LOCF

Learning Outcomes Based Curricular Framework

POs, PSOs and COs

UNDERGRADUATE PROGRAMMES

LANGUAGES

PROGRAM OUTCOMES

- Students undergoing the program will improve their basic English language skills like reading, listening, comprehending, speaking, debating and writing
- Learners will gain confidence to use an international language and become competent global citizens in an age of globalization
- Teaching language for first generation learners
- Multicultural and multi lingual approach.

PROGRAM SPECIFIC OUTCOMES

- Students will improve their reading and interpreting skills by introducing them to texts on specific social, economic, cultural, political issues. Such texts through their contemporaneity will contextualize language and help students to think critically an articulate their thoughts in classroom discussions.
- They will learn to communicate with teachers, their peers and other with speakers in public domain using English language. They will be able to read and comprehend reference materials related to core subjects of their discipline. They should be able to read English language newspapers and also understand English language content available on television and also social media platforms
- Students should also be able to distinguish between formal, colloquial, journalistic, poetic, scientific forms and registers of language.

Course Outcomes:

- reading competence through engagement with challenging texts of selected prose, poetry and short stories
- logical thinking, analytical skills and critical thinking abilities through such engagement
- Conversation skills through Dialogue Writing
- Analytical skills through interpreting Graphs and Charts
- Logical thinking through completing a story by following guiding hints
- Metaphorical use of language through Idioms and Phrases
- Using appropriate Articles and Prepositions
- How to use Question Tags?
- Vocabulary building / semantics / etymology
- Skills of paraphrasing by practice of Precis Writing
- Appropriate use of collocations, Phrasal verbs and Tense forms
- Report Writing – Business Report, Writing Minutes of meetings
- Framing 'Wh' Questions, Use of Active and Passive voice, Direct and Indirect speech
- Critical thinking through analyzing a Cartoon
- Grammatically correct use of Sub- Verb agreement

COMMUNICATIVE ENGLISH

PROGRAM OUTCOMES

- It is basically aimed at developing core competence in various aspects of communication most essential in occupational functions in the field of Journalism, Business and entrepreneurship.
- It is also intended to help students understand the difference between formal and informal use of language
- The focus is largely on Speaking, Writing and listening skills

PROGRAM SPECIFIC OUTCOMES

- Introducing students to the sounds of English language by teaching them the basics of phonetics
- Give students a better understanding of grammar, usage and vocabulary of English language
- Introduce students to writing strategies and train them in soft skills
- Introduce students to the specific language skills required to write for the media
- Develop skills of persuasion be training students in the use of rhetoric and logic in speech and writing
- Technical writing skills: Business English Communication
- Social skills through conversational language, inter-personal communication and Event Management

Course Outcomes (CO 3)

- Introducing Students to Sounds of English.
- Introducing the concept of morphology and morpho- phonemics.
- Enhancing LSRW skills in the students through advanced phonetics.
- Introducing concepts of Word Stress, Sentence Stress and Intonation.
- Develop the skills of Grammar and Vocabulary.
- prepare students for various competitive exams.
- language proficiency, effective presentation and skills of Interaction.
- understanding language skills required for broadcast media.
- understanding of terms such as, fact, truth, subjectivity, objectivity and bias
- understanding various genres of Media Writing, techniques of reporting, reviewing, interviewing and commentary.
- rhetorical devices in writing and speech. skills of Technical Writing
- Language use in blogging and its nuances, editing and indexing skills

ENGLISH MAJOR
PROGRAM OUTCOMES
➢ Students are introduced to various literatures from across the world alongside a survey of canonical British writers ➢ They are introduced to concepts of colonialism, post colonialism, nativism, culturalism and identity ➢ They are introduced to various critical and theoretical approaches to help them develop their critical thinking abilities
PROGRAM SPECIFIC OUTCOMES
➢ Knowledge of British social and cultural history through introduction to canonical texts of British literature ➢ Understanding of diverse cultural contexts of different nations, geographies and people through selected texts of renowned authors ➢ Understanding of Modernism through introduction to relevant texts of prose, poetry, drama and fiction of the 20th century ➢ Knowledge of concepts such as nation, nationalities, race and civilization through introduction to selected texts from the period of Indian nationalist struggle ➢ Knowledge of concepts like colony, colonization and Postcolonialism through historical understanding of relevant texts ➢ Understanding the concept of literary criticism and literary theory. Knowledge of various theories necessary for interpretation of texts ➢ Introduction to concepts and theories of culture, ideologies of culture and critical analysis of cultural aspects represented in literature ➢ Understanding concepts of gender, sexuality, hetero-normativity, patriarchy, sexism, gender relations and embodiment.
Course Outcomes (CO 3)
➢ To introduce students to the major works of English literature. ➢ To understand different periods in the history of English literature. ➢ To understand works in different genres of literature. ➢ To introduce students to Literature from various regions of the world. ➢ To give an understanding of social and cultural contexts across the world. ➢ To bring a global perspective on literature ➢ To understand the beginnings of Modernism.

- To explore the realms of Literary Modernism in English literature.
- To understand the different movements and literary styles associated with modernism.
- To understand concepts of colonialism, postcolonialism, neo-imperialism
- To analyze the social, political and historical impact of colonization and native responses to it
- To study structures of power underlying colonialism, nativism
- To understand the impact of colonization on language
- To examine literary works, theatre and films from a postcolonial perspective
- To trace the changing approaches to literary studies
- To give an understanding of the philosophical background of ancient western classical criticism
- To chart the transition from literary criticism to theory
- To give an overview of modern critical practices
- To explore concepts of Nationalism/Nation, Colonization, Gender, Caste
- To understand the socio-historical background of anti-colonial nationalism
- To locate current discourse of cultural nationalism in late Nineteenth century Social Reform Movement
- To study autobiographical, literary works, plays, fiction written in response to nationalism, partition and post-colonial nation-state
- To understand the historical evolution of the meanings of culture
- To understand the distinction between symbolic culture and culture as lived practice
- To explore cultural identities of race, class, gender and nation in literary texts
- To examine cultural signifiers in visual and literary texts
- To understand the concept of gender as a social construct
- To examine the ideological underpinnings of masculinity, femininity
- To analyse the alternate nature of sexuality
- To examine the ways in which gender intersects with different categories such as class, race, nation

ಕನ್ನಡ ಐಚ್ಛಿಕ ಪತ್ರಿಕೆ

ಕನ್ನಡ ಐಚ್ಛಿಕ ಪತ್ರಿಕೆ ಕಾರ್ಯಕ್ರಮದ ಫಲಿತಾಂಶ (PO 2)

ಪ್ರಸ್ತಾವನೆ

ಕನ್ನಡ ಭಾಷೆ ಹಾಗೂ ಸಾಹಿತ್ಯಕ್ಕೆ ಪ್ರಾಚೀನವಾದ ಇತಿಹಾಸವಿದೆ. ಭಾರತದ ಪ್ರಾಚೀನ ಸಾಹಿತ್ಯ ಹಾಗೂ ಸಾಹಿತ್ಯ ಸಂಪನ್ನ ಭಾಷೆಗಳಲ್ಲಿ ಕನ್ನಡವೂ ಒಂದು. ಈ ಭಾಷೆಯ ಪ್ರಾಚೀನತೆ ಹಾಗೂ ಅದರಲ್ಲಿನ ಸಾಹಿತ್ಯ ಸಂಪನ್ನತೆ, ಸಾಂಸ್ಕೃತಿಕ ಮೌಲ್ಯಗಳನ್ನು ಗಮನಿಸಿ ಕೇಂದ್ರ ಸರ್ಕಾರವು ಕನ್ನಡಕ್ಕೆ ಶಾಸ್ತ್ರೀಯ ಭಾಷೆಯ ಸ್ಥಾನ-ಮಾನವನ್ನು ನೀಡಿ ಗೌರವಿಸಿದೆ. ಪ್ರಾಚೀನ ಕನ್ನಡ ಸಾಹಿತ್ಯದಲ್ಲಿ ಚಂಪೂ, ವಚನ, ರಗಳೆ, ಷಟ್ಪದಿ, ಸಾಂಗತ್ಯ, ಕೀರ್ತನೆ, ತ್ರಿಪದಿ ತತ್ವಪದ ಮೊದಲಾದ ವೈವಿಧ್ಯಮವಾದ ಸಾಹಿತ್ಯ ಪ್ರಕಾರಗಳು ಸೃಷ್ಟಿಯಾಗಿವೆ. ಹೊಸಗನ್ನಡ ಕಾಲಘಟ್ಟದಲ್ಲಿ ನವೋದಯ, ಪ್ರಗತಿಶೀಲ, ನಮ್ಮ ಬಂಡಾಯ, ದಲಿತ ಸಾಹಿತ್ಯ ಚಿಂತನೆಗಳು ಹುಲುಸಾಗಿ ಬೆಳೆದಿವೆ. ಇವು ನಾಡಿನ ಸಾಂಸ್ಕೃತಿಕ ಚರಿತ್ರೆಯನ್ನು ಕಟ್ಟಿಕೊಡುತ್ತವೆ. ಮುಂದಿನ ಜನಾಂಗ ಕನ್ನಡ ನಾಡು-ನುಡಿಯ, ಸಂಸ್ಕೃತಿಯ ಚಿಂತನೆಯೊಂದಿಗೆ ಸಂವೇದನಾಶೀಲವಾದ ವ್ಯಕ್ತಿತ್ವವನ್ನು ರೂಪಿಸಿಕೊಳ್ಳಲು ಕನ್ನಡ ಸಾಹಿತ್ಯ ಅಧ್ಯಯನದ ಅಗತ್ಯವಿದೆ.

ಕಾರ್ಯಕ್ರಮದ ನಿರ್ದಿಷ್ಟ ಫಲಿತಾಂಶಗಳು : (PSO 2)

- ಕನ್ನಡ ಸಾಹಿತ್ಯದ ವಿವಿಧ ಕಾಲಘಟ್ಟಗಳ ಸಾಹಿತ್ಯ ಪ್ರಕಾರಗಳ ಸಮಗ್ರವಾದ ಜ್ಞಾನವನ್ನು ಹೊಂದಿರುವುದು
- ನಾಡು-ನುಡಿಯ ಕುರಿತಾದ ಐತಿಹಾಸಿಕ ಪ್ರಜ್ಞೆ ತಿಳಿವಳಿಕೆಯ ಮೂಲಕ ಸಮಕಾಲೀನ ಸಮಸ್ಯೆಗಳನ್ನು ಅರ್ಥೈಸಬಲ್ಲ ಜಾಣ್ಮೆಯನ್ನು ಬೆಳೆಸಿಕೊಂಡಿರುವುದು
- ಸಾಹಿತ್ಯ ಚರಿತ್ರೆ, ಛಂದಸ್ಸು, ವ್ಯಾಕರಣ, ಭಾಷಾವಿಜ್ಞಾನ, ಕಾವ್ಯಮೀಮಾಂಸೆಗಳ ಜ್ಞಾನಗಳನ್ನು ಸ್ಪರ್ಧಾತ್ಮಕ ಪರೀಕ್ಷೆಗಳಿಗೆ ಅನ್ವಯಿಸಿಕೊಳ್ಳುವ ಕೌಶಲ ಬೆಳೆಸಿಕೊಂಡಿರುವುದು
- ಸಾಹಿತ್ಯದ ಓದಿನ ಮೂಲಕ ಸಂವೇದನೆಗಳನ್ನು ಸೂಕ್ಷ್ಮಗೊಳಿಸಿಕೊಳ್ಳುವ ಹಾಗೂ ಚಿಂತನೆಗಳನ್ನು ಹರಿತಗೊಳಿಸಿಕೊಳ್ಳುವ ಸಾಮರ್ಥ್ಯವನ್ನು ಕರಗತ ಮಾಡಿಕೊಂಡಿರುವುದು
- ಕಾವ್ಯ, ಕಥೆ, ವಿಮರ್ಶೆ, ಹರಟೆ, ಚುಟುಕು, ಹಾಸ್ಯ ಬರಹಗಳು, ನುಡಿಚಿತ್ರ ಮೊದಲಾದುವುಗಳನ್ನು ರಚಿಸಬಲ್ಲ ಸೃಜನಶೀಲತೆಯನ್ನು ಬೆಳೆಸಿಕೊಂಡಿರುವುದು I
- ಸ್ಪರ್ಧಾತ್ಮಕ ಪರೀಕ್ಷೆಗಳಿಗೆ ಬೇಕಾದ ಜ್ಞಾನ ಕೌಶಲಗಳನ್ನು ಬೆಳೆಸಿಕೊಂಡಿರುವುದು

<u>ಪದವಿಯ ಫಲಿತಾಂಶಗಳು (COs)</u>

- ಹೊಸಗನ್ನಡ ಸಾಹಿತ್ಯ ಚರಿತ್ರೆಯ ಸ್ವ ರೂಪ, ಲಕ್ಷ ಣ, ವ್ಯಾಪ್ತಿಮೊದಲಾದ ಅರಿವನ್ನು ಬೆಳೆಸಿ ಹೊಸಗನ್ನಡಕಾವ್ಯ, ನಾಟಕಗಳನ್ನು ಓದುವ, ವಿಶ್ಲೇಷಿಸುವ, ವಿಮರ್ಶಿಸುವ ಜ್ಞಾನ ಗಳಿಸಿಕೊಂಡಿರುವುದು
- ನಡುಗನ್ನಡ ಸಾಹಿತ್ಯ ಚರಿತ್ರಯ ಸ್ವರೂಪ, ಲಕ್ಷಣ, ವ್ಯಾಪ್ತಿ ಮೊದಲಾದ ಅರಿವನ್ನು ಬೆಳೆಸಿಕೊಂಡಿರುವು
- ನಡುಗನ್ನಡ ಕಾವ್ಯ ಪ್ರಕಾರಗಳ ಸ್ವರೂಪ, ಲಕ್ಷಣಗಳನ್ನು, ವಸ್ತು ವೈವಿಧ್ಯವನ್ನು ಪರಿಚಯ ಮಾಡಿಕೊಂಡಿರುವುದು
- ಕರ್ನಾಟಕ ಸಂಸ್ಕೃತಿಯ ಸ್ವರೂಪ, ಲಕ್ಷಣಗಳ ಜ್ಞಾನವನ್ನು ಪಡೆದುಕೊಂಡಿರುವುದು
- ಕನ್ನಡ ಛಂದಸ್ಸಿನ ಚರಿತ್ರೆ ಹಾಗೂ ವಿವಿಧ ಪ್ರಕಾರಗಳು, ಅವುಗಳ ಲಕ್ಷಣಗಳ ಅರಿವು ಮೂಡಿಸಿಕೊಂಡಿರುವುದು
- ನಡುಗನ್ನಡ ಹಾಗೂ ಹಳಗನ್ನಡ ಪದ್ಯಗಳಿಗೆ ಪ್ರಸ್ತಾರ ಹಾಕುವ, ಛಂದಸ್ಸನ್ನು ಕಂಡುಕೊಕೊಳ್ಳುವ ಕೌಶಲವನ್ನು ಬೆಳೆಸಿಕೊಂಡಿರುವುದು
- ಜನಪದ ಸಾಹಿತ್ಯದ ಸ್ವ ರೂಪ, ಲಕ್ಷಣಗಳ ಅರಿವು, ಜನಪದ ಸಾಹಿತ್ಯ ಪ್ರಕಾರಗಳು, ವಿವಿಧ ಜನಪದ ಕಲಾ ಪ್ರಕಾರಗಳು, ಜನಪದ ರಂಗಭೂಮಿ, ಜನಪದ ದೈವಗಳು, ಜನಪದ ಕ್ರೀಡೆಗಳು ಮೊದಲಾದ ವಿಚಾರಗಳ ಕುರಿತು ಸ್ಪಷ್ಟವಾದ ಅರಿವು ಹೊಂದಿರುವುದು
- ಪ್ರಾಚೀನ ಕನ್ನಡ ಸಾಹಿತ್ಯ ಚರಿತ್ರೆಯ ಅರಿವನ್ನು ಹೊಂದಿರುವುದು
- ಶಾಸನ ಸಾಹಿತ್ಯ ಅವುಗಳ ಸ್ವ ರೂಪ, ಲಕ್ಷಣಗಳು ಹಾಗೂ ಅವುಗಳ ಐತಿಹಾಸಿಕತೆ ಇವುಗಳ ಅರಿವು ಮೂಡಿಸಿಕೊಂಡಿರುವುದು
- ಹಳಗನ್ನಡ ಚಂಪೂ ಕಾವ್ಯದ ಓದು, ವ್ಯಾಖ್ಯಾನಗಳ ಅರಿವು ಮೂಡಿಸಿಕೊಂಡಿರುವುದು
- ಕನ್ನಡ ವ್ಯಾಕರಣ ಪರಿಚಯ ಮಾಡಿಕೊಂಡಿರುವುದು ಹಾಗೂ ಅದನ್ನು ಇಂದಿನ ಸಂವಹನದಲ್ಲಿ ಅಳವಡಿಸಿಕೊಳ್ಳಬಲ್ಲ ಕೌಶಲ ಪಡೆದುಕೊಂಡಿರುವುದು
- ಕನ್ನಡ ಸಂಶೋಧನೆಯ ಇತಿಹಾಸ, ಸ್ವರೂಪ, ಪ್ರಕಾರಗಳು, ವಿವಿಧ ಹಂತಗಳು ಹಾಗೂ ಸಂಶೋಧನೆ ಬರಹಗಳ ಸ್ಪಷ್ಟವಾದ ಅರಿವನ್ನು ಹೊಂದಿರುವುದು
- ವಿವಿಧ ಸಾಹಿತ್ಯ ಜ್ಞಾನದೊಂದಿಗೆ ಕನ್ನಡದಲ್ಲಿ ಸ್ಪರ್ಧಾತ್ಮಕ ಪರೀಕ್ಷೆಗಳನ್ನು ಎದುರಿಸಬಲ್ಲ ಶಿಸ್ತನ್ನು ಮೈಗೂಡಿಸಿಕೊಂಡಿರುವುದು

ECONOMICS	
PROGRAMME OUTCOMES	
PO 1:	Facilitate the understanding of basic economic theories.
PO 2:	A comprehensive understanding of the various courses in the discipline.
PO 3:	Enable to apply quantitative techniques suitable for the discipline.
Po 4:	Analyse the policies of the government in solving economic problems.
PO 5:	Develop skills required to blend the subject learned and the real life situations.
PO 6:	Able to evaluate the working of the economy, its interconnection with the social, political, cultural, environmental, ethical issues in a comprehensive manner.
PROGRAMME SPECIFIC OUTCOMES	
PSO 1:	Enable the students with the knowledge of Economics both theoretical and applied.
PSO 2:	Develop a comprehensive understanding of the various aspects of the branches of Economics related to micro and macro aspects.
PSO 3:	Understand the working of the domestic and foreign economy.
PSO 4:	Enable the students to apply the theoretical knowledge of Economics in applying to the real life situations.
PSO 5:	Analyse the issues related to various problems like unemployment, balance of payments, poverty, inequality, inflation facing the economy.
PSO 6:	Develop skills to integrate and organise the inter linkages between and among the varied divisions of the economy.
PSO 7:	Have a critical assessment of the working of the economy, the interconnections between the various sectors and the policies linked to the development.
COURSE OUTCOMES:	
MICRO ECONOMIC THEORY : G102.1	
CO 1:	Acquire knowledge of some of the basic concepts, principles and theories of Micro Economics.
CO 2:	Be informative about the foundation for the study of other branches of Economics.
CO 3:	Have studied analytical, reasoning and graphical presentation of skills.
CO 4:	Able to appreciate the utility of economics in day – today life.

CO 5:	Aware and understand different types of market structures and their working.
CO 6:	Be familiar with the concept of distribution.
CO 7:	Able to understand the consumer behaviour and able to apply the knowledge acquired in his / her day to day life in matters related to buying, selling, maximization of satisfaction, etc.
HUMAN RESOURCE ECONOMICS G 102. 1E:	
CO 1:	Develop the understanding of the concept of human resource and to understand its relevance in organizations.
CO 2:	Helps to understand basic concepts of Human Resource Management.
CO 3:	Aanalyse the strategic issues and strategies required to select and develop manpower resources.
CO 4:	Know the basic concepts of Human Resource Development.
CO 5:	Know the development, implementation, and evaluation of employee recruitment and selection.
CO 6:	Have a basic knowledge on organizational development.
	MACRO-ECONOMIC THEORY: G102.2
CO 1:	Understand the working of an economy.
CO 2:	Able to know the origin, scope and branches of macro economics.
CO 3:	Be informative about tools of macro economics.
CO 4:	Know the circulation of income and wealth in different sectors of the economy.
CO 5:	A thorough understanding of the various theories behind pricing of products and factors in different market environment;
CO 6:	Ability to identify and evaluate the main models of market structures and to appreciate the theories behind policy prescriptions.
CO 7:	This course in Macroeconomics is expected to develop skill in economic reasoning. By the time, students complete this course, they would know the relevance of government decisions like Wage policy, monetary policy, the RBI policy, etc. in the day to day life.
HEALTH ECONOMICS : G 102.2E	
CO 1:	Get a working knowledge of economics of health.
CO 2:	Understand the present health condition of India and the world.
CO 3:	Be informative and able to understand the different health indicators.

CO 4:	Describe key behaviours that affect a consumer's health status and the cost of health care overall.
CO 5:	Be able to identify the concepts of healthcare financing and payment for healthcare.
CO 6:	Be able to provide an overview of how health insurance works and to compare and contrast different types of health insurance.
MONETARY ECONOMICS G102.3	
CO 1:	Understand origin and development of money.
CO 2:	Obtain the knowledge and understanding of the theoretical basis for money circulation, monetary policy, mechanisms of money creation.
CO 3:	Be informative about different theories of value of money.
CO 4:	Understand the concept of value of money and its determination, working of monetary economy, banking system, money and capital markets, international financial institutions and their relationship with India.
CO 5:	Informative about currencies and exchange values of different countries currencies.
CO 6:	Understand the role of central bank of the country and its functioning.
INDIAN ECONOMY : G102.3E	
CO 1:	Understand the nature of Indian Economy, GDP, demographic profile, natural resources.
CO 2:	Informative about all the three sectors and sectoral reforms, economic planning and steps taken for development of Indian Economy.
CO 3:	Students will be knowledgeable about fundamental problems of Indian economy.
CO 4:	Be informative about various initiatives of the Government of India to irradiate poverty and provide employment.
CO 5:	Be aware about reforms of different sectors of Indian economy.
CO 6:	Able to understand the importance of different institutions like NITI Aayog, Panchayat Raj in India.
INTERNATIONAL TRADE AND PUBLIC ECONOMICS G102	
CO 1:	The student will be acquainted with economic concepts and models of international trade

CO 2:	Explain the different concepts of terms of trade, the structure of BOP, disequilibrium in BOP, causes of disequilibrium, describe the foreign exchange rate and determine its equilibrium exchange rate and explain the objectives of IMF and IBRD.
CO 3:	Understand the meaning of public finance or government finance; its nature, subject matter, explain the differences between public finance and private finance and differentiate between the public and private goods
CO 4:	Classify the public revenue and its various sources; revenue receipts and non-revenue receipts, understand the tax and no-tax revenues, the causes of increasing public expenditure in the modern economies
CO 5:	Explain the varying effects of public expenditure on the economy and role of public expenditure in a developing economy
CO 6:	Understand the various sources of government borrowing and the reasons behind the growing public debt, describe how the debt is repaid, the role of public debt in developing countries, explain the concept of debt trap.
QUANTITATIVE ECONOMICS : G102.4E	
CO 1:	Helps to understand the basic concepts of economics.
CO 2:	Train the students to use linear functions and its applications in economic analysis.
CO 3:	Equip the students to use non-linear functions in economic problems.
CO 4:	Helps to have basic knowledge on production and market equilibrium.
CO 5:	To be able to understand revenue and cost analysis.
CO 6:	Helps to understand various types of market structures using differential and integral calculus.
ECONOMIC THOUGHT : G102.5	
CO 1:	Students will be informative about the contribution of eminent economists to the subject.
CO 2:	Be able to understand the background of their writings and theories which help them to know the significance of economics at present times.
CO 3:	Understand the relevance of economic thought at present.
CO 4:	Will be able to know the difference between different schools of Economic thought.

CO 5:	To be informative about Indian Economists and their contributions to economics.
CO 6:	To be knowledgeable about different Nobel prize winners in Economics and their contributions.
	ECONOMIC STATISTICS:G102.5A
CO 1:	Describe and discuss the key terminology, concepts tools and techniques used in economic statistical analysis
CO 2:	Discuss critically the uses and limitations of statistical analysis
CO 3:	Solve a range of problems using the techniques covered
CO 4:	Conduct basic statistical analysis of data.
CO 5:	Understand statistical methodology and interpret statistical evidence.
CO 6:	Use the basic concepts of probability
DEVELOPMENT ECONOMICS :G102.5B	
CO 1:	A comprehensive understanding of economic progress and welfare. Students will be equip to calculate various indices like HDI, GDI, GII & MPI.
CO 2:	A detail analysis on various country profiles and understanding the development models adopted by those countries.
CO 3:	Capital budgeting tools equip the students to make a best decision in selecting the projects.
CO 4:	An attempt is made to critically evaluate population as growth promoting factor or retarding factor.
CO 5:	Helps to understand the interlinkages between agriculture and industry, there by economic development
CO 6:	Helps to select appropriate type of economic planning for the economic development and growth of the countries.
HEALTH ECONOMICS :G 102.5c	
CO 1:	Get a working knowledge of economics of health.
CO 2:	Understand the present health condition of India and the world.
CO 3:	To be informative and able to understand the different health indicators.
CO 4:	Describe key behaviours that affect a consumer's health status and the cost of health care overall.
CO 5:	Be able to identify the concepts of healthcare financing and payment for

	healthcare.
CO 6:	Be able to provide an overview of how health insurance works and to compare and contrast different types of health insurance.
INDIAN ECONOMICS G102.6	
CO 1:	Understand the nature of Indian Economy, GDP, demographic profile, natural resources.
CO 2:	Informative about all the three sectors and sectoral reforms, economic planning and steps taken for development of Indian Economy.
CO 3:	Students will be knowledgeable about fundamental problems of Indian economy.
CO 4:	Be informative about various initiatives of the Government of India to irradiate poverty and provide employment.
CO 5:	Be aware about reforms of different sectors of Indian economy.
CO 6:	Students will understand the importance of different institution like NITI Aayog and Panchayath Raj in India.
MATHEMATICAL ECONOMICS G.102.6A	
CO 1:	Demonstrate a knowledge and understanding of the mathematical concepts and methods used in economics
CO 2:	Demonstrate the facility to express economic ideas in the language of mathematics.
CO 3:	Analyze and evaluate economic models by using formal mathematical methods.
CO 4:	Demonstrate an understanding of the rules of differentiation as they apply to multivariable functions
CO 5:	Find solutions to unconstrained optimization problems by identifying relative and global maximums and minimums of single and multivariable functions
CO 6:	Use integration and matrix algebra techniques in economic analysis
MANAGERIAL ECONOMICS :G102.6B	
CO 1:	To enable the students to gain knowledge about the various tools, techniques and concepts of economic environment.
CO 2:	Helps to understand the process of decision making, behavior & preferences of the consumers.

CO 3:	To train the students to use capital budgeting and demand forecasting techniques in business.
CO 4:	Helps to know pricing policies adopted in various business models.
CO 5:	Understanding the profit planning with the help of break even analysis
CO 6:	Helps to know importance of entrepreneurship in economic development.
ENVIRONMENTAL ECONOMICS: G102.6C	
CO 1:	To understand the relationship between environment and economic growth; how economic growth affects environment; how environment development programmes affect economic growth; the tradeoff.
CO 2:	To create basic ideas of the cost of environmental growth and sustainable policy approach to prevent environmental degradation, green accounting, methods of environmental valuation, Environmental concerns, environmental education, environmental awareness, environmental laws, environmental hazards and economics of recycling.
CO 3:	To enable the student to focus on economic effects of environmental policies around the world. It is a science emphasis on natural resources and its efficient allocation, management with alternatives, and environmental indemnities like air, water soil pollution, solid waste management, and global warming etc.
CO 4:	Explain how something can be both “environmentally destructive” and “economically optimal”; and how something can be environmentally beneficial and economically suboptimal.
CO 5:	Helps to examine the relationship between the economy and the environment in the context many activities started by environmental economists, activists and nature lovers.
CO 6:	Identify factors to find solutions to environment problems that are relevant to protect the welfare of the people.

HISTORY

PROGRAMME OUTCOMES

The subject History is taught along with Political Science, Economics and English Major under the three major combination.

The student who studies in the department of History would imbibe considerable knowledge of the other subjects which are taught along, with ease. Studying history is complementary to other subjects and vice versa. The economic life/conditions, political life/conditions and social life/conditions are taught in all the programmes which are offered in the department. History itself is also essential to understand the other subjects taught. Studying history along with these subjects would enable a student to understand the past and present society holistically. This would make a student of history competent and knowledgeable, an ingredient to be a successful person in one's life goal.

PROGRAMME SPECIFIC OUTCOMES

History as a subject is considered to be the memory of mankind. In the Department of History, papers such as Indian History, History of Modern Europe, History of Modern Asia and History of Karnataka are taught.

It is a well-balanced curriculum in the under graduate level especially in this part of the country keeping with the emphasis of world, regional, national and local histories.

Students by studying these papers will acquire a fair knowledge of these subjects. This knowledge is essential for getting into any service/employment be it government or private. Especially eligibility tests to enter such service requires the student to know these subjects. Apart from that, a student who as an individual and a responsible citizen has a fair amount of knowledge of History of different spheres national, regional and so on. The department prepares such knowledgeable citizens and offers them to the nation who would be an asset to any country.

COURSE OUTCOMES:

I Semester

G101.1. India in the Early Historical Period (to A.D. 300)

By studying this course students will be able to understand the geography of India and how it shaped its history. Students would also know the evidence on which Indian History is built and understood. They would grasp the early human settlements in

Indian subcontinent and later on, the civilizations which flourished in India and how they shaped the later history of India.
Elective Course-I **CONTEMPORARY INDIA**
By studying this course students will be able to understand the contemporary History of India and how Modern India has been shaped. Studying the latest history of the country would enable them to know the day to day events and developments. These would be easily intelligible to them. This study is a necessity to every citizen of the country. Moreover, the students are taught History of India till 1964 in the regular course.
II B A: II SEMESTER **G101.2 – India in the Ancient Period (A.D. 300 – 1300)**
By studying this course students will be able to understand the ancient history of the country especially great empires such as the Mauryan and Gupta Empire. They were very important phases of ancient Indian History and especially these eras witnessed the development of great Indian culture and heritage. Rise of Buddhism during Mauryan rule and the revival of Brahminical Hinduism during Gupta period will be learnt by the students. Gradually how Buddhism came into the Hindu fold will also be learnt by the students.
Elective Course-II **CREATION OF MODERN STATE OF ISRAEL AND THE PALESTINIAN PROBLEM**
In this course students can learn one of the major developments in Modern World History - the formation of the State of Israel and a new crisis called the Palestinian Problem. The world leaders are engaged for quite some time in the Palestinian Problem. There are various groups engaged in either supporting or opposing the issues involved herein. This course is a part of international relations
II B A: III SEMESTER **G101.3. Medieval India (A.D. 1200 – 1707)**
By studying this course students will be able to understand the early part of Medieval Indian History when Turkish and Mongol invaders established their rule in India and gradually become Indians and contribute to Indian culture and art and architecture. Islamic society and its contributions and their ethos will be understood by the students. How Indian society responded to the influence of Islam, will be understood by the students.

Elective Course-III **ENVIRONMENTAL HISTORY OF INDIA**
By studying this course students will be able to understand the History of India along with environmental issues it developed time to time. For instance, the early settlements of people in Indian subcontinent, how they used environment for their survival and so on. Evidence like how they learnt to store water for drinking purpose and for irrigation purpose and so on. Students will also learn the latest environmental concerns due to large scale industrialization, the life of forest dwelling tribes, the government legislations on environmental concerns and so on.
II B A: IV SEMESTER **G101.4- Colonial India (A.D. 1707 – 1885)**
By studying this course students will be able to understand the advent of the Europeans towards the end of the fifteenth and towards the beginning of sixteenth century. How Europeans established their colonies and exploited India in all fields is learnt. How the English were able to rule the entire subcontinent, how they introduced education, united the subcontinent politically, how various Governor Generals followed various policies to control India so on are learnt The Indians also resisted their imperialism leading to rebellions like the Santhal rebellion and the Great Revolt of 1857 are learnt.
Elective Course-IV **HISTORY AND TOURISM IN INDIA**
By studying this course students will be able to understand the importance of tourism today and also the tourism Industry in India. History and Historical sites which are of tourist importance is taught. Along with it the Indian culture and its significance and its heritage will be understood by the students.
III B A: V SEMESTER **G101.5 –Freedom Movement in India and its Legacy (A.D. 1885 – 1964)**
By studying this course students will be able to understand the domination of the colonial government and its reaction by the Indians. How Indians organized themselves to fight the long colonial domination will be understood by the students. Secondly, in the history of the world how non-violent movement of Mahatma Gandhi triumphed is also taught. How by the mid twentieth century, India became independent and emerged as a prominent democratic country of the world is also taught.

