SREE NARAYANA COLLEGE, KOLLAM

Undergraduate Course Outcomes - BA/B.Com./B. Sc

Name of Department	Courses
ENGLISH	BA English Language & Literature
JOURNALISM	BA Journalism, Mass Communication & Video Production
MALAYALAM	BA Malayalam Language, Culture & Literature
	English & Malayalam Literatures
HINDI	BA Hindi Language & Literature
SANSKRIT	BA Sanskrit: Special Vedanta
ECONOMICS	BA Economics
HISTORY	BA History
PHILOSOPHY	BA Philosophy
POLITICAL SCIENCE	BA Political Science
MATHEMATICS	BSc Mathematics
PHYSICS	BSc Physics
	BSc Physics & Computer Applications
CHEMISTRY	BSc Chemistry
BOTANY	BSc Botany
BIOTECHNOLOGY	BSc Botany & Biotechnology
ZOOLOGY	BSc Zoology
COMMERCE	B Com

COMMON COURSE – ENGLISH LANGUAGE

Course code	Course title	Course outcomes
	SEMESTER I	
EN 1111.1	Language skills	CO 1: Students will acquire the basic language skills to understand language in various contexts through interactive classroom sessions CO 2: They will master the English language for personal and professional growth. They will be qualified to find employment in the modern globalized world CO 3: They will learn to connect literature with language learning
EN 1121	Writings on Contemporary Issues	CO 1: Sensitizes students to the major issues in society and the world. CO 2: Encourages them to read literary pieces critically and respond empathetically CO 3: Provides students with a variety of perspectives on contemporary issues
		SEMESTER II
EN 1211.1	Environmental Studies and Disaster Management	CO 1: Students are made aware of the need, scope and importance of environmental studies. CO 2: They are made to understand the transnational character of environmental problems and disaster management situations. CO 3: They develop sensitivity for the natural, physical and human resources in the immediate environment. They will acquire a set of values for environmental protection and conservation and nurture natural curiosity and creativity for the immediate surroundings CO 4: They get acquainted with the role of information technology in the environment and human health CO 5: They will learn to take lead in spreading environmental values and creating awareness among the public. They will be able to articulate environmental concerns using appropriate vocabulary.

EN 1212.1	English Grammar Usage and Writing	CO 1: Students gain a good understanding of modern English Grammar. CO 2: Mother tongue influence will be minimized and there will be an improvement in verbal communication skills
	SEMESTER III	
EN 1311.1	English for Career	CO 1: Students will be introduced to the language skills required for appearing in career oriented competitive examinations CO 2: Help students to develop the cognitive, logical, verbal and analytical skills necessary to succeed in competitive examinations CO 2: Students become familiar with the pattern of questions based on common models of competitive tests
EN 1311.1	Business English	CO 1: The paper aims to impart knowledge and understanding of the principles of business communication with special emphasis on the different forms of transactional writing
	SEMESTER IV	
EN 1411.1	Readings in Literature	CO 1. Students will be introduced to Global Literatures. They will learn to analyze and appreciate literary text sand the various cultures they embody CO 2. students will be sensitized to the aesthetic, cultural and social aspects of literature originating from all over the world CO 3: They will be motivated to further reading outside the class for enjoyment and pleasure CO 4. They will understand the use of the target language and make use of it in daily life

COMMON COURSE – ADDITIONAL LANGUAGE – MALAYALAM

Course code	Course title	Course outcomes
	SEMESTER I	
ML 1111.1	Malayala Kavitha (BA/BSc)	CO 1: Students are sensitized to the language, forms and types Malayalam Poetry. CO 2: Awareness of the diverse poetic devices and strategies. CO 3: Ability to read and appreciate poetry. CO 4: Enhances the level of literary and aesthetic experience. CO 5: Respond critically and creatively to the world around
ML 1111.2	Novel, Nadakam, Sanchara Sahithyam, Thirakkadha (B Com)	CO 1: Provides awareness on the history and its development of Malayalam drama. CO 2: Provides awareness of various stage concepts in the form of drama in Kerala. CO 3: Analyses and reads the script of Drama as a literature. CO 4: Students are equipped to analyze and appreciate Novels. CO 5: Develops skill for writing travelogues
ML1111.3	Gadyasahithyam (Career Related)	CO 1: Provides awareness on the history and its development of Malayalam prose literature. CO 2: Students are equipped to analyze and appreciate Malayalam prose literature.
ML1111.4	Gadyasahithyam (EML)	CO 1: Provides awareness on the history and its development of Malayalam prose literature. CO 2: Students are equipped to analyze and appreciate Malayalam prose literature.
	SEMESTER II	
ML 1211.1	Gadhyasahithyam (BA/BSc)	CO 1: Provides awareness on the history and its development of Malayalam prose literature. CO 2: Students are equipped to analyze and appreciate Malayalam prose literature.
ML 1211.2	Kavitha, Kadha,Upanyasam, Vivarthanam (BCom)	CO 1: Provides awareness on different types of approaches, doctrines and problems in translation. CO 2: Provides awareness on the history and its development of Malayalam poetry and Malayalam prose.

		CO 3: Upgrade the skill for using the language in various discourses.
ML1211.3	**Drisyakalasahithyam (Careerl Related)**	CO 1: Identifies prosperity and varieties of visual art culture of Kerala. CO 2: Introduces many visual arts (Kathakali, Thullal, Drama & Cinema) and literary lessons regarding them
ML1121.4	**Drisyakalasahithyam (EEML)**	CO 1: Identifies prosperity and varieties of visual art culture of Kerala. CO 2: Introduces many visual arts (Kathakali, Thullal, Drama & Cinema) and literary lessons regarding them
	SEMESTER III	
ML 1311.1	Drisyakala Sahithyam (BA/BSc)	CO 1: Identifies prosperity and varieties of visual art culture of Kerala. CO 2: Introduces many visual arts (Kathakali, Thullal, Drama & Cinema) and literary lessons regarding them
	SEM IV	
ML 1411.1	Asayavinimayam, Sargathmaka Rachana, Bhashavabhodham	CO 1: Improves the communication skill of students. CO 2: Provides practical training in translation. CO 3: Provides efficiency in handling Malayalam language with ease

COMMON COURSE – ADDITIONAL LANGUAGE - HINDI

Course code	Course title	Course outcomes
	SEMESTER I	
HN 1111.1	**Hindi Katha Sahitya-**	CO 1: Familiarize different prose forms. CO 2: To understand the features of One Act Plays. CO 3: To understand the difference between Drama & One Act Plays
HN 1111.2	Prose, Commercial Hindi and Letter Writing	CO 1: To understand and appreciate Hindi Prose. CO 2: To enrich the knowledge of commercial letter writing and the forms and styles of other letters
HN 1211.1	Novel and Short Story	CO 1: To understand the distinct features of Hindi Novels. CO 2: Identify the difference between Novel and Short story. CO 3: Familiarize famous Novelists and short story writers
HN 1211.2	Poetry, Translation and Technical Terminology	CO 1: To sensitize the aesthetics of literary appreciation and to introduce Hindi Poetry. CO 2: To gain communication skills in Hindi and English through Translation. CO 3: To familiarize the technical terms used in offices.
HN 1311.	Poetry and Gramma	CO 1: To introduce ancient and modern Hindi poetry. CO2: To sensitize the aesthetic aspects of literary appreciation and analysis CO 3: To understand the structure and practice of Hindi. CO 4: To clarify the aspects of ancient and modern poetry
HN 1411.1	Drama, Translation and Correspondence	CO 1: Analyze the dramatic elements in literature. CO 2: To understand the distinct features of Hindi Drama. CO 3: To understand the process of translation and the qualities of translation. CO 4: To familiarize official correspondence in Hindi

