reactions.
- CO4:** Organic reaction mechanism of the chemical reaction
- CO5:** Calculate the theoretical yield of the product.

OCH306: Organic chemistry practical -4

- CO1:** Develops the separation techniques for binary organic mixtures.
- CO2:** Analyse and identifies the functional groups of a given unknown organic compound
- CO3:** Predicts the nature of organic molecules by their reactions
- CO4:** Determines the physical constants accurately and precisely
- CO5:** Identify the different elements present in an organic compound

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COURSE OUTCOMES (COs)

200CH307: Water Analysis

- CO1:** Understand meaning of important parameters for measuring water quality;
- CO2:** Water quality criteria and standards, and their relation to public health, environment and urban water cycle;
- CO3:** Learn how to run accurate water quality tests and to determine how the parameters relate to each other;
- CO4:** Plan water quality surveillance for a given aquatic environment and to understand what a test result means in terms of the health of the ecosystem.
- CO5:** To build understanding of water quality parameters and their relation to public health and environment.

OCH402.1: Heterocyclic compounds

- CO1:** Understand nomenclature of heterocyclic and.
- CO2:** Understanding the structure, mechanism of reactions of selected heterocyclic compounds.
- CO3:** Heterocyclic synthesis, synthesis of pharmaceutical compounds.
- CO4:** The students abroad idea about amino acids and heterocycles.
- CO5:** The students will be able to get a comprehensive knowledge about carbohydrate and some heterocycles.

OCH403.1: Bioinorganic chemistry

- CO1:** Understand carbohydrate, classifications and stereochemistry of carbohydrates.
- CO2:** understand amino acids and proteins, classifications, determinations of c-terminal and amino acids.
- CO3:** understand vitamins, classifications and stereochemistry of vitamins.
- CO4:** understand nucleic acids, their hydrolysis products, reaction of nucleic bases and mutation.
- CO5:** understand biopolymers, classifications, processing and applications of bio polymers

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COURSE OUTCOMES (COs)

OCH404: Organometallic reagents

- CO1:** understanding the preparation of grignard reagent and alkyl lithium reagent in organo magnesium and lithium compounds.
- CO2:** understanding the preparations and reaction of organo copper and nickel compounds.
- CO3:** Explain the synthetic applications of organosilicon compounds.
- CO4:** understanding the preparation and functional groups transformations of organoboranes.
- CO5:** Explain the preparations, properties and medicinal applications of organoplatinum complexes.

OCH401: MOOCS

- CO1:** Students will learn practicing MOOCS through digital platforms
- CO2:** "Students will learn to personalise the Digital Technologies by MOOCS in addition to the course of study"
- CO3:** Students will strengthen future focused learning through MOOCS
- CO4:** "Students will be independent to choose from any MOOCS choice of any platform"
- CO5:** Students will avail the online Resources through MOOCS

OCH405: Organic chemistry (practical 5)

- CO1:** Identify the different elements present in an organic compound
- CO2:** Understand the concept of chromatography.
- CO3:** purification of the organic compounds by crystallisation, precipitation and distillation etc
- CO4:** Develops the separation techniques for a mixture of organic molecules and drug materials through chromatographic techniques.
- CO5:** molecules and drug materials through chromatographic precipitation and distillation etc.,

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COURSE OUTCOMES (COs)

OCH 406: Minor project

- CO1:** students will be able to design and carry out scientific experimental as well as accurately record and analysis the result of such experiment.
- CO2:** students will be able to clearly communicate the result of scientific work in oral, written and electronic format to both scientific and the public at large.
- CO3:** students will be able to explore new area of research in both chemistry and allied field of science and technology.
- CO4:** students will be able to explain why chemistry is an integral activity for addressed social, economic and environment problems.
- CO5:** students will be able to function as a member of an interdisciplinary problems solving team.

M.A (MATHEMATICS)

PMAT 101: Real analysis-I

- CO1:** Apply the knowledge of concepts of real analysis in order to study theoretical development of different mathematical techniques and their applications.
- CO2:** Understand the nature of abstract mathematics and explore the concepts in further details.
- CO3:** Identify challenging problems in real variable theory and find their appropriate solutions.
- CO4:** Deal with axiomatic structure of metric spaces and generalize the concepts of sequences and series, and continuous functions in metric spaces.
- CO5:** Use theory of Riemann-Stieltjes integral in solving definite integrals arising in different fields of science and engineering.