III B A: V SEMESTER **G101.5a– Medieval Karnataka (A.D. 1336 – 1750)**
By studying this course students will be able to understand the History of Karnataka State especially Karnataka in medieval period. In the medieval period great empires such as Vijayanagar and Bahmani flourished and contributed immensely to the History and culture of South India and Deccan. Vijayanagar was praised by the travelers as abode of wealth and prosperity, contributing immensely to the culture and heritage of the people of this region.
III B A: V SEMESTER **Optional paper** **G101.5c – History of the Far East and South East Asia (Since 1900)**
By studying this course students will be able to understand the History of Asia with special reference to China and Japan and also Vietnam and Indonesia. All these modern countries were abode of ancient civilizations and how in modern times came under imperialistic domination. How they fought imperialism just like Indians is taught. Presently, China has grown to become a super power and Japan too had reached its economic climax. China is a communist country as well as an economic giant. How these countries are faring in modern times is taught.
III B A: VI SEMESTER **G101.6 History of Europe (A.D 1845-1945)**
By studying this course students will be able to understand the History of Europe from the rise of Nationalism in Western Europe towards the later part of nineteenth century till the Second World War and formation of United Nations. This paper also teaches the problems of decaying of Ottoman empire and related history as well as the conquest of Africa and rise of Nazism and Fascism. How the two world wars devastated the economy and society and its impact is also taught to the students.
III B A: VI SEMESTER **Optional paper** **G101.6a –History of Modern Karnataka (A.D. 1750 – 1956)**
By studying this course students will be able to understand the History of Modern Karnataka especially after the decline of Vijayanagara. How various palegars became independent rulers and how Mysore emerged as one of the strong states under Hyderali

and his son Tippu Sultan. How they continued their fight against the imperialistic British who were following various tactics to put down the Indian rulers. This paper also teaches various movements like the backward class movement, independence movement as well as unification movement along with the progress the state of Karnataka made in modern times in spheres such as literature, education, art and so on.

III B A: VI SEMESTER

Optional paper

G101.6b History of the West and Central Asia (since 1900)

By studying this course students will be able to understand the History of Modern West and Central Asia including countries such as Turkey, Iran, Iraq, Arab World along with modern State of Israel and Palestinian Problem. West Asia also was colonized by the European powers and how they were continuously made to fight the British and other imperialistic hegemonies, is taught. Leaders such as Mustafa Kemal Pasha, Reza Shah Pahlavi, Dr Mosaddeq, Amanullah Khan and others are taught who were some of the rare leaders of the region. Paper also teaches contemporary history of the region with topics such as the rise of Taliban in Afghanistan.

JOURNALISM	
Program Outcome and Program Specific Outcome	
PO 1:	Develop Graduates with basic understanding on various media and communication practices and its importance in contemporary society
PO 2:	Enhancement of skills in various Media production techniques and to be industry ready
PO 3:	Develop and apply scientific approach to meet the needs of the society and to produce responsible and creative media professionals
PROGRAMME SPECIFIC OUTCOMES	
PSO 1:	Gain knowledge on various communication patterns
PSO 2:	Acquire skills of journalistic practices
PSO 3:	Recognizing Media as a important information and education tool
PSO 4:	Equipped with various media technologies
PSO 5:	Creation of innovative media content
PSO 6:	Ability to enquire and respond to various social issues and concerns through media practices
PSO 7:	Develop skills to analyze media content with a critical bent of mind
PSO 8:	Get hands on experience in media field through internships and media campaigns
PSO 9:	Create socially responsible media practitioners
COURSE OUTCOMES:	
CO 1:	Understand basic concepts of communication and journalism, and their role in society
CO 2:	Familiarize students with various processes and models of communication
CO 3:	Acquire knowledge on different types of reporting, their importance and evaluate media content
CO 4:	Develop skills on sourcing, reporting and writing for media.
PAPER G105.1E DIGITAL LITERACY (OPEN ELECTIVE)	
CO 1:	Accessing Internet and finding information of interest
CO 2:	Understanding cyber security and financial literacy and discuss related case studies

CO 3:	Acquire digital literacy to understand the concept of online banking and critically evaluate it
CO 4:	Get familiar with e governance services, e-commerce and mobile apps
SEMESTER II **PAPER 105.2 PRINT AND ONLINE JOURNALISM**	
CO 1:	Understand the different types and techniques of print and online journalism
CO 2:	Explore the development of print media in India
CO 3:	Develop skills for journalistic writing
CO 4:	Critically look at social media as a platform for citizen journalism and create digital content
PAPER 105.2E **BLOGGING AS MEDIA PRACTICE (OPEN ELECTIVE)**	
CO 1:	Identify basics and techniques of blogging practice and evaluate them
CO 2:	Understand scope of blogging and importance of search engine optimization
CO 3:	Develop skills on creating blog post and marketing.
SEMESTER III **PAPER 105.3 Broadcast Journalism**	
CO 1:	Gain basic understanding about broadcast media
CO 2:	Explore the history and development of broadcast media in India
CO 3:	Obtain efficiency in writing for broadcast media
CO 4:	Acquire skills in production and analyzing audio- visual content for radio and television
PAPER 105.3 E FOLK MEDIA COMMUNICATION (OPEN ELECTIVE)	
CO 1:	Understand variety of folk media in India
CO 2:	Obtain theoretical knowledge of folk media as important medium of communication
CO 3:	Analyze and evaluate the role of folk media in community development
SEMESTER IV **PAPER 105.4 EDITING PRACTICE**	
CO 1:	Study the structure and functions of editorial department
CO 2:	Acquire skills on editing techniques
CO 3:	Analyze the content patterns of print media

CO 4:	Develop skills in using software for designing newspaper and photo editing
PAPER 105.4E **MEDIA AND GENDER ISSUES (OPEN ELECTIVE)**	
CO 1:	Explore basic concepts of gender studies and media
CO 2:	Sensitize the students on gender stereotyping in media and developing critical thinking
CO 3:	Critically evaluate gender representation in media
SEMESTER V **PAPER G 105.5(a) FILM STUDIES**	
CO 1:	Understand the film language and acquire ability to appreciate films.
CO 2:	Obtain knowledge about major film movements and genres.
CO 3:	Acquire basic skills in production and analysis of films
CO 4:	Recognize the role and contemporary status of cinema in society.
	PAPER G 105.5(b) **PAPER VI- ADVERTISING AND PUBLIC RELATIONS**
CO 1:	Understand basic laws related to media
CO 2:	Acquire an understanding of the nature of ethics in journalism
CO 3:	Analyze the recent amendments in media law with case studies
CO 4:	Form students as responsible media persons
PAPER G 105.6(b) **Paper VIII Media Management**	
CO 1:	Comprehension of the basics of managerial practices in an organization.
CO 2:	Ability to evaluate various types, aspects of media business, issues and challenges in global media
CO 3:	Identify different communication policies and recommendations of major media committees
CO 4:	Explore organizational patterns of Indian media and entertainment industry and understand their future scope.

POLITICAL SCIENCE	
Program Outcome and Program Specific Outcome	
PO 1:	Demonstrate competency with the basic tools underlying the subject of Political Science (as a discipline of study and research);
PO 2:	Discern key concepts in politics, sharpen the understanding of political discourses and augment the ability to conduct scientific enquiry on political questions;
PO 3:	Promote a healthy civic society, contribute to the society as responsible civic conscious members of the society and to be gender sensitive;
PO4:	Analyse political and policy issues and build capacities to articulate policy options;
PO5:	Demonstrate critical thinking, including the ability to form an argument about key concerns of political theory and issues of public policy and politics.
PO6 :	Understand the relations between nations of the world.
PO7 :	Promote participation in the global world for better living.
PO8:	Demonstrate the need for global leadership.
PROGRAMME SPECIFIC OUTCOMES	
PSO 1:	Discuss the major theories and concepts of political science and its subfields
PSO 2:	Distinguish systematic normative inquiry from Behavioural kinds of inquiry within the discipline of political science.
PSO 3:	Demonstrate the ability to apply abstract theory to concrete problems by using the ideas of political theorists to address contemporary political issues
PSO 4:	Assess the origin and evolution of conceptual framework of political theory and Political Institutions.
PSO 5:	Demonstrate the inter-connection between Liberty, Equality, Justice and Democratic ethos.
PSO 6:	Discuss the major theories and concepts of political science and its subfields
PSO 7:	Distinguish systematic normative inquiry from Behavioural kinds of inquiry within the discipline of political science.
PSO 8:	Demonstrate the ability to apply abstract theory to concrete problems by using the ideas of political theorists to address contemporary political issues

COURSE OUTCOMES:	
I SEMESTER **G 103.1 UNDERSTANDING POLITICAL THEORY**	
CO 1:	Recognise the centrality of state in the discourses of politics.
CO 2:	Describe and appraise the distinct theories on the origin of state, theories of rights and democracy.
CO 3:	State the contemporary debates on the key concepts -equality, freedom, democracy, citizenship, and justice and recognise the expanding horizons of these discourses.
CO 4:	State the contemporary debates on the nature of security of state.
CO5 :	Indicate how Liberal and Marxist traditions consider and understand politics.
CO6 :	Discuss the origin, evolution and key issues which are at the core of the feminist movement, multiculturism and postcolonialism.
Elective Course **G103.1E LEGAL LITERACY IN INDIA**	
CO 1:	Recall the structure, components and functioning of the various institutions of the Indian legal system, and develop an understanding on the role of law in their day to day life
CO 2:	Demonstrate the knowledge on criminal justice system, civil procedure code, various family laws, laws relating to contract and property in India
CO 3:	Analyse various mechanisms in India relating to access to legal aid and justice, RTI, PIL and about the formal and alternate dispute redressal (ADR) mechanisms
II SEMESTER G 103.2 MAJOR POLITICAL THINKERS	
CO 1:	State the key ideas of all the political philosophers given in the course.
CO 2:	Describe the concept of ideal state.
CO 3:	Illustrate how and why Machiavelli gave an overriding priority to pragmatism above ethics and values in the operation of statecraft.
CO 4:	Recall the medieval political history especially the church- state controversy.
CO 5:	Discuss the significance of State according to modern Western and Indian political thinkers.
CO 6:	Indicate the role of Women political thinkers towards promoting political participation.

G103.2E PUBLIC POLICY AND GOVERNANCE	
CO 1:	Define and Describe the concept, nature, scope, significance and types of Public Policy
CO 2:	Indicate and appraise the public policy and governance in India
CO 3:	Discuss the public problems and develop public policy responses
III Semester **G 103.3 IDEOLOGY AND POLITICS IN INDIA**	
CO 1:	Recall the constitutional articles related to fundamental rights, directive principles and federal structure of the Indian state.
CO 2:	Distinguish between constitutional philosophy and party ideologies in realising the constitutional goals.
CO 3:	Compare and contrast the Indian political system with that of other countries.
CO 4:	Apply India's constitutional principles and philosophy to the working of the government through electoral and political processes
CO 5:	Appraise and develop solutions to the challenges to the constitution's foundational principles.
CO 6:	Analyse the merits and demerits of security and other recent acts within the context of India's constitution.
G103.3E CONFLICT, PEACE AND RECONCILIATION	
CO 1:	Identify and interpret the relationship between social conditions and conflicts
CO 2:	Evaluate the roots of conflict and apply strategies of reconciliation
CO 3:	Design strategies for developing the social, political, economic, and ecological conditions for peace building.
IV Semester **G 103.4 POLITICAL INSTITUTIONS AND PROCESSES IN COMPARATIVE PERSPECTIVE**	
CO 1:	Compare and contrast major democratic political systems
CO 2:	Discuss and apply various approaches to the study of political systems
CO 3:	Examine the foundational principles enshrined in the constitution
CO 4:	Identify types of political parties and analyze their ideologies
CO 5:	Analyze the role of pressure groups in major democracies in order to assess

	the working of democratic system in the context of promotion of rights
CO 6:	Review major formal political institutions as well as some informal institutions
G103.4E ECOLOGY SUSTAINABILITY AND DEVELOPMENT	
CO 1:	CO1 Describe and draw the meaning and significance of ecological sustainability and the interrelationship between resource use, politics and environment
CO 2:	Explain the way development impacts the people – women, tribal Population and analyze and develop strategies to address ecological and environmental issues and promote awareness on the shrinking diversity in India and motivate to protect diversity
CO 3:	Develop skills to assess Environmental Impact, Environment friendly technologies and education in sustainability and Promote to think Globally and Act Locally
V Semester I Paper (Core) **103.5a INTERNATIONAL RELATIONS**	
CO 1:	Indicate the extent and importance of the study of International Relations
CO 2:	Apply mathematical models to the study of International Relations
CO 3:	Discuss the limitations of national power
CO 4:	Locate and explain the realm of diplomacy
CO 5:	Discuss the dynamics of Cold War politics and promote the understanding on the need for disarmament
CO 6 :	Assess the Emerging Centres of power in the World today
V Semester -II Paper (Core) **G 103.5b PUBLIC ADMINISTRATION**	
CO 1:	Indicate the extent and importance of the study of International Relations
CO 2:	Apply mathematical models to the study of International Relations
CO 3:	Discuss the limitations of national power
CO 4:	Locate and explain the realm of diplomacy
CO 5:	Discuss the dynamics of Cold War politics and promote the understanding on the need for disarmament
CO 6:	Assess the Emerging Centres of power in the World today
V Semester paper III (Optional) **G 103.5c POLITICAL SOCIOLOGY**	
CO 1:	Explain and draw the emerging perspectives on Political Sociology and Political Socialization

CO 2:	Describe Political Participation, Political Culture, and Political Apathy
CO 3:	Organise the trends in Modernity & Post Modernity
CO 4:	Describe the trends in Nationalism, Secularism, Communalism, Regionalism and Women Movements
CO 5 :	Discuss and arrange the components of Civil Society Organization and indicate the need for Right to information
VI Semester Paper-I (Core) G 103.6a INTERNATIONAL POLITICS	
CO 1:	Describe the recent developments in the International Bodies.
CO 2:	Identify the activities of the International Bodies
CO 3:	Identify the complexities of changing International Politics
CO 4:	Describe the need for reform of the Security Council
CO 5:	Demonstrate the conceptions of Soft Power and India's Foreign Policy
CO 6:	Indicate the contours Foreign Policy of the US and to review the policy of Convergence in South Asia
VI Semester II Paper (Core) 103.6b FUNDAMENTALS OF MANAGEMENT	
CO 1:	Discuss and draw the functions and principles of management
CO 2:	Demonstrate the skills of Developing Excellent Managers
CO 3:	Corelate the various schools of Management Thought
CO 4:	Review the limitations of Planning and Techniques of Control
CO 5:	Develop leadership skills and to assess employee motivation and comprehend corporate strategy
CO 6:	Describe the need for valuing diversity, its dimensions and attitudes
VI Semester -Paper III (Optional) G 103.6 LEADERSHIP	
CO 1:	Describe the need for Traditional, Legal-rational, Charismatic, Authoritarian and Democratic Leadership
CO 2:	Define and explain Political, Civic, literary, and Cultural Leadership
CO 3:	Explain the importance of spiritual leadership
CO 4:	Describe different mores of leadership
CO 5:	Define and describe corporate leadership and labour leadership

PSYCHOLOGY	
PROGRAM OUTCOME	
PO 1:	Demonstrate the ability to think critically and scientifically about human behaviour in different areas of study.
PO 2:	Competence in understanding and developing scientific interventions enhance human experience in various settings such as schools, industry, hospitals, governance, and community**.**
PO 3:	Design and conduct research in different areas of study.
PO 4 :	Examine, explain, relate, recognize, accept and respect socio cultural diversity
PO 5:	Transfer classroom learning to real world problems for a sustainable future.
PO 6 :	Communicate thoughts and ideas clearly and in an articulate manner both verbally and in writing.
PO 7 :	Engage actively in service-learning activities to promote health, harmony, Human welfare and Well- being.
PO 8:	Adopt and Display values of hope, empathy, compassion, integrity and trust required to, accept diversity, Build community, establish and maintain a sense of well-being.
PROGRAMME SPECIFIC OUTCOMES	
PSO 1:	Apply the basic concepts and theories of psychology to understand oneself and others.
PSO 2:	Demonstrate the ability to think critically, analytically and to reason logically about the issues in child development
PSO 3:	Reflect experience and use skills to bring about personal and social change.
PSO 4:	Understand the various manifestations of psychopathology and therapeutic techniques Apply the basic principles of psychology to enhance human behavior at the workplace.
PSO 5:	Develop an understanding and application of the complex interplay of Bio psycho social factors impacting Health.
PSO 6:	Competence in administering, scoring, reporting and analysis of psychometric tests.
PSO 7:	Apply the basic concepts and theories of psychology to understand oneself and others.
PSO 8:	Demonstrate the ability to think critically, analytically and to reason logically about the issues in child development

COURSE OUTCOMES:	
I SEMESTER **G 106.1 Foundations of Behaviour I**	
CO 1:	Understand the roots, history, its evolution and the goals governing the scientific study of human behaviour
CO 2:	Think critically and scientifically about behaviour and mental processes.
CO 3:	Compare and contrast major perspectives in psychology.
CO 4:	Describe and Evaluate basic research methods in psychological science.
CO5 :	Explain the biological/neurobiological underpinnings of behaviour
CO6 :	Demonstrate conceptual clarity and application of psychological concepts such as consciousness, sensation, perception, to everyday life.
CO7 :	Exercise ethical principles and guidelines in psychological research.
CO8 :	Competence in administering, scoring, reporting and analysis of psychometric tests.
Elective Course **G 106.1 E THE SCIENCE OF PERSONALITY: PERSONAL LEARNING AND GROWTH**	
CO 1:	Understand how personality develops through the lens of theories such as Freud, Victor Frankl, Eric Fromm,
CO 2:	Explain the impact of one's experiences on the way one thinks and behaves
CO 3:	Describe personality disorders
CO 4:	Apply the theories to assess one's own personality. Insight into one's own personality through self-assessments leading to personal growth.
II SEMESTER **G106.2 Foundations of Behaviour II**	
CO 1:	Understand the goals governing the scientific study of human behaviour
CO 2:	Think critically and scientifically about behaviour and mental processes.
CO 3:	Compare and contrast the theories of Learning, human motivation, emotion, Intelligence and personality.
CO 4:	Describe and apply the basic cognitive process of information processing to learn and remember.
CO 5:	Assess the contributions of two psychological constructs personality and intelligence in understanding individual differences.
CO 6:	Demonstrate conceptual clarity and application of psychological concepts such

	as learning, memory, motivation, emotion, personality and intelligence to everyday life.
CO7 :	Differentiate between and explain the need for testing and assessment.
CO8 :	Competence in administering, scoring, reporting and analysis of psychometric tests.
G106.2E PSYCHOLOGY OF POSITIVE HUMAN FUNCTIONING	
CO 1:	Understand the need to focus on flourishing and wellbeing by experiencing positive emotions.
CO 2:	Focus and use human strengths to meet challenges and adversities.
CO 3:	Use techniques to enhance psychological and social well being
CO 4:	Develop meaning and purpose through meaning and value exercises
CO 5:	Practice mindfulness and life enhancement strategies.
Semester III G106.3 Child development I	
CO 1:	Demonstrate the ability to think critically, analytically and to reason logically about contemporary issues in Child Development.
CO 2:	Examine and discuss, the major theories of child development such as those of Piaget, Sigmund Freud, Vygotsky, Bowlby and Bronfenbrenner
CO 3:	Describe and use various research designs and methods to study Children.
CO 4:	Understand and analyze complex Biological, Social and Cultural factors which impact the major developmental milestones from Conception through adolescence
CO 5:	Knowledge of advancement in medical science regarding various Prenatal diagnostic techniques, reproductive techniques and interventions during prenatal and post-natal life.
CO 6:	Knowledge of post birth challenges, assessments and application of theories to Infants physical, cognitive and socio emotional development.
CO 7:	Competence in administering, scoring, reporting and analysis of psychometric tests related to children and adolescents.
CHOICE BASED COURSE (Elective) BEHAVIOR IN THE SOCIAL CONTEXT	
CO 1:	Identify the situations that demand conformity and also factors that lead to

	violation of norms in the society
CO 2:	Connect the impact of obedience, compliance to major historical events.
CO 3:	Engage more in prosocial behaviour for the benefit of one's psychological wellbeing and the ociety
CO 4:	Understand the process of attitude formation and apply the methods to change attitude
CO 5:	Challenge stereotypes, prejudice and discrimination to reduce social conflicts
CO 6:	Use the knowledge of self and others perception to develop healthy relationship and enhance the quality of relationships in personal and professional life.
IV Semester **G 106.4 Child development II**	
CO 1:	Demonstrate the ability to think critically, analytically and to reason logically about development from early childhood to adolescence.
CO 2:	Examine, discuss and apply the theories of Piaget, Sigmund Freud, Bowlby Kohlberg, Erickson, Vygotsky, and Bronfenbrenner to cognitive, socioemotional Development from early childhood to adolescence.
CO 3:	Evaluate the impact of development in the social context like parenting, family, gender, school, play, technology, friendships during early and middle childhood period.
CO 4:	Understand and analyze complex Biological, Social and Cultural factors which impacts choices, Identity formation and sexual orientation during adolescence
CO 5:	Describe and identify problems and Neuro developmental disorders in children and Adolescents.
CO 6:	Competence in administering, scoring, reporting and analysis of psychometric tests related to children and adolescents.
CHOICE BASED COURSE (Elective) **PSYCHOSOCIAL COMPETENCIES FOR BETTER LIVING**	
CO 1:	Understand the need for psychosocial competencies for better living.
CO 2:	Evaluate one's level of competency in different contexts
CO 3:	Use techniques to overcome fear, anger, communication barriers.
CO 4:	Equipped with Skills to solve problems, make decisions and form teams
CO 5:	Cope effectively with the demands and challenges of everyday life

Semester V **G106.5a Social Psychology**	
CO 1:	Understand Human behaviour in the social Context using various theories.
CO 2:	Explore prosocial behaviour and its outcome on the society
CO 3:	Discuss the factors that lead to attitude formation and its impact on society
CO 4:	Differentiate between prejudice, discrimination and stereotypes and discuss techniques to reduce it.
CO 5:	Analyse the power of social influence, both the influence of individual on groups and vice versa
CO 6:	Apply the Principles of social Psychology to enhance Human experience
G106.5b Abnormal Psychology	
CO 1:	Distinguish between normal and abnormal behaviour.
CO 2:	Describe the changes in the understanding of psychopathology over time.
CO 3:	Conceptualize abnormal behaviour from multiple paradigms.
CO 4:	Assess the strengths, limitations and process of diagnosis.
CO 5 :	Describe, identify, analyze and explain Anxiety, Obsessive- compulsive, Dissociative, Symptom, Psychotic, Depressive, Personality and Neurocognitiv disorders.
CO 6 :	Understand and apply evidence based therapeutic techniques to treat abnormal behaviour.
CO 7 :	Competent to administer, score, report and analyze psychometric tests related to Mental health
Semester VI **G106.6a Industrial & Organisational psychology**	
CO 1:	Describe the scope of I/O psychology
CO 2:	Explain the principles of human resource development
CO 3:	Describe the process of recruitment, need for training and various performance appraisal techniques
CO 4:	Apply the theories of motivation to analyse workplace productivity
CO 5:	Compare the different leadership styles and its outcome on the organisation
CO 6:	Recognise the role of psychologists in product branding by understanding consumer behaviour
CO 7:	Apply the Principles of General Psychology and social Psychology to enhance Human experience in industry

VI Semester G106.6b Health Psychology	
CO 1:	Describe the history and emergence of the field of health psychology
CO 2:	Understand and apply the biopsychosocial model of health to descrhealth and disease
CO 3:	Examine the role of biological and psycho social factors in the genesis of health and chronic illnesses such as diabetes, cardiovascular diseases, ; Cancer, HIV AIDs, illnesses of childhood, adolescents and old age.
CO 4:	Understand the role of personality, gender, interpersonal relations, socio cultural influences and their linkage to risk, prevention, illness and wellness
CO 5:	Apply the practical information gained to make lifestyle choices and changes.
CO 6:	Describe and explain the risk factors of leading cause of death, stress, pain and Coping.
CO 7:	Demonstrate the ability to use stress and pain management techniques, and strategies to prevent intentional and unintentional injuries.
CO 8:	Competence in administering, scoring, reporting and analysis of psychometric tests related to health.

SOCIOLOGY	
PROGRAM OUTCOME	
PO 1:	The students acquire knowledge in the field of social sciences, literature and humanities which make them sensitive and sensible.
PO 2:	The B.A. graduates will be acquainted with the global social, economical, historical, geographical, political, ideological and philosophical tradition and thinking.
PO 3:	The programme empowers and thoroughly prepares the graduates to appear for various competitive examinations or choose the post graduate programmes of their choice.
PO4:	The programme enables the students to acquire knowledge with human values framing the base to deal with various problems in life with courage and humanity.
PO5:	The students will be ignited enough to critically think and act over for solution to various issues prevailing in human life to make this world a better place.
PO6 :	The programme provides a holistic base for every student to become a responsible citizen.
PROGRAMME SPECIFIC OUTCOMES	
PSO 1:	Demonstrate knowledge of fundamental theoretical approaches and core disciplinary concepts.
PSO 2:	Understand sociological phenomena, social structures, social institutions, cultural practices, and multiple axes of difference and/or inequality.
PSO 3:	Understand the Indian society, both the rural and urban communities, and the institutions therein with their complex functioning.
PSO 4:	Possess knowledge of the history and evolution of the industrial society and its functioning in current times.
PSO 5:	Develop an ability to use social scientific research methods to address sociological questions and exhibit critical thinking skills in evaluating sociological research, including the background assumptions, appropriateness of methods used and the strength of explanatory evidence.
PSO 6:	Possess knowledge and analyse various social problems engulfing India and suggest remedies for the same.

PSO 7:	Demonstrate the ability to use several of the major classical or contemporary perspectives in social theory and apply the same in contemporary society.
PSO 8:	Understand the current social welfare programmes in India and their importance for the growth and progress of India keeping the vulnerable groups in mind.
COURSE OUTCOMES:	
I SEMESTER **Principles of Sociology**	
CO 1:	Understand the discipline of Sociology
CO 2:	Trace the origin of Sociology
CO 3:	Analyse the relevance of Sociology in contemporary times
CO 4:	Describe the fundamental theoretical approaches
CO 5 :	Apply the theories to conceptualize a sociological problem
CO 6 :	Understand the specialized branches of Sociology and various career opportunities
CO 7 :	Analyse the importance of the specialized branches of Sociology in the global context
CO 8 :	Explain the basic concepts of Sociology
CO 9 :	Understand the concept of culture
I Semester - Elective Course **Sociology of Sanitation**	
CO 1:	Understand the discipline of Sociology
CO 2:	Trace the origin of Sociology
CO 3:	Analyse the relevance of Sociology in contemporary times
CO 4:	Describe the fundamental theoretical approaches
CO 5 :	Apply the theories to conceptualize a sociological problem
CO 6 :	Understand the specialized branches of Sociology and various career opportunities
CO 7 :	Analyse the importance of the specialized branches of Sociology in the global context
CO 8 :	Explain the basic concepts of Sociology
CO 9 :	Understand the concept of culture

CO 10 :	Explain the process of socialization
CO 11 :	Apply socialization in the daily social lives
II SEMESTER **Social Institutions and Social Change**	
CO 1:	Understand the social institutions of family and kinship
CO 2:	Analyse the recent trends affecting the institutions of family and kinship
CO 3:	Describe the institution of marriage in India
CO 4:	Identify marriage among the major religious communities in India
CO 5:	Understand the institution of religion and its origin
CO 6:	Identify the functions and dysfunctions of religion
CO 7 :	Distinguish between religion and morality
CO 8 :	Explain the relationship between religion and science
CO 9 :	Understand the education system
CO 10 :	Identify the functions of education
CO 11 :	Analyse the relationship between education and inequality and education and mobility
CO 12 :	Explain the Right to Education Act
CO 13 :	Identify the concept and characteristics of social change
CO 14 :	Differentiate between the social processes of change, development and progress
CO 15 :	Critically examine the various factors of social change
CO 16 :	Explain the contemporary processes of social change
II Semester - Elective Course **Sociology of Disaster and Social Crisis**	
CO 1:	Understand disaster and social crisis
CO 2:	Explain the study of Disaster Management and Social Crisis
CO 3:	Describe disaster victims and their vulnerability
CO 4:	Understand the disaster relief system
CO 5:	Describe the types, causes and effects of disasters
CO 6:	Analyse various forms of social crisis during a disaster
CO 7 :	Critically examine the role of government and NGOs in crisis management
III Semester	

Indian Society: Rural and Urban	
CO 1:	Understand the Indian village system
CO 2:	Identify the features of an Indian village
CO 3:	Classify the Indian villages
CO 4:	Analyse the problems of Indian villages
CO 5:	Explain the Panchayati Raj system
CO 6:	Understand the joint family system and identify its characteristics
CO 7:	Classify the joint family
CO 8:	Understand the caste system
CO 9:	Critically examine mobility in caste system
CO 10:	Critically analyse the relevance and the recent changes in the institutions of joint family and caste system
CO 11:	Understand the tribal community
CO 12:	Explain the distribution of tribals across India
CO 13:	Examine the problems faced by the tribal community in India
CO 14:	Understand the urban community
CO 15:	Differentiate between the concepts of urbanism and urbanization
CO 16:	Explain the urban administration system
CO 17:	Identify the urban infrastructure and its problems
CO 18:	Critically examine the urban problems and its causes
CO 19:	Propose solutions to the urban problems
III Semester - Elective Course **Indian Society**	
CO 1:	Understand the Indian Society and its composition
CO 2:	Critically examine India as a pluralistic society
CO 3:	Describe the social institution of marriage among Hindus, Muslims and Christians in India
CO 4:	Understand kinship
CO 5:	Describe the institution of family and its functions in India
CO 6:	Analyse the recent changes in the institution of family
CO 7:	Critically examine the changes in Indian society
CO 8:	Analyse casteism, regionalism and secularism in modern India

IV Semester **Industrial Sociology**	
CO 1:	Understand a specialized area of Sociology – Industrial Sociology
CO 2:	Explain the evolution of industry
CO 3:	Identify the various types of productive system
CO 4:	Explain the actors of industrial relations
CO 5:	Analyse collective bargaining
CO 6:	Describe participative management
CO 7:	Analyse corporate social responsibility
CO 8:	Understand industrial disputes
CO 9:	Identify the types of industrial disputes
CO 10:	Explain the Industrial Disputes Act 1947
CO 11:	Examine various processes of settling disputes
CO 12:	Analyse the labour welfare measures
CO 13:	Explain the trade union movement and its origin and development
CO 14:	Identify the objectives and functions of trade unions
CO 15:	Describe the types of trade unions
CO 16:	Critically examine the weakness of trade union
CO 17:	Analyse and suggest remedies to the problems of trade unions
IV Semester - Elective Course **Sociology of Health**	
CO 1:	Understand the origin and development of Sociology of health.
CO 2:	Examine the major dimensions of health
CO 3:	Describe the social components of health
CO 4:	Analyse the theoretical approaches in health
CO 5:	Critically examine the attitudes, values and beliefs associated with disease
CO 6:	Analyse changing doctor-patient relationship
CO 7:	Critically analyse inequalities in health with reference to gender and class
CO 8:	Understand functioning of hospitals
CO 9:	Describe the health systems in India
CO 10:	Analyse the programmes, policies and social legislations for health care in India

V Semester **Social Problems in India**	
CO 1:	Understand the concept of social problems
CO 2:	Examine the causes of social problems
CO 3:	Apply theoretical approaches to understand social problems
CO 4:	Explain family disorganization
CO 5:	Analyse the causes and effects of family disorganization
CO 6 :	Propose solutions to family disorganization
CO 7:	Understand crime and juvenile delinquency and their causes
CO 8:	Explain the various theories of punishment
CO 9:	Examine the preventive, reformatory and rehabilitation measures
CO 10:	Explain alcoholism and drug addiction
CO 11:	Describe the causes and effects of alcoholism and drug addiction
CO 12:	Explain the remedial measures for alcoholism and drug addiction
CO 13:	Understand communalism and communal violence
CO 14:	Analyse communalism in the Indian context
CO 15:	Describe the National Integration Movement
CO 16:	Examine the various theories of communalism
CO 17:	Critically analyse the role of government and media in communalism
CO 18 :	Describe the problems of the aged
CO 19:	Critically examine the changing role of the aged in the family
CO 20:	Analyse the care and welfare of the aged
V Semester **Research Methodology**	
CO 1:	Understand social research
CO 2:	Examine the problems in social research
CO 3:	Describe the steps in social research
CO 4:	Apply research designs
CO 5:	Differentiate between types of sources of data
CO 6:	Describe sampling
CO 7:	Apply various techniques of sampling

CO 8:	Describe observation as a method of data collection
CO 9:	Describe questionnaire as a method of data collection
CO 10:	Create a questionnaire
CO 11:	Describe interview as a method of data collection
CO 12:	Analyse the process of interview
CO 13:	Create an interview schedule
CO 14:	Describe the planning and organization of a report
CO 15:	Create a complete primary research report
Sixth Semester **Sociological Thought and Modern Theories**	
CO 1:	Understand Sociological thought
CO 2:	Differentiate between social thought and sociological thought
CO 3:	Analyse the transition from Social philosophy to Sociology
CO 4:	Describe the contributions of early sociological thinkers like Comte, Spencer, Durkheim, Weber and Marx.
CO 5 :	Critically examine theories of the early Sociological thinkers
CO 6:	Apply the early theories in the present times
CO 7:	Explain the growth of modern sociological theories
CO 8 :	Analyse the theories of modern thinkers like Parsons, Merton, Coser, Mead and Blumer
CO 9:	Critically examine the modern theories in Sociology and analyse their significance and interdisciplinary application
Sixth Semester **Social Policy and Welfare in India**	
CO 1:	Understand the concept of social policy and social welfare
CO 2:	Examine the agencies of social welfare, both government and non-government agencies
CO 3:	Describe civil society
CO 4:	Describe the National Policy for Children
CO 5:	Examine the various programmes for welfare of children

CO 6:	Understand children in conflict with law
CO 7:	Analyse child labour and the problem of the girl child
CO 8:	Describe the National Youth Policy
CO 9:	Describe youth programmes
CO 10:	Analyse the importance of youth and sports
CO 11:	Understand the problems of women
CO 12:	Examine the various government policies and programmes for women
CO 13:	Analyse violence against women
CO 14:	Describe the Domestic Violence Act 2005
CO 15:	Describe the National Health Policy
CO 16:	Understand health education
CO 17:	Describe the special nutrition programme and the Population Policy
CO 18 :	Explain the family welfare programme
CO 19:	Critically examine the role of media in family welfare
CO 20:	Understand the marginalized groups
CO 21 :	Explain the backward classes
CO 22:	Examine the welfare of SCs, STs and OBCs
CO 23 :	Critically analyse the reservation policy

Social work	
PROGRAM OUTCOME	
PO 1:	Empowerment of graduates with professional attitude and behaviour
PO 2:	Apply scientific knowledge and acquire effective communication skills in professional commitment
PO 3:	Develop and engage scientific approach to meet human needs and identify them as social change maker towards transformation.
PROGRAMME SPECIFIC OUTCOMES	
PSO 1:	Able to uphold values and ethics of Social Work
PSO 2:	Able to perform diverse roles in various social work settings
PSO 3:	Able to work effectively in team environment.
PSO 4:	Skilled to communicate effectively working with individuals
PSO 5:	Skilled to communicate effectively working with Groups
PSO 6:	Skilled to communicate effectively working with Communities
PSO 7:	Demonstrate the spirit of volunteerism to reach out disadvantaged sections of the society.
PSO 8:	Able to assess and intervene with the individuals, families, groups, organizations and communities
PSO 9:	Develop zeal and enthusiasm to work within the framework of existing structure (Governmental and Nongovernmental)
COURSE OUTCOMES:	
I SEMESTER **G111.1: INTRODUCTION TO SOCIAL WORK**	
CO 1:	Students acquire knowledge on fundamental concepts of Social Work
CO 2:	Develop an understanding about the context of emergence of social work as a profession and its practice in various settings
CO 3:	Analyze the importance values and ethics of professional Social work practice with a critical perspective
I Semester - Elective Course **LIFE SKILLS**	
CO 1:	Learn new ways of thinking and problem solving
CO 2:	Build confidence in spoken skills, group collaboration and cooperation
CO 3:	Recognize the impact of their actions and lean to take responsibility
CO 4:	Develop a greater sense of the self by acquiring analytical skills to make right decisions in life.