OPEN COURSES

Course code	Course title	Course outcomes
EN 1551.1	Communicative Applications in English	CO 1: Learners majoring in some subject other than English will have a working knowledge of the type of English that is required in real life situations, especially the globalized workplace. CO 2: Well trained to write clear, well-framed, polite but concise formal letters and e-mails for a variety of purposes CO 3: Acquire some of the soft-skills that go hand in hand with English –namely, the ability to prepare for an interview and face it confidently, the ability to participate boldly in a group discussion and contribute meaningfully to it, the ability to make a simple and interesting presentation of 5-10 minutes before a mixed audience on anything that they have learned in the previous semesters of the UG program
ML 1545	Chalachithrapadanam	CO 1: Provides awareness of Malayalam, Iranian, Hollywood, Japanese, Hindi, and Tamil films. CO 2: Defines Cinema as an art and industry.
EML1551.1	Malayala Chalachithra Padanam	CO 1: Get General information on the history of Malayalam Films CO 2: Compare Films historically and formally CO 3: Acquire knowledge of film-making experiments CO 4: Gain knowledge of persons and their contributions to the film industry CO 5: Interdisciplinary studies on film-related aspects CO 6: Create appreciative writings
HN 1551	Communicative Hindi	CO 1: To get general awareness of Hindi. CO 2: To understand opportunities in Hindi. CO 3: To familiarize Hindi as Official Language & National Language

SV 1551	Sanskrit to modern age	CO 1: To facilitates the students of other faculties to get some general awareness in the rich heritage od Sanskrit and in the various thoughts of Indian Philosophy CO 2: To make the students of other faculties interested in Sanskrit language and its contribution in various areas of knowledge such as Medical Science, Political Science and Philosophical thought
JC1551.1	Film appreciation	CO1: Students would gain insight into the evolution cinema and its origin CO2: Students will have good knowledge on cinema language and its visual components CO3 Students would have knowledge of Malayalam cinema and to adapt Malayalam literary works
EC1551.2	Human Resource Management	CO 1: Provides basis for understanding the significance of human resources in the growth of our economy and society and to learn the ways for integrating human resources management strategies in organizations
HY 1551.3	History of Human Rights Movements	CO 1: To understand about the constitutional remedies of human right violations. CO 2: Familiarize the various agencies constituted to protect Human Rights CO 3: To analyse the ideological foundations of Human Right Movement CO 4: To evaluate the process of the historical development of human rights in History CO 5: To focus on the importance of the knowledge as an academic discipline.
PL1551.1	Fundamentals of Logical Reasoning/ open course -1	CO1: To familiarize the students about the fundamentals of logical reasoning CO 2: Understand and apply the fundamental techniques of logical reasoning CO 3: Describe categorical propositions and immediate inferences CO 4: Assesses mediate inferences and the method of

		deduction CO 5: Explain the principles of science Co 5: Analyze the form of inductive reasoning
PS 1551.2	Human Rights in India	CO 1. To highlight the concept of Human Rights, its evolution, and its importance in our society CO 2. To make an understanding of various rights, including political, civil, social, economic and cultural rights CO 3. To familiarize the Human rights condition in India including constitutional provisions CO 4. To equip the students with the skills to evaluate the Human Rights enforcement methods
PE1551	Health and Fitness Education	CO1: To enable the students to lead concepts of health, physical education, and healthy lifestyle. CO2: To provide information about the scientific basis and benefits of physical activity. CO3: To provide awareness of exercises and fitness training, Hypo-kinetic diseases, and their management. CO4: To impart knowledge regarding nutrition, posture, and first aid measures. CO5: To give a brief awareness about yoga and stress management and their influence on society.
MM 1551.1	Operations Research	CO1: Formulate a linear programming problem and solve it using a graphical method or simplex method. CO2: Solve transportation problem and assignment problem. CO3: Analyse project networks using PERT and CPM.
PY1551.5	Energy physics	CO1: To understand various energy systems, related energy technologies, their availability, merits, and demerits in relation to natural and human aspects of the environment and energy applications. CO2: To know about solar, wind, biomass, tidal, wave and chemical energies. CO3: To know the effective energy management, energy storage, energy crisis and possible solutions.

		CO4: To suggest and design energy options for developing countries. CO5: To understand the impact due to non-conventional energy sources like global warming. CO5: To gain a solid foundation for developing the use of renewable and conventional energy systems in society.
PC 1581	**INTERNET AND WWW**	CO1: Discuss elementary internet concepts and history CO2: Make a successful internet connection CO3: Demonstrate simple principles of internet protocol (IP) addressing CO4: Use and customize a web browser CO5: Use e-mail to send and receive messages CO6: Create a website and publish a simple web page CO7: Use File Transfer Protocol (FTP) to perform file downloading and uploading CO8: Web search Tools CO: Demonstrate Internet search tools
CH1551.3	Environmental Chemistry	CO1: This course helps the students to learn the important multidisciplinary areas of bioinorganic chemistry and organometallic chemistry. CO2: The students will gain a thorough understanding of the classification of several organometallic reactions and able to idea about role of organometallic compounds. CO3: The students will get an insight in to analytical methods and techniques. CO4: The general principles of isolation of elements gives an understanding about how to isolate elements from their ores
BO 1551.1	Open Course - Horticulture	CO1: Understand economic importance of plant and plant product. CO2: Know the methods of plant propagation. CO 3: Understand the fruit & vegetables production technology

		CO4: Understand the scope & importance of floriculture. CO 5: Understand the methods of cultivation of different flowering plants CO 6: To understand about Bonsai and floral arrangements
BB1582	Food & Dairy Biotechnology	CO1: This course is for non-biotechnology students. Students from other disciplines are also can undergo this course to get basic knowledge in the application of Biotechnology in food processing, food spoilage, food preservation and dairy industry
ZO 1551.1	Public Health and Hygiene (Open Course)	CO 1: Students become aware of the essentials of public health and sanitation thereby warding off diseases and uplifting the living standards of the community CO 2: Students learn the principles of nutrition and dietetics CO 3: Students understand the ill effects of modern lifestyle CO 4: Students study the advantages of personal hygiene and sanitation
CO 1551.2	Principles of Management	CO 1: To provide knowledge on the fundamental principles and functions

BA ENGLISH LANGUAGE AND LITERATURE

Course code	Course title	Course outcomes
	SEMESTER I	
EN1141	Introduction to Literary Studies I	CO 1: Introduce varied literary representations CO 2: Familiarize students with the nature and characteristics of literature CO 3: Discuss the nature and characteristics of literature CO 4: Introduce two key genres of literature, poetry and drama CO 5: Possess a foundational understanding of poetry and drama
EN 1131	Popular Literature and Culture (Compl)	CO 1: Encourage the students to think critically about popular literature CO 2: Understand the categories of the "popular" and the "canonical" CO 3: Identify the conventions, formulas, themes and styles of popular genres such as detective fiction, the science fiction and fantasy, and children's literature CO 4: An assessment of the literary and cultural value of popular texts CO 5: Sensitize students to the ways in which popular fiction reflects and engages with questions of gender, identity, ethics and education
HY 1131.2	History of Modern World Part I. (Compl)	CO1: To understand the theoretical and ideological background of revolution and its impact CO2: To understand the political, socio-economic, changes of the 19th century world CO3:To analyze the process of economic Revolutions CO4-To evaluate the new trends and ideas
	SEMESTER II	
EN 1241	Introduction to Literary Studies II	CO 1: Cherish a taste for the literary among student's CO 2: Comprehend the nature and characteristics of different genres of literature CO 3: Detailed awareness of the two key genres of literature – fiction and non-fiction CO 4: Imbibe the representational possibilities of the respective genres

		CO 5: Instil a creative and critical aptitude
EN 1231	Art and Literary Aesthetics (Compl)	CO 1: The student will be able to engage with literature in a broader, educated perspective CO 2: The student will be able to think with greater originality and independence about the complex interrelationship between different art forms CO 3: The student will be trained to engage sensitively and intelligently in new readings of literature CO 4: The course develops an understanding of the co- relation between literature, film, music and painting and encourages ways of reading and seeing which deliver insights into literary texts CO 5: Initiate students to implement the multidisciplinary scope of art and literary studies
HY 1231.4	History of Modern World Part II. (Compl)	CO1: To understand stages of colonialism and colonial expansion CO2: To understand the political outcome of world war I CO3: To analyse the process of socialist revolution in Russia CO4: To critically evaluate the socialist policies
	SEMESTER III	
EN 1341	British Literature I	CO 1: Comprehend the origins of English literature CO 2: Understand the specific features of the particular periods CO 3: Understand themes, structure and style adopted by early British writers CO 4: Gain knowledge of growth and development of British Literature in relation to the historical developments CO 5: Understand how writers use language and creativity to capture human experience through different literary forms
EN 1321	Evolution of the English Language	CO 1: Knowledge of the paradigm shifts in the development of English CO 2: Well aware of the historical paradigm shifts in the history of English Language CO 3: Imbibe the plural socio cultural factors that went in to the shaping of the English Language CO 4: Place English language in a global context CO 5: Recognize the politics of many ‘Englishes’