PMAT 102: Ordinary differential equations

- CO1:** Understand ordinary differential equations of various types, their solutions, and fundamental concepts about their existence.
- CO2:** Understand the concept and applications of eigen value problems.
- CO3:** Understand differential equations of Sturm Liouville type.
- CO4:** Apply various power series methods to obtain series solutions of differential equations.
- CO5:** Discuss various kinds of special functions in detail, their properties and relations.

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COURSE OUTCOMES (COs)

PMAT 103: C-programming

- CO1:** Understand the features of C supporting object oriented programming
- CO2:** Understand the relative merits of C as an object-oriented programming language
- CO3:** Understand how to produce object-oriented software using C
- CO4:** Learn to implement algorithms and draw flow charts for mathematical methods
- CO5:** understand the advanced features of C

PMAT 104: Algebra

- CO1:** Apply the knowledge of Algebra to attain a good mathematical maturity and enables to build mathematical thinking and skill.
- CO2:** Utilize the class equation and Sylow theorems to solve different related problems.
- CO3:** Identify and analyze different types of algebraic structures such as Solvable groups, Simple groups, alternative groups to understand and use the fundamental results in Algebra.
- CO4:** Design, analyze and implement the concepts of homomorphism and isomorphism between groups and rings for solving different types of problems, for example, Isomorphism theorems, quotient groups, conjugacy etc.
- CO5:** Create, select and apply appropriate algebraic structures such as finitely generated abelian groups, Ideals, Fields to explore the existing results.

MAT104: Topology

- CO1:** Understand the concepts of topological spaces and the basic definitions of open sets, neighbourhood, interior, exterior, closure and their axioms for defining topological space.
- CO2:** Understand the concept of Bases and Subbases, create new topological spaces by using subspace.
- CO3:** Understand continuity, compactness, connectedness, homeomorphism and topological properties.
- CO4:** Understand how points of space are separated by open sets, Hausdorff spaces and their importance.
- CO5:** Understand regular and normal spaces and some important theorems in these spaces.

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COURSE OUTCOMES (COs)

MAT105: Discrete mathematics

- CO1:** Discuss the theory of inference, quantifiers, predicate calculus.
- CO2:** Describe the TF statements, connectives, atomic and compound statements.
- CO3:** Define Semigroups, Monoids, Homomorphism and Isomorphism.
- CO4:** Interpret Lattices, Boolean Algebra, Karnaugh Map, Switching Circuits.
- CO5:** Illustrate Tautology, Tautological implication, Truth Tables, Normal Forms,

PMAT 201: Complex analysis

- CO1:** Know the fundamental concepts of complex analysis.
- CO2:** Evaluate complex integrals and apply Cauchy integral theorem and formula.
- CO3:** Evaluate limits and checking the continuity of complex function & apply the concept of analyticity and the Cauchy-Riemann equations.
- CO4:** "Solve the problems using complex analysis techniques applied to different situations in engineering and other mathematical contexts."
- CO5:** "Establish the capacity for mathematical reasoning through analysing, proving and explaining concepts from complex analysis"

PMAT 202: Numerical methods

- CO1:** Identify and analyze different types of errors encountered in numerical computing.
- CO2:** Apply the knowledge of Numerical Mathematics to solve problems efficiently arising in science, engineering and economics etc.
- CO3:** Design, analyze and implement of numerical methods for solving different types of problems, viz. initial and boundary value problems of ordinary differential equations etc.
- CO4:** Create, select and apply appropriate numerical techniques with the understanding of their limitations so that any possible modification in these techniques could be carried out in further research.
- CO5:** Identify the challenging problems in continuous mathematics (which are difficult to deal with analytically) and find their appropriate solutions accurately and efficiently.

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COURSE OUTCOMES (COs)

PMAT 203: Partial differential equations

- CO1:** Understand partial differential equations of first order (linear and nonlinear), second and higher order.
- CO2:** Apply various analytic methods for computing solutions of various PDEs.
- CO3:** Understand the formation and solution of some significant PDEs like wave equation, heat equation and diffusion equation.
- CO4:** Apply the knowledge of PDEs and their solutions in order to understand physical phenomena.
- CO5:** Determine integral surfaces passing through a curve, characteristic curves of second order PDE and compatible systems.