SECOND SEMESTER **G111.2: SOCIAL CASE WORK AND SOCIAL GROUP WORK**	
CO 1:	Acquire knowledge on the fundamental concepts of Social Case Work and Social Group Work
CO 2:	Understand Social Case Work and Social Group Work as methods of Social Work and apply it as an intervention method.
CO 3:	Develop skills and techniques to work with different stages and record the process
SECOND SEMESTER **CHILD WELFARE (OPEN ELECTIVE)**	
CO 1:	Students develop Comprehensive Understanding of the Concept of Child Vulnerability
CO 2:	Acquire knowledge on the Child Rights and its violation through case studies
CO 3:	Develop Capacity to draw up Right Based Approach for Child Welfare
THIRD SEMESTER **G111.3: COMMUNITY ORGANIZATION AND SOCIAL ACTION**	
CO 1:	Understand the community organization and Social Action as methods of Social work.
CO 2:	Acquire conceptual understanding about different approaches in Community organization and Social action
CO 3:	Understand the role of community organizer in different community settings and develop an attitude and skills for the participatory process.
CO 4:	Acquire skills in need assessment, program planning, and implementation and evaluation framework through field practicum.
THIRD SEMESTER **SOCIAL DEVELOPMENT &SUSTAINABLE DEVELOPMENT(OPEN ELECTIVE)**	
CO 1:	Get acquainted with fundamental concepts of development, social development and Sustainable development.
CO 2:	Learn to integrate social development and sustainable development to address the serious challenges of the globe.
CO 3:	Develop the abilities to involve oneself actively in the process of sustainable development
FOURTH SEMESTER **G111.4: HEALTH CARE AND EDUCATION**	
CO 1:	Develop an understanding of holistic concept of Health and different Health

	Care systems in India
CO 2:	Analyze the impact of different Diseases and develop strategies in its Control and Prevention
CO 3:	Identify the relationship between Food, Health and Diseases and to assess the significance of Nutrients to maintain health
CO 4:	Acquire skills in need assessment, program planning, implementation and evaluation framework through field practicum
FOURTH SEMESTER **DISASTER MANAGEMENT: PREPAREDNESS AND RESPONSE (OPEN ELECTIVE)**	
CO 1:	Increase knowledge and understanding of disaster phenomenon and its impact on society.
CO 2:	Acquire skills to address potential effects of disasters and to respond to avert these effects.
CO 3:	Develop capacity to respond, manage and mitigate disasters
FIFTH SEMESTER **G111.5a: SOCIAL WORK WITH FAMILIES**	
CO 1:	Develop proficiency in practice of Social work with families
CO 2:	Develop competency in family intervention and family therapy
CO 3:	Demonstrate the ability to identify issues in the family and ability to develop intervention strategies
V Semester **Research Methodology**	
CO 1:	Acquire competent skills and learn techniques to deal with individuals groups and communities.
CO 2:	Demonstrate professional rapport building skills with the target group.
CO 3:	Demonstrate skills in social analysis, need assessment, program planning and implementation and evaluation framework skills in various settings.
CO 4:	Display oral, written and presentation skills of communication in social work settings
FIFTH SEMESTER **SOCIAL WORK FIELD PRACTICUM (60 hours of work)**	
CO 1:	Draw up conceptual clarity on the basics tenets and theories related to social exclusion from a social work perspective.
CO 2:	Develop ability to examine gender as a major organizing principle of

	contemporary social life
CO 3:	Explore the ways that gender intersects with other important lines of social differentiation, such as caste, ethnicity, social class, sexuality, and nationality.
CO 4:	Understand the tribal way of life and problems in India and develop zeal to work for their welfare.
SIXTH SEMESTER SUBALTERN STUDIES	
CO 1:	Draw up conceptual clarity on the basics tenets and theories related to social exclusion from a social work perspective.
CO 2:	Develop ability to examine gender as a major organizing principle of contemporary social life
CO 3:	Explore the ways that gender intersects with other important lines of social differentiation, such as caste, ethnicity, social class, sexuality, and nationality.
CO 4:	Understand the tribal way of life and problems in India and develop zeal to work for their welfare.
SIXTH SEMESTER G111.6b: CRIMINAL JUSTICE SYSTEM AND CORRECTIONAL SOCIAL WORK	
CO 1:	Obtain deeper knowledge about criminal justice system in India
CO 2:	Acquiring deeper understanding on the hard realities of prison life by exploring their attitude towards offenders
CO 3:	Students will be able to analyse critically social legislation for prevention of crime
CO 4:	Demonstrate competency to rehabilitate offenders through the application of social case work and social group work methods
SIXTH SEMESTER SOCIAL WORK FIELD PRACTICUM (48 hours of work)	
CO 1:	Understand the functioning of structured setting/agency-Primary or Secondary
CO 2:	Understand in depth the application of social work methods in dealing with individuals and groups.
CO 3:	Develop the ability to do interventions ensuring client's participation.
CO 4:	Develop skills in recording, writing academic articles based on practical experience.

BBA	
PROGRAMME OUTCOMES	
PO1	Acquaint with fundamentals of management education coupled with business correspondence, management aptitude, managerial skills and soft skills.
PO 2	Apply conceptual constructs to solve practical decision making problems by using case analysis, projects and assignments.
PO 3	Facilitate various analytical, technical, creative and integrative abilities in students to build management practices.
PO 4	To document their participation and contribution towards student activities, internship opportunities or other sanctioned initiatives.
PO 5	Identify the opportunities for social entrepreneurship, designing business solutions and demonstrate ethics in organizational decision making.
PO 6	Enhance social interaction blending with eco-sensitivity to make students think and act ethically from campus to corporate world.
PO 7	Edifice leadership and communication skill.
Programme Specific Outcomes	
PSO 1	To assimilate domain knowledge which essentiates the ability to solve business problems thereby abiding ethical procedure.
PSO 2	Fostering hands on experience through industry – institution interaction by enhancing participation through industry visit, internship programmes, workshop and seminars/webinars.
PSO 3	Strengthen academic pursuits by imparting theoretical underpinnings in the field of finance, marketing and human resource aspects, which are in fact, the core functions of the corporate set up.
PSO 4	To facilitate the students to take up emerging challenges and implement viable, ethically upright and socially acceptable solution.
PSO 5	Provide an opportunity to specialize in management areas such as Marketing, Finance, Human Resource Management,
PSO 6	Instilling professionalism, management aptitude, presentation skills, soft skills and written executive communication skills.
PSO 7	Facilitate entrepreneurial skills in students by providing handful of opportunities through incubation centre and promotion of innovation in ideas

	and proposals.
PSO 8	Engage the students in active social interaction and creating awareness on eco-sensitive activities.
SEMESTER - I **G 401.1 Financial Accounting-I**	
CO 1	Apply Generally Accepted Accounting Principles for preparation of the financial statements.
CO 2	Apply the principles of double – entry book keeping and classify the transactions into the subsidiary books of a firm
CO 3	Rectify accounting errors in the books of accounts of a firm.
CO 4	Summarize transactions for finalizing the final accounts of business
G 402.1 Principles of Economics	
CO 1	Know the origin of economics
CO 2	Understand the consumer behaviour in different market situations
CO 3	Understand demand forecasting
CO 4	Examine production process.
G 403.1 Business Statistics and Mathematics- I	
CO 1	Develop statistical thinking and enable students to use techniques of organizing data in tabular and graphical form in order to enhance data analysis and interpretation.
CO 2	Understand the role of measures of central tendency and dispersion in summarization, description and interpretation of data and also to understand the basic concepts of probability.
CO 3	Calculate derivative of a function and to determine the rate of change of quantities, to find largest and smallest values of a function.
CO 4	Distinguish the concepts of simple interest, compound interest and their basic applications.
G 404.1 Managerial Development and Communication	
CO 1	Understand the evolution of management thought and the functional areas of management in an organization.
CO 2	Integrate the planning and organizing function to build an effective organization.

CO 3	Relate the function of directing with staffing and to identify control techniques available in management.
CO 4	Contribute to the organization by learning the art of communicating using business reports, minutes etc.
G 405.1 Marketing Management	
CO 1	Understand the core concepts of marketing such as demand, product utility, marketing mix, market segmentation, targeting and market positioning.
CO 2	Develop an ideal product mix and marketing strategy based on the life cycle of the product.
CO 3	Analyse consumer behaviour to devise marketing strategies that can influence buyer decision process.
CO 4	Illustrate the emerging trends in marketing.
<u>Group 2 Elective</u> **G 406.1E Insurance Management**.	
CO 1	Understand the principles and concepts of insurance.
CO 2	Classify and examine products and provisions of life insurance contract.
CO 3	Assessing the various General Insurance products and get insight of provincial control.
G 407.1E Computer Application in Business	
CO 1	Understand the basics of e- commerce and various e- commerce models.
CO 2	Explore how Microsoft Excel can be used to support existing businesses and strategies.
CO 3	Gain familiarity with the concepts and terminology used in Information System Security and cybercrimes.
CO 4	Achieve hands-on experience in developing database using Microsoft Access.
G 408.1E Right to Information Act	
CO 1	Understand the importance of information under the Right to Information Act.
CO 2	Familiarize the powers and duties of informational commissioner.
CO 3	Explore the working of a public authority.
G 409.1E Personality Development	
CO 1	Understand the conceptual aspects of personality.
CO 2	Examine yourself and to develop positive attitude.
CO 3	Identify stress factors that cause anger and methods to manage stress and anger.

SEMESTER - II Group-1 G 401.2 Financial Accounting	
CO 1	Analyse final accounts of non- trading concern and distinguish between the expenses and income along with its nature as to capital or revenue.
CO 2	Understand consignment transactions and its accounting treatment in the books of consignor and consignee.
CO 3	Illustrate the methods for maintaining branch accounts and its respective accounting treatment, ascertain profit/loss made by Branch and take corrective measures against unprofitable branches.
CO 4	Prepare joint venture accounts under different methods.
G 402.2 Managerial Economics	
CO 1	Understand the managerial concept of business.
CO 2	Analyse cost and revenue concepts.
CO 3	Know about competition in market conditions.
CO 4	Learn about imperfect competition.
G 403.2 Business Statistics and Mathematics –II	
CO 1	Determine the relationship between the two variables by using correlation and to estimate the relationship between the two variables using regression analysis.
CO 2	Apply the concept of index numbers to understand market situation.
CO 3	Develop a fundamental understanding of linear programming problem and to solve it using graphical and simplex method.
CO 4	Understand the concept of True discount, Banker's discount, Annuities and their basic applications.
G 404.2 Services Marketing	
CO 1	Understand the significance of service marketing in an economy with special reference to Indian economy.
CO 2	Understanding the importance of technology in services industry.
CO 3	Understand the different approaches towards quality service and dimensions of quality.
CO 4	Know the customer expectation and perception through GAP model.
CO 5	Form an idea about consumer expectations from services.
CO 6	Analyse the concept of consumer complaints and know the different areas of service scape.
CO 7	Know the importance of physical environment on services.

G 405.2 Human Resources Management	
CO 1	Describe the concept of HRM, its history and the present day relevance in organizations.
CO 2	Explain the meaning and necessity of human resource planning and analyse the methods adopted for recruitment in organizations.
CO 3	Evaluate the role of selection, placement and training in realizing the objectives of HRM.
CO 4	Understand the importance of job evaluation and the compensation structure in organizations.
Group-2 Elective G 406.2E Event Management	
CO 1	Explain the concept of organizing events.
CO 2	Analyse the legalities required to organize events.
CO 3	Describe how to plan and schedule events.
G 407.2E Retail Management	
CO 1	Describe the complex nature and environment of retail management together with the various segments and key drivers of retailing in India.
CO 2	Understand the different types of retail formats & career opportunities in retailing.
CO 3	Comprehend the decisions retailers make to satisfy customer needs in a rapidly changing and competitive environment.
G 408.2E Bank Management	
CO 1	Understand the operations of modern banking.
CO 2	Analyse the types of relationship between the bank and its customer.
CO 3	Assess the various procedures of lending and to understand the regulations relating to the functioning of a paying banker.
G 409.2E Forex Management	
CO 1	Know the concepts of foreign exchange market.
CO 2	Understand the organization and functions of foreign exchange department of a bank and different types of accounts.
CO 3	Know the concepts of ready exchange rates for trading and non -trading transactions.

III SEMESTER- 2019 BATCH ONWARDS

GROUP-1 G 401.3 Corporate Accounting-I	
CO 1	To outline the accounting for issue, forfeiture and reissue of forfeited shares under varying situations and the book building process.
CO 2	To describe how companies, redeem its preference shares; prepare account for the scheme of redemption by utilizing the capital redemption reserve account and to understand the various ways of issue of debentures and redemption of debentures.
CO 3	To understand the nature and appreciate the need for valuing goodwill under various methods and also to familiarise with the need for valuation of shares under the various methods.
CO 4	To identify the new format of balance sheet as per revised Schedule VI and to know the various provisions of revised Schedule VI.
G 402.3 Public Finance	
CO 1	To understand the various theories governing public finance and shall gain a thorough understanding about government policies on taxation, debt and expenditure.
CO 2	To understand the economic challenge of allocating limited resources among competing uses in a global economy and across different market structures under conditions of limited information.
CO 3	To understand the role of government in the economy in the context of business activity, income distribution, economic growth, globalisation and market failure.
CO 4	It helps students gaining theoretical and practical knowledge about the fiscal policy instruments and its relevance in the economic stabilisation.
G 403.3 Direct Taxes – Paper I	
CO 1	To explain the significance of residential status in relation to determining total income taxable in India of a person.
CO 2	Learn to compute taxable and exempted tax-free incomes
CO 3	To understand the various taxable and tax-free allowances and perquisites which are available to individual assesses
CO 4	To learn to compute taxable salary of an individual.

G 404.3 Commercial Law	
CO 1	Analyse and evaluate the nature, significance, types and essential elements of a valid contract.
CO 2	Conceptual clarity on consideration and capacity to contract.
CO 3	Conceptual clarity on free consent, legality of object and modes of performance, discharge and breach of contract.
CO 4	Ability to understand the legal rules in a Contract of Indemnity and Contract of Guarantee.
G 405.3 Financial Management	
CO 1	To understand the concept of financial management, time value of money and finance functions.
CO 2	To acquaint with the knowledge of cost of debt, cost of equity, cost of preference share capital, retained earnings, WACC.
CO 3	To assess profitable projects and investments using evaluation tools.
CO 4	To analyse the leverages of companies to measure their financial performance and a firm's capitalization.
CO 5	To understand the relation between shareholders wealth and the earnings of the company.
Group-2 Elective **G 406.3E Business Etiquettes**	
CO 1	To understand the concept of Business Etiquette.
CO 2	To understand various kinds of etiquettes.
CO 3	To understand the importance of Body Language.
G 407.3E Training the trainer	
CO 1	To understand the significance of oratory skills in our personality.
CO 2	To Excel in presentation skills and inculcate negotiation skills.
CO 3	To get acquainted with the concept of resourceful sessions and establishing connection with audience.
G 408.3E Personal Selling	
CO 1	Study the types of personal selling and the importance of trust and ethics.
CO 2	Learn the skills required to understand the market, the buying process, and the communication skills needed to build customer relationships.
CO 3	Study the sales dialogues, sales presentations, and demonstration methods.

G 409.3E Corporate Social Responsibility	
CO 1	To know the most common theoretical perspectives for understanding Corporate Social Responsibility (CSR) and the role of business in sustainable development.
CO 2	It examines the development of the idea of corporate social responsibility, and helps the student in understanding the role of public sector towards the contribution in CSR.
CO 3	Provides insights on the challenges faced and various CSR initiatives required for development of any business.
IV SEMESTER- 2019 BATCH ONWARDS **Group-1** **G 401.4 Corporate Accounting-II**	
CO 1	To understand the types of amalgamation and the methods of accounting as per Accounting Standard 14 and to understand the concept of absorption
CO 2	To understand the concept of external and internal reconstruction and the difference between amalgamation, absorption and external reconstruction and to understand the concept of alteration of share capital, internal reconstruction or capital reduction and the procedure for reducing share capital.
CO 3	To understand the modes of liquidation, its consequences and the order of payment.
CO 4	To understand the format of final accounts adopted by banking companies as per the recent amendments
G 402.4 Indian Economy	
CO 1	To understand the features and structural changes of Indian economy and compare with the growth pattern and challenges of other economies.
CO 2	It enables the students to apply the theoretical knowledge in the actual working of Indian economy.
CO 3	To make the students understand the role of various economic policies in promoting the development of Indian economy.
CO 4	It enables the students to learn critically, discuss and debate current economic issues on the basis of latest policy documents and tends.
G 403.4 Direct Taxes- Paper II	
CO 1	To learn to compute taxable income from house property.

CO 2	To learn to compute business and professional incomes.
CO 3	To understand the computation of long term and short-term capital gains.
CO 4	To find out taxable income from other sources.
G 404.4 Corporate Law	
CO 1	Understand the concept of Joint Stock Company and suggest the suitability of Joint Stock Company as a form of Business organization.
CO 2	Understand the use of the memorandum of association and article of association in a company.
CO 3	Understand the relationship between company and the shareholders and the various documents required to raise the capital.
CO 4	Apply the concepts learned for winding up and the procedure to be followed in winding up of the company.
G 405.4 Research Methodology	
CO 1	To understand the fundamentals of a research and the various process used in executing a research.
CO 2	It helps the students to identify the different research problems and formulate the research design accordingly.
CO 3	It helps the students in selecting various samples and also helps in the measurement and scaling of the research.
CO 4	To understand the methods to collect data, analysing the data and based on the analysis executing a research report.
Group-2 Elective G 405.4E Personal Investment and Tax Planning	
CO 1	Learn the importance, and have a basic understanding of personal tax planning techniques and risk management process.
CO 2	Develop and identify analytical skills to facilitate effective financial decision-making, including informed decisions regarding investment, insurance, retirement, and estate planning.
CO 3	To provide working knowledge of personal tax planning for making appropriate financial decisions, both personal and business.
CO 4	To have an understanding of income tax laws in India and be able to do tax planning and also state the use of deductions of expenses to reduce the taxable income.

G 406.4E Fundamentals of Accounting	
CO 1	To explain the accounting concepts and conventions used in the business.
CO 2	To Classify the transactions into the books of a firm.
CO 3	To prepare Profit and Loss Accounts and balance sheet of a company.
G 407.4E Travel and Tourism Management	
CO 1	To learn about demand for tourism industry and to understand the basic concepts of tourism.
CO 2	To learn how to prepare the itinerary.
CO 3	To learn how to design the tour packages.
G 408.4E New Venture Creation and Entrepreneurship	
CO 1	To understand the basics of entrepreneurship, types of entrepreneurs and to understand the outcomes of social, rural and women entrepreneurs.
CO 2	To prepare a budget for start-ups and know the proper sources of funding to the enterprises.
CO 3	To learn to write a business plan and draft a business idea to brain storm business ideas.

V SEMESTER (2019 BATCH ONWARDS)	
G 401.5 Cost Accounting	
CO 1	To understand and explain basic conceptual framework of cost, cost accounting, costing methods, techniques and the relevance of different types of cost in decision making process.
CO 2	To understand and explain concepts of material cost, material cost control and issue of materials and calculate pricing of material purchase, inventory control techniques and prepare stores ledger under different methods of pricing of material purchases.
CO 3	To understand and explain conceptual framework of labour and labour cost, calculate labour cost, gross wage and net wage, different systems of wage payment
CO 4	To understand and explain concepts of labour and labour cost, prepare primary and secondary distribution summary of overheads, absorption of factory overheads and calculate overhead absorption rates
CO 5	To understand and explain the concepts of cost audit, scope of cost audit, audit report and duties of cost auditor

G402.5 Operations Management	
CO 1	Understanding the basics of operations management and applicability of operations management in different disciplines.
CO 2	Examining CPM and PERT in business projects. Understanding cost –time trade off by applying Crashing techniques
CO 3	Application of various transportation models in operational areas to find out the initial and optimal solution.
CO 4	Understanding on how to apply assignment models based on man to machine to arrive at optimal solution.
CO 5	Assessing various work assessment concepts and understanding modern day tools of Operations management in business
G403.5 Advance Taxation – Paper I	
CO 1	Understanding the procedure of set-off and carry forward of losses while arriving at Gross Total Income of an Assessee.
CO 2	Assessing basic deductions under Section 80 with practical learning applicable while filing the return by an Assessee.
CO 3	Understanding assessment procedure of Individual and firm by determining tax liability of firm.
CO 4	Assessing the company tax procedure and computation of tax liability of the company.
CO 5	Examining the tax laws applicable to co-operative societies with practical learning and assessing the tax liability of cooperative societies.
G404.5 Auditing	
CO 1	To understand the basics of auditing in today's organizations.
CO 2	To examine the internal control and vouching procedures
CO 3	To assess the procedures which have to be adopted by the auditors in regard to verification and valuation of assets and liabilities
CO 4	To explain appointment, rights, duties, liabilities and professional ethics of a company Auditor.
CO 5	To analyse various auditing issues with the help of case laws and to examine various computerised auditing techniques
G404.5 Project/ Internship	
Project	Students will get hands on experience by undertaking live project in different streams such as Finance, Human resource management and marketing management
Internship	Students will get hands on experience by undertaking live internship in

	corporate sector/ business units on different streams such as Finance, Human resource management and marketing management.
G405.5 Organizational Behaviour	
CO 1	To understand the origins of organizational behaviour and influences on personality.
CO 2	To examine those elements of the cognitive process that contributes to employee behaviour.
CO 3	To analyse styles of leadership and its effects on the psychology of the organization.
CO 4	To understand the effects of employees working together under a formal structure, its benefits, problems and motivation.
CO 5	To explain the how organizational culture could result in Conflicts, acquisition of power and positive or negative politics
G406.5 Working Capital Management (Finance Specialisation)	
CO 1	Examining various working capital components and various sources of financing on current assets by applying practical concepts.
CO 2	Understanding the cash management principles and planning of cash budget in business with practical problems.
CO 3	Evaluating various receivable norms and collection policies with optimum credit policy with practical learning.
CO 4	Examining various techniques of inventory management and its applicability in Production sector with practical assessment.
CO 5	Understanding various forms of lease agreements with practical learning and gaining the knowledge of various forms of hybrid financing to business.
G407.5 Strategic Human Resource (HR Specialisation)	
CO 1	To familiarize the students with the methods of performance appraisal and importance of succession planning in an organisation.
CO 2	To get the knowledge about changing horizons in HRM which can change the working structure of the organization.
CO 3	To familiarise students with the process of HRD adopted by the organisation and also importance of executive development in the growth of organization.
CO 4	To study the importance of collective bargaining and the techniques obtained

	by organisations to make workers participate in the various levels of management.
CO 5	To study the importance of discipline in any working environment need of grievance procedure in an organization.
G408.5 Rural Marketing (Marketing Specialisation)	
CO 1	This chapter highlights the profile of rural market existing in India.
CO 2	To understand the strategies adopted in rural marketing.
CO 3	To apply the marketing of services and consumer durables and addressing the issues of the artisans.
CO 4	To address the issues related to rural marketing.
CO 5	To learn the details of the institutions supporting rural marketing.
2019 BATCH ONWARDS VI SEMESTER	
G401.6 Cost and Management Accounting	
CO 1	To understand job, batch, unit costing and contract costing methods: calculation of cost and its application in managerial decision making.
CO 2	To understand and explain concepts of process costing, types of losses with treatment of loss; Calculate cost using process costing and preparing process account.
CO 3	To understand and explain concepts of operating costing, calculate cost using operating costing and prepare operating cost statement of Transport Company.
CO 4	To understand and explain conceptual framework of cost and management accounting, calculate and interpret the break-even point after describing its underlying assumptions.
CO 5	To understand and explain concepts of budget and budgetary control, prepare and interpret production budgets; To understand and explain concepts of standard costing and variance analysis as an important tool for business management
G402.6 Investment Management	
CO 1	To understand the conceptual framework of investment and identify the risk associated with different avenues of investment.
CO 2	To analyse the financial markets available and the trading mechanism adopted in the Indian securities market.
CO 3	To comprehend the operations and regulations adopted in Indian securities

	market.
CO 4	To gauge the significance of analysis of economic, industry and company parameters while studying the investment climate.
CO 5	To understand the concept of mutual fund while building the portfolio and to study the facilitating services of banking operations. To analyse the modalities incorporated in estate-planning and to study the laws governing estate-planning in India.
G403.6 Advance Taxation – Paper II	
CO 1	Understand the basic concepts of Goods and Services tax and assess the applicability of GST in India.
CO 2	Assessing the practical learning of GST by understanding the fundamental principles and various rates involved in GST.
CO 3	Understanding GST registration procedure by practical learning.
CO 4	Examining on procedure of settlement of input tax credit against out tax with reference to SGST, CGST and IGST.
CO 5	Understanding the various types of customs duties and practical application of custom duties on Import of goods and services with practical assessment.
G404.6 Logistics and Supply Chain Management	
CO 1	To understand the concept of supply chain management and appraise the importance of the design and redesign of a supply chain as key components of an organization's strategic plan.
CO 2	To learn the notion of logistics and major logistics functions and activities.
CO 3	To understand the modes of transportation, warehouse processes, systems, and performance measures.
CO 4	To analyse the material handling process and packaging operations of a firm.
CO 5	To understand the components of logistics network design and logistics infrastructure
G405.6 Entrepreneurship Development	
CO 1	To understand the basics and factors affecting entrepreneurs and to know about different types of entrepreneurs.
CO 2	To understand various types of entrepreneurship and EDP programmes and to understand the outcomes of social, rural and women entrepreneurs.
CO 3	To learn about legal procedures about enterprise and to learn to get licence and other rights in order to expand the business.

CO 4	To prepare a budget for a venture and know the proper sources of funding to the enterprises.
CO 5	To learn to write a business plan and draft a business idea and to brain storm business ideas
G406.6 Financial Statement Analysis (Finance Specialisation)	
CO 1	Examining various concepts of financial statement analysis applicable in business.
CO 2	Analysing various techniques of financial statement analysis incorporated by the corporate entity assessing the same with practical knowledge.
CO 3	Understanding various liquidity ratios and capital structure ratios involved in determining the financial position of the business with practical learning.
CO 4	Understanding various activity ratios and profitability ratios involved in determining the financial position of the business with practical learning.
CO 5	Analysing cash flow statement with practical learning and determining the cash position of business with the knowledge of various components involved in preparing cash flow statement.
G407.6 Industrial Relations and Labour Welfare (HR Specialisation)/	
CO 1	To study the importance of employee, employer and government in framing healthy relationship within the industry.
CO 2	To study the causes for disputes and the settlement measures adopted to by the industry.
CO 3	To study the facilities provided for the betterment of the workers and the schemes provided by the government for the welfare of the employees.
CO 4	To study the security measures provided for special categories of labourers.
CO 5	To study the importance of safety in the working atmosphere and facilities provided to maintain the health of the workers.
G408.6 Advertising Management (Marketing Specialisation)	
CO 1	To understand the fundamentals of advertising.
CO 2	To examine factors such as consumer behaviour, perception, communication in relation to advertising.
CO 3	To analyse the practical aspects of advertising that is relevant to working in an advertising agency.
CO 4	To understand the essential details that are necessary for any agency/firm to look into before releasing the advertisement.
CO 5	To explain those essential aspects of marketing that forms a part of advertising in India.

B.Com	
Programme Outcomes	
PO 1:	Develop a thorough understanding of various fundamental concepts of commerce, finance and economics and apply them in real life situations.
PO 2:	Apply knowledge, understanding and skill to identify the unsolved problems in rapidly changing business environment and analyse and assess these problems using appropriate methodology.
PO 3:	Develop a good value system leading to high ethical and moral conduct, to meet the expectations of established legal practices in the field of Commerce.
PO 4:	Stand with the requirement of business sector seeking youth fit for employment in the world of work, with the acquired competencies and attitudes.
PO 5:	Build a strong footing for advanced studies in Commerce and its allied areas on multiple disciplines concerned with commerce.
PO 6:	Engage in the process of reflective, independent and pragmatic thinking by understanding the concepts in every area of commerce and business.
PO 7:	Acquire various soft skills like communication, analytical and computer literacy required to manage complete business situation as well as life situations.
PO 8	: Apply their knowledge necessary to address complex environmental, gender related and legal issues at local, regional and global scale.
PO 9:	Write analytically in a variety of formats, including essays, research papers, reflective writing and critical reviews of secondary sources using language skills.
Programme Specific Outcomes:	
PSO-1:	Understand various concepts and theories providing strong academic foundation in the field of economics and business.
PSO-2:	Acquaint and demonstrate practical skills in areas of Marketing, Banking, Business Management, Taxation and Human Resource Management.
PSO-3	Acquire practical skills to work as tax consultant, audit consultant, investment consultant and other financial supporting services.
PSO-4:	Apply the practical skills in Accounting and Costing and able to handle independently accounts and costing functions in the business.
PSO-5:	Exhibit gender sensitivity with the knowledge gained from the aspects related

	to gender equity.
PSO-6:	Apply various technical ICT tools to explore, analyse and use the information for business purposes.
PSO-7:	Emphasize cultivating the ideology which promotes sustainable environmental system and eco-friendly fair business practices.
PSO-8:	Achieve proficiency with the ability to crack competitive exams like CA, CS, ICWA and other courses.
PSO-9:	Apply mathematical and statistical tools in academics, business and research.
PSO-10:	Clarify the problems related to employer, employee and Consumers through the exposure to labour laws and consumers acts.
PSO-11:	Equip with analytical skills in linguistics, communications and literary criticism.
Course outcomes of B.Com (Regular)	
Semester I Financial Accounting-I	
CO-1:	Develop an understanding of fundamental accounting concepts and conventions.
CO-2:	Outline the concept of IFRS and apply the accounting standards.
CO-3:	Examine the reasons for the errors in the accounts and rectify the errors.
CO-4:	Identify the reasons for the difference in the cash book and pass book and reconcile the same
CO-5:	Develop final accounts of trading and non-trading concerns
Business Economics	
CO-1:	Understand the basic concepts of Business Economics.
CO-2:	Describe the consumer behaviour in different market situations.
CO-3:	Explain market structure and recent changes.
CO-4:	Analyse concepts of production, cost and revenue
CO-5:	Outline the relevance of demand forecasting and functions of demand
Principles of Management	
CO-1:	Acquire a clear understanding of the basic concepts of Management
CO-2:	Acquaint with the knowledge of application of Principles of Management under different organisation structures
CO-3:	Develop the skills for practical execution of the functions of Management
CO-4:	Apply the knowledge on systematic planning and its execution

CO-5:	Recognize the concepts, principles and execution of functions under International Management.
Business Statistics	
CO-1:	Identify a statistical method for solving practical problems.
CO-2:	Discuss critically the uses and limitation of statistical techniques.
CO-3:	Describe and discuss the key terminology, concepts, tools and techniques used in business statistical analysis.
CO-4:	Evaluate critically the underlying assumptions of analysis tools
Elective 1 **Human Resource Management**	
CO-1:	Describe the basic concept of Human Resource Management.
CO-2:	Outline the process involved in the selection and training of human resource.
CO-3:	Evaluate the various techniques of job analysis, job design and job description.
Elective 2 Tourism Management	
CO-1:	Outline the basic concepts of travel and tourism and discuss the terminology used.
CO-2:	Identify various areas related to tourism and how it affects the destination.
CO-3:	Outline the selected issues that currently influence the tourism industry both locally and globally.
CO-4:	List various organizations involved in the development of tourism.
CO-5:	List the Tourism Policy of India which governs and regulate the development of Tourism in India
Elective 3 Shipping and Port Management-I	
CO-1:	Identify business opportunities in shipping industry.
CO-2	: Analyse the role of ship management company and shipping intermediaries.
CO-3:	Evaluate different types of containerisation and understand the challenges faced by depots
Elective 4 **Insurance-I**	
CO-1:	Understand the importance of life and general insurance
CO-2:	Explain the features of various insurance products

CO-3:	Outline the procedures involved in making claims.
Elective 5 Logistics And Supply Chain Management	
CO-1:	Understand the importance of logistics to business organizations.
CO-2:	Provide a brief overview of the set of activities that make up the logistics process
CO-3:	Describe the process of Supply Chain Management
CO-4:	Understand the relationship between Supply chain Management and Integrated Logistics
CO-5:	Analyse the components of customer service in logistics.
Semester II Financial Accounting-II	
CO-1:	Understand the need of accounting standard and comparison of Indian accounting standards with international financial reporting standard
CO-2:	Apply different methods of depreciation accounting.
CO-3:	Develop an understanding of preparation of Consignment accounts and Joint Venture accounts.
CO-4:	Apply the knowledge of preparation of departmental accounts.
CO-5:	Execute the valuation of investments.
2. Business Environment	
CO-1:	Analyse environmental issues relating to the business.
CO-2:	Explain the concept of public finance
CO-3:	Distinguish between the monetary and fiscal policy issues in India
CO-4:	Analyse critically various economic reform measures in India.
CO-5:	Develop entrepreneurial skills required in the modern business.
Banking Theory and Practice	
CO-1:	Outline the concept of bank and banking.
CO-2:	Describe evolution and development of banking system in India.
CO-3:	Discuss important provisions of banking regulation act of 1949, objectives and problems of credit management
CO-4:	Explain negotiable instruments and holder and holder in due course, endorsement of negotiable instruments
CO-5:	Investigate recent trends in banking sector.