EN 1331	Narratives of Resistance (Compl)	CO 1: Be able to identify themes of resistance in different forms and genres of literature. CO 2: Have a sense of the various kinds of injustice related to race, ethnicity, gender etc. prevalent in society. CO 3: Develop an idea of literature as a form of resistance to all forms of totalitarian authority. CO 4: Understand the inter connection between various genres in manifesting resistance CO 5: How resistance is an undeniable presence in the everyday narratives of literary and other artistic expressions.
HY 1331.6	History of Modern World Part III Compl)	CO1: To understand the theoretical and ideological CO2: To understand the process of World War II CO3: To analyze the post war developments in the World CO4: To critically evaluate the role of India in the post war world
	SEMESTER IV	
EN 1441	British Literature II	CO 1: Sensitize students to the changing trends in English literature in the 18th and 19th centuries and connect it with the sociocultural and political developments. CO 2: Develop the critical thinking necessary to discern literary merit CO 3: Be able to recognize paradigm shifts in literature CO 4: Be able to identify techniques, themes and concerns CO 5: Connect literature to the historical developments that shaped the English history
EN 1442	Literature of the 20th Century	CO 1: Understand social, political, aesthetic and cultural transformations of early twentieth century in relation to literary texts with their specific formal features. CO 2: Know the stylistic features of Modernism and its various literary and aesthetic movements CO 3: Critically engage the ideas that characterize the period, especially the crisis of modernity CO 4: Understand contemporary responses to the historical incidents that mark the period CO 5: Understand and use critical strategies that emerged in the early twentieth century.

EN 1431	Philosophy for Literature (Compl)	CO 1: Have a diachronic understanding of the evolution of philosophy from the time of Greek masters to 20th century CO 2: Have an awareness of the major schools of thought in western philosophy. CO 3: Have a healthy epistemological foundation at undergraduate level that ensures scholarship at advanced levels of learning. CO 4: Talk about some of the key figures in Philosophy. CO 5: Analyze and appreciate texts critically, from different philosophical perspectives
HY 1431.8	Contemporary World (Compl)	CO1: To understand the theoretical and ideological concepts of neo colonialism CO2: To understand the growth and role of third Worlds CO3: To analyze the process and functions of post-world war organizations CO4: To critically evaluate and debate on the contemporary issues of the world
	SEMESTER V	
EN 1541	Literature of Late 20th Century and 21st Century	CO 1: Identify the various socio-cultural changes that evolved in the late modernist period CO 2: Relate to the diverse currents of postmodern literature and its reflections in the contemporary ethos CO 3: Assimilate the inherent multiplicities and fluidity of societal perspectives CO 4: Develop an innate sympathy for the tragedies of Holocaust and an awareness regarding the environmental impasses threatening the modern world CO 5: Empathize with the marginalized and comprehend their predicament.
EN 1542	Postcolonial Literatures	CO 1: Ability to critique colonial history CO 2: Awareness of the socio-political contexts of colonialism and postcolonialism CO 3: Understanding of the effects of colonialism in various nations CO 4: Knowledge of the key terms in post-colonial thought CO 5: Study of the race and gender dynamics in postcolonial literature

EN 1543	20th Century Malayalam Literature in Translation	CO 1: Generate knowledge about the varied milieu of the development and growth of Malayalam literature and be sensitive to its socio cultural and political implications. CO 2: Get a basic knowledge of the literary and the non-literary works produced in Malayalam CO 3: Discern the vibrancy of Malayalam literature CO 4: Sense the distinctness of the socio-cultural arena in which Malayalam literature is produced CO 5: Know the value of literature produced in regional languages and key role of translation in the growth of language and literature.
EN 1544	Linguistics and Structure of the English Language	CO 1: Understand the phonological and grammatical structure of English Language CO 2: Be able to analyze actual speech in terms of the principle of linguistics CO 3: Improve the accent and pronunciation of the language CO 4: Introduce the students to internationally accepted forms of speech and writing in English. CO 5: Explore the ancient linguistic tradition of India
EN 1545	Criticism and Theory	CO 1: Analyze and appreciate texts critically, from different perspectives. CO 2: Appreciate Indian Aesthetics and find linkages between Western thought and Indian critical tradition. CO 3: Show an appreciation of the relevance and value of multidisciplinary theoretical models in literary study. CO 4: Demonstrate an understanding of important theoretical methodologies and develop an aptitude for critical analysis of literary works. CO 5: Gain a critical and pluralistic understanding and perspective of life
	SEMESTER VI	
EN 1641	Gender Studies	CO 1: Recognize the patriarchal bias in the formation of history and knowledge. CO 2: Analyze the ways in which gender, race, ethnicity class, caste and sexuality construct the social, cultural and biological experience of both men and women in all societies.

		CO 3: Recognize and use the major theoretical frames of analysis in gender studies CO 4: Interrogate the social constructions of gender and the limiting of the same in to the male-female binary in its intersections with culture, power, sexualities and nationalities CO 5: Examine gender issues in relation to the sustainable goals of development
EN 1642	Indian Writing in English	CO 1: Make students aware of different aspects of colonization like cultural colonization. CO 2: Trace the historical and literary genesis and development of Indian Writing in English CO 3: Acquaint them with the major movements in Indian Writing in English across varied period and genres CO 4: Address the plurality of literary and sociocultural representations within Indian life as well as letters. CO 5: Enhance the literary and linguistic competence of students by making them aware of how language works through literature written in the subcontinent
EN 1643	Film Studies	CO 1: Recognize the language of films and use it creatively CO 2: Analyze films from both technical and nontechnical perspectives CO 3: Engage questions of social justice and gender justice by critiquing representations of culture CO 4: Use film as a medium of communication CO 5: Derive an interest in various careers related to film
EN 1644	World Classics	CO 1: Understand the study of Classics as a means of discovery and enquiry into the formations of great literary works and how the rich imagery of these classical works continues beyond the twentieth century. CO 2: Recognize the diversity of cultures and the commonalities of human experience reflected in the literature of the world. CO 3: Imbibe a fair knowledge in the various Classical works from different parts of the world, at different time periods, across cultures.

		CO 4: Examine oneself and one's culture through multiple frames of reference, including the perception of others from around the world. CO 5: Develop an aesthetic sense to appreciate and understand the various literary works with a strong foundation in the World Classics.
EN 1661.1	Translation Studies	CO 1: Comprehend and practice the skills required to become a professional translator CO 2: Help learners recognize the art involved in translation and encourage translation as a profession CO 3: Acquire clarity regarding problems of translation CO 4: Procure and improve language and vocabulary skills CO 5: undertake an independent translation project
EN 1661.4	English for the Media	CO 1: Generate interest in various aspects of media and thereby to equip them with the basic writing skills required for the same. CO 2: Enable the students to take up jobs in the media industry- both in the print, broadcast and the new media. CO 3: Equip the students with the necessary writing procedures so that they can initiate themselves into the media industry even without doing a specialized programme on the topic. CO 4: Promote their writings with the help of the new media CO 5: Instill confidence in learners to choose a profession in media.
EN 1645	Project	CO 1: Equips students to identify and choose a topic of interest in the related subject for in depth study and analysis CO 2: Familiarizes the student to arrange and scrutinize the data collected, prepare a structured report, and present it CO 3: To come out with research abilities. CO 4: To flare up the research potentials and innovative capacities in students and to promote higher prospects in future studies.