PMAT 204: Lattice theory

- CO1:** construct mathematical arguments using logical connectives and quantifiers.
- CO2:** understand how lattices and Boolean algebra are used as tools and mathematical models in the study of networks.
- CO3:** validate the correctness of an argument using statement and predicate calculus.
- CO4:** Determine whether the given lattice is modular or distributive and how to apply M3-N5 theorem
- CO5:** Understand the concept of Boolean algebra and Boolean ring

PMAT 205: Graph theory

- CO1:** learn how to work with some of the discrete structures which include sets, relations, functions, graphs and recurrence relation.
- CO2:** understand the concepts Planarity including Euler identity
- CO3:** discuss and understand the importance of the concepts Matching and Colourings’.
- CO4:** Analyse new networks using the concepts of graph theory
- CO5:** Apply the shortest algorithm to solve real life problems

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COURSE OUTCOMES (COs)

PMAT 206: Real analysis-II

- CO1:** Apply the knowledge of concepts of functions of several variables and measure theory in order to study theoretical development of different mathematical concepts and their applications.
- CO2:** Understand the nature of abstract mathematics and explore the concepts in further details
- CO3:** Utilize the concepts of derivative, MVTS for vector-valued functions in applications different fields for example management, industry and economics etc.
- CO4:** Recognize the need of concept of measure from a practical viewpoint.
- CO5:** Understand measure theory and integration from theoretical point of view and apply its tools in different fields of applications.

MAT201: Galois theory

- CO1:** Explain the fundamental concepts of field extensions and galois theory and their role in modern mathematics
- CO2:** Demonstrate accurate and efficient use of field extensions
- CO3:** Demonstrate capacity for mathematical reasoning through analyzing proving explain the concepts from field extensions and galois theory
- CO4:** Apply problem solving using field extensions and galois theory applied to diverse situations in physics engineering and mathematical contexts
- CO5:** Application of Galois theory to classical problems

PMAT301: Topology

- CO1:** Understand the concepts of topological spaces and the basic definitions of open sets, neighbourhood, interior, exterior, closure and their axioms for defining topological space.
- CO2:** Understand the concept of Bases and Subbases, create new topological spaces by using subspace.
- CO3:** Understand continuity, compactness, connectedness, homeomorphism and topological properties.
- CO4:** Understand how points of space are separated by open sets, Hausdorff spaces and their importance.
- CO5:** Understand regular and normal spaces and some important theorems in these spaces.

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COURSE OUTCOMES (COs)

PMAT 302: Probability and statistics

- CO1:** Tackle big data and draw inferences from it by applying appropriate statistical techniques.
- CO2:** Explore the basic ideas about measures of central tendency, dispersion and their applications in other statistical problems.
- CO3:** Explain the different types of discrete and continuous distributions and their utilization.
- CO4:** Apply the knowledge of statistical techniques in various experimental and industrial requirements.
- CO5:** The course also serves as a prerequisite to other statistics courses such as probability theory and mathematical statistics

PMAT 303: Galois theory

- CO1:** Explain the fundamental concepts of field extensions and Galois theory and their role in modern mathematics
- CO2:** Demonstrate accurate and efficient use of field extensions
- CO3:** Demonstrate capacity for mathematical reasoning through analyzing proving explain the concepts from field extensions and Galois theory
- CO4:** Apply problem solving using field extensions and Galois theory applied to diverse situations in physics engineering and mathematical contexts
- CO5:** Application of Galois theory to classical problems

PMAT 304: Mathematical methods

- CO1:** Utilize the symbolic tools for handling different mathematical problems for example, solution of equations, differentiation, integration etc.
- CO2:** Design and analyze their own computer codes of mathematical methods.
- CO3:** Understand and modify existing codes in scientific computing based on the use of different loops and conditional structures.
- CO4:** Identify the challenging problems in mathematics and find their appropriate solutions accurately and efficiently.
- CO5:** Apply the knowledge of mathematics to solve real world problems efficiently.