CO-6:	Apply accounting knowledge while drafting final accounts of banking companies
Business Mathematics	
CO-1:	Apply equations, formulae, and mathematical expressions and relationships in a variety of contexts.
CO-2:	Explain business mathematics concepts that are encountered in the real world.
CO-3:	Understand and be able to communicate the underlying business concepts and mathematics involved to help another person gain insight into the situation.
CO-4:	Apply the knowledge in mathematic in solving business problems
CO-5:	Develop mathematical skills required in mathematically intensive areas in Economics and Business.
Elective 1 Human Resource Management-II	
CO-1:	Understand the emerging issues and challenges of Human Resource Management
CO-2:	Emphasis the importance of Work Life Balance
CO-3:	Develop the ethics in Human Resource Management
CO-4:	Acquire the knowledge of International Human Resource Management
Elective 2 Tourism Operations	
CO-1:	Identify the nature of different tourism products and provide insights into the process of developing and managing various tourism products.
CO-2:	Outline the market segmentation and learn about target markets.
CO-3:	Explain the important natural tourism products of India.
CO-4:	Describe the various aspects in tourism entrepreneurship
CO-5:	Examine the role of entrepreneur in tourism sector.
CO-6:	Describe the innovations which can be brought in tourism
Elective 3 Shipping and ort Management -II	
CO-1:	Understand the basics of shipping and shipping industry
CO-2:	Analyse the regulatory framework governing Port development in India
CO-3:	Describe the port operations and term operations

Elective 4 **Insurance- II**	
CO-1:	Understand the regulation of Insurance business
CO-2:	Examine the application of life insurance
CO-3:	Describe the legal aspects of life insurance
Elective 5 **Logistics and Supply Chain Management-II**	
CO-1:	Understand the tools and techniques in inventory management.
CO-2:	Explain the concepts of warehouse, management systems
CO-3:	Describe the fundamental roles of Logistics with regards to transportation and Warehousing.
Semester III **Financial Accounting-III**	
CO-1:	Understand the overall overview of Indian Accounting Standards and International Financial Reporting Standards and applicability of AS 14 to AS 19.
CO-2:	Explain the salient features, application and accounting for hire purchase and Installment system.
CO-3:	Acquaint with the practical knowledge of Royalty accounting
CO-4:	Apply the knowledge in the preparation of Branch accounts
Cost Accounting-I	
CO-1:	Apply the knowledge of basic concepts of cost accounting.
CO-2:	Execute the preparation of cost sheet.
CO-3:	Understand the concept of material control
CO-4:	Analyse overhead cost classification and methods of absorption of overheads
CO-5:	Identify the causes of disagreements in profits and reconcile the same.
Income Tax-I	
CO-1:	Acquaint themselves with the knowledge of basic concepts and definitions of Income Tax Act 1961.
CO-2:	Assess the residential status of an assessee and to compute the taxable income of assessee with different residential status
CO-3:	Identify the incomes exempted from tax.
CO-4:	Determine income from salary and income from house property of an assessee

Principles of Marketing	
CO-1:	Understand the basic concepts and functions of marketing.
CO-2:	Explain the importance and strategies of market segmentation.
CO-3:	Acquire the knowledge of development of a product.
CO-4:	Develop the pricing and branding strategies of an organisation
CO-5:	Describe the Global marketing environment..
Elective 1 Entrepreneurship	
CO-1:	Understand the parameters to assess opportunities and constraints for new business ideas
CO-2:	List various challenges faced by entrepreneurs.
CO-3:	Outline strategies for successful implementation of ideas.
CO-4:	Design a business plan and perform a project appraisal
CO-5:	Identify various institutional supports available for entrepreneurs
Elective 2 Soft skills training and development	
CO-1:	Understand the concept and importance of soft skills
CO-2:	Acquaint with the relevance of time management and team building
CO-3:	Exhibit corporate etiquettes required in the corporate world
Elective 3 Stock Market Operations	
CO-1:	Develop a good understanding of the primary and secondary market
CO-2:	Acquire the practical knowledge relating to trading in stock market.
CO-3:	Describe the legal procedures involved in the functioning of stock market
Elective 4 **Consumer Protection**	
CO-1:	Understand the concept of consumer movement
CO-2:	Outline the consumer rights and need for consumer protection
CO-3:	Acquaint the knowledge of redressal mechanism of consumers complaints.
CO-4:	Identify the types of quality assurance standards.
Elective 5 **Advertising**	
CO-1:	Understand the concept and objectives of setting the advertising budget
CO-2:	Evaluate the advertising effectiveness
CO-3:	Examine the different types of marketing

CO-4:	Identify the significance of online marketing
CO-5:	Explain the ethical issues in advertising
Elective 6 Retail Management	
CO-1:	Describe retailing, the entities involved, and the impact of decisions on a retail business
CO-2:	Explain the consumer decision-making process
CO-3:	Analyse the factors influencing retail operations
Elective 7 Investment Management	
CO–1:	Understand the basic concept of investment
CO– 2:	Acquire knowledge about the avenues of investment.
CO– 3:	Understand the importance of financial plan and plan for investment
CO– 4:	Acquire knowledge of building funds like emergency fund, retirement fund etc
Semester I Financial Accounting-IV	
CO-1:	Understand the concepts and prepare partnership account from admission of a partner to dissolution of firm
CO-2:	Acquire knowledge of accounting standards and IFRS
CO-3:	Identify the reasons for the amalgamation of firms
CO-4:	Develop accounting aspects relating to amalgamation of partnership firms and limited liability partnership
E-Commerce and Accounting	
CO-1:	Analyze the impact of E-commerce on business models and strategy.
CO-2:	Understand the features and practical uses of MS Excel.
CO-3:	Apply the application of MS-Excel
CO-4:	Acquaint the practical knowledge of Tally and its application.
CO-5:	Use the Tally ERP 9 software
CO-6:	Understand generating the basic reports in Tally
Cost of Accounting-II	
CO-1:	Understand the concept of Job, Batch and Contract costing.
CO-2:	Apply the knowledge gained in the preparation of a budget and use budgets for performance evaluation after flexing the budget.

CO-3:	Interpret variable cost variances and fixed cost variances.
CO-4:	Explain the concept of cost audit and cost accounting records.
4. Income Tax-II	
CO-1:	Apply the income tax rules governing computation of income from business or profession, capital gains and income from other sources
CO-2:	Interpret aggregation of income and deduction u/s 80 C to 80 U
CO-3:	Apply the knowledge in the computation of the total income of individuals and total tax liability of an individual assesse.
Elective 1 Tourism Management	
CO-1:	Understand the fundamentals of tourism from the management, marketing and financial perspectives.
CO-2:	Develop the conceptual knowledge of tourism planning and tourism development.
CO-3:	Explain functions of Indian and International tourism organisations
Elective 2 Event Management	
CO-1:	Understand the role of a event manager
CO-2:	Acquaint with the knowledge of procedural requirements involved in event management
CO-3:	Execute the conduct of an event
Elective 3 Personal Tax Planning	
CO-1:	Acquire practical knowledge of assessment of income of an individuals
CO-2:	Apply the knowledge of computation of tax liability of individuals and make proper tax planning.
CO-3:	Execute filing of IT returns
Elective 4 Stock Market operations	
CO-1:	Develop a good understanding of the primary and secondary market
CO-2:	Acquire the practical knowledge relating to trading in stock market
CO-3:	Describe the legal procedures involved in the functioning of stock market.
Semester V Corporate Accounting-I	
CO-1:	Explain meaning, features and types of companies, issue, reissue and forfeiture of shares

CO-2:	Outline SEBI guidelines on underwriting of shares, types of underwriting
CO-3:	Discuss the meaning and features of goodwill
CO-4:	Lists out various methods of valuation of goodwill and valuation of shares
CO-5:	Prepare the final accounts of companies
CO-6:	Explains meaning, features and types of debentures and illustrates methods of redemption of debentures
CO-7:	Investigate recent issues in financial accounting
International Business	
CO-1:	Acquaint the knowledge related to international trade.
CO-2:	Outline the balance of payment of nation and analyse the economic condition.
CO-3:	Examine the working condition of various international institutions.
CO-4:	Describe the trade policies and trade barriers involved in international business
CO-5:	Analyse the reforms related to foreign capital in India
CO-6:	Explain different forms of economic integration
Principles and Practice of Auditing	
CO-1:	Develop the knowledge of fundamental audit concepts.
CO-2:	Explain different types of audit report, written representations and the final review and report.
CO-3:	Determine the appropriate company audit report for a given audit situation
CO-4:	Perform verification of vouchers
CO-5:	Understand the procedures of company audit and auditors report
Business Law	
CO-1:	Understand the concept of law through various acts.
CO-2:	Describe the essentials of offer and acceptance
CO-3:	Assess the legality of agreement
CO-4:	Examine the effects of consent and misrepresentation
CO-5:	Develop an understanding of discharge of contract
CO-6:	Outline the legal aspects of right to information and cyber law
Financial Management	
CO-1:	Understand the role and purpose of the financial management function
CO-2:	Acquire the knowledge of patterns of capital structure and capital structure

	planning
CO-3:	Clear understanding of Theories of Capital Structure
CO-4:	Understand Dividend Policies and Theories on Dividend Policies.
CO-5:	Get practical knowledge in Capital Budgeting and techniques of Capital Budgeting
CO-6:	Understand the working of lease financing
Business Taxation	
CO-1:	Apply the knowledge of assessment of HUF
CO-2:	Describe the meaning of firms and AOP/BOI and assessment of its total income and tax liability
CO-3:	Develop an understanding of different forms of companies and computation of tax liability of companies
CO-4:	Explain the assessment procedures of different assessees
CO-5:	Understand the benefits of tax planning
Semester VI **Corporate Accounting-II**	
CO-1:	Understand the concept of merger, absorption and external reconstruction.
CO-2:	Execute the accounting treatment for amalgamation and external reconstruction.
CO-3:	Analyse the accounting process of internal reconstruction and liquidation of companies.
CO-4:	Apply the accounting knowledge of holding companies accounts.
CO-5:	Explain the concept and application of value added
CO-6:	Examine the recent issues in Financial Accounting
2. Foreign Exchange Management	
CO-1:	Understand the evolution of foreign exchange market
CO-2:	Describe the various players in the foreign exchange management
CO-3:	Develop an understanding of arithmetic and interbank deals
CO-4:	Explain the regulations of foreign exchange market
CO-5:	Outline the different dimensions of foreign exchange in Indian context
3. GST and Customs Law	
CO – 1:	Understand the basic concepts of GST

CO – 2:	Explain the concept of supply under GST
CO – 3:	Describe the procedures involved in the registration of a taxable person under GST
CO – 4:	Acquire the knowledge of computation of value of taxable supply under GST and customs duty
CO - 5:	Determine the amount of GST liability and customs duty.
Corporate Law and Governance	
CO-1:	Understand the procedural requirements for the formation of a company
CO-2:	Identify and modes of acquiring membership of accompany
CO-3:	Outline the requisites of a valid meeting
CO-4:	Describe the procedures involved in winding up of companies
CO-5:	Assess the mechanisms available to improve corporate governance
CO-6:	Evaluate the corporate social responsibility projects of business organisations
Management Accounting	
CO-1:	Understand management accounting and its objectives in facilitating decision making.
CO-2:	Apply accounting ratios and make a financial analysis and prepare reports.
CO-3:	Acquaint with the knowledge of preparing Cash Flow and Funds Flow statements
CO-4:	Analyze cost-volume-profit techniques to determine optimal managerial decisions.
CO-5:	Perform cost variance analysis and demonstrate the use of standard costs in flexible budgeting.
CO-6:	Understand the aspects, importance and applicability of Responsibility Accounting, Management Audit
CO-7:	Apply the techniques of financial forecasting
6. Security Analysis and Portfolio Management	
CO-1:	Acquire theoretical and practical background in the field of investments.
CO-2:	Develop an insight into the relationship of the risk and return.
CO-3:	Understand theories of Portfolio management and also the tools and techniques for efficient portfolio management.
CO-4:	Apply the concept of portfolio management for the better investment.
CO-5:	Analyse different types of fundamental and technical analysis

CO-6:	Explain the asset pricing theories and concept of derivatives
B.COM (BPS)	
Programme Outcomes	
PO 1:	Students will be able to critically analyze the business environments while making a decision to get associated with the corporate organisations.
PO 2:	Students will be able to effectively communicate within and outside the organisations by drafting essential letters, reading out official announcements in meetings, listening and interpreting matters concerned to the organisation precisely, in languages that are used in common.
PO 3:	Students will be able to interact freely with members of bodies with which the college has MOU with Tata Consultancy Services and take their guidance in their careers like business or employment.
PO 4:	Students will demonstrate empathetic concerns towards the marginal society and contribute towards the development of the nation, by being well informed regarding Corporate Social Responsibility issues and active participation in public service through corporate organisations.
PO 5:	Students will be able to deal with ethical dilemmas and value systems existing in the corporate organisations and accept responsibilities.
PO 6:	Learning environmental issues, students will show sensitivity towards sustainability and ecology in corporate organisations.
PO 7:	Students will have the ability to keep learning through-out their careers and thereby contributing towards social and technological changes.
Programme Specific Outcomes:	
PSO-1:	Understand the nature and basic Industry based concepts like banking for business processes, Insurance for business processes, Retail Marketing and Capital Investment in businesses.
PSO-2:	Analyze Accounting procedures involved in payments and receipts from customers, banking institutions etc., which required in maintaining the books of accounts for various business processes.
PSO-3	Determine the outcomes of the retail marketing research projects and learn the ways to implement business projects effectively and efficiently.
PSO-4:	Understand the nature of Corporate world and learn the required corporate

	behaviours in order to blend with the culture of the corporates.
B.COM (ACCA)	
Programme Outcomes	
PO 1:	Students will be able to critically analyze the Global Accounting standards and Reporting while making a decision as finance and administrative Executives in the capacity of an ACA Affiliate.
PO 2:	Students will be able to effectively communicate within and outside the multi-cultural organisations at a global level by frequent interactions leading to effective listening and interpreting matters concerned thus develop negotiating skills.
PO 3:	Students will be able to interact freely with members of global body like ISDC, with which the college has MOU and take their guidance to enrich their global careers.
PO 4:	Students will demonstrate empathetic concerns towards global citizens and contribute towards the development of the various nations, by being well informed regarding Corporate Social Responsibility issues and actively participating in resolving international crisis affecting the corporate world.
PO 5:	Students will be able to deal with ethical dilemmas and value systems existing in the global corporate organisations and accept responsibilities by enforcing ethical code of conducts.
PO 6:	By learning global environmental issues, students will show sensitivity towards sustainability and ecology in corporate organisations at an international level.
PO 7:	Students will develop the ability to learn constantly through-out their global careers and thereby contribute significantly towards social and technological changes
Programme Specific Outcomes:	
PSO-1:	Understand internationally accepted financial accounting and reporting practices throughout the program.
PSO-2:	Analyze and apply various fundamental knowledge of accounting, Taxation laws, Financial reporting techniques in corporates and other institutions.
PSO-3	In depth knowledge of business concepts like Risk Management, Corporate Governance, Business Ethics which is required to manage the organisations effectively.
PSO-4:	Understand the applications of Management accounting, Auditing techniques,

	Cost Accounting techniques and Finance in business organisations.
B.COM (CA)	
PO 1:	Students will be able to critically analyze the Indian Accounting standards and unbiased reporting to concerned authorities in the capacity of a Chartered Accountant.
PO 2:	Students will be able to effectively communicate within and outside the business organisations by developing effective listening, speaking or expressing fluently in different languages through electronic media and thereby connecting people and the business.
PO 3:	Students will be able to interact freely with members of national body like ICAI, in parallel collaboration with KVC Academy and take their guidance to further their careers as Chartered Accountants.
PO 4:	Students will demonstrate empathetic concerns towards marginalized societies and contribute towards responsible auditing leading to businesses which enhance economic development of the nation.
PO 5:	Students will be able to deal with ethical issues while reporting and inculcate high value system by avoiding misuse of public funds, frauds and scams. They will accept responsibility by being truthful and honest in their careers as Chartered Accountants, by upholding International Accounting Standards.
PO 6:	By learning national and international environmental issues, students will show sensitivity towards sustainability and maintain ecological balance in large and small business organisations by effectively auditing CSR activities.
PO 7:	Students will develop the ability to learn constantly through-out their careers as Chartered Accountants and thereby contribute significantly towards changes that take place in economic and business world.
Programme Specific Outcomes:	
PSO-1:	Understand and analyze the Indian Accounting standards and fundamental accounting concepts and conventions along with preparation of annual accounts of proprietary and professional concerns.
PSO-2:	Develop abilities and applications of specific accounting standards and legislations to various business transactions.
PSO-3	Understand environmental issues, Laws of Partnership, National Income and its measurements and thereby develop entrepreneurship qualities.
PSO-4:	Analyze the provisions of company law and acquire the abilities to address its application in auditing the company's books of accounts.
PSO-5:	Understand basic concepts of Cost and Management Accounting and learning to prepare Cost Sheets by integrating accounting systems.
PSO-6:	Understanding the provisions of income-tax laws and acquire the ability to apply such knowledge to make computations and address application-oriented issues.

Bachelor of Computer Applications (BCA)	
Program Outcome(PO)	
PO1:	Understand, Analyze and Develop computer programs in the areas related to Object-oriented concepts, Web designing and Algorithms.
PO2:	Develops the necessary skills to make a career in the field of computers.
PO3:	Inculcate various software development practices.
PO4:	Develops the ability to select modern computing tools, skills and technique necessary for innovative software solutions.
PO5:	Developing ability to identify, analyze the complex computing problem using fundamentals of computer science and application domain.
PO6:	Building ability to work as a member or leader of a team in multidisciplinary environment.
Program Specific Outcome(PSO)	
PSO1:	Producing knowledgeable and skilled human resources to be employable in IT Industry.
PSO2:	Exploring the skills of students to become entrepreneurs who can develop customized solutions for small and medium enterprises.
PSO3:	Giving skills and information not only about computer and information technology but also about organization and management.
Course Outcomes	
Semester I **G 601.1: PROBLEM SOLVING THROUGH C**	
CO1:	Course is designed to provide complete knowledge of structured and procedural programming understanding
CO2:	To apply programming knowledge to create solutions to challenging problems, including specifying, designing, implementing and validating solutions for new problems
G 602.1: COMPUTER FUNDAMENTALS AND OFFICE AUTOMATION	
CO1:	Able to identify various devices and their working principles.
CO2:	The main objective of this syllabus is to introduce 'computer' to the students.
G 603.1: DISCRETE MATHEMATICS	
CO1:	This course covers the basic concepts of discrete mathematics used in computer.

CO2:	Students will be able to Understand the basic principles of sets and operations in sets, functions and graph theory.
G604.1E CBCS: Paper1 **COMPUTER NETWORKS**	
CO1:	At the end of the course the students will be able to understand the architectural principles of computer networking and compare different approaches to organizing networks.
CO2:	Identify core networking and infrastructure components and the roles they serve.
G604.1E CBCS: Paper 2 **CYBER SECURITY**	
CO1:	Students will get the technical knowledge and skills needed to protect and defend computer systems and networks.
CO2:	Respond to cyber threats, reduce vulnerabilities and minimize damage from cyber incidents through a combination of institutional structures.
Semester II	
G 601.2: MICROPROCESSOR	
CO1:	At the end of the course, a student will be able to: Assess and solve basic binary math operations using the microprocessor
CO2:	Students will be able to explain the microprocessor's and Microcontroller's Internal architecture.
G602.2:RELATIONAL DATABASE MANAGEMENT SYSTEM	
CO1:	The student will be able to understand the features of database management systems and Relational database.
CO2:	Demonstrate an understanding of the relational data model and use SQL.
G 603.2: COMPUTER ORIENTED NUMERICAL ANALYSIS	
CO1:	At the end of the course students will be able to solve an algebraic or transcendental equation using an appropriate numerical method.
CO2:	Solve a differential equation using an appropriate numerical method and Apply Numerical Concepts in Coding.
G604.2E CBCS: Elective Paper **INTRODUCTION TO DATA SCIENCE**	
CO1:	Students will develop the ability to build and assess data-based models.
CO2:	Students will execute statistical analyses with professional statistical software.

G604.2E CBCS: Elective Paper 2 FUNDAMENTALS OF E-COMMERCE	
CO1:	Analyze the impact of E-commerce on business models and strategy.
CO2:	Identify the security threats in the field of E-commerce.
Semester III G 601.3: JAVA PROGRAMMING	
CO1:	Know the structure and model of the Java programming language
CO2:	Develop software using the Java programming language and Choose an engineering approach to solving problems, starting from the acquired knowledge of programming and knowledge of operating systems.
G 602.3: WEB DESIGNING	
CO1:	Understand features of Internet and email and Develop Simple web pages using HTML & Style Sheets
CO2:	Develop interactive web page using scripting language.
G 603.3: OPERATING SYSTEMS	
CO1:	At the end of the course students will able to Analyze the structure of OS and basic architectural components involved in design Analyze the various resource management techniques conceptualize the components involved in designing a contemporary OS.
CO2:	Learn Windows Operating system basics
G604.3E Elective Paper 1 GRAPHIC DESIGN	
CO1:	Students are able to draw primitive graphical shapes and perform transformation techniques.
CO2:	They are also learning about various new technologies developed and their applications.
G604.3E Elective -II: INTERNET OF THINGS	
CO1:	Students will be fully aware of Technology behind IoT.
CO2:	Design Principles for Connected devices, IoT communication protocols and internet based communication.
Semester IV	
G 601.4: DATA STRUCTURES USING C	
CO1:	To describe the usage of various data structures To choose the appropriate data structure to solve a programming problem.

CO2:	To demonstrate various methods of organizing large amounts of data.
G 602.4: WEB PROGRAMMING USING PHP	
CO1:	Be able to setup and configure MySQL, PHP, Apache web server development environment.
CO2:	Understand Object oriented programming paradigm in PHP. And build a simple, functional web application using PHP/MySQL.
G 603.4:DATA MINING	
CO1:	Students will be able to categorize and carefully differentiate between situations for applying different data-mining techniques: frequent pattern mining, association, correlation, classification.
CO2:	Design and implement systems for data mining.
G 604.4E Elective -I:HARDWARE AND PC MAINTENANCE	
CO1:	**CO1:** Assembling Computer Systems Installing Various Operating Systems.
CO2:	**CO2:** Learn software Trouble suiting Computer Systems
G604.4E Elective -II: Fundamentals of ICT	
CO1:	**CO1:** Be able to apply knowledge of computing analyze a problem, and identify and define the computing requirements appropriate to its solution.
CO2:	**CO2:** Be able to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs
Semester V G 601.5: JAVA 2 ENTERPRISE EDITION	
CO1:	**CO1:** At the end of the course students will be able to Design/Develop Program.
CO2:	**CO2:** Develop appropriate data model and database scheme ,Create and test prototypes.
G 602 .5: COMPUTER GRAPHICS AND MULTIMEDIA	
CO1:	**CO1:** Students will able to: To list the basic concepts used in computer graphics.
CO2:	**CO2:** To implement various algorithms to scan, convert the basic geometrical primitives, transformations, Area filling, clipping.
G 603.5: OBJECT ORIENTED ANALYSIS & DESIGN	
CO1:	Analyze Objects and Classes of the software system.

	Construct object model using object types, attributes, structures and associations.
CO2:	**CO2:** Analyze Functional and Dynamic Modeling
G 604 .5: SOFTWARE ENGINEERING	
CO1:	**CO1:** Be successful professionals in the field with fundamental knowledge of software engineering.
CO2:	**CO2:** Analyze and resolve information technology problems through the application of systematic approaches and diagnostic tools.
G 605 .5: PYTHON PROGRAMMING	
CO1:	Be skilled at creating, debugging and testing a software application using the Python programming language.
G 606.5:ESIGN AND ANALYSIS OF ALGORITHMS	
CO1:	**CO1:** Ability to analyze the performance of algorithms.
CO2:	**CO2:** Ability to choose appropriate algorithm design techniques for solving problems.
Semester VI **G 601.6 LINUX AND SHELL PROGRAMMING**	
CO1:	**CO1:** Identify and use UNIX/Linux utilities to create and manage simple file processing operations, organize directory structures with appropriate security.
CO2:	**CO2:** Develop shell scripts to perform more complex tasks.
G 602. 6: MOBILE COMMUNICATION	
CO1:	**CO1:** To make students familiar with various generations of mobile communications
CO2:	**CO1:** To understand the concept of cellular communication and To understand the basics of wireless communication Knowledge of GSM mobile communication standard, its architecture, logical channels, advantages and limitations
G 605 .5: CLOUD COMPUTING	
CO1:	**CO1:** Understand the concepts, characteristics, delivery models and benefits of cloud computing
CO2:	**CO2:** Understand the key security and compliance challenges of cloud computing

DEPARTMENT OF COMPUTER SCIENCE	
PROGRAMME OUTCOMES	
PO-1:	Program develops professionals as a resource to IT Field and equipped students to start their own business as software developers, programmers, database administrators, and system analysts.
PO-2:	Graduates are empowered to learn new ideas and technology as the field evolves.
PROGRAMME SPECIFIC OUTCOMES	
PSO-1:	The ability to understand the principles and working of the hardware and software aspects of computer systems.
PSO-2:	Ability to design, develop, implement computer programs and use knowledge in various fields and hence to provide solution to new ideas and innovations.
COURSE OUTCOMES	
I Semester- Paper 1 **G 505.1 – Problem solving using C**	
CO-1.	Interpret the basic principles of C Programming.
CO-2.	Acquire decision making and looping concepts.
CO-3.	Design and develop modular programming
CO-4.	Explore usage of Arrays, strings, structures and files.
CO-5.	Effective utilization of pointers and preprocessor directives.
C0-6.	Illustrate the concepts of various data structures.
Semester-I **G505.1P - C Programming LAB**	
CO-1.	Demonstrate an understanding of computer programming language concepts.
CO-2.	Student able to develop C programs on Linux platform.
CO-3.	Ability to design and develop Computer programs, analyzes, and interprets the concept of pointers, declarations, initialization, operations on pointers and their usage.

CO-4.	Able to define data types and use them in simple data processing applications also he/she must be able to use the concept of array of structures
CO-5	Student must be able to define union and enumeration user defined data types.
I SEMESTER: **G505.1E-CBCS: Elective Paper 1**	
CO-1.	Recognize different types of number systems as they relate to computers. Add and subtract in binary, octal, and hexadecimal number. Convert values from decimal, binary, octal, hexadecimal, and binary-coded decimal number systems to each other and back to the other systems
CO-2.	Learning simplification in logic gates by referring K-map and Designing and demonstrating various types of sequential circuits using flip flops.
CO-3.	Students acquire the knowledge of basics of computers, hardware and software's and operating systems. Explore different ways of communicating with I/O devices and interfaces
II Semester- Paper 2 **G505.2 – DATA STRUCTURE USING C**	
CO-1.	Demonstrate and classify various data structures and their Primitive operations.
CO-2.	Apply the concepts of arrays and strings in sorting and pattern Matching applications.
CO-3.	Learning the operations of linear data structures like stacks, Queues and linked lists.
CO-4.	Demonstrate primitive operations on different types of trees and Their applications.
CO-5.	Summarize the concepts of graphs, traversal techniques, hashing and file handling.
C0-6.	Design and develop solutions to solve various computing Problems by choosing appropriate data structures.

II Semester **G505.2 P– DATA STRUCTURE USING C lab**	
CO-1.	Solve computational problems using basic C language Constructs. Design and implement operations on both single and Multidimensional arrays.
CO-2.	Develop menu driven programs to demonstrate primitive Operations on stacks & queues.
CO-3.	Assess the operations on different types of Trees.
CO-4.	Demonstrate traversal techniques on graphs.
CO-5.	Apply appropriate data structures to solve computing problems.
II Semester OPEN ELCTIVE **G. 505.2E CYBER SECURITY**	
CO-1.	Students will be familiar with cyber security landscapes and able to Analyze and evaluate the cyber security needs of an organization.
CO-2.	Determine and analyze software vulnerabilities and security solutions to reduce the risk of exploitation.
CO-3.	Measure the performance and troubleshoot cyber security systems.
CO-4.	Implement cyber security solutions and use of cyber security, information assurance, and cyber/computer forensics software/tools.
CO-5.	Comprehend and execute risk management processes, risk treatment methods, and key risk and performance indicators.
III Semester- Paper 3 **G505.3- JAVA PROGRAMMING**	
CO-1.	Identify classes, objects, members of a class and relationships among them needed for a specific problem...
CO-2.	Write Java application programs using OOP principles and proper program structuring.
CO-3.	Demonstrate the concepts of polymorphism and inheritance
CO-4.	Write Java programs to implement error handling techniques using exception handling
III Semester- Paper 3 **G505.3P : JAVA PROGRAMMING LAB (Linux Based)**	
CO-1.	Students learn to defining Classes and Objects, Identify classes, objects,

	members of a class and relationships among them needed for a specific problem.
CO-2.	Write JAVA programs to demonstrate method overloading.
CO-3.	Demonstrate the concepts of polymorphism , inheritance and method overriding V/s method overloading.
CO-4.	Explain the benefits of JAVA's Exceptional handling mechanism compared to other Programming Language.
CO-5.	Write Java programs to implement error handling techniques using exception handling.
III Semester **Skill Based Electives – Computer Hardware and Maintenance.**	
CO-1.	Students will learn about Design of basic computer.
CO-2.	Students will learn on different types of servers and functioning of these servers.
CO-3.	Students will learn about the architecture of common bus system.
CO-4.	Students will learn about the different micro-operations used.
CO-5.	Students will learn about internet and intranet services.
IV Semester- Paper 4 **G505.4- Relational Data Base Management System using MySQL**	
CO-1.	Describe the fundamental elements of relational database management systems.
CO-2.	Explain the basic concepts of relational data model, entity-relationship model, relational database design, relational algebra and SQL.
CO-3.	Design ER-models to represent simple database application scenarios
CO-4.	Convert the ER-model to relational tables, populate relational database and formulate SQL queries on data.
CO-5.	Improve the database design by normalization.
Semester-IV **G 505.4P: RDBMS LAB (Windows based)**	
CO-1.	Students get practical knowledge on designing and creating relational database systems.
CO-2.	Understand various advanced queries execution such as relational constraints, joins, set operations, aggregate functions, trigger views and embedded SQL.

CO-3.	Use of various software to design and build ER Diagrams, UML, Flow chart for related database systems.
CO-4.	Students will be able to design and implement database applications
CO-5.	Students get practical knowledge on designing and creating relational database systems.
IV Semester (OPEN ELECTIVE) **Interdisciplinary Elective** **G 505.4E Office Automation**	
CO-1.	After completion of the course, students would be able to documents, spreadsheets, make small presentations and would be acquainted with internet.
V Semester- Paper 5(elective) **G 505.5A1 - OPERATING SYSTEM AND LINUX**	
CO-1.	Identify the functionalities of OS and their categories.
CO-2.	Evaluate multithread techniques and process scheduling algorithms.
CO-3.	Demonstrate suitable techniques for resource management
CO-4.	Evaluate file system allocation and memory management Techniques.
CO-5.	Review the protection mechanisms in processing environment.
CO-6.	Explore the case studies of Operating Systems in Linux platform.
V Semester- Paper 5(elective) **G 505.5A2 – Principles of TCP/IP**	
CO-1.	Identifies protocols and standards in the Internet.
CO-2.	Describe the TCP/IP protocol suite.
CO-3.	Defining subnetting and supernetting.
CO-4.	Explain error reporting and query mechanism in the Internet.
CO-5.	Describe process-to-process communication (UDP, TCP, and SCTP).
V Semester- Paper 5B1(elective) **G505.5B1 - PYTHON PROGRAMMING**	
CO-1.	Examine python syntax & semantics and be fluent in using flow Control functions.
CO-2.	Demonstrate proficiency in handling strings and file systems in Python.
CO-3.	Create & run python programs using core data structures like Lists, dictionaries, tuples, and sets and use of REs.
CO-4.	Interpret and apply the concepts of OOP.