BA JOURNALISM AND MASS COMMUNICATION

Course code	Course title	Course outcomes
	SEMESTER I	
JC 1141	Introduction to mass communication	CO1. Students would have a sound knowledge in the elements of communication CO2. Students would be familiar with different perspectives in this faculty CO3. Students would learn the application level in mass media along with the concepts of communication
JC 1142	Reporting	CO1. Students would be able to determine the value of news and identify newsworthy events CO2. Students would be able to familiarize themselves with basics and types of reporting on both print and electronic media CO3. Students would be able to create great understanding on newsroom operations and current trends in reporting.
JC 1171	Editing	CO1. Students would be able to familiarize themselves with the basics and art of editing CO2. Students would be able to develop skills for accuracy in writing CO3 Students would be able to understand the process of editing for various platforms
JC 1121	Methodology and theories of mass communication	CO1. Students would be able to gain knowledge in theoretical framework CO2. Students would be able to inculcate the perspectives of media content in different context CO3 Students would gain a systematic approach to the study of the effects of mass media on audiences and of the interactions between media, audiences and social systems
ML1131	Sargathmakarachana:Thathwavum Avishkaravum (Compl I)	CO 1: Gaining knowledge about various levels of creative writing. CO 2: Learn about the literary genres of poetry, short story, novel, drama and criticism. CO 3: Creates an environment for students to engage in literary writing on their own.
	SEMESTER II	

JC 1241	Introduction to environmental studies	CO1. Students would understand the values environmental conservation CO2. Students would be able to create awareness about sustainable development and manage hazard CO3 Students will be able to know about the issues like global warming or climatic variation or changes
JC 1271	Basics of audio-visual communication	CO1. Students would gain a good knowledge in sound and visuals CO2. Students would have better understanding of using audio-visual tools along with video production and video production CO3 Students will understand the importance of sound and light in videography and photography
ML1231	Madhyama Rachana: Thathwavum Avishkaravum	CO 1: Students become aware of various media. CO2: Familiarity with various stages of newspaper writing including news production, editorial writing, feature and interview. CO3: Fee char various categories like variety, feature and filming of radio programs are explored. CO4: Discuss about variety of television programs like news, features, interviews, tele films, etc. CO5: Learn about Malayalam films, short films, documentaries, script writing, script making etc.
	SEMESTER III	
JC 1321	Radio broadcasting	CO1. Students will understand different radio formats CO2. Students will gain knowledge in production aspects of radio broadcasting CO3 Students will be able to interview, make radio promos, jingles etc
JC 1341	Magazine journalism	CO1. Students will be familiar with various writing styles and good in topic selection CO2. Students would be able to understand the different narratives in magazine journalism and for online magazines CO3 Students will be able to create content, do editing and picture selection which is apt for the story
JC 1371	Photo journalism	CO1. Students will learn the fundamentals of photography CO2. Students will become capable for professional photography CO3 Students would know different branches of photography and may be self-employed

JC 1372	Introduction to television production	CO1. Students will be able to cover events and news-based stories using mobile phones and video cameras CO2. Students would acquire skills and techniques of television media production CO3 Students will be able to write scripts of TV news stories, special stories and on spot reporting
EN 1331.3	Creative Writing	CO 1: To facilitate an initiative for creativity and writing CO2: To augment a fervor for imagination and associated thoughts
	SEMESTER IV	
JC 1441	PR & corporate communication	CO1. Students would learn the definitions, concepts of PR, propaganda and persuasion CO2. Students would know the difference between PR and corporate communications CO3 Students would have clear understanding basic ethics and laws of PR
JC 1442	Advertising	CO1. Students would learn the development of advertising and basic concepts CO2. Students will gain knowledge of economy and social aspects of advertisements CO3 Students would know about advertising industry, its functioning, role and ethics
JC 1471	Introduction to cinema	CO1. Students would be able to analyse films historically and critically CO2. Students understand the techniques of film making process CO3 Students will have good understanding on film language and appreciation
JC 1472	Television broadcasting	CO1. Students would learn the haracteristics of television CO2. Students would have good knowledge on production of programmes CO3 Students will understand the inputs required for output of a programme
EN 1643	English for Media	CO1: To facilitate the usage of English in content creation in media. CO 2: To augment the students in being familiar with the employment of English usage.
	SEMESTER V	

JC 1541	Malayalam journalism	CO1. Students would be able to comprehend the present status of the newspapers and magazines in Malayalam. CO2. Students will be able to assess and understand new trends in circulation strategies and the competition in the market CO3 Students will understand the process of translation and syndication in news
JC 1542	Mass media management	CO1. Students will have good knowledge regarding the career choices and progression n media organizations CO2. Students should be able acquaint themselves with business challenges and to tackle them in media organizations. CO3 Student will have a sound knowledge regarding the business and entrepreneurial prospects in media industry
JC 1543	Media laws and ethics	CO1. Students would gain knowledge on the legal framework CO2. Students enhance their understanding about legal impact of journalism CO3 Students would be able clearly understand the laws regarding contempt of court as per the Constitution
JC 1571	Documentary film	CO1. Students would learn theoretical knowledge on historical evolution of documentary films CO2. Students would gain understanding on the current trends in documentary genre CO3 Students will be able to shoot themselves for documentary making
1572	Video Project (Practicals)	CO1: To augment and facilitate practical knowledge in documentary film production. CO 2: To understand the industry standards and current trends in video production.
JC 1576	Video Project	CO 1: Understand the storytelling role video production plays in society and the rhetorical power of stories to inform, to persuade, and to entertain. CO2: Identify the primary functions of scriptwriting, producing, directing, and editing for a documentary Film. CO3: Acquire fundamental digital camera operations and shooting/composition aesthetics.

		CO4: Edit video projects on the Adobe Premier Pro, FCP, Davinci Resolve and other editing softwares CO5 Create a documentary or short video production.
	SEMESTER VI	
JC 1641	Business journalism	CO1. Students understand the evolution of economic thinking and its current perspectives CO2. Students will know how business journalism is used in newspapers, magazines, television and online platforms CO3 Student would have good insight to report financial and economic news based on data and figures.
JC 1642	Introduction to new media	CO1. Students would gain understanding in communication and media technologies CO2. Students will be having knowledge of hardware, software including open source solutions and applications of computer technologies and web page design CO3 Students will have understanding of new technologies and its evolutions
JC 1643	Advanced television production	CO1. Students would be able to understand production of various television formats CO2. Students will have knowledge to do an on-screen presentation CO3 Students would gain knowledge to produce a TV programme
JC 1671	Development communication	CO1. Students will understand the concepts, meaning and models of development and paradigm shift CO2. Students acquire knowledge regarding roles of media in development CO3 Learner will know and understand development communication campaigns and importance of participatory communication
JC 1672	Media and society	CO1. Students would be able to understand problems pertaining in mass media practices CO2. Students will be able to understand the operational framework of institutions and societal interaction of mass media CO3 Students would understand new media and social change along with the relevance of digital divide

JC 1661.1	Science journalism	CO1. Students would be able to understand specialized knowledge and acquire skills in reporting science and technology CO2. Students would be able to inculcate the methods adapted in analysing subjects related to science CO3 Students develop great understanding in common topics related with science to prepare reports
JC 1661.2	Multimedia production	CO1: Students would be able to understand multimedia and architecture CO2: Students will have good understanding of all design techniques CO3: Students acquire skills for audition, sound booth operation and software required for multimedia projects
JC 1676	Project	CO 1: Understand the storytelling role video production plays in society and the rhetorical power of stories to inform, to persuade, and to entertain. CO2 : Identify the primary functions of scriptwriting, producing, directing, and editing for a documentary Film. CO3 : Acquire fundamental digital camera operations and shooting/composition aesthetics. CO4 Edit video projects on the Adobe Premier Pro, FCP, Davinci Resolve and other editing softwares CO5 Create a documentary or short video production.