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COURSE OUTCOMES (COs)

PMAT 305: Analytic number theory

- CO1:** Apply the knowledge of Number theory to attain a good mathematical maturity and enables to build mathematical thinking and skill.
- CO2:** Utilize the congruences, Chinese remainder theorem, indices, residue classes, Legendre symbols to solve different related problems.
- CO3:** Identify and analyze different types of divisibility tests, Euler's theorem, Wilson theorem, Mobius inversion formula to formulate and solve various related problems.
- CO4:** Design, analyze and implement the concepts of Diophantine equations for solving different types of problems, for example, sum of two and four squares.
- CO5:** Identify the challenging problems in modern mathematics and find their appropriate solutions.

POE MAT 306: Matrix theory (open elective I)

- CO1:** Carry out matrix operations, including inverses and determinants.
- CO2:** Solve systems of linear equations using multiple methods, including Gaussian elimination and matrix inversion.
- CO3:** Finding the rank of the matrix by echelon form and normal form
- CO4:** Determine eigenvalues and eigenvectors and solve eigenvalue problems.
- CO5:** Cayley Hamilton Theorem and it's applications

MAT301: Rings and modules

- CO1:** Develop abstract mathematical thinking about rings
- CO2:** Explain the concept of Factorisation domains, unique factorisation domains etc
- CO3:** Understand concept of modules, submodules etc
- CO4:** Study different rings like Artin ring, Noetherian ring

MAT 302: Complex analysis

- CO1:** Know the fundamental concepts of complex analysis.
- CO2:** Evaluate complex integrals and apply Cauchy integral theorem and formula.

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COURSE OUTCOMES (COs)

- CO3:** Evaluate limits and checking the continuity of complex function & apply the concept of analyticity and the Cauchy-Riemann equations.
- CO4:** "Solve the problems using complex analysis techniques applied to different situations in engineering and other mathematical contexts."
- CO5:** "Establish the capacity for mathematical reasoning through analysing, proving and explaining concepts from complex analysis"

MAT303: Functional analysis

- CO1:** Explain the fundamental concepts of functional analysis and their role in modern mathematics
- CO2:** utilise the concepts of functional analysis for example continuous and bounded operators, normal spaces, Hilbert spaces and to study the behaviour of different mathematical expression arising in science and engineering
- CO3:** Understand and apply fundamental theorems from the theory of normed and Banach spaces including Hann. Banking theorem open mapping theorem
- CO4:** Understand the nature of abstract mathematics and explore the concepts in further details
- CO5:** Explain the concept of projection on Hilbert and Banach space

MAT 304-A: Lattice theory

- CO1:** construct mathematical arguments using logical connectives and quantifiers.
- CO2:** understand how lattices and Boolean algebra are used as tools and mathematical models in the study of networks.
- CO3:** validate the correctness of an argument using statement and predicate calculus.
- CO4:** Determine whether the given lattice is modular or distributive and how to apply M3-N5 theorem
- CO5:** Understand the concept of Boolean algebra and Boolean ring

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COURSE OUTCOMES (COs)

MAT 304-B: Semi groups

- CO1:** Understand basic definitions of Semigroups, Semilattices and Lattices, and their basic Results.
- CO2:** Understand Free semi groups, ideals and green's equivalence
- CO3:** Determine structure of D ' classes
- CO4:** Analyze Simple and Q-Simple Semigroups, and Rees's Theorem.
- CO5:** Describe Congruences on Completely O-Simple Semigroups and Finite Congruences.

MAT 305-A: Theory of computer science-I

- CO1:** Analyse and design finite automata, formal languages and grammar
- CO2:** Explain the basic concepts of finite automata, regular language, context free language
- CO3:** To construct context free grammar for various languages
- CO4:** Solve various problems applying pushdown automata
- CO5:** construct regular expressions for finite automata

MAT 305-B: Linear programming

- CO1:** Apply the knowledge of basic optimization techniques in order to get best possible results from a set of several possible solution of different problems viz. linear programming problems, transportation problem, assignment problem and unconstrained and constrained problems etc.
- CO2:** Formulate an optimization problem from its physical consideration.
- CO3:** Select and implement an appropriate optimization technique keeping in mind its limitations in order to solve a particular optimization problem.
- CO4:** Understand theoretical foundation and implementation of similar type optimization techniques available in the scientific literature.
- CO5:** Continue to acquire knowledge and skills of optimization techniques that are appropriate to professional activities