CO-5.	Programming and web services.
CO-6.	Implement exemplary applications related to network
CO-7.	Implement database applications in python.
Semester-V **G 505.5BP: PYTHON PROGRAMMING LAB**	
CO-1.	Define and demonstrate the use of built-in data structures “lists” and “dictionary”.
CO-2.	Design and implement a program to solve a real world problem.
CO-3.	Design and implement GUI application and how to handle exceptions and files.
CO-4.	Make database connectivity in python programming language
CO-5.	Define and demonstrate the use of built-in data structures “lists” and “dictionary”.
V Semester- Paper 5b2-ELECTIVE PAPER) **G505.5B2 - JAVA 2 ENTERPRISE EDITION**	
CO-1.	After the completion of this course, the students will be able to develop a small project independently
V Semester- Paper 5b2-ELECTIVE PAPER) **G505.5BP - JAVA 2 ENTERPRISE EDITION**	
CO-1.	Practical knowledge of working with programming language by using j2EE concepts**.**
CO-2.	Ability to work with dynamic databases.
CO-3.	Create web application using java servlets and manage web session using servlets and jsp.
(VI Semester- Paper 7) **G505.6A1 - DATA ANALYTICS**	
CO-1.	Ability to identify the characteristics of datasets and compare the trivial data and big data for various applications.
CO-2.	Ability to select and implement machine learning techniques and computing environment that are suitable for the applications under consideration.
CO-3.	Ability to solve problems associated with batch learning and online

	learning, and the big data characteristics such as high dimensionality, dynamically growing data and in particular scalability issues.
CO-4.	Ability to understand and apply scaling up machine learning techniques and associated computing techniques and technologies.
CO-5.	Ability to visualize data through various forms.
(VI Semester- Paper 7(elective) G505.6A2 - software engineering and testing	
CO-1.	Assess professional and ethical responsibility, software engineering principles and activities involved in building large software programs.
CO-2.	Demonstrate process of requirements gathering, classification, Specification & validation.
CO-3.	Design models for software system, component and process Within realistic constraints.
CO-4.	Apply cost estimation and time scheduling for quality project Activities.
CO-5.	Apply, design, implement, verify, validate and maintain software Systems with metrics.
VI Semester- Paper 8 G505.6B1 – Web Programming Using PHP	
CO-1.	Describe fundamentals of web
CO-2.	Introduce the creation of static webpage using HTML
CO-3.	Describe the importance of CSS in web development
CO-4.	Describe the function of JavaScript as a dynamic webpage creating tool
CO-5.	Distinguish PHP as a server side programming language
VI Semester- Paper 7- ELECTIVE PAPER G505.6 B2 - COMPUTER NETWORKS	
CO-1.	Demonstrate the principles of application layer protocols.
CO-2.	Distinguish transport layer services and protocols.
CO-3.	Classify IP and Routing Algorithms in network layer.
CO-4.	Demonstrate streaming and working of communication networks.
CO-5.	Knowledge on different transmission modes,switching and multiplexing concepts.

505.6AP: DATA ANAYTICS LAB	
CO-1.	Understand the key issues in big data management and its associated applications in intelligent business and scientific computing.
CO-2.	Acquire fundamental enabling techniques and scalable algorithms
CO-3.	Interpret business models and scientific computing paradigms, and apply software tools for big data analytics.
CO-4.	Achieve adequate perspectives of big data analytics in various applications like recommender systems, social media applications etc.
505.6AP: SOFTWARE ENGINEERING LAB	
CO-1.	Explain needs for software specifications also they can classify different types of software requirements and their gathering techniques.
CO-2.	Convert the requirements model into the design model and demonstrate use of software and user interface design principles
CO-3.	Justify role of SDLC in Software Project Development and they can evaluate importance of Software Engineering.
505.6BP: PHP LAB	
CO-1.	Write PHP scripts to handle HTML forms.
CO-2.	Write regular expressions including modifiers, operators, and meta characters.
CO-3.	Analyze and solve various database tasks Using PHP language.
CO-4.	Analyze and solve common Web application tasks by Writing PHP programs.
505.6BP: COMPUTER NETWORKS LAB	
CO-1.	Analyze the requirements for a given organizational structure and select the most appropriate networking architecture and technologies.
CO-2.	Have a basic knowledge of the use of cryptography and network security.
CO-3.	Specify and identify deficiencies in existing protocols, and then go onto formulate newand better protocols.
CO-4.	Analyze, specify and design the topological and routing strategies for an IP based networking infrastructure
CO-5.	Have a working knowledge of datagram and internet socket programming

DEPARTMENT OF COMPUTER ANIMATION	
PROGRAMME OUTCOMES	
PO-1.	Obtain knowledge on fundamental and advanced aspects of Computer Animation, Graphic Design & Visual Effects.
PO-2.	To innovate best practices for elements of design, Web Technology and Gaming.
PO-3.	To explore the theories of Multimedia and animation to design and develop 2D/3D animations, film-making, visual effects for the Interactive media
PO-4.	Apply in depth knowledge of animation and the knowledge of Principles of Animation in every software
PO-5.	Able to work with professional skill in Animation studios and production houses.
PROGRAMME SPECIFIC OUTCOMES	
PSO 1:	Design, create and animate characters and objects using fundamental principles of animation
PSO 2:	Understand the techniques of 2D and 3D software.
PSO 3:	Understanding stop motion and basic traditional animation
PSO 4:	Understand the concept of linear and nonlinear editing, Video Capture and VFX techniques
COURSE OUTCOMES	
Semester-I G 512.1: Introduction to Computer Animation and Animation Graphics	
CO-1.	Understand different tools and features.
CO-2.	Understand the techniques of applications.
CO-3.	To able to create different kinds of designs like Logo, Brochures, certificates, greetings cards, pamphlets, business cards etc.
CO-4.	Creating GIF Animation files
Semester-I G 512.1P: Graphics Designing Lab Using Adobe Photoshop	
CO-1.	Create Different types of Vector Art, Background design, Logos, Greeting Card etc
CO-2.	Creating GIF animation clips for the websites
G 512.1E (Open Elective): Traditional Animation	
CO-1	Learn history of animation and animation fundamentals.
CO-2	Understand how traditional animation works.
CO-3	Understand about using animation principles.

CO-4	Identify and execute the proper steps in cartoon production
CO-5	Summarize design principles, concepts, styles and terminologies
CO-6	Apply skills learned including stop motion and basic traditional animation.
Semester-II G 512.2: Introduction to the 2D Animation and Macromedia Flash	
CO-1	Describe past history of origin of animation.
CO-2	Understanding the rise of computer animation.
CO- 3	Create animated sequences from the development of the original concept through design to final film or video production.
CO-4	Integrate the concepts, principles and theories involved in the physics of animation in all aspects of drawing.
G 512.2P : 2D Animation Lab Using Macromedia Flash	
CO- 1	Work on timeline and understand tools and features of software.
CO- 2	Work systematically on layers and masking.
CO- 3	Develop 2d characters and animation of different style
CO- 4	Render in different file formats.
G 512.2E (Open Elective): 2D Character & Environment Sketching	
CO- 1	Understand Western art in detail.
CO- 2	Understand different pictorial drawings and dimensions.
CO- 3	Draw and understand geometrical structures.
CO- 4	Draw shading, coloring and gesture drawings.
Semester-III G 512.3: Multimedia Techniques	
CO- 1	Use filmmaking terminology to communicate effectively throughout all stages of production.
CO- 2	Demonstrate skills required to create quality media productions including skills in story development, producing, cinematography, editing, and audio production/post production.
CO- 3	Learn how to combine basic design principles in video editing.
CO- 4	Edit and compress video for use in various delivery modes of digital media using standard digital video editing software.
CO- 5	Identify hardware and software protocols specific to the field of visual effects.
CO- 6	Create photo-real images to match live action footage by the application of advanced rendering techniques.
CO- 7	Integrate 2D and/or 3D computer generated imagery and live action elements using compositing techniques.

G 512.3P:: Practical-III Multimedia Editing Lab	
CO- 1	Understand the concept of editing.
CO- 2	Understand different transitions, wipes and effects required for editing.
CO- 3	Understand how to develop and trim the story.
CO- 4	Understand how to organize clips, Create short films, documentaries with proper sync between video & audio.
G 512.3E (Open Elective): Graphic Design	
CO- 1	Understand different tools and features.
CO- 2	Understand the techniques of applications.
CO- 3	To able to create different kinds of designs like Logo, Brochures, certificates, greetings cards, pamphlets, business cards etc.
CO- 4	Creating GIF Animation files
Semester-IV **G 512.4: 3D Modeling**	
CO- 1	Creating different types of polygon models
CO- 2	Understand the usage of tools and parameters.
CO- 3	Create different 3D environments, models, structures, architectures.
CO- 4	Understanding how mesh works in 3D modelling.
G 512.4P: Practical-IV -3D Modeling	
CO- 1	Understand the different types of 3D modeling & Creating interior & exterior models
CO- 2	Acquire the working knowledge 3 Dimension space
G512.4E (Open Elective): Video editing	
CO- 1	Identify and describe key terms, concepts, major trends and periods related to various modes of production.
CO- 2	Learn how to combine basic design principles in video editing.
CO- 3	Demonstrate skills required to create quality media productions
CO- 4	Apply methodological design process for construction of a television program.
CO- 5	Create an audio visual television program
Semester-V **G 512.5a: 3D Texturing, Camera & Lighting (Paper 5)**	
CO- 1	Give detailed texturing and colouring to 3D characters or objects.
CO- 2	Understand how shaders are applied.
CO- 3	Understand different mapping done to enhance the details of the object.

CO- 4	Understand the concept of hair dynamics and different presets.
CO- 5	Creating camera animations.
CO- 6	Creating a desired lighting required for the 3D scene e.g. interiors, exteriors.
G 512.5b: : Web Technology (Paper 6)	
CO- 1	Understand the principles of creating an effective web page, including an in-depth consideration of information architecture.
CO- 2	Become familiar with graphic design principles that relate to web design and learn how to implement theories into practice.
CO- 3	Learn the language of the web: HTML and CSS.
CO- 4	Be able to embed social media content into web pages.
CO- 5	To create web elements and UI designs.
G 512.5P: Practical - 3D Texturing, Camera & Lighting Lab - Paper 5	
CO- 1	Creating Textures for Interior & Exterior objects
CO- 2	To create the Lights inside & outside the house
CO- 3	To move the Camera in the 4D space
G 512.5P: Practical - Web Technology Lab – Paper 6	
CO- 1	Create the static web pages
CO- 2	Create CSS code required for the web pages.
CO- 3	Domain name registration and hosting fundamentals.
Semester-VI G 512.6a:: 3D Rigging & Animation – (Paper 7)	
CO- 1	Understand and create Object and character animation.
CO- 2	Understand different controllers, wraps and modifiers.
CO- 3	Work with poses and postures.
CO- 4	Work with bone parameters and IK Solvers.
CO- 5	Do skinning process with much ease.
G 512.6P:: Practical -: 3D Rigging & Animation Lab – (Paper 7)	
CO- 1	Moving the skelton & Bones of 3D objects.
CO- 2	Understand and create Object and character animation.
CO- 3	Attaching skin to the bones
G 512.6b: Media & Interactive animation - (Paper 8)	
CO-1.	Utilize several Flash tools and tactics learned throughout the course to

	produce an interactive flash based website.
CO-2.	Demonstrate the ability to effectively utilize the timeline and motion tween affects to produce animation.
CO-3.	Demonstrate critical thinking in problem solving.
CO-4.	Designing industry standard e learning animations.
CO-5.	Applying interactivity to the animations with the help of Action script.
CO-6.	Develop and demonstrate troubleshooting skill.
G 512.6P: Practical - Interactive animation Lab (Paper 8)	
CO-1.	Understand the Action script fundamentals.
CO-2.	Design and develop animations using Action script for web and internet applications.
CO-3.	Publishing the animations on different devices and applications.

BIOLOGICAL SCIENCES

BIOCHEMISTRY	
PROGRAME OUTCOMES (PO)	
PO.1.	It will help students to inculcate the basic concepts of biochemistry including an understanding of the fundamental biochemical principles and their applications in a systematic, scientific, evidence-based process. The programme will also provide a general understanding of the inter disciplines with a holistic approach in biological sciences.
PO.2.	Students will gain experience in basic laboratory methods, techniques and be able to apply the scientific method to the experimental processes, hypothesis testing, data interpretation and logical conclusions.
PO.3.	Develop problem solving and analytical skills through case studies, research papers and hands-on-experience
PO.4.	Provide requisite knowledge of laboratory safety, data replication and quality control, record keeping and other aspects of "responsible conduct of research".
PO.5.	Ability to employ modern library search tools to locate and retrieve primary literature on a topic and critically evaluate the literature.
PO.6.	Students will be able to apply and effectively communicate scientific reasoning and data analysis in both written and oral forms. They will be able to communicate effectively with well-designed posters and slides in talks aimed at scientific audiences as well as the general public.
PO.7.	Students will learn to work collaboratively in a team.
PO.8.	Students will gain knowledge of ethical and good laboratory practices, health and biohazard regulations, plagiarism and intellectual property rights related issues practiced in modern era of scientific investigation.
PO.9.	Graduates will be able to apply the major theories and research procedures to contemporary social problems.
PO.10.	The programme will prepare students to plunge into various fields of higher education or related profession in various disciplines, armed with plethora of knowledge, hands-on-experience and scientific attitude, at national and global levels.

PROGRAME SPECIFIC OUTCOMES (PSO)	
PSO.1·	Describe the chemical structures, properties, and biological functions of the molecules which make up living matter: water, amino acids and proteins, nucleic acids, carbohydrates, and lipids.
PSO.2·	Describe methods to study the structures of these molecules and to synthesize them.
PSO.3·	Describe the mechanisms by which the structures of proteins determine their functions and by which their functions are regulated.
PSO.4·	Explain how enzymes function in terms of thermodynamics, transition states, and kinetics. Perform calculations involving various kinetic parameters, including KM and Vmax.
PSO.5·	Contrast the effects of different types of inhibitors on enzymes and on their kinetic parameters.
PSO.6·	Describe the mechanisms of action of selected enzymes and the experimental evidence for these mechanisms.
PSO.7·	Explain how enzyme activity is regulated by various means.
PSO.8·	Define thermodynamic parameters, including free energy, entropy and reduction potentials. Perform calculations involving them.
PSO.9·	Discuss the role of ATP in the thermodynamics of metabolism.
PSO.10	Describe the metabolic roles of NADH, NADPH, FADH2, coenzyme A, water & fat soluble vitamins and ribonucleotides.
PSO.11	Name and describe the molecules which participate in selected metabolic pathways, such as glycolysis, citric acid cycle, and gluconeogenesis. Discuss the enzymes and cofactors catalyzing each transformation in these metabolic pathways and the controls on the pathways studied.
PSO.12	Summarize the pathways providing monosaccharides for glycolysis, emphasizing the interacting controls of these processes.
PSO.13	Explain DNA replication, transcription , translation, DNA recombination and DNA damages
PSO.14	Summarizes DNA mutation and cancer, radiotherapy.
PSO.15·	Describe basics in microbiology and immunology
PSO.16·	Demonstrate techniques in microbiology, immunology and cell biology.

COURSE OUTCOMES (CO)	
FIRST SEMESTER BIOOLECULES G 510.1	
CO.1	Appreciate the role of bimolecular as building blocks of biological system.
CO.2	Thorough with chemical and molecular foundations of life.
CO.3	Able to write the structure, function and properties of amino acids.
CO.4	Introduced to the structure, properties and roles of carbohydrates, lipids and nucleic acids.
CO.5	Aware of the biological importance of nucleic acid as genetic material.
CO.6	In the laboratory, able to independently apply various biochemical techniques to identify and quantify major biomolecules.
CBCS -ELECTIVE PAPER PROTEIN BIOCHEMISTRY G 510.1E	
CO.1	Students will acquire knowledge about the protein structure
CO.2	They will learn about principles and applications of chromatography techniques used in a biochemistry lab.
CO.3	Students will learn about the principle and application of electrophoresis, centrifugation techniques and advanced spectroscopic techniques.
SECOND SEMESTER HUMAN PHYSIOLOGY & NUTRITION G 510.2	
CO.1	Understand the basic organization and functions of various organ systems and the functioning of the whole body.
CO.2	Comprehend and appreciate the importance of the fluid components of the body in regulating and connecting the various organ systems; particularly the heart and vascular system, CSF, lymph.
CO.3	Appreciate and understand the biochemical, molecular and cellular events that orchestrate the functioning of neurons.
CO.4	Get a holistic understanding of understanding of the characteristics, function, distribution and deficiency of macro and micronutrients in the human body.
CO.5	Develop in students an inquisitive learning approach to understand vitamin and associated disorder, the mechanism digestion and food adulterants at its basic level.

CBCS -ELECTIVE PAPER BIOCHEMISTRY OF HORMONES G510.2E	
CO.1	Understand and appreciate the different modes of communication between cells in a multi-cellular organism
CO.2	Understand the role of endocrine system in maintaining homeostasis
CO.3	Should be able to describe molecular, biochemical and physiological effects of all hormones and factors on cells and tissues.
CO.4	Understand the disease and disorders associated with endocrine imbalance.
THIRD SEMESTER ENZYMOLOGY G 510.3	
CO.1	Learn the types, nature and biological importance of enzymes in living systems
CO.2	Gain insight into the classification, theories of enzyme specificity
CO.3	Learn about the enzyme isolation, activity, units and catalysis
CO.4	It will throw lights on mechanisms of enzyme action, kinetics of enzyme catalyzed reactions and importance of enzyme inhibitors
CO.5	Learn to appreciate how enzymes are regulated and the physiological importance of enzyme regulation in the cell
CO.6	The course will introduce students to the applications of enzymes in research, medicine and industry.
CBCS -ELECTIVE PAPER STEM CELLS G 510.3E	
CO.1	Students will acquire basic information about the stem cells and its types
CO.2	Gain knowledge of ethical concerns in stem cell research
CO.3	Comprehend the applications of stem cell in regenerative medicine
FOURTH SEMESTER METABOLISM G 510.4	
CO.1	Understand the concepts of general metabolism, characteristics of each metabolic pathways and methods used to study these pathways.
CO.2	Gain holistic knowledge of various catabolic and anabolic pathways in the body
CO.3	Understand mechanism of the regulation of various pathways
CO.4	Able to obtain knowledge about the diseases caused by defects in metabolism.

CO.5	Understand different assays in the laboratory to obtain compressive knowledge on the metabolic pathways.	
CBCS -ELECTIVE PAPER MOLECULES OF LIFE G 510.4E		
CO.1	Able to understand the structure and importance of biomolecules. .	
CO.2	Aware of the significance individual biomolecules.	
CO.3	Able to independently identify various biomolecules based on structures and associated disorders.	
FIFTH SEMESTER PAPER-5 MOLECULAR BIOLOGY G 510.5a		
CO.1	Students will acquire basic information about the structure of DNA and various forms of DNA, about organization of genome in various life forms, supercoiling of DNA and its significance	
CO.2	Students will learn about the molecular basis of processes like DNA replication, recombination and transposition and understand the significance of these processes	
CO.3	Acquire basic knowledge about the processes of transcription and translation in prokaryotes and eukaryotes	
CO.4	Learn about the features of the genetic code and various experimental approaches used to crack the code	
CO.5	Develop understanding of the molecular basis of RNA processing and RNA splicing	
CO.6	Learn about the various ways in which these biological processes are regulated and the significance of regulation in maintaining life forms	
CO.7	Students will learn about the various ways in which the DNA can be damaged leading to mutations and lesions and different ways to repair DNA damage, DNA recombination.	
PAPER-6	**GENETIC ENGINEERING AND BIOTECHNOLOGY**	**G510.5b**
CO.1	The process for isolation and engineering of DNA using restriction and modification enzymes.	
CO.2	Use of cloning and expression vectors.	
CO.3	The methods for creation of genomic and cDNA libraries, their applications and use.	
CO.4	Understand IPR and ethical issues in Biotechnology	
CO.5	Gain knowledge on tissue culture media and techniques	
CO.6	Understanding the methods for antibiotic alcoholic and non alcoholic production at industry	
SIXTH SEMESTER		
PAPER-7 MICROBOLOGY AND IMMUNOLOGY G 510.6a		
CO.1	Trace the history and developments in microbiology.	

CO.2	Have an overview of the culture and staining techniques for bacteria, viruses and microbial nutrition	
CO.3	Understand the immune system including cells, organs and types of immunity.	
CO.4	Describe the basic mechanism, differences and functional interplay of innate and adaptive immunity	
CO.5	Understand Antigens & its Recognition, antigen processing and presentation	
CO.6	Understand the structure & functions of different classes of Immunoglobulins, and techniques like ELISA, RIA and immunodiffusion	
CO.7	Define the cellular and molecular pathways of humoral and cell-mediated immune responses	
CO.8	Describe the mechanisms involved in different types of hypersensitivity	
CO.9	Explain the autoimmunity and grafting	
CO.10	Understand complement pathways in detail	
PAPER-8	**CLINICAL & MEMBRANE BIOCHEMISTRY**	**G510.6b**
CO.1	Learn about urine, blood and related disorder in detail.	
CO.2	They will understand the cell membrane structure, functions, ionophores and active transport mechanism	
CO.3	Introduced to basic concepts radioactivity, its measurements	
CO.4	Gain knowledge about the radiation hazards and safety	
CO.5	Get knowledge about the carcinogens, cancer and its types	
CO.6	Acquire insight into cancer diagnosis and treatment	

BIOTECHNOLOGY	
PROGRAME OUTCOMES (PO)	
PO 1:	Students will be able to acquire, articulate, retain knowledge relevant to biotechnology.
PO 2:	Ability to integrate technologies through an inter-disciplinary learning habit.
PO 3:	Students will be able to apply reasoning informed by the contextual knowledge to assess societal, health, safety and legal issues and the consequent responsibilities relevant to the professional practice
PO 4:	Students will be able to understand the impact of societal activities on environmental contexts, and demonstrate the knowledge of, and need for sustainable development
PO 5:	Ability to design and conduct experiments, as well as to analyze and interpret scientific data
PO 6 :	Students will be able to communicate effectively and write effective reports and design documentation, make effective presentations and give and receive clear instructions related to biotechnological research and development.
PO 7:	Ability to inculcate an attitude of enquiry towards developing innovative ability and enhancing entrepreneurship skills.
PROGRAME SPECIFIC OUTCOMES (PSO)	
PSO.1	Graduates in biotechnology will be eligible for pursuing higher education, M.Sc. programmes in the different field of life science.
PSO.2	Graduates will exhibit contemporary knowledge in Biotechnology and students will be eligible for doing jobs in pharmaceutical and biotechnological Industry.
PSO.3	Graduates will be able to understand the potentials, and impact of biotechnological innovations on environment and their implementation for finding sustainable solution to issues pertaining to environment, health sector, agriculture, etc.
PSO.4	Graduates will be able to design, conduct experiments, analyze and interpret data for investigating problems in Biotechnology and allied fields.
PSO.5	· Graduates will be able to work individually as well as in team to survive in multidisciplinary environment.
PSO.6	Students are able to learn the modern molecular biological techniques viz,

	chromatography, SDS-PAGE, Agarose Gel Electrophoresis, fermentation, downstream processing and PCR which are very much required for the large-scale production of biotechnology derived products.
COURSE OUTCOMES (CO)	
FIRST SEMESTER **BIOPHYSICS AND BIOSTATISTICS G 511.1**	
CO.1·	Understand the principle, working, maintain and calibrations of bio analytical tools and techniques for industrial and research purpose.
CO.2·	This course covers both fundamental and applications of the instruments that are routinely used for the characterization of biomolecules
CO.3·	Biophysical techniques for the Isolation, Identification and Quantification of Biomolecules.
CO.4·	Able to learn underlying principle of techniques such as electrophoresis, microscopy, spectroscopy, centrifugation and chromatography.
CO5·	Enrich the students how to utilize various tools of biostatics in interpretation of biological data.
CO.6·	Students will be able to characterize data and understand different sampling methods.
CO.7·	The course covers other core areas of biostatistics including Standard Deviation, probability and correlation
CO.8.	By the end of the course, the students are able to appreciate the importance of statistics in research and prepares them for a career in research
CBCS -ELECTIVE PAPER **FOOD PROCESSING TECHNOLOGY G511.1E**	
CO.1.	Describe the source and variability of raw food material and their impact on food processing operations.
CO.2.	Explain the spoilage and deterioration mechanisms in foods and methods to control deterioration and spoilage
CO.3.	Explain the methods of food processing and packaging
SECOND SEMESTER **BIOCHEMISTRY G511.2**	
CO.1·	Comprehend the structure and function of different biomolecules including of

	proteins, lipids, nucleic acids, and carbohydrates.
CO.2·	Upon successful completion of this course, the student will learn, the major classes ofenzyme and their functions in the cell
CO.3·	Basic concepts of enzymes their mechanism of action
CO.4·	The course also provides information pertaining to role of co-enzyme cofactor inenzyme catalyzed reaction, properties of enzymes and regulation of biochemical pathways.
CO.5·	Students are able to understand enzyme kinetics, thermodynamics and other related areas
CO.6.	Acquire knowledge base of metabolic pathways such as Glycolysis, Kreb's Cycle, ETC etc. occurring inside living cells.
CBCS -ELECTIVE PAPER **Biotechnology & Its Applications G511.2E**	
CO.1.	Explain various methods of gene transfer in plants and animals
CO.2.	Application of biotechnology in agriculture, production of transgenic animals, biofertilizers, biopesticides etc
CO.3.	To describe DNA fingerprinting technology, PCR techniques
THIRD SEMESTER **MICROBIOLOGY AND IMMUNOLOGY G511.3**	
CO.1·	To Classify and explain the structure and general characteristics of Microorganisms.
CO.2·	To prepare various Bacteriological, Algal, and Fungal Media.
CO.3·	To get insight in Primary and Secondary organs of Immune system.
CO.4·	To describe Antigen-antibody interactions as well as techniques like ELISA, RIA, Immunofluorescence
CO.5·	To explain cell mediated immunity, Monoclonal antibody production and Hypersensitivity.
CO.6.	The course will provide sound knowledge of how immune system deals with various pathogens, different processes and cell types involved in prevention of disease along with the concept and significance of vaccines
CBCS -ELECTIVE PAPER **PLANT TISSUE CULTURE & MUSHROOM CULTURE TECHNIQUES G511.3E**	

CO.1·	Understand the concepts of plant tissue culture, preparation of media
CO.2·	It will explain the production of haploid plants, Hybrids, Virus free plants
CO.3·	Explain the methods of germplasm conservation
CO.4.	Mushroom culture and its nutritional values
FOURTH SEMESTER **Molecular Biology and Recombinant DNA Technology G511.4**	
CO.1·	To describe Fine structure of prokaryotic and eukaryotic genes
CO.2·	To understand the mechanism of replication, transcription, translation in prokaryotes and eukaryotes.
CO.3·	This course provides technical know-how on versatile techniques in recombinant DNA technology.
CO.4·	To isolate the DNA from bacteria, plant and animal cells
CO.5·	To explain the construction of DNA & c DNA library and their applications.
CO.6·	To explain the application of gene cloning in agriculture and medicine
CO.7·	The course will provide techniques involved in production of transgenic plants and animals and their pros and cons.
CO.8·	Approaches in handling the perceived risks of GMOs released into the environment possible adverse impacts of GMO's on biodiversity.
CO.9.	Intellectual Property Rights.
CBCS -ELECTIVE PAPER **IMMUNE SYSTEM AND DISEASE MANAGEMENT G511.4E**	
CO.1·	Understand the principles governing vaccination and the mechanisms of protection against disease
CO.2·	Understand how immuno deficiencies related to disease
CO.3.	Understand and explain the basis of allergy and allergic diseases.
FIFTH SEMESTER **PAPER-5 Plant Biotechnology G511.5a**	
CO.1·	This course will provide the students knowledge about different techniques of plant biotechnology utilized for conservation and mass propagation of rare and endangered plant species.
CO.2·	The course will enlighten student about principles of plant tissue culture including in vitro culture of different plant parts.
CO.3·	The course will provide detail pertaining to tools and processes involved in generation of transgenic plants.
CO.4·	It will explain the production of haploid plants, Hybrids, Virus free plants and

	selection of variants
CO.5.	It will teach Germplasm conservation and various methods involved
PAPER-6 Animal Biotechnology G511.5b	
CO.1·	To understand principles of animal culture, media preparation
CO.2·	To explain Invitro fertilization and embryo transfer technology.
CO.3·	The course will describe as to how animal cell culture is carried out for research and diagnostic purposes.
CO.4·	The techniques involved in cloning
CO.5·	The course will describe gene therapy and its applications
CO.5.	How transgenic animals are generated, what are the pros and cons along with ethical issues associated with transgenesis.
SIXTH SEMESTER **PAPER-7 ENVIRONMENTAL BIOTECHNOLOGY G511.6a**	
CO.1·	Learning outcome of Environment Biotechnology is to describe existing and emerging technologies that are important in the area of environment and the principles and techniques which underline the application of biosciences, address environmental issues including pollution,Environment Protection laws, biogeochemical cycle, mineral resource, renewable energy and water recycling.
CO.2·	Course will have a specific focus on bioremediation and treatment of polluted effluent.
CO.3·	The course will also provide conceptual knowledge on water analysis, solid and liquid waste management
CO.4·	To explain the microbial degradation of pesticides, Bioremediation & Biofertilizers.
CO.5.	Course will have a specific focus on biofuels and energy gardens.
PAPER-8 Bioprocess Technology G511.6b	
CO.1·	The role of a bioprocess engineer in chemical, pharmaceutical and distillation industry.
CO.2·	The integrated bioprocess, design reactors, maintain contamination free environment in bioprocesses.
CO.3·	To develop concepts to scale-up bioprocesses for industry as well as research organizations.
CO.4·	Develop skills associated with screening of Industrially Important Strains.
CO.5.	Understand principles underlying design of Fermentor and Fermentation Process

BOTANY	
PROGRAME OUTCOMES (PO)	
PO1.	Get an opportunity in further studies, research and employment in various areas of life sciences
PO2.	Enhance their knowledge in the field of life sciences and are able to handle laboratory equipments and experimentation for higher education leading to research
PO3.	Enhance the scope of employability by obtaining all-round knowledge in the allied subjects along with Botany.
PO4.	Develop an awareness towards the environment, biodiversity, conservation and their significance.
PO5.	Equip themselves for competitive examinations
PO6.	Inculcate an interest for nature and the need to preserve the nature by maintaining green house, herbal gardens in the campus and environs
PROGRAME SPECIFIC OUTCOMES (PSO)	
PSO1.	Understand the basic concepts of plant taxonomy, pathology, anatomy, embryology, evolution, physiology, genetics , molecular biology, , plant biotechnology, phytochemistry, pharmacognosy, ecology & sustainable development
PSO2.	Acquire practical skills in the field of basic and applied plant sciences
PSO3.	Understand the applications of basic and applied plant sciences , and to promote and popularize the study of Botany for its importance and its social relevance
PSO4.	Equip themselves for competitive examinations
COURSE OUTCOMES (CO)	
FIRST SEMESTER **VIRUS, BACTERIA &ALGAE**	
CO1.	Acquire the basic knowledge of classification in lower groups of organisms
CO2.	Understand the structure (thallus, reproductive structures), composition (cell wall and spores) of lower groups of organisms
CO3.	Classify algae up to the level of a family
CO4.	Identify cyanobacteria and algae at the level of orders
CO5.	To understand the applications in the fields of virology, bacteriology and phycology
CBCS -ELECTIVE PAPER	

ORGANIC FARMING	
CO1.	Understand the concept and importance of organic farming
CO2.	Maintain and improve soil health condition
CO3.	Understand sustainable management of natural resources
SECOND SEMESTER **FUNGI, PLANT PATHOLOGY, BRYOPHYTES AND PLANT ANATOMY**	
CO1.	Understand the structure, reproduction and economic importance of fungi and bryophytes
CO2.	Compare and contrast the groups algae, fungi and bryophytes
CO3.	Evaluate the interaction between different groups of organisms like plant-microbes that occurs in nature.
CO4.	Get knowledge on symptoms and control measures of plant diseases caused by fungi, algae, and nematodes
CO5.	Understand the anatomical features of higher plants
CBCS -ELECTIVE PAPER **PLANT NUTRACEUTICALS**	
CO1.	Understand the benefits of food and nutraceuticals
CO2.	Understand the effects on human health and potential applications in risk reduction of diseases
THIRD SEMESTER **PTERIDOPHYTES, GYMNOSPERMS, MORPHOLOGY AND EMBRYOLOGY OF ANGIOSPERMS**	
CO1.	Understand the diversity and classification of Pteridophytes and Gymnosperms
CO2.	Gain knowledge on the reproductive structures and life cycle of Pteridophytes and Gymnosperms
CO3.	Know the morphology of plant fossils and process of fossilization
CO4.	Understand the process of pollination and its applications in plant breeding
CO5.	Acquire the basic concepts of plant embryology
CBCS - ELECTIVE PAPER **MEDICINAL BOTANY**	
CO1.	Understand the concept of plant based medicine
CO2.	Know the Medico-ethnobotanical sources
CO3.	Identify local wild edible and medicinal plants

FOURTH SEMESTER **PLANT TAXONOMY, ETHNOBOTANY AND ECONOMIC BOTANY**	
CO1.	Understand the concept of plant systematics and classification
CO2.	Describe the principles and rules involved in plant systematics and classification
CO3.	Identify the plants upto the level of a family
CO4.	Understand the application of this field in floriculture, agriculture and medicine
CO5.	Practice sustainable use of plant resources
CBCS - ELECTIVE PAPER **NURSERY MANAGEMENT AND GARDENING**	
CO1.	Understand the concept and importance of gardening
CO2.	Maintain a nursery
CO3.	Commercialize the knowledge
FIFTH SEMESTER	
PAPER V **PLANT ECOLOGY & SUSTAINABLE DEVELOPMENT**	
CO1.	Learn various types of ecosystems and its significance in biodiversity conservation
CO2.	Understand ecological concepts like succession and plant adaptations
CO3.	Learn the practical application of research methodologies in ecology with reference to community studies
CO4.	Understand the concept of sustainability
CO5.	Understand the limitations of available natural resources and the need to sustain them
CO6.	Evaluate sustainable management related to local and global issues
CO7.	Get knowledge on the recent issues associated with environment.
PAPER VI **CYTO GENETICS AND MOLECULAR BIOLOGY**	
CO1.	Understand the concept of chromosomal organization, biomolecules (protein and nucleic acid)
CO2.	Acquire knowledge of the genes inhabiting the cellular world of life that are engaged in metabolic processes.
CO3.	Understand the concepts of cell division and cell cycles .