BA MALAYALAM

Course code	Course title	Course outcomes
	SEMESTER I	
ML 1141	Novel – Charithravum padavum	CO 1: Students are sensitized to the aesthetic cultural and social aspects of Prose literature. CO 2: Students are equipped to analyse and appreciate Novels. CO 3: Ability for writing literary review critically. CO 4: Awareness of the Malayalam Novel history. CO 5: Awareness of the characteristics of contemporary Malayalam novels.
ML 1131.1	Kerala samskaram- I	CO 1: Provides awareness on cultural background of Kerala. CO 2: Enhances the level of National integrity and National values. CO 3: Helps to develop different views to study the cultural, political and historical aspects of language, literature and art forms of Kerala up to AD 1400.
SK 1131.2	Poetry and Grammar	CO 1: Understand the story of sreekrishna CO 2: Toget an awareness about the histiorical kavyas in sanskrit language and literature CO 3: to familiarize the ethical values of ancient indian tradition and its relevance CO 4: To acquire knowledge about the literary merits of sukumarakavi
	SEMESTER II	
ML 1241	NadakamCharitram, Padam, Prayogam	CO 1: Provides awareness on the history and its development of Malayalam drama. CO 2: Provides awareness of various stage concepts in the form of drama in Kerala
ML 1231.1	Kerala samskaram- II	CO 1: Provides awareness on cultural background of Kerala.

		CO 2: Provides awareness on the struggles and movements of the modernization of Kerala. CO 3: Helps to develop multicultural perspectives on the renaissance & contemporary Kerala.
SK 1231.2	Prose and Drama	CO 1: remember basic concept of ramayana CO 2: understand the epic and drama literature CO 3: understand the narrative methodology of epics CO 4: familiarize the dramas of bhasa
	SEMESTER III	
ML 1321	Adhunika sankethika vidyayum malayalabhasha padanavum	CO 1: Provides awareness on information technology. CO 2: Acknowledges about Malayalam computing. CO 3: Provides awareness on cyber literature of Malayalam.
ML 1341	Sahithya sinddhanthangal: Pourasthyavum paschathyavum	CO 1: Helps for the enhanced study of oriental and occidental doctrine. CO 2: Provides a critical perspective and capacity to compare various Indian and western critical schools. CO 3: Provides the history of aesthetics of India and the West
ML 1331	Paristhithi; Siddanthavum avishkaravum	CO 1: Provides awareness on sources of nature and problems related to them. CO 2: Provides awareness on Eco literature in Malayalam.
SK 1331.2	Poetics and Poetry	CO 1: Understand the famous poets bharavi and acarya dandi CO 2: To familiarize different types of kavyas and its definitions CO 3: Understand the sanskrit poetics CO 4: Understand the simplest form of language as verses and to understand the meening
	SEMESTER IV	

ML 1441	Malayala kavitha poorvakhattam (udayabharathi)	CO 1: Identifies the poetic schools of ancient and mid-centuries. CO 2: Introduces vivid historic stages of Malayalam poetry upto nineteenth century. CO 3: Identifies the timely evolutions happened in poetic language.
ML 1442	Malayala sahithya niroopananam	CO 1: Provides awareness on different branches of literary criticism in Malayalam. CO 2: Provides history of the origin, development and contemporary trends of Malayalam criticism. CO 3: Provides a critical perspective on the influences and aesthetic sensibility of Kerala.
ML 1431	Dalitezhuth, Pennezhuth: siddanthavum avishkaravum	CO 1: Identifies dalit (subaltern) literature in Malayalam. CO 2: Introduces the mostly emphasised feminist ideas in the recent studies of doctrines.
SK 1431	Drama and Prose	CO 1: Remember basic concept of ramayana CO 2: Understand the epic and drama literature CO 3: Understand the narrative methodology of epics CO 4: Familiarize the dramas of bhasa
	SEMESTER V	
ML 1541	Bhashashastram, bhashacharitram	CO 1: Analyses the history and function of language and the laws of language. CO 2: Analyze language units based on their phonological, morphological and syntactical levels.
ML 1542	Cherukathaapadanam	CO 1: Provides information about origin & growth of Malayalam short story. CO 2: Analyses various stages and trends of history of Malayalam short stories. CO 3: Introduces the masters and their works in historical and appreciational level.
ML 1543	Nadodi vijnaneeyam	CO 1: Provides critical evaluation of folk type cultural forms.

		CO 2: Introduces various genres and types of folklore. CO 3: Provides information about the cultural plurality of Kerala. CO 4: Provides awareness about cultural and scientific facts of folklores.
ML 1544	Jeevacharithram, Atmakatha, Yathranubhavam	CO 1: Develops skill for writing biographies, autobiographies, life experiences and travelogues. CO 2: Provides awareness on socio-political and cultural scenario of Kerala reflected in these genres.
ML 1545	Thirakkadhayum Cinimayum	CO 1: Provides awareness on Malayalam, Iranian, Hollywood, Japanese, Hindi and Tamil films. CO 2: Defines Cinema as an art and industry.
	SEMESTER VI	
ML 1641	Madhyamalokam	CO 1: Introduces the wide scope and power of media. CO 2: Provides awareness on the sources of new technology. CO 3: Provides information about the cultural growth of society through media. CO 4: Provides efficiency for appreciation and judgement of radio and television programmes
ML 1642	Malayala vyakaranam	CO 1: Students gain a good understanding of the grammatical structure Malayalam. CO 2: Understand the history and development of Malayalam language. CO 3: Provides awareness on dravida bhasha shastram.
ML 1643	Malayalakavithautharakhattam	CO 1: Provides information about the evolutions in Malayalam poetry from the beginning to twentieth century. CO 2: Provides information about post-renaissance trends in Malayalam poetry. CO 3: Analyses the entry of modernism historically and poetically.

ML 1644	Vivarthanam; siddhanthavum prayogavum	CO 1: Provides information about the characteristics and usefulness of translation in modern era. CO 2: Provides awareness on different types of approaches, doctrines and problems in translation. CO 3: Provides the history of translation.
ML1645	Project/Dissertation	CO 1: New ideas and perspectives are formed through thinking and investigative reading CO 2: Achieving comparative and analytical skills through literary approach CO3: Strengthens understanding of language and grammar CO 4: Self awareness to form original thinking and world view CO 5: Acquiring skills to publish papers in research journals

BA ENGLISH AND MALAYALAM LITERATURES

Course code	Course title	Course outcomes
	SEMESTER I	
EML 1131	Introduction to Literary Studies I	CO 1: Introduce varied literary representations. CO 2: Familiarize students with the nature and characteristics of literature. CO 3: Discuss the nature and characteristics of literature CO 4: Introduce two key genres of literature, poetry and drama. CO 5: Possess a foundational understanding of poetry and drama.
EML 1132	Introduction to Literary Studies II	CO 1: Cultivate a taste for the literary among students CO 2: Familiarize students with the nature and characteristics of different genres of literature. CO 3: Introduce two key genres of literature- fiction and non-fiction. CO 4: Imbibe the representational possibilities of the respective genres. CO 5: Instil a creative aptitude
EML1121	Vivara Sankethika Vidyayum Malayala Bhasha Padanavum	CO 1: Analyzes the possibilities in E-Malayalam and thinks analytically about language computing.
EML 1141	Adhunika Kavitha	CO 1: Gain the ability to draw general conclusions by recognizing the general nature of modern Malayalam poetry. CO 2: The linguistic and literary constitutional features of post-modern Malayalam poetry were creatively evaluated
EML 1142	Kerala Padanam I	CO 1: Understands the background with the cultural politics that paved the way for the development of language, literature and art forms in Kerala CO 2: Motivation to document the history and culture
	SEMESTER II	
EML 1221	Environmental Studies and Disaster Management	CO 1: Understand environmental crises and disaster management situations CO 2: Take lead in spreading environmental values and creating awareness among the public CO 3: Understand local environmental issues better

		CO 4: Respond in a better way to a natural calamity or disaster CO 5: Articulate environmental concerns using appropriate vocabulary
EML 1231	Popular Literature and Culture	CO 1: Encourage the learners to think critically about popular literature CO 2: Understand the categories of the "popular" and the "canonical" CO 3: Identify the conventions, formulas, themes and styles of popular genres such as fairy tales, detective fiction, science fiction, fantasy, children's literature, and comics. CO 4: Assessment of the literary and cultural value of popular texts CO 5: Sensitize the learners to the ways in which popular fiction reflects and engages with questions of gender, identity, ethics and education.
EML 1232	Art and Literary Aesthetics	CO 1: engage with literature in a broader, educated perspective. CO 2: think with greater originality and independence about the complex interrelationship between different art forms. CO 3: engage sensitively and intelligently with new readings of literature. CO 4: develop an understanding of the co-relation between literature, film, music and painting and encourages ways of reading and seeing which deliver insights into literary texts. CO 5: initiate students to implement the multidisciplinary scope of art and literary studies.
EML 1241	Noval Sahithyam	CO 1: Knows the evolutionary history of the formation of the novel as a form of literature in Malayalam. CO 2: Analyses the novel in terms of theme, language and emotional evolution CO 3: Comparative analysis of the basis of Indian Novels and World novels.
EML1242	Kerala Padanam II	CO 1: Understanding the cultural and political context that paved the way for the development of linguistic literature and arts in kerala along with the development of national consciousness.
	SEMESTER III	