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COURSE OUTCOMES (COs)

MAT401: MOOCS

- CO1:** Students will learn practicing MOOCS through digital platforms
- CO2:** "Students will learn to personalise the Digital Technologies by MOOCS in addition to the course of study"
- CO3:** Students will strengthen future focused learning through MOOCS
- CO4:** "Students will be independent to choose from any MOOCS choice of any platform"
- CO5:** Students will avail the online Resources through MOOCS

PETMAT 402-A: Mathematical modelling

- CO1:** Able to understand the use of mathematics
- CO2:** to solve a variety of problems across various disciplines.
- CO3:** Able to apply core techniques of mathematical modelling to model, analyze and interpret real life scenarios
- CO4:** Able to formulate and communicate effectively the mathematical models of situations

PET MAT 402(B): Integral transforms (Elective -I)

- CO1:** Know about piecewise continuous functions, Dirac delta function, Laplace transforms and it's properties
- CO2:** Solve ordinary differential equations using Laplace transforms.
- CO3:** Familiarise with Fourier transforms of functions belonging to $L^1(\mathbb{R})$ class, relation between Laplace and Fourier transforms
- CO4:** Explain Parseval's identity, Plancherel's theorem and applications of Fourier transforms to boundary value problems
- CO5:** Learn Fourier series, Bessel's inequality, term by term differentiation and integration of Fourier series

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COURSE OUTCOMES (COs)

PET MAT402-C: Lebesgue theory

- CO1:** Measurable sets and Lebesgue measure, construction of non-measurable sets
- CO2:** Lebesgue integration, convergence theorems for Lebesgue integrals and Fubini's theorem
- CO3:** Explain L^p spaces and Fourier inversion formula.
- CO4:** Connection between differentiation and integration in the context of Lebesgue theory
- CO5:** Explain Definition and properties of the exterior measure on \mathbb{R}^d

PET MAT 403-A: Algebraic coding theory

- CO1:** understand the concept of Maximum-Likelihood Decoding and Syndrome Decoding.
- CO2:** analyze Double Error-Correcting B.C.H. code and Finite Fields Polynomials.
- CO3:** understand Cyclic Codes.
- CO4:** study the concept of Bose-Chaudhuri-Hocquenghem (B.C.H.) Codes and Weight Distributions.
- CO5:** learn about basic techniques of algebraic coding theory like matrix encoding, polynomial encoding, and decoding by coset leaders etc

PET MAT 403(B): Linear programming (Elective-II)

- CO1:** Apply the knowledge of basic optimization techniques in order to get best possible results from a set of several possible solutions of different problems viz. linear programming problems, transportation problem, assignment problem and unconstrained and constrained problems etc.
- CO2:** Formulate an optimization problem from its physical consideration.
- CO3:** Select and implement an appropriate optimization technique keeping in mind its limitations in order to solve a particular optimization problem.
- CO4:** Understand theoretical foundation and implementation of similar type optimization techniques available in the scientific literature.
- CO5:** Continue to acquire knowledge and skills of optimization techniques that are appropriate to professional activities

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COURSE OUTCOMES (COs)

PET MAT 403-C: Discrete mathematical structures

- CO1:** Discuss the theory of inference, quantifiers, predicate calculus.
- CO2:** Describe the TF statements, connectives, atomic and compound statements.
- CO3:** Define Semigroups, Monoids, Homomorphism and Isomorphism.
- CO4:** Interpret Lattices, Boolean Algebra, Karnaugh Map, Switching Circuits.
- CO5:** Illustrate Tautology, Tautological implication, Truth Tables, Normal Forms,

P MAT 404: Functional analysis

- CO1:** Explain the fundamental concepts of functional analysis and their role in modern mathematics
- CO2:** utilise the concepts of functional analysis for example continuous and bounded operators, normal spaces, Hilbert spaces and to study the behaviour of different mathematical expression arising in science and engineering
- CO3:** Understand and apply fundamental theorems from the theory of normed and Banach spaces including Hahn-Banach theorem open mapping theorem
- CO4:** Understand the nature of abstract mathematics and explore the concepts in further details
- CO5:** Explain the concept of projection on Hilbert and Banach space

PMAT 405: Measure and integration

- CO1:** Measurable sets and Lebesgue measure, construction of non-measurable sets
- CO2:** Lebesgue integration, convergence theorems for Lebesgue integrals and Fubini's theorem
- CO3:** Explain L^p spaces and Fourier inversion formula.
- CO4:** Connection between differentiation and integration in the context of Lebesgue theory
- CO5:** Explain Definition and properties of the exterior measure on \mathbb{R}^d .