CO4.	Gain knowledge on principles of genetics
CO5.	To understand the natural genetic variation in plants and to know how diverse factors contribute to the expression of genotypic and phenotypic variation.
CO6.	Understand the effect of different types of mutation on genotypic and phenotypic expression • understand the concept of plant sex determination and gene mutation
CO7.	To widen the knowledge on the role of polyploidy in plant breeding which could be employed in diverse fields of basic and applied research.
SIXTH SEMESTER	
PAPER VII PLANT PHYSIOLOGY	
CO1.	Learn the underlying principles of various physiological processes like Ascent of sap, transpiration, photosynthesis, translocation and respiration in plants
CO2.	Understand the mechanism involved in these physiological processes
CO3.	Know the various plant growth substances and their physiological effects
CO4.	Understand the role of mineral nutrients in plants
CO5.	Understand the concepts like vernalization and photoperiodism, and their practical applications in agriculture
CO6.	Acquire the information on plant signalling and communication in plants
PAPER VIII PLANT BIOTECHNOLOGY, PHYTOCHEMISTRY AND PHARMACOGNOSY	
CO1.	Learn the concepts and fundamental aspects pertaining to plant biotechnology, phytochemistry, pharmacognosy
CO2.	Understand the concept of genetically modified plants and their relevance to economy
CO3.	Know the principle involved in cultivation of medicinal plants by organic farming, plant tissue culture and to realize the eco friendly potential application of biotechnological processes in pharmaceuticals ,food industry, agriculture and its role in bioremediation
CO4.	Enhance their analytical skills in research and know the lab safety measures.
CO5	. Acquire knowledge with regard to commercializing the primary and secondary metabolites as natural medicinal drugs

MICROBIOLOGY	
PROGRAME OUTCOMES (PO)	
PO.1	It will help students to inculcate the basic concepts of biochemistry including an understanding of the fundamental biochemical principles and their applications in a systematic, scientific, evidence-based process. The programme will also provide a general understanding of the inter disciplines with a holistic approach in biological sciences.
PO.2	Students will gain experience in basic laboratory methods, techniques and be able to apply the scientific method to the experimental processes, hypothesis testing, data interpretation and logical conclusions.
PO.3	Develop problem solving and analytical skills through case studies, research papers and hands-on-experience, especially integrated into skill enhancement courses.
PO.4	Provide requisite knowledge of laboratory safety, data replication and quality control, record keeping and other aspects of "responsible conduct of research".
PO.5	Ability to employ modern library search tools to locate and retrieve primary literature on a topic and critically evaluate the literature.
PO.6.	Students will be able to apply and effectively communicate scientific reasoning and data analysis in both written and oral forms. They will be able to communicate effectively with well-designed posters and slides in talks aimed at scientific audiences as well as the general public.
PO.7	Students will learn to work collaboratively in a team
PO.8	Students will gain knowledge of ethical and good laboratory practices, health and biohazard regulations, plagiarism and intellectual property rights related issues practiced in modern era of scientific investigation.
PO.9	Graduates will be able to apply the major theories and research procedures to contemporary social problems.
PO.10	The programme will prepare students to plunge into various fields of higher education or related profession in various disciplines, armed with plethora of knowledge, hands-on-experience and scientific attitude, at national and global levels.

PROGRAME SPECIFIC OUTCOMES (PSO)	
PSO.1.	Acquired knowledge and understanding of the microbiology concepts as applicable to diverse areas such as medical, industrial, environment,genetics, agriculture, food and others.
PSO.2.	Demonstrate key practical skills/competencies in working with microbes for study and use in the laboratory as well as outside,including the use of good microbiological practices.
PSO.3.	Competent enough to use microbiology knowledge and skills to analyze problems involving microbes, articulate these with peers/ team members/ other stake holders, and undertake remedial measures/studies etc.
PSO.4.	Developed a broader perspective of the discipline of Microbiology to enable him to identify challenging societal problems and plan his professional career to develop innovative solutions for such problems.
COURSE OUTCOMES (CO)	
FIRST SEMESTER **Fundamentals of Microbiology G 509.1**	
CO.1.	Have developed a good knowledge of the development of the discipline of Microbiology and the contributions made by prominent scientists in this field.
CO.2.	Have developed a very good understanding of the characteristics of different types of microorganisms, methods to organize/classify these into and basic tools to study these in the laboratory.
CO.3.	Describe the nutritional requirements of bacteria for growth; developed knowledge and understanding that besides common bacteria there are several other microbes which grow under extreme environments.
CO.4.	Perform basic laboratory experiments to study microorganisms; methods to preserve bacteria in the laboratory; calculate generation time of growing bacteria.
CO.5	**.**Are able to perform basic experiments to grow and study microorganisms in the laboratory.
CBCS -ELECTIVE PAPER **Techniques in Microbiology G509.1E**	
CO.1.	Principles and applications of a number advanced types of microscopes and of analytical instruments.

CO.2.	Aquire the knowledge of several separation techniques using chromatography.
CO.3.	Acquire the knowledge of Spectrophotometry Principle and its application in biological research.
SECOND SEMESTER **Basic Microbiology G509.2**	
CO.1.	Describe characteristics of bacterial cells, cell organelles, cell wall composition and various appendages like capsules, flagella or pili.
CO.2.	Differentiate a large number of common bacteria and cyanobacteria by their salient characteristics; classify bacteria into groups.
CO.3.	Are able to explain the useful and harmful activities of the microorganisms.
CO.4.	Identity common fungi by their salient characteristics; classify fungi into groups.
CO.5.	Differentiate viruses by their salient characteristics; classify viruses into groups.
CBCS -ELECTIVE PAPER **Common Fungal and Viral Diseases in Human G509.2E**	
CO.1.	Understand the various fungal and viral infections and organs affected.
CO.2.	Have developed a very good understanding of preventive measures for human infections by fungi and prevention and control of mycoses.
CO.3.	Gained knowledge of a variety of human viruses. Understanding about the transmission and prevention of viral diseases.
THIRD SEMESTER **Microbial Physiology and Metabolism G 509.3**	
CO.1.	Understand the basics of bioenergetics and the role of ATP in Metabolism. Other Energy rich molecules structure and significance.
CO.2.	Describing the growth characteristics of the microorganisms capable of growing under unusual environmental condition of temperature, oxygen, and solute and water activity.
CO3.	Describing the growth characteristics of the microorganisms which require different nutrient for growth and the associated mechanisms of energy generation for their survival like autotrophs, heterotrophs, chemolithoautotrophs etc.
CO 4.	Differentiating concepts of aerobic and anaerobic respiration and how these are manifested in the form of different metabolic pathways in microorganisms.
CO.5.	Describe the biogeochemical cycles and mineral transformation by microbes.
CBCS -ELECTIVE PAPER **Basic Concepts of Food Safety. G509.3E**	
CO.1.	Understand the concepts of food safety and the significance of food safety.
CO.2.	Have developed a very good understanding of sanitation and hygiene in food sector.
CO.3.	Gained knowledge of a variety of methods of pest control to ensure food safety.

FOURTH SEMESTER **Microbial Ecology and Environmental Microbiology. G509.4**	
CO.1.	Have developed a fairly good knowledge and understanding of different types of environments and habitats where microorganisms grow including the microbiomes of the human gut and animal gut.
CO.2.	Are able to identify the important role microorganisms play in maintaining healthy environment by degradation of solid/liquid wastes; how these activities of microorganisms are used in sewage treatment plants, production of activated sludge and functioning of septic tanks
CO. 3.	Have understood the significance of microbes in air and air sanitation.
CO.4.	Have developed the practical skills for conducting experiments.
CO-5	**5.**Are able to understand the methods of examination of soil microbes.
CBCS -ELECTIVE PAPER **Solid Waste Management G 509.4E**	
CO.1.	Understand the concepts categories of solid waste
CO.2.	Have developed a very good understanding of types of e-waste.
CO.3.	Gained knowledge of a variety of methods of safe disposal of solid and e-waste.
FIFTH SEMESTER	
PAPER-5 Medical Microbiology and Immunology G509.5a	
CO.1	Understand the basic concepts of immunology and types of immune system.
CO.2.	Understood the basic and general concepts of causation of disease by the pathogenic microorganisms and the various parameters of assessment of their severity including the broad categorization of the methods of diagnosis.
CO. 3.	Developed a thorough understanding of common bacterial, viral, fungal, parasitic diseases of human being including some very important diseases of the animals also.
CO.4.	Conceptualized the protective role of the immune system of the host and

	developed an understanding of the basic components as well as the mechanisms underlying the immune system and its response to pathogenic microorganisms.
CO.5	Are able to conduct experiments for growing common bacteria in different microbiological media, antibiotic sensitivity determination and antigen antibody reaction (precipitation test in the agarose)
PAPER-6 Plant Microbiology and Bioremediation G509.5b	
CO.1.	Developed a clear understanding of the multifarious roles of microorganisms in soil, in association with plants.
CO.2.	Are able to describe the role of microorganisms in the production of plant diseases and biological control.
CO3.	Are able to identify the role of microorganisms in the causation of the diseases in plants.
CO 4.	Understand the role of microorganisms in biodegradation of organic pollutants and natural compounds.
CO.5.	Develop a clear understanding of composting the organic waste and role of microbes in composting.
SIXTH SEMESTER	
PAPER-7 Principles of Bacterial Genetics, Genetic Engineering and Bioinformatics G509.6a	
CO.1.	**.**Has acquired knowledge of gene, their expression and regulation of expression. Has acquired a fairly good understanding mechanisms of genetic exchange, mutations andtheir implications.
CO.2.	Has developed practical skill for isolation of bacteria/plasmid DNA
CO3.	Has acquired a fairly good knowledge of the tools and the methods for genetic engineering.
CO 4.	Developed skills to use computers for analysis of biological data.
CO.5.	Skill to use important biological databases, use tools to retrieve data, and compare the data of the biological macromolecules. Developed basic skills for data retrieval, representation, analysis and interpretation.
PAPER-8 Applied Microbiology G509.6b	
CO.1.	**.**Has acquired a fairly good knowledge of microbes in food and their role in food spoilage.
CO.2.	Has acquired knowledge of various methods of food preservation.
CO3.	Has acquired knowledge of spoilage of selective foods and their preservation
CO 4.	Has acquired knowledge of fermentation types and production of organic acids, alcohols, enzymes, antibiotics and various foods in the industry.
CO.5.	Has acquired knowledge of how microbes are involved in milk spoilage and milk preservation.

ZOOLOGY	
PROGRAME OUTCOMES (PO)	
PO.1.	Create awareness of various branches in zoology to help the student choose his/ her career in higher education.
PO.2.	Understand and appreciate the diversity and complexity of all life forms.
PO.3.	Familiarize with recent advances in various fields of Applied Zoology.
PO.4.	To get acquainted with the recent trends in research and provide opportunities to develop basic research skills and take up independent research work to develop a scientific temper.
PO.5.	Emphasize the need for protection of environment by imparting knowledge of environmental degradation and its impact on living organisms.
PO.6.	Acquire knowledge of the local faunal diversity and understand the importance of its conservation.
PO.7.	Apply the acquired knowledge and skills to promote self-employment.
PO.8.	Gain knowledge of communicable and non-communicable diseases to improve personal and public health.
PROGRAME SPECIFIC OUTCOMES (PSO)	
PSO.1·	Understand the nature and basic concepts of cell biology, genetics, taxonomy, physiology, ecology and applied Zoology
PSO.2·	Analyse the relationships among animals and plants
PSO.3·	Perform procedures as per laboratory standards in the areas of Taxonomy, Physiology, Ecology, Cell biology, Genetics, Applied Zoology, Clinical science, tools and techniques of Zoology, Toxicology, Entomology, Biochemistry, Fish biology, Animal biotechnology, Toxicology and Immunology.
PSO.4·	Understand the applications of biological sciences in Apiculture, Aquaculture, Sericulture, Dairy, vermitechnology and Mictotomy
PSO.5·	Gains knowledge about biostatistics and handle the statistical softwares

COURSE OUTCOMES (CO)	
FIRST SEMESTER **ANIMAL DIVERSITY (NON - CHORDATA) G508.1**	
CO1.	Understand animal systematics.
CO2.	Identify and classify invertebrate organisms to their respective phyla.
CO3.	Describe the general characters and classes of the organisms belonging to the invertebrate phyla.
CO4.	Familiarize with evolutionary relationships and basis of life processes in non-chordates.
CO 5.	Analyze the economic importance of invertebrate fauna.
CBCS-OPEN ELECTIVE **Aquarium maintenance and fish breeding techniques** **G 508.1E (Open Elective)**	
CO1.	Identify freshwater and marine ornamental fishes both indigenous and exotic.
CO2.	Identify invertebrates and aquatic plants that are popular in the aquarium industry.
CO3.	Design and set up an aquarium.
CO4.	Understand the process of management and maintenance of freshwater aquarium.
CO 5.	Follow biosecurity protocols and ensure safety and hygiene while handling freshwater fishes.
CO6.	Execute breeding of common live-bearing and egg-laying ornamental fishes.
SECOND SEMESTER **ANIMAL DIVERSITY (CHORDATA) G508.2**	
CO1.	Understand animal systematics.
CO2.	Identify and classify vertebrate organisms to their respective phyla.
CO3.	Describe the characters, classification of vertebrates under different classes of phyla Protochordata up to Mammalia.
CO4.	Analyze his/her role in nature to protect, preserve and promote understanding of their surroundings by learning, observing various life forms.
CBCS - OPEN ELECTIVE **Apiculture G 508.2E**	
CO1.	Identify and describe the scientific basis of beekeeping.

CO2.	Understand the basic life cycle of the honeybee.
CO3.	Familiarize with beekeeping tools and equipment.
CO4.	Appreciate the importance of honey bees as beneficial insects involved in food production and in ecosystem sustainability.
CO 5.	Detect bee diseases and pests.
CO6.	Execute management practices involved in keeping honey bees healthy and productive for honey production and pollination.
THIRD SEMESTER CELL AND MOLECULAR BIOLOGY, IMMUNOLOGY G508.3	
CO1.	Understand the concepts of cell and its components, cell organelles, chromosomes, gene mutation and cell division.
CO2.	Understand the structures of nucleic acids and genes.
CO3.	Analyze the structure and purpose of basic components of prokaryotic and eukaryotic cells, especially the macromolecules, membranes and cell organelles.
CO4.	Identify the components of the immune system at the organ, cellular and molecular levels.
CO 5.	Describe the functioning and regulation of the immune system at different levels..
CO6.	Apply the understanding of the role of immune system in protection against diseases
CBCS - OPEN ELECTIVE Health and lifestyle diseases G 508.3E	
CO1.	Understand the consequences of lifestyle on human health.
CO2.	Understand the importance of exercise in daily life.
CO3.	Identify the specific risk factors that are associated with cancer and coronary heart diseases.
CO4.	Analyze the differences between controllable and uncontrollable risk factors of lifestyle diseases.
CO 5.	Apply necessary changes in daily lifestyle to reduce the risk of lifestyle diseases.
BIOCHEMISTRY AND ANIMAL PHYSIOLOGY G508.4	
CO1.	Understand the functions of important physiological systems including the digestive, circulatory, respiratory, excretory, reproductive and other metabolic systems.
CO2.	Correlate interactions between different organ systems.
CO3.	Analyze the consequences of malfunctioning of various metabolic systems.
CO4.	Understand the importance of various biomolecules.

CO 5.	Apply the knowledge attained in biochemistry and physiology to lead a healthy life.
CBCS - OPEN ELECTIVE Nature and Wildlife photography G 508.4E	
CO1.	Recall the history and evolution of photography.
CO2.	Understand the basic concepts of photography.
CO3.	Identify the various parts of camera, DSLR or SLR
CO4.	Understand the concepts of ISO, shutter speed, aperture and their interconnection.
CO 5.	Apply the techniques of photography to capture nature and wildlife.
CO6.	Execute advanced skills in photography sucas autofocus, exposure, composition, post processing techniques using software.
FIFTH SEMESTER Histology, Reproductive and Developmental Biology G508.5A	
CO1.	Identify the histological structures of various organs in relation with their functions.
CO2.	Understand the basic principles of microtomy and differential staining technique, before focusing on the structure and function of mammalian tissues, and the relationships between them;
CO3.	.Describe the structure, functions and biological principles of reproductive system
CO4.	Identify the developmental stages of chick , frog and human foetus.
CO 5.	Describe the key events in early and systematic embryological development.
CO6.	Apply the understanding of concepts in reproductive biology to life.
ECOLOGY, BIOSTATISTICS, ETHOLOGY AND WILDLIFE BIOLOGY G508.5B	
CO1.	Understand the general principles of ecology as to how they related to terrestrial and aquatic (plant and animal) conservation and management.
CO2.	Identify species, characteristics, habitat requirements and behaviour of birds, fish, mammals etc.
CO3.	Apply knowledge to solve problems related to wildlife conservation and management.
CO4.	Acquire knowledge of how wildlife conservation and management relates to the economy and environment, both currently and in the future.
CO 5.	Use contemporary biostatistical tools and techniques for studying

	animal populations.
CO6.	Familiarize with a variety of laws and regulations that influence how natural resources are used and protected.
SIX SEMESTER GENETICS, EVOLUTION AND PALEONTOLOGY G508.6A	
CO1.	Understand the fundamental concepts in Genetics.
CO2.	Explain Mendelian segregation, independent assortment and linkage
CO3.	Apply the principles of Mendelian inheritance and their extensions (one- and two-locus traits with two or more alleles, gene interactions, sex linkage and linkage) by analyzing inheritance patterns from crosses
CO4.	Describe the origin and genetic consequences of mutations and chromosomal abnormalities
CO 5.	Analyze the allele and genotypic frequencies within populations based on the Hardy-Weinberg law
CO6.	Familiarize with the basic processes in population genetics such as mutation, migration, natural selection, sexual selection and genetic drift.
CO7.	Understand the processes of speciation and extinction and the theories of origin if life.
APPLIED ZOOLOGY, PARASITOLOGY, TOXICOLOGY AND CANCER BIOLOGY G508.6B	
CO1.	Identify and classify different species and breeds of cattle, poultry, silk moths, earthworms, honey bees, prawns, fishes and shellfishes.
CO2.	Understand the morphology, life cycle of different parasites.
CO3.	Explain the epidemiology, diagnosis and treatment of vector-borne diseases.
CO4.	Apply the knowledge in parasitology to prevent diseases.
CO 5.	Understand the concepts of Toxicology and cancer biology.
CO6.	Analyze the effect of carcinogens and toxins on living organisms.

FOOD SCIENCE & NUTRITION CODE:G500S	
PROGRAME OUTCOMES (PO)	
PO.1.	Apply the knowledge of fundamentals of food science, food processing techniques, and a specialization to the solution in Food industries and manufacturing companies.
PO.2.	Identify, formulate, review research literature, and analyze complex nutritional problems reaching substantiated conclusions using first principles of dietetics, nutritional sciences, and food sciences.
PO.3.	Design solutions for complex food science and nutrition problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
PO.4.	Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO.5.	Create, select, and apply appropriate techniques, resources, and modern food science and nutrition tools for specialized purposes such as assessment and screening.
PO.6.	Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional Nutritionist practice.
PO.7.	Communicate effectively on food technological activities with the food research community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
PROGRAME SPECIFIC OUTCOMES (PSO)	
PSO.1.	Know the chemistry underlying the properties and reactions of various food components, have sufficient knowledge of food chemistry to control reactions in foods, know the major chemical reactions that limit shelf life of foods, use the laboratory techniques common to basic and applied food chemistry and know the principles behind analytical techniques associated with food.
PSO.2.	Identify the important pathogens and spoilage microorganisms in foods and the conditions under which they will grow, inactivated, killed or made harmless in foods and know the principles involving food preservation via fermentation processes.
PSO.3.	Incorporate the principles of food science and nutrition in practical, real-world situations and problems.
PSO.4.	Apply the principles of food science to control and assure the quality of food products and also identify government regulations required for the manufacture and sale of food products.
PSO.5.	List major properties, functions, and important food sources of the nutrients,

	describe human nutrient and energy needs throughout the life span and in physical training and translate human nutrient and energy needs into daily food selection utilizing appropriate standards and guidelines.
PSO.6.	Explain the significance of food practices to nutrition and disease prevention and effectively evaluate meal plans for nutritional adequacy, nutrient density, balance, variety, and calorie control.
COURSE OUTCOMES (CO)	
FIRST SEMESTER **Fundamentals of Human Physiology G 551.1**	
CO.1.	Understand the Structure and Functions of the various organ systems of the body
CO.2.	Relate the Structure with Functions of the tissues and organs
CO.3.	Comprehend the Mechanism of Action of Organs
CO.4.	Relate the Physiology of the human body with Food and Nutritional requirements
CO.5.	Recognize the Clinical Symptoms of Nutritional Deficiencies based on anatomical considerations
CBCS -ELECTIVE PAPER **Healthy Lifestyles and Nutrition G 551.1E**	
CO.1.	Provide knowledge of the physiological role of various nutrients
CO.2.	Enable students to understand the basis of human nutritional requirement and recommendations through the life cycle
CO.3.	Enable students to understand the pharmacological actions of nutrients and their implications
CO.4.	Familiarize students with the recent advances in nutrition.
SECOND SEMESTER **Brewing and Fermentation Technology G 551.2**	
CO.1.	Application of the science of brewing.
CO.2.	Able to conceptualize, implement and evaluate the fermented products
CO.3.	Understand the process of malt whiskies.
CO.4.	Evaluate nutrition information of fermented beverages.
CO.5.	Development of batch and grain whisky distillation.
CBCS -ELECTIVE PAPER **Nutrition in Physical Fitness G 551.2E**	
CO.1.	Understand the role of exercise in daily life
CO.2.	Classify the various types of physical fitness activities
CO.3.	Understand the importance of nutrition in physical fitness

CO.4.	Distinguish between low and high intensity exercises
THIRD SEMESTER Food Processing and Preservation G 551.3	
CO.1.	Describes the principles of food preservation and suggest the application of the preservation process depending on the type of food.
CO.2.	Determines the thermal processing conditions (time / temperature) for each type of food and propose a device that matches a particular conservation process.
CO.3.	Chooses the appropriate application of certain conservation processes with regard to the preservation of quality and the satisfactory durability of food products.
CO.4.	Optimizes process parameters for selected conservation processes taking into account the physico-chemical properties of food products.
CBCS -ELECTIVE PAPER Food Additives and Adulterants G 551.3E	
CO.1.	Understand the concepts of food additives and adulterants
CO.2.	Determine the upper tolerance level of food additives
CO.3.	Know the laws of food safety and food labelling laws
CO.4.	Compare health claims and labelling of market stock to general standards
CO.5.	Identify naturally occurring and synthetic toxins in food
FOURTH SEMESTER Lifespan Nutrition G 551.4	
CO.1.	Comprehend the dietary guidelines in meal planning
CO.2.	Acquainted with meal planning for all age groups
CO.3.	Enable to familiarize with meal management appreciating the physical and physiological changes of individuals
CBCS -ELECTIVE PAPER Basic Food Testing Tools G 551.4E	
CO.1.	Provide an understanding of composition of various foodstuffs
CO.2.	Familiarize students with types and methods of food testing and detection of adulterants
CO.3.	Enable students to use the knowledge of food testing in their daily lives
FIFTH SEMESTER PAPER-5 Product Development and Sensory Evaluation G551.5a	
CO.1.	Describes sensory analysis in general, the most common methods, and know when to use them and understand the effect of the setting on sensory evaluation
CO.2.	Measures the sensory characteristics of the food products, after selection of appropriate methods, adequate experimental design and statistical

	interpretation of the results. Practical application of the methods learned.
CO.3.	Describes the process of product development and focus on application of descriptive methodologies, and promote some aspects of the development and management of portfolio of new food products.
PAPER-6 Food Safety and Management System G551.5b	
CO.1.	Critically evaluates the factors that are constraining the quality of food and feed products and use the concept of Process Quality Management to achieve and maintain high quality and safe outputs throughout food and feed production systems.
CO.2.	Analyses the requirements of private standards compared to legislation and related standards and Reflect upon risk analysis and its role in the development of Food Safety Objectives (FSOs).
CO.3.	Have critical insight into the development and enforcement of legislation and related standards and understand the importance of maintaining a written food safety management system to control food safety hazards.
SIXTH SEMESTER PAPER-7 Principles of Clinical Nutrition G551.6a	
CO.1.	Understand the concept, purpose and principles of diet therapy and role and types of dietitians
CO.2.	Gain knowledge on the etiological factors and complications, assessment parameters and dietary modifications in obesity and underweight
CO.3.	Learn about the causes, types, biochemical changes, diagnostic tests
CO.4.	Delineate various deficiency disorders with respect to their prevalence, causes, symptoms and preventive measures
PAPER-8 Fundamentals of Dietetics G 551.6b	
CO.1.	Learn about the causes, symptoms and treatment of various disease conditions
CO.2.	Gain knowledge about the role of nutrition in disease conditions.
CO.3.	Develop skills and techniques in the planning and preparation of therapeutic diets for various disease conditions.

PHYSICAL SCIENCES

CHEMISTRY	
PROGRAME OUTCOMES (PO)	
PO.1.	To create an awareness of the impact of chemistry on the environment, society and development outside the scientific community.
PO.2.	To provide students with the necessary knowledge and skills to carry out a successful research career in industry or academia or as an entrepreneur.
PO.3.	To help students become self-directional with efficient problem-solving skills at a professional and personal level.
PO.4.	To develop skills in planning and conducting advanced chemical experiments and applying structural-chemical characterization techniques.
PO.5.	To develop a scientific temper and to engage into interdisciplinary research which shall benefit the society.
PO.6.	To familiarise and apply safety practices and chemical hygiene with a sound knowledge of regulations and practices.
PO.7.	To develop effective written and oral communication skills, especially the ability to transmit complex technical information in a clear and concise manner.
PROGRAME SPECIFIC OUTCOMES (PSO)	
PSO.1.	Students will have a firm foundation in the fundamentals and applications of Chemistry and its multidisciplinary approach towards physical or biological sciences.
PSO.2.	Students will be prepared for various opportunities in the fields of pharmaceuticals, chemical manufacturing, forensic science, food products, environmental monitoring, plastic, cosmetics & agro industries etc. in addition to oil, gas and power sectors as well as defence services.
PSO.3.	Students will be able to gather and process scientific information from a range of sources including libraries, databases and the internet.
PSO.4.	They will be able to identify the new environmentally friendly practices and processes that the chemical industry is adopting.

PSO.5.	They will be able to investigate chemical problems using scientific tools for analysis and interpretation of data.
PSO.6.	Students will be able to qualify various entrance exams, interviews and tests to get into research career or to gain employability.
PSO.7.	To be able to design and carry out scientific experiments as well as accurately record and analyse the results of such experiments.
PSO.8.	Students will be able to understand the impact of chemicals on environment and environmental pollution and formulate alternate measures to overcome environmental problems.
COURSE OUTCOMES (CO)	
FIRST SEMESTER **LIQUID AND LIQUID CRYSTALS, CHEMICAL BONDING AND ANALYTICAL TECHNIQUES**	
CO.1.	To understand the properties of liquids and liquid crystals, methods to determine physical properties and applications
CO.2.	To understand Maxwell's distribution and behaviour of real gases, equation of state, isotherm and law of corresponding states.
CO.3.	To understand the fundamentals of ionic and covalent bonding and predict geometries of simple molecules based on hybridisations.
CO.4.	Students will learn the structure and bonding in organic compounds and some organic reaction mechanisms.
CO.5.	Evaluate strengths and limitations of chromatographic separation and detection methods.
CO.6.	Students will also learn some common laboratory techniques of refluxing, distillation, steam distillation and recrystallization.
CBCS-ELECTIVE PAPER **ESSENTIALS OF PRACTICAL CHEMISTRY**	
CO.1.	Students will be able to learn basic chemical safety and qualitative organic and inorganic methods of analyses.
CO.2.	Gain understaning of basic quantitative modes of analyses and estimation of elements.

SECOND SEMESTER **SOLVENTS, NUCLEAR CHEMISTRY, INDUSTRIAL CHEMISTRY, ORGANIC DERIVATIVES AND STEREOCHEMISTRY**	
CO.1.	To gain a broad understanding of solvent type and characteristics.
CO.2.	To learn the principles concerning solid state structures and crystal structures by applying basic crystallographic concepts.
CO.3.	Understand the basics of nuclear radiations and calculations involving half-life of radioisotopes.
CO.4.	Define catalysis and different types of catalytic processes.
CO.5.	Familiarise with structure, bonding of many organic derivatives (halides, alcohols and ethers) and reaction mechanisms.
CO.6.	Predict and analyse the configurations of optical and geometrical isomers.
CBCS-ELECTIVE PAPER **FOOD AND INDUSTRIAL CHEMISTRY**	
CO.1.	Gain an insight into chemical aspects in the Food industry including the role of lipids, vitamins and food additives.
CO.2.	Familiarize with structure and apllications of polymers in consumer goods.
CO.3.	Learn the basic components involved in the manufacture of cement, paints, soap and detergents and their classification.
THIRD SEMESTER **CHEMICAL KINETICS, PERIODIC ELEMENTS, AROMATIC ORGANIC COMPOUNDS AND SPECTROSCOPIC METHODS**	
CO.1.	Learn type of reactions, theories and determination of reaction rates and concepts of steady state approximation.
CO.2.	Familiarize with mechanisms of different types of catalysis and action of catalysts.
CO.3.	Understand the general characteristics of transition elements, oxidation states, colour, magnetic property and calculate their magnetic moments.
CO.4.	To be able to explain the comparative treatment of 4d and 5d series of transition metals as well as lanthanides.
CO.5.	Predict electronic configuration, ionic radii, colour and formation of complexes.

CO.6.	Learn mechanisms of aromatic electrophilic substitution reactions and the effect of substituent groups.
CO.7.	Understand the fundamentals of some spectroscopic methods - Plasma emission, atomic absorption, flame photometry as well as thermo-analytical methods.
CBCS-ELECTIVE PAPER ENVIRONMENTAL CHEMISTRY	
CO.1.	Understand and analyse different types of environmental pollutions - air, water and soil.
CO.2.	To be able to identify the causes and factors leading to these pollutions and suggest scientific methods to control them.
FOURTH SEMESTER THERMODYNAMICS, COORDINATION COMPOUNDS, REAGENTS IN ORGANIC CHEMISTRY AND PHOTOCHEMISTRY	
CO.1.	To understand the concept and laws of thermodynamics and define system, variables, heat, work in thermodynamical method.
CO.2.	Understand the concepts of entropy, reversible and irreversible processes and learnn their applications.
CO.3.	Students will learn fundamental theories of coordination compounds, their nomenclature and predict their structures.
CO.4.	Understand the concept of d-orbital splitting in tetrahedral, octahedral and square planar metal complexes.
CO.5.	Familiarise with applications of common reagents in organic synthesis and learn mechanisms of some important named reactions.
CO.6.	Describe and explain various photochemical and photophysical processes and to calculate quantum yields of photochemical reactions.
CBCS-ELECTIVE PAPER CHEMISTRY IN EVERYDAY LIFE	
CO.1.	Realise and appreciate various chemical formulations in Cosmetics and toiletries industry with a focus on environmental and health concerns.
CO.2.	To have a basic knowledge of natural and synthetic polymers used in our daily lives.

FIFTH SEMESTER PAPER-V **PHASE EQUILIBRIA, TRANSITION METAL COMPLEXES, HETEROCYLIC AND BIOIORGANIC CHEMISTRY**	
CO.1.	Define and understand various colligative properties and to differentiate between different liquid mixtures.
CO.2.	Explain the basic definitions and terms in a phase diagram.
CO.3.	Define magnetic behavior of different metal complexes and explain geometry of the complex based on magnetic moment data.
CO.4.	Predict mechanism of electrophilic substitution reactions in heterocyclic compounds.
CO.5.	Compare the basicity of heterocyclic compound containing nitrogen.
CO.6.	Understand significance of metalloporphyrins and its functions in biological system
FIFTH SEMESTER PAPER-VI **QUANTUM MECHANICS, ROTATIONAL AND ELECTRONIC SPECTROSCOPY, BIOMOLECULES**	
CO.1.	Understand the basic concepts of quantum mechanics and to derive expression for Schrodinger wave equation.
CO.2.	Familiarize with concepts of rotational spectra and its application to determine bond length and moment of inertia.
CO.3.	Learn the basics of electronics spectroscopy and able to apply Woodward-Fieser rules for calculating absorption maximum in dienes.
CO.4.	Explain general characteristics of inorganic polymers of silicon, phosphorous, boranes.
CO.5.	Explain the structures of biomolecules (carbohydrates, proteins, enzymes, lipids and hormones) and their role in biological processes.
CO.6.	Summarize the functions of proteins and recognize the importance of the three-dimensional shape of a protein on its function.
SIXTH SEMESTER PAPER-VII **ORGANIC SPECTROSCOPY, ORGANOMETALLICS, GROUP THEORY AND NANOCHEMISTRY**	
CO.1.	Describe molecular vibrations with the interaction of matter and

	electromagnetic waves and identify vibrational degrees of freedom.
CO.2.	Explain the basic concepts in infrared and Raman spectroscopy.
CO.3.	Understand the principle, instrumentation and applications of mass spectroscopy.
CO.4.	Predict thermodynamic and kinetic stabilities of metal complexes and mechanism of substitution in square planar complexes.
CO.5.	Understand bonding and applications of organometallic complexes.
CO.6.	Classify basic symmetry groups and operations in simple molecules.
CO.7.	Understand the concept of enolates and active methylene compounds and their role in organic synthesis.
CO.8.	Understand description of various types of nano materials, host-guest chemistry, self-assembled structures, nano-structured materials, and their applications.
CO.9.	Design multistep organic synthesis by retrosynthetic approach.
SIXTH SEMESTER PAPER-VIII ELECTROCHEMISTRY, SUSTAINABLE CHEMISTRY, NMR SPECTROSCOPY, DYES AND NATUAL PRODUCTS	
CO.1.	Understand basic principle of electrochemistry and its applications.
CO.2.	Learn different types of galvanic cells, Nernst equation, calculations of thermodynamic properties and applications of conductometric and potentiometric titrations.
CO.3.	Learn principles and application of Green chemistry in industrial processes.
CO.4.	Understand the importance and theory behind biopolymers and biodegradable polymers.
CO.5.	Understand the basics of NMR spectroscopy and apply it to elucidate the structure of simple organic molecules.
CO.6.	Learn structures of some organic dyes along with some of the alkaloids and terpenes in addition to their extraction process from plants.