EML 1331	British Literature	CO 1: Comprehend the origins of English literature CO 2: Understand the specific features of the particular periods CO 3: Understand themes, structure and style adopted by early British writers CO 4: Gain knowledge of growth and development of British Literature in relation to the historical developments CO 5: Understand how writers use language and creativity to capture human experience through different literary forms
EML 1332	Evolution of the English Language	CO 1: Knowledge of the paradigm shifts in the development of English. CO 2: Well aware of the historical paradigm shifts in the history of English Language CO 3: Imbibe the plural socio-cultural factors that went in to the shaping of the English Language. CO 4: Place English language in a global context. CO 5: Recognize the politics of many 'Englishers'
EML1341	Malayala Nadaka Shithyam	CO 1: Gained a historical understanding of theoretical presentation and evolution of theatre. CO 2: The influence of modernity is examined in terms of practicality in Malayalam place
EML 1342	Malayala Bhashasahithya Charithram	CO 1: There is a general understanding of the literature of the Malayalam language and its developmental evolution from its inception to the present day. CO 2: Manipravala introduces various literary forms and movements through the study of the history of oral and written literature.
	SEMESTER IV	
EML 1431	World Literatures	CO 1: CO1 To augment and facilitate an understanding of the world literature, its relevance and thematic significance. CO2 To create a fervor for the reading and appreciation of literatures around the world, and thus sharpen the existing sense of perspectives.
EML 1432	Narratives of Resistance	CO 1: Be able to identify themes of resistance in different forms and genres of literature.

		CO 2: Have a sense of the various kinds of injustice related to race, ethnicity and gender prevalent in society. CO 3: Develop an idea of literature as a form of resistance to all forms of totalitarian authority. CO 4: Understand the inter connection between various genres in manifesting resistance CO 5: How resistance is an undeniable presence in the everyday narratives of literary and other artistic expressions.
EML 1441	Bharatheeya Bhashasasthram	CO 1: Recognize the potential of language as a medium for language and language learning CO 2: Forms a general understanding of language and linguistics in grammar and linguistics
EML 1442	Malayala Bhashasahithya Charithram	CO 1: Introduction to the different ways in which Malayalam poetry came into being after the ancient poetics
	SEMESTER V	
EML 1531	Translation Studies	CO 1: Recognise the art involved in translation. CO 2: Get well versed in the uniqueness of language structures. CO 3: Learners take up translation as a profession. CO 4: Procure and improve language and vocabulary skills CO 5: Undertake an independent Translation Project.
EML 1532	Criticism and Theory	CO 1: Analyse and appreciate texts critically, from different perspectives. CO 2: Appreciate Indian Aesthetics and find linkages between Western thought and Indian critical tradition. CO 3: Show an appreciation of the relevance and value of multidisciplinary theoretical models in literary study. CO 4: Demonstrate an understanding of important theoretical methodologies and develop an aptitude for critical analysis of literary works. CO 5: Gain a critical and pluralistic understanding and perspective of life
EML 1533	Project/Dissertation	CO 1: To come out with research abilities. CO 2: To flare up the research potentials and innovative capacities in students and to promote higher prospects in future studies.

EML1541	Adhunkika Poorva Kavitha	CO 1: From the time Malayalam was formed as a literary language to the end of the nineteenth century CO 2: There is a general understanding of the chronological changes that have taken place in poetic language
EML1542	Cherukatha Padanam	CO 1: Evaluating Malayalam stores as a part of world fiction, literature, and history of Malayalam short stories. CO 2:
	SEMESTER VI	
EML 1631	English for the Media	CO 1: Familiarize students with the process of writing for the media CO 2: Make them familiar the specific use of English in the field of media CO 3: Generate interest in various aspects of media and thereby to equip them with the basic writing skills required for the same. CO 4: Enable the students to take up jobs in the media industry- both in the print, broadcast and the new media.
EML 1632	Linguistics and Structure of the English Language	CO 1: Understand the phonological and grammatical structure of English Language CO 2: Be able to analyse actual speech in terms of the principle of linguistics CO 3: Improve the accent and pronunciation of the language CO 4: Introduce the students to internationally accepted forms of speech and writing English CO 5: Explore the ancient linguistic tradition of India.
EML1641	Malayala Vyakaranam	CO 1: Awareness of the great grammatical tradition of the Malayalam Language and basic grammar of the Malayalam language
EML1642	Pourasthya Sahithya Meemamsayum Malayala Niroopanavum	CO 1: Recognizes Indian literary philosophy and develops critical intellect CO 2: The analytical text becomes subtle and theoretically formed in perspective CO 3: Understands the application and technique of decoration in poetry
EML1643	Project/Dissertation	CO 1: To come out with research abilities. CO 2: To flare up the research potentials and innovative capacities in students and to promote higher prospects in future studies.

BA HINDI

Course code	Course title	Course outcomes
	SEMESTER I	
HN 1131	Women's Literature in Hindi	CO 1: It sensitizes the growth of women"s writing. CO 2: Students gain an overall understanding of the major issues faced by women in the present era. CO 3: Get awareness about the feminist vision of Hindi women writers. CO 4: Students are trained to respond difficult situations they faced.
HN 1132	Cultural History of India	CO 1: To introduce the important events of Indian Culture. CO 2: To able to understand the cultural history in India and the Historical Developments. CO 3: Get awareness about the major features of Indian culture. CO 4: To able to understand the Difference between Indian Culture and Foreign Culture.
HN 1141	Hindi Prose	CO 1: To enrich the knowledge of Prose. CO 2: To understand the origin and development of Hindi Prose. CO 3: To familiarize different Prose forms such as Essays, Travelogue, Memoire etc. CO 4: To develop the ability to appreciate and Criticize prose
SK 1131.1	Poetry and Grammar I	CO1: Understand the basic principles of Sanskrit grammar CO2: Understand the sanskrit poetic tradition CO3: Get familiarized with historical kavyas in sanskrit CO4: Understand the early life of buddha CO5: Recognize the moral and ethical values reflected in the subhashitas
	SEMESTER II	
HN 1231	Special Author Kabeer Das	CO 1: To enrich the knowledge of the famous ancient poet Kabeer Das. CO 2: To understand the distinct features of Kabeer Das CO 3: To analyze the contemporary relevance of Kabeer Das

		CO 4: To familiarize Kabeer‟s Devotion, philosophy and mysticism
HN 1232	Eco-Literature	CO 1: To understand Eco Literature and the elements of different types of Poems and Stories CO 2: To familiarize the Transformation and its formation. CO 3: To understand the relationship between environment and human beings. CO 4: To analyze the major environmental issues and give suggestions
HN 1241	History of Hindi Literature upto Ritikal	CO 1: To understand the origin and development of the ancient Hindi Literature. CO 2: To familiarize the different trends of each Period. CO 3: To be familiar with great poets like Kabeer, Jayasi, Thulsi, Soor, Bihari. CO 4: To Analyze their thought and philosophy
SK1231.1	Poetry and Grammar II	CO1: Understand the basic principles of sanskrit grammar CO2: Remember the stories of indian epics CO3: Understand the significance of bhagavadgita CO4: Understand the features of modern sanskrit poetry
	SEMESTER III	
HN 1331	Comparative literature with Special Reference to Hindi and Malayalam	CO 1: To understand Comparative Literature and the use and nature of Comparative Literature. CO 2: To know about the similarities between Hindi and Malayalam Literature. CO 3: To get general awareness of Malayalam and Hindi Literature. CO 4: To introduce major writers of each literature and their thought and philosophy.
HN 1332	Development 0f Hindi as Official Language and Communicative Hindi	CO 1: To understand various forms of Hindi Language and power. CO 2: To develop communication skill in Hindi Language. CO 3: To introduce communicative Hindi and its forms. CO 4: To familiarize Language structure and vocabulary