PSM MAT 406: Seminar

- CO1:** Student will be able to show competence in presentation skills
- CO2:** Student will be able to show competence in discussion skills
- CO3:** Student will be able to show competence in Listening skills
- CO4:** Students will be able to show competence in argumentative skills
- CO5:** students will demonstrate their understanding of discussions

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COURSE OUTCOMES (COs)

MAT401: Non-commutative rings

- CO1:** student will be able to Characterize primitive rings and completely reducible modules
- CO2:** "The student will be able to Decide whether a given ring or module, or a class of rings or modules, is Noetherian artinian/semi simple by applying characterisations"
- CO3:** "The student will be able to: Identify local rings, semi-perfect rings, Characterize Injective and Projective modules."
- CO4:** "Know the relations between different types of modules. endomorphisms of injective modules"
- CO5:** "The student will be able to Understand the concepts of tensor products of modules, Hom and functors, exact sequences"

MAT403: Operator theory

- CO1:** students know special classes of bounded linear operator and study why each of them is important and significant
- CO2:** a parallel study of unbounded linear operator is also done to give the student a complete
- CO3:** introduce the student to terms, concepts and results for bounded linear operators which are commonly used in this particular area of mathematics
- CO4:** the students which are relevant to current research and prepare the student to pursue such a career

MAT 404-A: Algebraic coding theory

- CO1:** understand the concept of Maximum-Likelihood Decoding and Syndrome Decoding.
- CO2:** analyze Double Error-Correcting B.C.H. code and Finite Fields Polynomials.
- CO3:** understand Cyclic Codes.
- CO4:** study the concept of Bose-Chaudhuri-Hocquenghem (B.C.H.) Codes and Weight Distributions.
- CO5:** learn about basic techniques of algebraic coding theory like matrix encoding, polynomial encoding, and decoding by closet leaders etc

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COURSE OUTCOMES (COs)

MAT 404-B: Fuzzy sets and applications

- CO1:** Understand the basic concepts of fuzzy sets, properties of α -cut sets and extension principle of fuzzy sets.
- CO2:** Describe fuzzy compliments, fuzzy intersections and fuzzy unions.
- CO3:** Understand the concept of fuzzy arithmetic.
- CO4:** Understand the concept of fuzzy arithmetic.
- CO5:** understand the concepts of fuzzy compatibility relations, fuzzy ordering relations and fuzzy morphisms.

MAT 404-C: Near rings

- CO1:** "Understand elementary and basic concepts of near-rings and its natural examples and homomorphisms and its ideal-like concepts."
- CO2:** Analyse ideal theory of near-rings and demonstrate the concepts of prime ideal, nil ideal and nilpotent ideal of a near-ring.
- CO3:** Understand the structure theory of near-rings and apply it for a given near-ring.
- CO4:** Describe different types of primitive near-rings and their structures.
- CO5:** Describe the types of radicals


MAT 405-A: Theory of computer science-II

- CO1:** Outline the characteristics of NP problem
- CO2:** solve computational problems regarding their computability and complexity and prove the basic results of the theory of computation
- CO3:** Understand turning machines and their capability
- CO4:** Interpret the concept of LR(k) grammar
- CO5:** Understand the rules of inference of propositional and predicate calculus

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COURSE OUTCOMES (COs)

MAT 405-B: Operations research

- CO1:** Apply the knowledge of basic optimization techniques in order to get best possible results from a set of several possible solutions of different problems like linear programming problems, transportation problems, assignment problems and etc
- CO2:** Formulate an optimization problem from its physical consideration.
- CO3:** Select and implement an appropriate optimization technique keeping in mind its limitation in order to solve a particular optimization problem
- CO4:** Understand theoretical foundation and implementation of similar type optimization techniques available in the scientific literature
- CO5:** Continue to acquire knowledge and skills of optimization techniques that are appropriate to professional activities


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