ELECTRONICS	
PROGRAMME OUTCOMES:	
PO-1.	Understand, appreciate and apply the concepts of Electronics in various fields science, environment and contribute to improve the quality of life.
PO-2.	Acquire and Enhance basic skills of reasoning, application and hands on experience to use basic tools and methods of Electronics.
PO-3.	Develop broad knowledge and understanding of key concepts of electronic science and equip with advanced scientific/technological capabilities for analyzing and tackling the issues and problems in the field of Electronics.
PO-4	Create an awareness of the impact of Electronics on the society, and Development outside the scientific community.
PO-5.	Inculcate scientific temper in fellow students and also among the larger scientific community, and society in general.
PO-6.	Use modern techniques and recent methods to imbibe and propagate the concepts of Electronics.
PO-7.	Think, acquire knowledge and skills through logical reasoning and inculcate the culture of self-learning.
PO-8.	Exercise critical thinking and the scientific knowledge to design, carry out, record, analyze and co-relate the results of Electronics practical.
PROGRAMME SPECIFIC OUTCOMES	
PSO1.	Understand the principles of operation of various Electronics components, testing them and study their applications in various circuits.
PSO2.	Learn the fundamentals of analog and digital Electronics, Analyze the relationship between analogue and digital circuits and appreciate the advantages of each in practice.
PSO3.	Learn the theory of amplifiers and oscillators, concept of feedback and its applications, Integrated circuits(IC's) and their linear and nonlinear applications, design and study the performance of any circuit using standard software.
PSO4.	Understand the contribution of Electronic Science in the field of computer science, its applications, artificial intelligence, Medical Electronics and automation.
PSO5.	Develop abilities in students to design and develop innovative solutions for benefits of society, by diligence, leadership, team work and lifelong learning.
PSO6.	Understand the fundamentals of Electronic Communications and working of various Electronic communication systems and role of Electronics in development of data transmission and reception in telephone, cellular phone, internet, social media and defense.
PSO7.	Develop ability to apply knowledge and skills they have acquired to the solution of specific theoretical and applied problems in Electronics.

PSO8.	Understand the use of Electronics in the field Electronic communication, Computer science, signal processing, Electronic Instruments and various other electronic Gadgets PSO8. Demonstrate ability to apply electronics knowledge & experimental skills critically and systematically for assessment and solution of complex electronics problems and issues related to communication systems, embedded systems, computers networks, robotics, VLSI Design and fabrication and other specialized areas of electronics.
PSO9.	Provide students with skills that enable them to get employment in industries or pursue higher studies or research assignments or turn as entrepreneur
PSO10.	Understand the application of Electronics in domestic appliances, Service and maintain small household electrical and Electronics appliances.
Course Outcomes	
Semester-I **G 504.1: Fundamentals of Analog and Digital Electronics**	
CO-1.	Familiarize various electronic components, measuring and testing Instruments used in Electronics.
CO-2.	Understand the structure, working and characteristics of various passive and active components.
CO-3.	Learn network theorems and analyze dc and ac circuits
CO-4.	Learn the applications of various types of diodes in rectifiers, wave shaping circuits and regulators.
CO-5.	Understand the structure, operation and characteristics of bipolar junction transistor.
CO-6.	To understand the basics of number system, Boolean algebra, logic gates and analysis of Boolean functions
Semester-I **G 504.1P: Practical-I**	
CO-1.	Identify various active and passive components
CO-2.	Test various active and passive components using multimeter.
CO-3.	Learn soldering skills and rig up the given circuit
CO-4.	Use ammeters, voltmeters, Regulated power supplies, function generator and cathode ray oscilloscope, and conduct specified experiments.
Semester-I **G504.1E (Open Elective I): Electronic Devices and Applications**	
CO-1.	Learn various electronic devices, know their performance parameters and understand the practical applications.
CO2:	Test various electronic devices using multimeters and decide about their condition.
CO-3.	Learn the basics of constructing Electronic circuits through soldering/Breadboard and PCB.

Semester-II **G 504.2: TRANSISTOR BIASING CIRCUITS, SMALL SIGNAL AMPLIFIERS, FIELD EFFECT TRANSISTORS AND DIGITAL CIRCUITS**	
CO-1.	Understand Q-point of a transistor, methods of fixing Q-point and biasing circuits.
CO-2.	Learn the performance parameters of amplifiers and different amplifiers using transistor and analyze them.
CO-3.	Learn the concept of feedback in amplifiers and their application of feedback in amplifiers and oscillators
CO-4.	Analyze combinational circuit design procedure with examples.
CO-5.	Understand the elements of Sequential circuits and flip-flops.
CO-6.	Understand the basics of Field effect transistors, their types, characteristics and amplifiers using FET s.
	Semester-II.G504.2P: Practical-II
CO-1.	Design, construct and determine the performance parameters of amplifiers
CO-2.	Handle Electronic instruments with necessary precautions and take readings with least error.
CO-3.	Improve soldering skills so that high frequency noises are eliminated
CO-4.	To design, fabricate and study the performance of Regulated Power Supply and learn the techniques of writing dissertation.
II SEMESTER G504.2E (Open Elective II): **SEMICONDUCTORS AND INTEGRATED CIRCUITS**	
CO-1.	To understand material processing and steps involved in fabrication of various devices and Components in Integrated form
CO-2.	Get enlightened with various kinds of ICs and their applications.
Semester-III **G 504.3: LINEAR INTEGRATED CIRCUITS AND APPLICATIONS, SEQUENTIAL LOGIC CIRCUITS AND LOGIC FAMILIES**	
CO-1.	Know the IC steps and techniques involved in fabrication of ICs.
CO-2.	Characteristics of differential amplifier and Operational amplifier
CO-3.	Use of op-amp in amplifiers, oscillators and mathematical operations.
CO-4.	Use of op-amp in active filters and instrumentation amplifiers
CO-5.	Realization of various types of registers using flip-flops,
CO-6.	Characteristics of counters and realization of various types of counters using flip-flops.
Semester-III **G504.3P: Practical-III**	
CO1:	Design, construction and determine the various performance parameters of amplifiers using op-amp
CO2:	Develop circuit to study the nonlinear applications op-amp

CO3:	Verification of characteristics tables of flip-flops and study the applications as registers and counters.
CO4:	To apply trouble shooting techniques in simple electronic gadgets.
III SEMESTER G504.3E (Open Elective III):Electronic Communication Systems	
CO1:	The history and development of Electronic communication system
CO2:	different channels of signal propagation in electronic communication systems
CO3:	working principles of common communication systems like Radio, television and cell phones
CO4:	principles of digital communication-mobile communication, internet and social media
Semester-IV G 504.4: BREAKDOWN DEVICES, POWER AMPLIFIERS, FUNDAMENTALS OF ELECTRONIC COMMUNICATION AND DIGITAL COMPUTERS	
CO1:	Gain knowledge about the structure, characteristics and application of SCR, DIAC and TRIAC.
CO2:	Principles of power amplifiers, circuits and regulated power supplies
CO3:	the mechanism of signal transmission in different media and different channels of signal propagation in electronic communication systems
CO4:	various techniques of modulation, the basics of analog transmission and digital transmission, working principles of common communication systems like Radio, television and cell phones, the elements of satellite communication systems
CO5:	Knows principles of data storage using various memory devices.
CO6:	Knows the fundamentals of digital computer and its architecture.
Semester-IV G504.4P: Practical-IV	
CO1:	Design, construct and study the performance of various filters using op-amp.
CO2:	Design, construct and study modulation and demodulation techniques.
CO3:	Design and construct a mini project, study its performance and write the dissertation.
Semester-IV G 504.4E: PRINCIPLES OF MEDICAL ELECTRONICS AND BIOMEDICAL INSTRUMENTATION	
CO1:	Know the human body electro- physiological parameters and recording of bio-potentials.

CO2:	Comprehend the non-electrical physiological parameters and their measurement – body temperature, blood pressure, pulse, blood flow meter etc.
CO3:	Interpret the various assist devices used in the hospitals viz. pacemakers, defibrillators, dialyzers and ventilators.
CO4:	Comprehend physical medicine methods eg. Ultrasonic, shortwave, microwave surgical diathermies, and bio-telemetry principles and methods
V SEM G504.5A: ELECTRONIC COMMUNICATION SYSTEMS	
CO1:	The history and development of Electronic communication system,various types of Electronic communication system and their areas of application,different channels of signal propagation in electronic communication systems
CO2:	Concept, theory and circuits of various techniques of modulation.
CO3:	the mechanism of signal transmission in different media the basics of analog transmission and digital transmission
CO4:	working principles of common communication systems like Radio, television and cell phones
CO5:	the elements of satellite communication systems
CO6:	Elements of wireless communication and fibre optic communication systems principles of digital communication-mobile communication, internet and social media.
Semester-V G 504.5B: 8085 MICROPROCESSOR AND 8051 MICROCONTROLLER	
CO1:	understand the architecture of basic micro processors.
CO2:	understand their instruction set and write simple programs in them
CO3:	Know the application of microcontrollers in various fields
CO4:	understand the architecture of any micro controller,
CO5:	Understand the architecture of basic micro processors.
CO6:	understand instruction set of microcontrollers and and write simple programs in them.

Semester-V **G501.5P: Practical V**	
CO1:	Analyze and relate the working of Opto-electronic devices.
CO2:	Understand and relate the characteristics of optical fibers and their simple applications,
CO3:	Write programs in microcontrollers using the instruction set, code and execute the program.
Semester-VI **G 504.6a: – BIOMEDICAL INSTRUMENTS, VLSI AND ROBOTICS**	
CO1:	Know the human body electro- physiological parameters and recording of bio-potentials.
CO2:	Comprehend the non-electrical physiological parameters and their measurement – body temperature, blood pressure, pulse, blood flow meter etc.
CO3:	Know about recent trends in medical instrumentation, Interpret the various assist devices used in the hospitals viz. pacemakers, defibrillators, dialyzers and ventilators.
CO4:	Comprehend physical medicine methods eg. ultrasonic, shortwave, microwave surgical diathermies , and bio-telemetry principles and methods.
CO5:	understand the fundamentals of VLSI, techniques and processes involved in developing VLSI.
CO6:	Understand principles of Robotics and their role in Automatation technology
Semester-VI **ELECTIVE I :G501.6b:8086 MICROPROCESSOR & C LANGUAGE**	
CO1:	Learn the architecture of 8086 microprocessor.
CO2:	Learn the instruction set of 8086 and write programs using them
CO3:	Learn modular programming and I/O programming
CO4:	Learn various features and structures of high level languge by learning C language.
CO5:	modular and structured programming techniques in C language.
Semester-VI **ELECTIVE 2: G 504.6b: FUNDAMENTALS OF DIGITAL SIGNAL PROCESSING**	
CO1:	Know characteristics of signal, classification and signal and system relationship.
CO2:	Understand representation of signal using Fourier Transformation.
CO3:	Understand Z-Transformation of signals and analysis.

CO4:	Understand discrete Fourier Transformation of signals.
Semester-V **G501.5P: Practical V**	
CO1:	After completion of this course students should be able to Understand the architecture and instructions of 8086 microprocessor by writing and executing programs in 8086 microprocessor.
CO2:	Understand and relate the various programming options available in High level languages by writing and executing programs in C language.
CO3:	Gain skills and confidence to develop/service electronic gadgets through project development.
CO4:	To gain art of presenting any scientific findings in the form of a dissertation.

B.SC. MATHEMATICS	
PROGRAMME OUTCOMES	
P01.	**Acquisition of Knowledge:** be able to possess basic subject knowledge that is required for higher studies, professional and applied courses.
P02.	**Eligibility:** be eligible for various government exams conducted by UPSC, SSC etc.
P03.	**Application in Computer Sciences:** be able to solve computer oriented numerical problems as it offers computer courses for students
P04.	**Awareness:** be aware of and develop solution oriented approach towards various Social and Environmental issues.
P05.	**Skill development:** develop critical thinking, problem solving skills through practical application along with the domain knowledge in the subjects of science stream
P06.	**Entrepreneurship:** be equipped to start their own business as software developers, programmers, database administrators, and system analysts.
PROGRAMME SPECIFIC OUTCOMES	
PSO1:	Be familiar with suitable tools of mathematical analysis to handle issues and problems in mathematics and related sciences.
PSO2:	Acquire sufficient knowledge and skills enabling them to undertake further studies in mathematics and its allied areas on multiple disciplines concerned with mathematics.
PSO3:	Be well grounded in the basic manipulative skills of algebra and advanced calculus.
PSO4:	Develop a positive attitude towards mathematics as a technical language and valuable subject of study.
COURSE OUTCOMES	
Semester-I **G 503.1 - PAPER 1 CALCULUS**	
CO -1	Analyse functions using limits, derivatives and integrals.
CO -2	Recognize the appropriate tools of calculus to solve applied problems.
CO -3	investigate the proof of the Fundamental Theorem of Integral Calculus.
CO -4	evaluate the volumes of the solids using cross sections.
CO -5	apply reduction formulae to evaluate integrals.
CO -6	recognize the conic sections from their functions in standard form and from their graphs.
CO -7	convert a function of a conic section to standard form to determine whether it yields a circle, a parabola, an ellipse, or a hyperbola.
CO -8	write a polar double integral to evaluate the area of a given region.
CO -9	calculate the length of an arc of a curve whose equations are given in parametric and polar forms.

Semester-I **G 503.1E (Open Elective): Functions and Applications**	
CO -1	improve the mathematical skills necessary to study economics.
CO -2	demonstrate an understanding of the rules of differentiation to solve problems in Economics and Business.
CO -3	use calculus and algebra techniques in economic analysis.
CO -4	analyse basic trends in business using graphical analysis.
Semester-II **G 503.2- PAPER 2** **CALCULUS, NUMBER THEORY AND DIFFERENTIAL EQUATIONS**	
CO -1	apply various results to solve problems on limits.
CO -2	use L'Hospital's rule to solve improper integrals.
CO -3	use the concept of vectors to find the arc length of curve in polar coordinate system.
CO -4	solve Linear Diophantine equation in two variables.
CO -5	find the greatest common factor using the Euclidean Algorithm.
CO -6	convert separable and homogenous equations to exact differential equations by integrating factors.
CO -7	solve a few real world problems using the concepts of differential equations.
Semester-II **G 503.2E Vector Calculus**	
CO -1	define vector equation for lines and planes.
CO -2	analyze vector functions to find limits, derivatives, tangent lines and integrals.
CO -3	evaluate line integrals, surface area and surface integrals.
CO -4	solve a few real world problems based on work, circulation and flux.
CO -5	differentiate between gradient fields and conservative fields.
Semester-III **G 503.3-PAPER 3** **NUMBER THEORY, GROUP THEORY AND MULTIVARIATE CALCULUS**	
CO -1	understand the definition of congruences.
CO -2	determine multiplicative inverses modulo n and use to solve linear congruences.
CO -3	verify group properties in particular examples.
CO -4	identify different types of groups.
CO -5	use the definitions and properties of cosets and understand Lagrange's theorem.
CO -6	use the two path criterion to show that a limit does not exist and apply it to

	the problems about limits.
CO -7	evaluate partial derivatives including higher order derivatives and simple cases of chain rule and recognize the various notations used for partial derivatives.
CO -8	determine the area and volume by applying the techniques of double and triple integrals..
Semester-III **G 503.3E Introduction to LaTeX**	
CO -1	Type set mathematical formulae.
CO -2	use nested list and enumerate environments.
CO -3	create tabular and array environments.
CO -4	create and import graphics into the LaTex document.
CO -5	use beamer to create presentations.
CO -6	use bibtex to generate bibliography.
Semester-IV **G 503.4 - PAPER-4** **FUNCTIONS OF A COMPLEX VARIABLE, NUMBER THEORY, GROUP THEORY AND REAL ANALYSIS.**	
CO -1	understand and use the terms homomorphism and isomorphism.
CO -2	use the Cauchy-Riemann Equations to determine whether/where a function is differentiable and find the derivative of a function.
CO -3	perform basic mathematical operations (arithmetic, powers, roots) with complex numbers in Cartesian and polar forms.
CO -4	determine continuity/differentiability/analyticity of a function and find the derivative of a function.
CO -5	determine if a function is multiplicative using the Euler Phi-function.
CO -6	use the concept of greatest common divisor to prove results relating to primitive Pythagorean triplets.
CO -7	solve the problems of convergence and divergence of sequences and series.
CO -8	determine whether or not real series are convergent by comparison with standard series or using the ratio test.
CO -9	explain the definition of an infinite series as a limit of a sequence of partial sums.
Semester-IV ***G501.4E (*Open Elective): Applications of Basic Arithmetic (For other streams)**	
CO -1	Have strong basic arithmetic and computational skills.
CO -2	Be able to efficiently calculate and solve numerical problems faster.
CO -3	Be prepared for aptitude based competitive exams.

CO -4	Use tricks and shortcuts to solve problems on Calendar and clocks.
Semester-V **G 503.5(A) - PAPER 5(A)** **DIFFERENTIAL EQUATIONS, LAPLACE TRANSFORM AND ALGEBRA**	
CO -1	Solve the homogeneous linear differential equations with constant coefficients.
CO -2	Use the method "variations of parameters" to find to solution of higher-order linear differential equations with variable coefficients.
CO -3	Relate the concepts of groups and rings.
CO -4	Verify if a given set is a commutative ring or field or integral domain.
CO -5	Explain basic properties of Laplace transform.
CO -6	Find Laplace transform of a function using gamma function and step function.
CO -7	Will be able to use the Laplace transform in finding the solution of linear differential equations.
Semester-V **G 503.5(b)i :Discrete Mathematics**	
CO -1	Verify whether an algorithm works well and perform analysis in terms of memory and time.
CO -2	Formulate and model problems with the concepts and techniques of discrete mathematics.
CO -3	Understand the role of set theory in various concepts of discrete mathematics and connect it to various other disciplines.
CO -4	Apply techniques for constructing mathematical proofs, illustrated by examples in discrete mathematics.
CO -5	Develop an understanding of how graph and tree concepts are used to solve problems arising in the computer science.
CO -6	Understand the importance of difference equations and efficiently solve them.
G 503.5(b)ii: Numerical Methods	
CO -1	Perform an error analysis for some method.
CO -2	Approximate a function using an appropriate numerical method.
CO -3	Solve a linear system of equations using an appropriate numerical method.
CO -4	Derive appropriate numerical methods to solve interpolation based problems.
CO -5	Calculate a definite integral using an appropriate numerical method.
CO -6	Evaluate a derivative at a value using an appropriate numerical method.
G 503.5(b)iii: Graph Theory	
CO -1	Understand the language of graphs and trees.
CO -2	Understand various types of trees and methods for traversing trees.
CO -3	Solve problems using basic graph theory.

CO -4	Solve problems involving vertex and edge connectivity, planarity and crossing numbers.
CO -5	Model real world problems using graph theory.
CO -6	To improve the proof writing skills.
G 503.5(b)iv: Linear programming	
CO -1	Explain basic concepts of optimization, modeling and linear modeling.
CO -2	Distinguish the feasible solution, optimal solution and basic feasible solution.
CO -3	Solve two variable linear programming problems with graphical method.
CO -4	Explain the theory of simplex algorithm and approach.
CO -5	5 apply linear programming concepts to solve problems like transportation problems and assignment problem.
CO -6	Model a problem as a linear programming problem and apply appropriate method to obtain optimal solutions.
G 503.5(b)v: Mathematical Modeling	
CO -1	Recognize the connections between Mathematics and other disciplines, how mathematical ideas are used in it.
CO -2	Master principles and formulation, analysis of mathematical model system.
CO -3	Model real world problems mathematically and analyse those models.
CO -4	Able to identify linear programming assumptions and constraints.
CO -5	Mention and discuss some applications of Mathematical modeling in various other fields.
G 503.5(b)vi: Distribution Theory	
CO -1	Define expectation, and be introduced to its important linearity property.
CO -2	Understand the properties of probability density functions and cumulative distribution functions.
CO -3	Apply selected probability distributions to solve problems.
CO -4	Develop problem-solving techniques needed to accurately calculate probabilities.
CO -5	Acquire knowledge about some probability inequalities, law of large numbers, Central Limit Theorem etc.
CO -6	Use Central Limit Theorem to solve a few real world based problems.
Semester-VI **G 503.6(A) – PAPER 6(A)** **PARTIAL DIFFERENTIAL EQUATIONS, FOURIER SERIES AND LINEAR ALGEBRA**	
CO -1	apply different methods to solve the equation of the form $Pdx + Qdy + Rdz = 0$.
CO -2	explain basic properties of Fourier transform.
CO -3	recognize the concepts of the terms span, linear independence, basis, and

CO -4	dimension, and apply these concepts to various vector spaces and subspaces.
	use matrix algebra and the related matrices to linear transformations.
CO -5	to learn Inner Product spaces and Gram-Schmidt process of orthogonalization.
CO -6	find Eigen values and Eigen vectors of a matrix which is used in the study of various other concepts.

Department of Statistics	
Programme Outcomes	
PO-1.	Develop and demonstrate an ability to understand major concepts in various disciplines of Statistics.
PO-2.	Solve analytical problems independently and draw logical conclusions.
PO-3.	Analyse, interpret the data and hence help policy makers to take a proper decision.
PO-4.	Have a knowledge regarding use of data analytics tools like Excel, SPSS, R programming and Python.
PO-5.	Use modern statistical techniques and statistical Software to understand the concepts of Statistics.
PO-6.	Think, acquire knowledge and skills through logical reasoning and inculcate the culture of self-learning.
PO-7.	Create an awareness about the impact of Statistics in real life and development outside the scientific community.
Programme Specific Outcomes	
PSO 1:	Understand and apply the principles of least squares to fit a model to the given data, study the association between the variables, applications of Probability Theory and Probability Distributions.
PSO 2:	Understand the concept of Sampling Distributions; study the applications of various probability inequalities and Central limit theorem. Apply the statistical inference to real life situations.
PSO 3:	Understand the principles and applications of Total Quality Management, Designs of Experiment, Sampling theory, Regression Model, Simulation and Operation Research.
PSO 4:	Understand the applications of various Statistical Techniques, use of Statistical tools through Excel and SPSS under Choice Based Credit System (CBCS) requirements.

Course Outcomes	
Semester - I **G 506.1: Descriptive Statistics and Probability Theory**	
CO-1.	Understand the principle of least squares, fitting of various types of curves and the concept of correlation and its applications.
CO-2.	Explain the theory behind Regression analysis and its applications.
CO-3.	Have complete knowledge of demand analysis with the law of demand and supply, Engel's curves and Pareto;s law of income distribution.
CO-4:	Understand probability density function, mean and variance of a random variable and the theorems of probabilities with their applications.
G 506.1a: Descriptive Statistics & Probability Theory Practical.	
CO-1.	Analyse the data through correlation and regression analysis. Understand the applications of mathematical expectation.
CO-2.	Understand the concept of demand analysis with practical examples.
CO-3.	Find the mean and variance of the given random variable.
G 506.1E: Applied Statistics (CBCS)	
CO-1.	Understand the applications of Vital events, Life table in government policies and planning.
CO-2.	Apply the Statistical tools like Index Numbers and Time Series for real life situations.
Semester- II **G506.2:Probability Distributions**	
CO-1.	Understand the concept of mathematical expectation and its properties.
CO-2.	Have complete knowledge about standard discrete distributions and its applications.
CO-3.	Explain the various continuous probability distributions with mean, variance median, MGF and its applications.
CO-4:	Understand the theory of distribution functions of random variables using mgf and Jacobian transformation.

G506.2a: Probability Distributions Practical.	
CO-1.	Understand the applications of mathematical expectation.
CO-2.	Identify, relate and differentiate probability distributions and apply them in day to day life.
CO-3.	Have the ability to fit a probability distribution to the given data.
G 506.2E: Data Analysis using Ms Excel (CBCS)	
CO-1.	Analyse the data through MS Excel.
CO-2.	Acquire Data Visualization skills.
CO-3.	Have knowledge of statistical measures.
Semester- III **G506.3: Statistical Inference I**	
CO-1.	Understand the sampling distributions like Chi-square, Student's t Snedecor's F distributions and the distribution of Order statistic.
CO-2.	Impart knowledge about probability inequalities and convergence concepts.
CO-3.	Understand the theory of point estimation, method of maximum likelihood estimation, method of moment and its applications.
CO-4:	Explain the theory of interval estimation and its applications.
G506.3a: Statistical Inference I Practical	
CO-1.	Understand the applications of probability inequalities, central theorem and WLLN.
CO-2.	Understand the applications of methods of point estimation.
CO-3.	Apply the theory of interval estimation to real life.
G 506.3E: Probability Distributions (CBCS)	
CO-1.	Understand the applications of mathematical expectation and its properties.
CO-2.	Have the knowledge of standard discrete probability distribution and its applications.

CO-3.	Understand continuous probability distributions its applications in day to day life.
Semester- IV G506.4: Statistical Inference II	
CO-1.	Understand the basic knowledge about testing of hypotheses and the Statistical basis behind every test. Also to Develop Most Powerful Test and Likelihood Ratio Test.
CO-2.	Apply various large sample, small sample and Chi-square test to real life situations and interpret the results.
CO-3.	Explain sequential testing and applications of Wald's test for probability distributions.
CO-4:	Understand the concept and derive the test statistic for various non- parametric tests. Also the applications of these tests.
G506.4a: Statistical Inference II Practical.	
CO-1.	Measure the probability of two types of errors, power of the Test and the BCR to the given situation and help the policy makers.
CO-2.	Know the applications of various small sample and large sample tests. Also to apply various Chi-square tests and interpret the result.
CO-3.	Apply SPRTP for various probability distributions and take a Decision about sampling.
CO-4:	Know the applications of various non-parametric tests.
G 506.4E: Statistical Data Analysis using SPSS (CBCS)	
CO-1.	Understand the measures of averages, variation, correlation and regression.
CO-2.	Train the students in data analysis using SPSS software.
CO-3.	Acquire knowledge in data handling and visualization.
Semester- V G506.5a.: Designs of Experiments	
CO-1.	Impart knowledge on applying the technique of ANOVA to design studies, perform analyses, interpret the results appropriately, and make generalizations.

CO-2.	Understanding the advantages & disadvantages of various designs and also learning to apply various designs for agricultural data/agricultural fields.
CO-3.	Describe the analysis of the data from the experiment should be carried out for missing data/ missing plots in the agricultural field.
CO-4:	Familiarize with 2^2 & 2^3 factorial experiments and analyze the data for agriculture data and draw meaningful conclusions.
G506.5b.: Elective (1) – Total Quality Management	
CO-1.	Understand the concept of Total Quality Management in the production process and tools of TQM,
CO-2.	Explain the various tools and techniques of TQM and general theory of control charts.
CO-3.	Derive the control limits of various variable and attribute control charts and interpret the same.
CO-4:	Design acceptance sampling methods for attributes and variables
Semester- V G506.5a: Practical based on G506.5 and G506.5a Elective (1)	
CO-1.	Explain the applications of various models of designs of experiment.
CO-2.	Analyse factorial experiments for real life.
CO-3.	Understand the applications of control charts in industry and analyse the given data.
CO-4:	Understand how to design a proper Acceptance Sampling Plan.
G506.5b. Elective (2) – Regression Analysis	
CO-1.	Explain the meaning of Regression models, point and interval estimation using the regression equation, prediction and residual analysis.
CO-2.	Understand Multiple regression model, estimation of paramete testing and confidence intervals and prediction.
CO-3.	Build a regression model and analyse the given data.
CO-4:	Understand how to use various variable selection procedure and multiple

	regression approach to analysis of variance and experimental design.
G506.5a: Practical based on G506.5 and G506.5a Elective (2)	
CO-1.	Explain the applications of various models of designs of experiment.
CO-2.	Analyse factorial experiments for real life.
CO-3.	Apply the regression analysis to analyse real life data.
CO-4:	Understand how to use multiple regression and variable selection procedure.
Semester- VI **G506.6a: Sampling Theory**	
CO-1.	Understand the importance of sampling in analysing data and the methods of determining size of the sample.
CO-2.	Understand the difference between simple random sampling with replacement and without replacement, estimation of various population parameters and precision of these estimates.
CO-3.	Have complete knowledge of Stratified random sampling and its application. Also to identify the efficiency of various sampling methods with Stratified sampling.
CO-4:	Understand theoretical concept of Systematic and Cluster sampling with applications in real life.
G506.6:Elective (1) – Operation Research	
CO-1.	Understand the concept of OR, Linear programming problem various methods of solving linear programming problem and its applications in industry.
CO-2.	Gain knowledge about transportation problems, applying various methods to real life situations and obtaining optimum solutions.
CO-3.	Understand the concepts of Assignment problem and Game Theory with their applications.
CO-4:	Familiarize the concepts of inventory problems and apply various types of EOQ models to solve the problems of industry.
G506.6a.: Practical based on G506.6 and G506.6a Elective (1)	

CO-1.	Understand how to draw a simple random sample with replacement and without replacement and find best estimates for the population.
CO-2.	Find out the efficiency of various methods of sampling and decide the best method for the situations under consideration.
CO-3.	Understand the applications of various optimal tools in industry.
CO-4:	Take a proper decision about the selection of one of the tools of optimization.
G506.6a:Elective (2) Simulation	
CO-1.	Understand the technique of Simulation and its areas of applications.
CO-2.	Explain the method of random number generation and applications of various tests for random numbers.
CO-3.	Understand various random variate generation methods and how to apply these methods for different continuous probability distributions.
CO-4:	Apply Variance Reduction technique.
G506.6a.: Practical based on G506.6 and G506.6a Elective (2)	
CO-1.	Understand how to draw a simple random sample with replacement and without replacement and find best estimates for the population.
CO-2.	Find out the efficiency of various methods of sampling and decide the best method for the situations under consideration.
CO-3.	Understand the applications of various simulation techniques.

Department of Physics	
Programme Outcomes	
PO-1.	Develop and demonstrate an ability to understand major concepts in various disciplines of Physics.
PO-2.	Solve analytical problems, think methodically, independently to draw logical conclusions.
PO-3.	Exercise critical thinking and the scientific knowledge to design, carryout, record, analyze and co-relate the results of Physics practical.
PO-4.	Have the capability to solve problems by using research based knowledge and research methods
PO-5.	Inculcate scientific temper in fellow students and also among the larger scientific community and society in general.
PO-6.	Use modern techniques and recent methods to imbibe and propagate the concepts of Physics.
PO-7.	Think, acquire knowledge and skills through logical reasoning and inculcate the culture of self-learning.
PO-8.	Create an awareness of the impact of Physics on the society, and development outside the scientific community.
Programme Specific Outcomes	
PSO 1:	Understand and apply the principles of Properties of matter, Thermal Physics, Basic Electricity, Mechanics, Relativity and Photonics.
PSO 2:	Understand and apply the principles of Acoustics, Optics, Networks Electromagnetism and Advanced Electricity.
PSO 3:	Understand the principles of Atomic Physics, Solid State Physics, Nuclear Physics and Analogue Electronics, Communication and Digital Electronics and Special properties of materials.
PSO 4:	Understand the principles of Electrical circuits and network skills, Physics workshop skills, Basic instrumentation skills, Renewable energy and energy harvesting under Choice Based Credit System (CBCS) requirements.

Course Outcomes	
Semester-I **G501.1: Properties of Matter, Thermal Physics and Electricity-1**	
CO-1.	Have the required basic knowledge when the student opt for higher studies in Physics.
CO-2.	Understand the basic concepts of Elasticity
CO-3.	Gain the knowledge about the properties of materials
CO-4.	Study the motion of viscous fluid
CO-5.	Explain the basic thermodynamic properties and derive and discuss the laws of thermodynamics.
CO-6.	Enrich the knowledge of thermo electricity
CO-7.	Effectively use measuring instruments
Semester-I **G501.1P: Practical-I**	
CO-1.	Successfully handle and complete practical problems connected with the experiments related to properties of matter.
Semester-I **G501.1E (Open Elective): Electrical Circuits and Network Skills**	
CO-1.	Acquire necessary skills/hands on experience/working knowledge of multimeters, ammeters, voltmeters and electrical components.
CO-2.	Be proficient in electrical wiring.
Semester-II **G501.2: Mechanics, Relativity and Photonics**	
CO-1.	Understand the principles and methods used in analyzing motion of Particle, Verify Conservation laws and gain knowledge about the Rigid body mechanics.
CO-2.	Grasp the ideas of Classical theory of relativity, Special theory of relativity.
CO-3.	Understand Laser fundamentals, Types of LASER, Optical fibers and Photonic Crystals and its application.
Semester-II **G501.2P: Practical-II**	
CO-1.	Have the ability to plan a scientific experiment based on compound pendulum like systems, energy storage systems using flywheels.
CO-2.	Have the ability to carry out a scientific experiment to estimate the stability of the material under stress and strain.
Semester-II **G501.2E (Open Elective): Physics Workshop Skills**	
CO-1.	Acquire skills/ hands-on experience/working knowledge on various machine tools like lathes, shapers, drilling machines, cutting tools, welding sets and also different gear systems.
CO-2.	Acquire skills in usage of multimeters, soldering iron, oscilloscopes, power supplies and relays.
Semester-III **G501.3: Acoustics, Optics and Networks**	
CO-1.	Interpret Free and forced oscillations, analyze the propagation of progressive waves.
CO-2.	Acquire the knowledge about properties of sound.