HN 1341	History of Hindi Literature Modern period	CO 1: To understand modern trends of Hindi literature. CO 2: To realize the development of Prose, Novel, Story, Drama, Sketch, Diary, Report, Autobiography etc. CO 3: To understand modern and postmodern trends CO 4: To familiarize with prominent Hindi writers and their major works. CO 5: To realize the difference between modernism and post modernism.
HN 1321	Information and Computer.	CO 1: To update and extend basic information skills. CO 2: To review the basic concepts and functional knowledge in the field of informatics. CO 3: To give theoretical and practical experience in computing. CO 4: To realize the possibilities of computer in Hindi.
SK 1331.1	Prose and Fables	CO1: To understand the prose in sanskrit CO2: Understand the story of CO3: Understand the ideas of ancient indian stories CO4: To improvement student`s vocabulary for better reading and writing CO5: To understand the ideas of ancient indian stories for the betterment of life
	SEMESTER IV	
HN 1431	Indian Literature	CO 1: To understand the origin and development of ancient Indian Literature. CO 2: To realize the different trends of each period. CO 3: To be familiar with great writers and their thoughts and Philosophy. CO 4: To introduce Kannada, Marathi, Sanskrit and Tamil Poems and short stories.
HN 1432	Script writing and Advertisement	CO 1: To know the formation of script and Advertisement. CO 2: To understand the techniques and process of script writing. CO 3: To understand the form and procedure of advertisement. CO 4: To enrich the imaginative power and skill of art.
HN 1441	Hindi Drama and One Act Plays	CO 1: Analyze the dramatic elements in literature. CO 2: To understand the distinct features of Hindi Drama.

		CO 3: To understand difference between Drama and One Act Plays. CO 4: To understand the trends in Drama since 1960.
HN 1442	Premchand‟s Fiction novel and Short stories	CO 1: To enrich the knowledge of world-famous Hindi writer Premchand. CO 2: To understand Premchand‟s Novels and short stories. CO 3: To realize the theme, problems and style of Premchand‟s fiction CO 4: To estimate evergreen existence of Premchand
SK 1431.1	Drama and Kavya	CO1: Understand the outline of the orgin and development of sanskrit CO2: Get familiarized the dramatic style of bhasa CO3: Understand the kerala contribution to sanskrit literature CO4: Recognize the literary merits of sukumarakavi
	SEMESTER V	
HN 1541	Ancient Poetry and Epic Poem	CO 1: To understand the Ancient Poetry. CO 2: Familiarize the theme, thought and Philosophy of Ancient Poets. CO 3: To realize the difference between the poetries of Aadikal, Bhaktikal and Ritikal. CO 4: To introduce the dialects of Ancient Poetry. CO 5; To understand the prominent writers like Kabeer, Jayasi, Thulsi, and Soordas
HN 1542	Modern Poetry	CO 1: To enrich the knowledge of Modern Hindi Poetry. CO 2: To familiarize with prominent modern poets and their poems. CO 3: Analyze the Trends of Dwivedi Yug and Chayavad Yug. CO 4: Familiarize the poems of Pragativad, Prayogvad, Nayikavitha and Adyathan Hindi Kavithayem.
HN 1543	Hindi Fiction up to 1980	CO 1: Enrich the knowledge of Hindi Fiction up to 1980. CO 2: To understand the Novels up to 1980. CO 3: To Analyze the short stories up to 1980
HN 1544	Hindi Grammar: Theory & Practice	CO 1: To understand the grammar of Hindi Language and the structure of Hindi Language. CO 2: To know the Grammatical rules of Hindi Language.

		CO 3: To develop the skill to use of language without errors.
HN 1545	History of Hindi Language and Linguistics	CO 1: To understand the classification of Language and the development of Hindi. CO 2: To understand the Script. CO 3: To know the linguistics- Phonology, wordology, Morphology, Semantics and Syntax. CO 4: To know the development of Hindi Language. CO 5: To know the development of script such as Brahmi, Kharoshti and Devnagari.
	SEMESTER VI	
HN 1641	Post Modern Hindi Fiction From 1980 to 2000	CO 1: To familiarize post modernism, post culture and the theme and form of postmodern Hindi Fiction CO 2: To know the Prominent writers and their works since 1980 CO 3: To up to date the knowledge of contemporary Hindi Fiction. CO 4: To develop a general outlook of post modernism-postmodern culture-globalization liberalization-consumer culture.
HN 1642	Literary Criticism	CO 1: To understand the theories of Aesthetic pleasure and different schools of Indian Literary theories. CO 2: To familiarize modern Hindi literary thoughts and poetics and prosody. CO 3: To sensitize the student to the Western criticism. CO 4: To know the literary thoughts of Ancient and Modern western criticism.
HN 1643	Translation: Theory and Practice	CO 1: To familiarize the theory and practice of translation and the uses of translation. CO 2: To understand the process of translation and the qualities of a translator. CO 3: To get the ability to translation from English to Hindi and Hindi to English
HN 1644	Film: History and Production	CO 1: To understand the history of Indian Film, special reference to Malayalam, Hindi and Tamil. CO 2: To understand the genius, directors, actors etc

		CO 3: To realize the processing of film production like screen play, photography, editing, music etc. CO 4: Familiarize different types of film.
HN 1645	Dissertation	CO 1: It is to ensure that the student can apply his knowledge about language and literature. CO 2: To estimate the student domains of application, analysis, evaluation and critical thinking. CO 3: To enrich the students Research Quality and to widen the student's interest in the subject. CO 4: The Dissertation work may be text-based language study / grammar / translation / technology / Media and Communication
HN 1661	Journalism in Hindi	CO1: To introduce the origin and development of journalism in India. CO 2: To understand the development of journalism in Hindi. CO 3: To introduce the theory and types of journalism. CO 4: To develop the skill of journalism. CO 5: To understand the development of Hindi journalism in Kerala.

BA SANSKRIT

Course code	Course title	Course outcomes
	SEMESTER I	
SV 1131	Samskritha praveshaka	CO1: To course is designed to import knowledge about the basics of Sanskrit CO2: To introduce the essential grammar CO3: To important knowledge about Sandhi in Sanskrit Language CO4: To make students aware of Karakas in Sanskrit
SS. 1132	Sahitya paricaya	CO1: To create awareness of Sanskrit Poetry CO2: To introduce the Kavya literature CO3: To introduce Sanskrit meters and alamkaras CO4: To introduce Sanskrit drama
SV 1141	Methodology of vedantha	CO1: To introduce the student to the methodology of learning Vedanta CO2: To understand Sanskrit language and its special characteristics features CO3: To familiarize Sanskrit Language with emphasis of articulation os Sanskrit words and their easy usage CO4: To introduce the Philosophy of Vedanta and its Methodology
	SEMESTER II	
SV 1231	Linguistics	CO1: To make the students aware of the origin of languages use of speech, organs of pronunciation, grammatical unit of words, construction of sentences, and the chance of word meaning. CO2: To know about the origin and development of languages CO3: To compare the language, families with special reference to Indo- Aryan family CO4: To understand the structure of different languages CO5: To understand the change of meaning due to the semantic change

SV 1241	Vedantah sikshanam	CO1: To introduce the life and works of Sankaracarya the great teacher of Advaita CO2: To familiarize the method of teaching Vedanta from gross to subtle CO3: To introduce the concept of Atman
SY 1232	Vyakarana sikshanam	CO1: To make awareness in Sanskrit Grammar through Laghusiddhatha kaumudi CO2: To give knowledge about Subanta CO3: To give Knowledge about Tingantha CO4: To make awareness about Stree pratyaya
	SEMESTER III	
SN 1332	Basics of nyaya-vaiseshika philosophy	CO1: To give a general awareness of the fundamentals of Nyaya – Vaisesika philosophies relevant to Vedanta philosophy CO2: To give a precise knowledge of the categorical scheme of Nyaya Vaisesika CO3: To create sensibility of the characteristics of categories with all its subdivision CO4: To General awareness of the sources of Knowledge CO5: To aware the important tenets of Nyaya- Vaisesika
SV 1321	Informatics for sanskrit vedata	CO1: To introduce students the use of information technology and the thus enable them to utilities digital knowledge resources CO2: To review the basic concepts and functional knowledge in the field of informatics CO3: To review functional knowledge in a standard office package and popular utilities CO3: To create awareness about nature of the emerging digital knowledge and society CO4: To create awareness about social issues and concerns in the use of Digital technology