CO-3.	Identify Interference, Diffraction and Polarization of light in day-to-day life.
CO-4.	Understand Network Theorems and apply them to solve complex circuits.
Semester-III G501.3P: Practical-III	
CO-1.	Analyze the devices based on interference and diffraction phenomena used in telecommunication and in optical fiber communication systems.
CO-2.	Interpret and determine the refractive index of various materials used in measuring instruments.
Semester-III G 501.3E (Open Elective): Basic Instrumentation Skills	
CO-1.	Gain the necessary knowledge on accuracy, precision, resolution, range and errors in measurements.
CO-2.	Acquire hands-on skills in usage of oscilloscopes, multimeters, rectifiers, amplifiers, oscillators, LCR meters and high voltage probes.
Semester-IV G501.4: Electromagnetism, Electricity-II and Electronics-I	
CO-1.	Gain knowledge about Scalar and Vector fields
CO-2.	Set up the Maxwells wave equation in free space and material media.
CO-3.	Understand representation of Alternating Currents through phasors, Frequency response of Electrical filters, Modes of Power Transmission and applications of p-n diode.
CO-4.	Understand working principle of Transistors and design of Transistor Biasing Circuits.
Semester-IV G501.4P: Practical-IV	
CO-1.	Understand theoretical principles behind electrical networks and grids.
CO-2.	Acquire the working knowledge of electrical devices such as ammeter voltmeter, oscillator and oscilloscopes.
Semester-III G501.4E (Open Elective): Renewable Energy and Energy harvesting.	
CO-1.	Define basic properties of renewable energy sources.
CO-2.	Decide on the viability of a given energy harvesting technology in any given environment.
CO-3.	Acquire knowledge of energy storing systems.
CO-4.	Realize the environmental impact of renewable energy harvesting technologies.
Semester-V G501.5a: Atomic Physics	
CO-1.	Understand Atoms. Various Models, and Atomic Spectra
CO-2.	Interpret the Wave properties of Particles
CO-3.	Comprehend Schrodinger equation and its applications in the case of 1-D and 3-D potential well
CO-4.	Analyze Electron spectra, Molecular Spectra, coherent and incoherent scattering.

Semester-V **G501.5b: Solid State Physics**	
CO-1.	Understand the principles of Statistical Physics and apply it to understand the physical properties of bulk materials
CO-2.	Get acquainted with the Classical theory of Metals, Quantum theory of Metals and understand the origin of band theory of solids.
CO-3.	Familiarize with General properties of crystals, non crystalline solids, X-ray Crystallography
CO-4.	Explain the origin of Magnetic and Dielectric properties of various materials.
Semester-V **G501.5P: Practical V**	
CO-1.	Confirm the theoretical observation with the experimental values.
Semester-VI **G501.6a: Nuclear Physics and Analog Electronics**	
CO-1.	Understand Nuclear Decay and spectra of nuclear radiation, scattering from nucleus and knowing nuclear structure
CO-2.	Familiarize Artificial Transmutation of Elements, Nuclear Fission and Fusion, Radiation Hazards.
CO-3.	understand working principle of particle accelerators and detectors and their applications.
CO-4	Design and understand the working of Transistor Amplifiers, oscillators, Operational Amplifiers and its applications.
G501.6a: Communication and Digital Electronics and, Special properties of materials	
CO-1.	Understand the fundamental concepts of modulation and demodulation, working of transmitter and receivers, comprehend the basic concept of TV communication.
CO-2.	Understand the basics of Boolean Algebra and gainknowledge about designing of arithmetic logic and sequential circuits.
CO-3.	Design flip flops, registers and counters.
CO-4.	Comprehend the importance of superconductors, nano materials and nonlinear optical materials, understand the principles and discuss their applications
G501.6P: Practical VI	
CO-1.	Understand the diode and transistor characteristics.
CO-2.	Design and construct oscillators and amplifier circuits using Op-amp.
CO-3	Determine the energy gap of thermistor and Germanium & Silicon diodes.

B.Sc Economics	
PROGRAMME OUTCOMES	
PO 1:	To facilitate the understanding of basic economic theories.
PO 2:	A comprehensive understanding of the various courses in the discipline.
PO 3:	Enable to apply quantitative techniques suitable for the discipline.
Po 4:	Analyse the policies of the government in solving economic problems.
PO 5:	Develop skills required to blend the subject learned and the real life situations.
PO 6:	Able to evaluate the working of the economy, its interconnection with the social, political, cultural, environmental, ethical issues in a comprehensive manner.
PROGRAMME SPECIFIC OUTCOMES	
PSO 1:	To enable the students with the knowledge of Economics both theoretical and applied.
PSO 2:	To develop a comprehensive understanding of the various aspects of the branches of Economics related to micro and macro aspects.
PSO 3:	To understand the working of the domestic and foreign economy.
PSO 4:	To enable the students to apply the theoretical knowledge of Economics in applying to the real life situations.
PSO 5:	To analyse the issues related to various problems like unemployment, balance of payments, poverty, inequality, inflation facing the economy.
PSO 6:	To develop skills to integrate and organise the interlinkages between and among the varied divisions of the economy.
PSO 7:	To have a critical assessment of the working of the economy, the interconnections between the various sectors and the policies linked to the development .
COURSE OUTCOME	
	PRINCIPLES OF ECONOMICS -I :G 513.1
CO 1:	To understand the basic concepts and nature of economics.
CO 2 :	To analyse different approaches of economics.
CO 3 :	To get thorough understanding of the consumer behaviour and apply the knowledge acquired in various concepts related to buying, selling and maximization of satisfaction.
CO 4 :	Be familiar with the concept of production and enable the students to apply quantitative techniques to see the dynamics of production.
CO 5 :	Helps to acquire the knowledge of different types of costs.
CO 6 :	To be informative about different types of market structures

	HUMAN RESOURCE ECONOMICS: G 513.1E
C0 1:	To develop the understanding of the concept of human resource and to understand its relevance in organizations.
CO 2 :	Helps to understand basic concepts of Human Resource Management.
CO 3 :	To analyse the strategic issues and strategies required to select and develop manpower resources.
C0 4 :	To know the basic concepts of Human Resource Development.
CO 5 :	To know the development, implementation, and evaluation of employee recruitment and selection.
C0 6 :	To have a basic knowledge on organizational development.
	PRINCIPLES OF ECONOMICS -II :G 513.2
CO 1:	A thorough understanding of the various theories behind pricing of products and factors in different market environment.
CO 2:	Ability to identify and evaluate the main models of market structures and to appreciate the theories behind policy prescriptions.
CO 3 :	Develop skill in economic reasoning and helps to know the relevance of government decisions in Wage policy, monetary policy & fiscal policy, etc. in the day to day life.
CO 4 :	Helps the student to understand different concepts of national income and equip them with appropriate tools of analysis to measure and solve the real socio-economic problems like standard of living, inequality and poverty etc.
CO 5 :	To develop suitable solutions for practical policy purpose which are very much expected by the society.
CO 6 :	To equip the students with various skills like reasoning, inference & analysis to understand the time to time changes in business cycles.
	HEALTH ECONOMICS G 513.2E
CO 1:	Get a working knowledge of economics of health.
CO 2:	Understand the present health condition of India and the world.
CO 3:	To be informative and able to understand the different health indicators.
CO 4:	Describe key behaviours that affect a consumer's health status and the cost of health care overall.

CO 5:	Identify the concepts of healthcare financing and payment for healthcare.
CO 6:	Be able to provide an overview of how health insurance works and to compare and contrast different types of health insurance.
	MONETARY ECONOMICS : G 513.3
CO 1:	Understand origin and development of money.
CO 2:	Obtain the knowledge and understanding of the theoretical basis for money circulation, monetary policy, mechanisms of money creation.
CO 3:	Be informative about different theories of value of money.
CO 4:	Understand the concept of value of money and its determination, working of monetary economy, banking system, money and capital markets, international financial institutions and their relationship with India.
CO 5:	Informative about currencies and exchange values of different countries currencies.
CO 6:	Understand the role of central bank of the country and its functioning.
	INDIAN ECONOMY G 513.3E
CO 1:	Understand the nature of Indian Economy, GDP, demographic profile, natural resources.
CO 2:	Informative about all the three sectors and sectoral reforms, economic planning and steps taken for development of Indian Economy.
CO 3:	Students will be knowledgeable about fundamental problems of Indian economy.
CO 4:	Be informative about various initiatives of the Government of India to irradiate poverty and provide employment.
CO 5:	Be aware about reforms of different sectors of Indian economy.
CO 6:	Students will understand the importance of different institution like NITI Aayog and Panchayath Raj in India.
	INTERNATIONAL TRADE AND PUBLIC FINANCE :G 513.4
CO 1:	The student will be acquainted with economic concepts and models of international trade .
CO 2:	Explain the different concepts of terms of trade , the structure of BOP, disequilibrium in BOP, causes of disequilibrium , describe the foreign exchange rate and determine its equilibrium exchange rate and explain the objectives of IMF and IBRD.
CO 3:	Understand the meaning of public finance; its nature, subject matter, explain the

	differences between public finance and private finance and differentiate between the public and private goods
CO 4:	Classify the public revenue and its various sources; revenue receipts and non-revenue receipts, understand the tax and no-tax revenues, the causes of increasing public expenditure in the modern economies
CO 5:	Explain the varying effects of public expenditure on the economy and role of public expenditure in a developing economy
CO 6:	Understand the various sources of government borrowing and the reasons behind the growing public debt, describe how the debt is repaid, the role of public debt in developing countries, explain the concept of debt trap.
	QUANTITATIVE ECONOMICS G 513.4E
CO 1:	Helps to understand the basic concepts of economics.
CO2:	To train the students to use linear functions and its applications in economic analysis.
CO 3 :	To equip the students to use non-linear functions in economic problems.
CO 4:	Helps to have basic knowledge on production and market equilibrium.
CO 5 :	To be able to understand revenue and cost analysis.
	CO 6 : Helps to understand various types of market structures using differential and integral calculus.
	MATHEMATICAL ECONOMICS G 513.5A
CO1:	Demonstrate a knowledge and understanding of the mathematical concepts and methods used in economics
CO2:	Demonstrate the facility to express economic ideas in the language of mathematics.
CO3:	Analyze and evaluate economic models by using formal mathematical methods.
CO4:	Demonstrate an understanding of the rules of differentiation as they apply to multivariable functions
CO5:	Find solutions to unconstrained optimization problems by identifying relative and global maximums and minimums of single and multivariable functions
	CO6: Use integration and matrix algebra techniques in economic analysis
	DEVELOPMENT ECONOMICS G 513.5B

CO 1:	A comprehensive understanding of economic progress and welfare. Students will be equip to calculate various indices like HDI, GDI, GII & MPI.
CO 2 :	A detail analysis on various country profiles and understanding the development models adopted by those countries.
C0 3 :	Helps to select appropriate model for the economic development and growth of the countries.
CO 4 :	Capital budgeting tools equip the students to make a best decision in selecting the projects.
CO 5 :	An attempt is made to critically evaluate population as growth promoting factor or retarding factor.
CO 6 :	Helps to understand the interlinkages between agriculture and industry, there by economic development
	INDIAN ECONOMICS G 513.6A
CO 1:	Understand the nature of Indian Economy, GDP, demographic profile, natural resources.
CO 2:	Informative about all the three sectors and sectoral reforms, economic planning and steps taken for development of Indian Economy.
CO 3:	Students will be knowledgeable about fundamental problems of Indian economy.
CO 4:	Be informative about various initiatives of the Government of India to irradiate poverty and provide employment.
CO 5:	Be aware about reforms of different sectors of Indian economy.
CO 6:	Students will understand the importance of different institution like NITI Aayog and Panchayath Raj in India.
	ECONOMETRICS G 513.6B
CO 1:	Helps to understand the application of econometrics in various field like commerce, management, science and economics etc.
CO 2 :	Regression model in the economic theories & problems will be applied to find the best statistical inference.
CO 3 :	A comprehensive understanding of dummy variable using statistical software.
CO 4 :	To equip the students to understand the inconsistency of OLS method.
CO 5 :	To understand the game theory and its applications.
CO 6 :	Research methodology helps to study the different paradigms of research and its applications in various fields.

Gender Equity- Foundation Course	
Program Specific outcomes	
PSO1	Understand and Recognise the epistemological and methodological diversity and character of various concepts related to gender and sex
PSO2	Analyse the impact of various social institutions and power structures on the lives of women
PSO3	Evaluate the various state, national and global initiatives to reduce the gender gap
PSO4 Engage in promoting gender justice and human rights	
Course outcomes	
CO 1	Understand and differentiate the basic concepts of gender, sex, patriarchy, matriarchy, roles and stereotypes.
CO 2	Discuss and analyse the status of women in India during different periods of history to the modern times
CO3	Explain gender inequities, social practices and its impact on women's health, nutrition, access to education, economic and reproductive rights.
CO4	Articulate and contextualise the connections between regional, national and global contemporary women's issues.
CO 5	Aware of the constitutional rights, laws and legislations governing the rights of women
CO6	Describe the national and state initiatives taken to address the gender inequities and promote gender justice.

FOUNDATION COURSE IN HUMAN RIGHTS

II DEGREE (COMPULSORY PAPER)

G 701.3 (III Semester BBA/ BCOM/BSc/BA / BC

PROGRAMME SPECIFIC OUTCOMES (PSOS)	
PSO1:	Discuss the philosophy, and history of Human Rights to recognize the nature and evolution of Human Rights and learn the conceptualisation of Human Rights
PSO2:	Demonstrate empathetic social concerns and equity-centred global development and the ability to act with an informed awareness to interpret and create responses to prevent violation of Human Rights.
PSO3:	Generate social concern and interdisciplinary perspective to critically assess the challenges in promoting justice, thereby inculcate the values of tolerance, progressiveness and fraternity to promote healthy and prosperous global society.
Course Outcomes (COs)	
CO1:	Define and describe the concept, nature, origin and classification of Human Rights
CO2:	Explain the role of IGO's and NGO's, and recall the articles related to Covenants and UDHR
CO3:	Assess the marginalised groups in connection with Human Rights
CO4:	Examine the status of rights in India and develop ways to address the issues and challenges
CO5:	Analyze and assess the remedies available against Human Rights violations in India

FOUNDATION COURSE IN INDIAN CONSTITUTION

PROGRAMME SPECIFIC OUTCOMES (PSOS)	
PSO1:	Discuss the philosophy, Fundamental Rights, Duties and Directive Principles of State Policy as prescribed by the Indian Constitution and to recognize the nature and working procedures of legislature, executive and judiciary in India.
PSO2:	Demonstrate empathetic social concerns and equity-centred national development and the ability to act with an informed awareness of issues to participate in civic life through volunteering.
PSO3:	Generate an interdisciplinary perspective among students and thereby inculcate the values of tolerance, progressiveness and fraternity that contributes towards the making of a healthy and prosperous society.
Course Outcomes (COs)	
CO1:	State the need for a constitution the process of constitution-making basic principles enshrined in the Constitution of India
CO2:	Recall the intent of the framers of the Constitution and its interpretation in the context of balancing Justice Rights Directive Principles of State Policy Preamble and Governance.
CO3:	Describe the powers and functions of Government- Legislature Executive and Judiciary
CO4:	Discuss the functioning of regulatory authorities in India NITI Aayog Lobbying institutions such as trade unions farmers association etc.
CO5:	Demonstrate the importance of peace harmony rules regulations rights and duties for a responsible citizen.

FOUNDATION COURSE IN ENVIRONMENTAL SCIENCE

PROGRAMME SPECIFIC OUTCOMES (PSOS)	
PSO1:	Ability to recognize the need for learning the topic and develop foundational knowledge on the topic.
PSO2:	Ability to develop critical thinking and problem solving skills to solve interdisciplinary issues related to the topic.
PSO3:	Ability to understand the relationships between natural and man-made system.
PSO 4:	Ability to spread awareness about the environment around us, sustainable development and conduct outreach activities.
PSO 5:	Ability to gain empirical knowledge on the topic and contribute in decision making
Course Outcomes (COs)	
CO1:	Knowledge of the environment and the role of human beings in shaping the environment
CO2:	Understand various components of the environment and interfa
CO3:	Critically appreciate the environmental concerns of today

B.VOC-RETAIL MANAGEMENT	
PROGRAMME OUTCOMES	
PO1	To make students capable of the applicable National Occupational Standards (NOS) in the Retail Management industry in the national and global context
PO2	Students will be able to apply techniques, frameworks and tools to arrive at informed decisions in profession and practice.
PO3	Graduates will have a solid foundation to pursue professional careers and take up higher learning courses such as M. Voc., MBA, , M. Phil, Ph.D as well as research.
PO4	Graduates with a flair of self-employment will be able to initiate and build upon entrepreneurial ventures or demonstrate entrepreneurship for their employer organizations.
PO5	Graduate will recognize the need for adapting to change and have the aptitude and ability to engage in independent and life – long learning in the broadest context of socio-economic, technological and global change.
PO6	To provide students with a comprehensive understanding of the theoretical and applied aspects of retail management.
PO7	To inculcate all the desired skills to meet the needs of today's customer by procuring the desired merchandise from the retail stores for their personal use.
PO8	To equip students with skills required to bring the customers into the store and respond to their buying needs

PROGRAMME SPECIFIC OUTCOMES	
PSO	Develop the knowledge, skill and attitude to creatively and systematically apply in the Retail Management field
PSO	Develop fundamental in-depth knowledge and understanding of the techniques, principles, concepts, values, substantive rules and development of the core areas of Retail Management.
PSO	Function effectively as an individual, and as a member or leader in teams, and in multidisciplinary settings by demonstrating life skills, coping skills and human values.
PSO	Explain theoretical framework of Retail Management Demonstrate the job

	role of Sales Associate
PSO	Demonstrate the job role of Team leader in retailing sector Demonstrate the job role of Departmental Manager in an organised retail sector
COURSE OUTCOMES	
BV 114.1	**INTRODUCTION TO RETAILING** Establish and satisfy customer needs Monitor and manage store performance Provide leadership for your tea
BV 115.1	**ELEMENTS OF SALESMANSHIP** This paper provides comprehensive knowledge of Store Location, layout and operations
BV116.1	**BV 116.1 PRINCIPLES OF MANAGEMENT** Describe what management is. Explain the primary functions of management. List and describe the types of plans and common planning tools.
BV 117.1	**FUNDAMENTALS OF CUSTOMER SERVICE** To help students understand the critical need for service orientation in the current business scenario. To help customers choose right products To create a positive image of self and organization in the customers mind
BV 118.1	**STORE OPERATIONS-I PRACTICAL TRAINING** This module explains the different operating processes and their significance in running retail operations smoothly. It also helps develop necessary skills for planning, monitoring and controlling merchandise in a retail store.
BV 114.2	**STORES LAYOUT AND DESIGN** It provides comprehensive knowledge of Store Location, layout and operations
BV115.2	**BUSINESS ORGANIZATION AND ENVIRONMENT** Understanding the different environment in the business climate Understanding the minor and major factors affecting the business in various streams

BV116.2	**BRAND MANAGEMENT AND CONSUMER MARKETING** Understanding key principles of branding Explaining branding concepts and ideas in their own words Understanding and conduct the measurement of brand equity and brand performance
BV 117.2	**HUMAN RESOURCE MANAGEMENT AND INDUSTRIAL RELATION** Developing the understanding of the concept of human resource management and to understand its relevance in organizations. Developing necessary skill set for application of various HR issues. Analyzing the strategic issues and strategies required to select and
BV 111.**3**	**Personality And Soft Skills** Making the students groom their personality and prove themselves as good Samaritans of the Society. Consisting of individual or in-group class presentations pertaining to the applications of concepts, Theories or issues in human development
BV 112.3	**Health Safety And Environment** Accident prone areas and adopt methods for reducing accidents following safety precautions. Marking and evaluate performance of explosives. 4. Prepare profile with an appropriate accuracy as per safety precaution in workshop.
BV114.3	**RETAIL MANAGEMENT**- Establish and satisfy customer needs Monitor and manage store performance Provide leadership for your team
BV 115.3	**ADVERTISING AND SALES PROMOTION**- To make the students understand the importance of advertising and medias' role in advertising and Brand management. Establish and satisfy customer needs To process the sale of products
BV116.3	**VISUAL MERCHANDISING –** This module aims at learning basic visual merchandising concepts and theories essential in the store image, its merchandise, and displays.
BV117.3	**MARKETING FOR SERVICES** Examine the nature of services, and distinguish between products and

	services Identify the major elements needed to improve the marketing of services Develop an understanding of the roles of relationship marketing and customer service in adding value to the customer's perception of a service
BV111.4	**BEHAVIORAL SKILLS** Demonstrate the applicability of the concept of organizational behavior to understand the behavior of people in the organization. Demonstrate the applicability of analyzing the complexities associated with management of individual behavior in the organization.
BV 113.4	Taxation Law & Practice In Business Compute the assessable value of transactions related to goods and services for levy and determination of dutyϒ liability. Identify and analyse the procedural aspects under different applicable statutes related to indirect taxationϒ
BV114.4	**FUNDAMENTAL OF ACCOUNTING -** 1.This paper is aimed at providing comprehensive knowledge of maintenance of accounts under different agreements. Manage a budget to maintain the availability of goods for sale to customers
BV115.4	**RETAIL CONSUMER BEHAVIOUR** Measure, critique and interpret consumer behavior. Infer research data to create marketing strategies as a means of increasing consumer sales.
BV 116.4	**RETAIL SUPPLY CHAIN MANAGEMENT**- To create awareness about the supply chain activities taken in order to deliver the goods To organize the delivery of reliable service To maintain the availability of goods for sale to customers
BV 117.4	**MALL MANAGEMENT** Student are able operate Overall operation and maintenance of the entire building infrastructure, including the services and utilities, ensuring that they are used in a way that are consistent with the purpose for which it

	was acquired.
BV112.5	**Legal And Ethical Aspects Of Business** Explain fundamental aspects of laws relevant for a business entity Understand the principles of corporate governance and ability to implement and report compliance Create awareness and understanding of the ethical values
BV113.5	**BV 113.5 Entrepreneurship** Understand the concept of Entrepreneurship Explain the competencies of an Entrepreneur Explain the concept of types of feasibility study
BV 114.5	**GENERAL ECONOMICS-** This paper is to make the student understand how the business organizations work by applying economic principles in their Business Management. Establish and satisfy customer needs
BV 115.5	**MARKETING MANAGEMENT** Critically evaluate the key analytical frameworks and tools used in **marketing**. Apply key **marketing** theories, frameworks and tools to solve **Marketing** problems.
BV 116.5	**CUSTOMER RELATIONSHIP MANAGEMENT**- This course will enable the students to learn the basics of Customer Relationship Management. Understood Relationship Marketing Learnt Sales Force Automation Learnt Database Marketing
	BUSINESS ECONOMICS- This paper is to make the student understand how the business organizations work by applying economic principles in their Business Management. Establish and satisfy customer needs
BV 117.5	**E-COMMERCE**- Analyze the impact of **E-commerce** on business models and strategy. Describe the major types of **E-commerce**.

BV111.6	**General Project Management** The students will able to explain complex management situations based on knowledge and facts and respect for different
BV112.6	**Inventory Management** Understand terms that are frequently used in warehouse management Identify the goals and objectives of inventory management and measure your process against these goals
BV 113.6	.**INDUSTRIAL AND RURAL MARKETING** Categorize issues in rural & Industrial markets an Analyse marketing environment, consumer behaviour, distribution channels, marketing strategies, etc. in the context of rural and Industrial markets in India
BV 114.6	**RETAIL LOGISTICS MANAGEMENT]** Acquire practical application that is founded on sound theoretical knowledge and• learning Acquire a comprehensive and balanced understanding of both the retail and logistic• components
BV 115.6	. **IT AND ADMINISTRATION]** Explain how electronic data transmission is used for product and financial management. Evaluate the application of electronic data transmission for marketing, data management, loyalty and customer tracking.
BV 116.6	**OPERATIONS MANAGEMENT** Apply the 'transformation model' to identify the inputs, transformation processes and outputs of an organisation Describe the boundaries of an operations system, and recognise its interfaces with other functional areas within the organisation and with its external environmen
BV 117.6	**FRANCHISING MANAGEMENT** Describe the different franchising methods Identify the various advantages and disadvantages of franchising Discuss how prospective franchising can evaluate a franchisor and franchising opportunity

	Describe and understand the reasons for franchising a business
	PROJECT WORK –Subject Outcomes.: 1. To learn students the practical tactics of retail business 2. to process credit applications for purchases 3. to keep store secure
	COMPUTER PRACTICALS- To enhance the knowledge about the usage of the Computer and IT in retail business
	SOFT SKILLS - 1. After completion of the course students will be familiar with different aspects of personality and role of soft skills in personality development 2. To help customers choose right product 3. To create a positive image of self and organisation in the customers mind
	ENVIRONMENTAL STUDIES- 1.This paper is aimed at providing a comprehensive knowledge of mechanism of Ecological System 2. To maintain health and safety

B.VOC IN FOOD PROCESSING AND ENGINEERING	
PROGRAMME OUTCOMES	
PO1	Develop skill and expertise in post graduate scholars to work on projects for value addition of various food products.
PO2	PO 2. Generate adequate trained man power to work in food processing industries.
PO3	PO 3. Develop cadre of scholars for achieving entrepreneurial skills and self-employment opportunities in food processing sector.
PROGRAMME SPECIFIC OUTCOMES	
PSO	To relate the chemical composition of **foods** to their functional properties
PSO	To understand, plan, perform and analyse a range of chemical investigations with an emphasis on **food** analysis
PSO	To give a molecular rationalization for the observed physical properties and reactivity of major **food** component
COURSE OUTCOME	
BV-134.1 BASICS OF FOOD PROCESSING Outline the process of red and white meat slaughter, explain meat structure and inspect meat quality parameters. Demonstrate processing techniques used to produce a variety of Food Produccts. Work in teams to develop communication skills and company Good Manufacturing Practices	
BV-135.1 FUNDAMENTALS OF FOOD & NUTRITION Demonstrate knowledge and understanding of the fundamental concepts in food and nutrition. Demonstrate an in-depth knowledge of the roles and functions of principal nutrients and an awareness of functional foods. Demonstrate an understanding of the processes involved in digestion, absorption, metabolism and utilisation of each of the macronutrients and major vitamins and	

minerals.
BV-136.1– BASICS OF FOOD SAFETY AND REGULATORY ACT To create understanding of quality control and assurance system in food industry. To understand the risk assessments procedure for food sector. GMPs and GHP regulations in the food sector.
BV-135.2-FUNDAMENTAS OF FOOD CHEMISTRY AND MICROBIOLOGY 1. Students shall be aware of the underlying chemistry, properties and effects of processing on food components. 2. Understanding of food components reactions and their impact on sensory, nutritional, and functional properties of foods. 3. Ability to integrate chemistry and biochemistry principles into real-world food science and nutritional problems.
BV-136.2: INTRODUCTION TO FRUIT AND VEGETABLE PROCESSING 1. The students shall be able to understand Biological, Chemical & Physical Properties of Fruits & Vegetables. 2. The students shall be able to understand Technologies involved in Processing, Preservation & Value- Addition of Fruits & Vegetables. 3. Students shall be able to understand Industrial Processes for Commercial Production of Jams, Jellies, Marmalade, Fruit Juices, Concentutes
BV 134.3- INTRODUCTION TO BAKERY, AND CONFECTIONERY PROCESSING To teach about the baking and production principles of bakery and confectionery products. To understand the terms in bakery and confectionery. To exhibit the use of sanitation and safety practices in bakery production.
BV 135.3- FOOD ENGINEERING AND INSTRUMENTATION To Emphasis the various properties of the raw material used in food processing, different processing technologies required in transforming them into quality food products and material handling equipment involved in food processing operations.
BV 136.3- INTRODUCTION TO DAIRY TECHNOLOGY

1. How to do sampling of milk and milk products.

2. Physical, Chemical & Microbial analysis of milk and milk products.

3. Development of different milk products.

BV 134.4- INTRODUCTION TO MEAT, FISH AND POULTRY PROCESSING

1. Student shall know about the significance & necessity of organized animal product sector.

2. Students shall acquire the ability of value- addition to Meat, Poultry, Egg & Fish.

3. Student shall be well versed with processing, preservation & quality control of Meat, Egg & Fish in Food Industry

BV 135.4- BASICS OF FOOD PACKAGING

1. The different types of materials and media used for packaging foods.

2. Manufacturing processes for different packaging materials.

3. Quality testing techniques for different packaging materials.

BV 135.4-FOOD ADDITIVES AND PRESERVATIVES

1. Student shall gain a thorough knowledge of Chemical Nature, Analysis, Risk & Benefits of Food Additives.

2. Student shall gain a thorough knowledge of Antimicrobial Agents, Antioxidants & Anti Browing Agents.

3. Student shall gain a thorough knowledge of Synthetic Food Additives (Coloring Agents, Flavoring Agents).

BV 134.5- FOOD DRYING AND CONCENTRATION TECHNIQUES

To gain knowledge on drying principles and psychometric chart To apply the principles to solve problem on drying.

To understand different types of dryers for different food materials and assess the concept behind industrial dryers.

The basis for extension of storage life of foods by dehydration and compare and contrast methods for dehydrating different foods, and the onsequences in terms of food quality.

BV 135.5- SPICES AND PLANTATION CROP TECHNOLOGY

To gain knowledge in processing of plantation crops and spices and also its value

added products. To outline ways in which quality loss can be minimised during preparation and processing To develop value added products from plantation products and spices
BV 136.5- INTRODUCTION TO FERMENTATION TECHNOLOGY Evaluate factors that contribute in enhancement of cell and product formation during fermentation process. Analyse kinetics of cell and product formation in batch, continuous and fed-batch cultures
BV 134.6: - WASTE MANAGEMENT IN FOOD INDUSTRY Students will attain knowledge about the methods of managing food wastes. Students will gain knowledge on the methods for utilization of food wastes. Students will gain knowledge on getting value-added products from wastes

B.VOC. IN ANIMATION & MULTIMEDIA	
PROGRAMME OUTCOMES	
PO1	Animation Technology. To develop competencies and skills needed for becoming an effective Animator
PO2	Mastering traditional & digital tools to produce stills and moving images. Exploring different approaches in computer animation
PO3	To enable students to manage Animation Projects from its Conceptual Stage to the final• Product creation
PROGRAMME SPECIFIC OUTCOMES	
PSO	Understand the basic elements of art and/or design through art analysis
PSO	Learn how to use materials, tools and processes, effectively and safely to create original works of art.
PSO	Develop creative problem-solving strategies as a means to create strong artwork. Identify Western art in detail

COURSE OUTCOME

COMPUTER FUNDAMENTALS LAB

1. introduced to computer hardware and its various components.
2. Understanding different hardware devices and their applications.
3. Get the knowledge of MS Office, its options, features.

COMPUTER GRAPHICS LAB -

Gain awareness of common computer graphics software.

To understand different vector and Bitmap shapes and designs.

Enhance their ability to design and learn implementation of colors

FOUNDATION ARTS

- Understand the basic elements of art and/or design through art analysis.
- Learn how to use materials, tools and processes, effectively and safely to create original works of art.
- Develop creative problem-solving strategies as a means to create strong artwork.

HISTORY OF ANIMATION-

- Describe past history of origin of animation.
- Understand the emergence of animation from different countries.
- Understand the importance and the rise of computer animation

SCRIPT WRITING & STORY BOARD

- Create a story which involves turning points, setups, climax. etc.
- Create a series of legible storyboard as required by the script.
- Understand Pre- Production process.

PRODUCTION TECHNIQUES

- Understanding the process of voice tracking.
- Implementing the concepts of transitions, layering, Video capture.
- Learning different types of audio/ video formats

INTRODUCTION TO 3D TEXTURING

- Give detailed texturing and colouring to 3D characters or objects.
- Learn the importance of shaders and how to apply it.
- Understand different mapping done to enhance the details of the object.

2D ANIMATION LAB - ‘

- Gain knowledge about fundamental skills to produce traditional style animation.
- Have a better understanding about timeline, tools and features of the software.

VIDEO EDITING LAB-

- Understand the concepts of transitions, layering.
- Get acquainted with different audio/ video formats.
- Understanding the concept of video capture.

WEB TECHNOLOGY

Create and design websites.

Understand the development process and its principles to create a website.

Create different types of websites themes and do different modifications onto websites.

3D LIGHTING & CAMERA LAB

- Get detailed understanding of 3D cameras.
- Create camera animations.
- Understand different alignments. Parameters and lens settings

COMPOSITING LAB

Composite footages like color correction, color grading, Tracking, Stabilizing and adding various effects.

The program is widely used by motion-graphics professionals, website designers, and visual effect artists for post-production on digital films, DVD, video,

CINEMATOGRAPHY -

Meet the demands of the rapidly expanding media production industries or in the field of Photography or Videography and equip them with core skills.

Take up jobs with newspapers, magazines, advertising agencies, government agencies, industrial houses or work as freelancers.

3D RIGGING & ANIMATION-

Develop skills in creating objects and character animations.Understand the fundamental features of different controllers, wraps and modifiers, poses and postures.

Work with bone parameters and IK Solvers.

ADVANCED CHARACTER DESIGN–

- Understand different types of characters needed for animation and gaming.
- Understand lightings for different conditions.
- Create their own characters with construction.

VISUAL EFFECTS LAB

Study user interface of Fusion along with features & applications.

Develop skills in understanding node based features.

Get acquainted with the knowledge of rotoscoping, keying, tracking etc using node based technology.

DYNAMICS & EFFECTS

1. Create dynamic particle effects using particle systems.
2. Gain knowledge about 2D and 3D Fluid systems.
3. To Understand Active Passive Colliders.

ADVANCED 3D GRAPHICS LAB–

Create realistic digital sculpting using ZBrush.

Understand the workspace, buttons and palettes and use it more efficiently.

Create desired UV textures to give more subtle look to 3D characters or objects.

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