		CO5: To impart skills to enable students to use digital knowledge resources in learning
SV 1331	Bharatiya darsanaparicaya	CO1: To make an awareness about Indian philosophy in general CO2: To enable the students etymology and division of Darsanas CO3: To be an idea about Adavaitika Darsanas CO4: To make the students aware about the similarities and dissimilarities in Indian philosophy
SV 1341	Advaita paricaya	CO1: To awareness about the basic principle of Advitha Vedanta CO2: To enable students to understand the essential eligibility to study Advaita CO3: To introduce the basic principles of Advita CO4: To introduce the philosophy of Sreenarayana guru through one of his works
	SEMESTER IV	
SJ 1432	Jyothisa paricaya	CO1: To introduce the Pancanga CO2: To make general study of Pancanga CO3: To introduce Rasi and Nakshatra CO4: To study about calculation of Pancanga
SV 1431	Poetics in sanskrit and sanskrit literature	CO1: To aims at making a basic awareness of Sanskrit poetics CO2: To introduce the Literary theories in Sanskrit in general CO3: To enable the students to evaluate and enjoy the poetic excellence of Kavyas CO4: To introduce the Classical literature
SV 1442	Sruthi prasthanam	CO1: To create awareness about Vidya and Avidya CO2: To give knowledge about the request for Marga and Upasaka CO3: To equip the students with the knowledge of Para and Apara Vidyas CO4: To give the awareness of Karma
SV 1441	Smrti prasthanam	CO1: To ensure the basic awareness of Smrtiprasthana

		CO2: To introduce the concept of dharama and basic problems of human deal with Bhagavad Gita CO3: To make awareness about the eternity of Atman CO4: To make awareness about the relevance of the theory of karma CO5: To make awareness of contemplation
	SEMESTER V	
SV 1541	Tattvamasivicharam	CO1: To aims at imparting knowledge about the identity of jivatma and paramatma CO2: To create eagerness towards the knowledge of the self CO3: To refute the principles of sunyavada CO4: To give the students knowledge about the creation on the basis of trivitkarana CO5: To enable the student to acquire the knowledge of one's own self
SV 1542	Mithyatvanirnayam	CO1: To give an idea about the four states of Atman CO2: To give the knowledge about Pranava CO3: To enable the students about the theory of illusion
SV 1543	Pramana nirupanam	CO1: To aims at the study of the epistemology in Advaita Vedanta CO2: To define of Prama and Pramana CO3: To introduce Anumana and Upamana CO4: To introduce the Agama Pramana
SV 1544	Vedanthavakya samanvaya	CO1: To aims at introducing the Sutraprasthana in Vedanta CO2: To introduce the term Adhyasa and its definition CO3: To familiarize the students with the sutra form and the necessity of starting Brshmajijnasa CO4: To facilitate the students that all the Vedantavakyas are with the same intention to convey the meaning of Brahman
SV 1545	Prajojanasamiksha	CO1: To the detailed knowledge of Vishya and Prayojana in Advaita Vedanta

		CO2: To enable the student to know the two fold validity of Pramanas CO3: Two fold effects CO4: To make the awareness of liberation
	SEMESTER VI	
SV 1651	Mimasaparicaya	CO1: To give general awareness about Mimasa philosophy and its main tenets CO2: To give general awareness about Mimasa CO3: To introduce the methodology of Mimasa CO4: To familiarize students with the terms used in the Mimasa Philosophy and sacrifices
SV 1644	Aspashta-brahmalinga – vedantha- vakyani	CO1: To enable students how Sankara skillfully determines the meaning of the Upanishadic passages. CO2: To enable them to study more about the Sutraprasthana
SV 1643	Spahta-brahmalinga-vedantha- vakayani	CO1: To aims at imparting knowledge about the adhikarana method of Sutraprasthana CO2: To makes students more familiar with adhikarana sastra and Sankara's style in dialectics
SV 1642	Kerala contribution to vedanta	CO1: To impart knowledge about the modern Advaita Veanta Philosophers of Kearala CO2: To introduce Advaita tradition in Kerala after the period of Sankara CO3: To make awareness about the life, works and philosophy of Sri Narayana Guru, Natarajaguru and Nityacaitanyayati CO4: To make awareness about the life works and philosophy of Chattambi swamikal, Sri Nilakanda Tirthapada and Trithapada Pramahamsa CO5: To make awareness about the life, works and philosophy of Vagbhatananada and Swami Cinmayanada
SV 1641	Atmanah avasthacatustayam	CO1: To give a brief knowledge about Atma tattaviveka CO2: To introduce Vedanta tattvas in brief

		CO3: To develop the knowledge of Vedanta tatvas CO4: To find out the difference between Atman and Anatma and to help the students to understand the logical thinking in Vedanta
	Project	CO 1: Create a research attitude CO 2: Understand the research methodology CO3: Understand the methodology of preparation of projects

BA ECONOMICS

Course code	Course title	Course outcomes
	SEMESTER I	
EC1141	Introductory Microeconomics	CO1: Develops a conceptual foundation and analytical methods used in Microeconomics
PS1131	Introduction to Political Science Complementary I	CO1: To familiarize the students with the fundamental principles of Political Science CO2: To introduce the major concepts of Political Science CO3: To make aware about various political ideologies
HY 1131.1	History of National Movement in India Part	O1: To understand the theoretical perceptions of colonialism to imperialism CO2: To evaluate the socio-cultural roots of colonialism CO3: To analyze the ideological and historical backdrop of the social reform movements and its reactions to the process of making of a nation CO4: To account a theoretical insight of the national Movement
MM1131.5	Mathematics for Economics I	CO 1: Introduce the concept of functions CO 2: Demonstrate some functions in economics CO 3: Introduce the concept of limit and continuity CO 4: Demonstrate the geometric concept of derivatives and apply formulas to find derivatives of functions. CO 5: Understanding basic rules like chain rule, quotient rule etc. in differentiation.

EC 1131	Foundations of Economic theory	CO1: Provides a basic understanding of economic concepts and theories
SEMESTER II		
EC 1241	Intermediate Microeconomics	CO1: Gives a basic understanding of Microeconomics
EC 1231	Money and Banking	CO1: Provides a basic understanding about the nature and significance of money and banking in the functioning of an economy
PS1231	Indian Government and Politics Complementary – III	CO1: To impart knowledge about the functioning of the constitution of India CO2: To study the basic principles of the Indian constitution CO3: To impart awareness about the Political System in India
HY 1231.3	History of National Movement in India Part II	CO1: To understand the theoretical perceptions of nation and nationalism CO2: To evaluate the economic impacts of the British Raj CO3: To analyze the ideological underpinnings behind the construction of nation in India on the milieu of theoretical insights CO4: To account a historiographical insight on Gandhian ideology
MM1231.5	Mathematics for Economics II	CO 1: Introduce the concept of important properties of functions. CO 2: Employ techniques in differentiation to check properties of functions. CO 3: Demonstrate some functions of several variables. CO 4: Introduce the concept partial derivatives. CO 5: Employ techniques in partial differentiation to find maxima and minima of functions of two variables and applications of these problems in Economics
SEMESTER III		
EC 1321	Informatics for Applied Econometrics	CO1: Familiarizes the students with a plethora of online resources to improve teaching-learning experience CO2: Helps students to utilize web resources to enhance their career and academics

		CO3: Enables students to conduct and criticize empirical studies in economics and related fields
EC 1341	Introductory Macro Economics	CO1: Introduces the students to Macroeconomics CO2: Students get an in-depth introduction to Keynesian theory and ISLM analysis
EC 1331	Introduction to International trade and Public Economics	CO1: Inculcates the students the significance of public finance in the context of increasing role of Government CO2: Also provides the basic theoretical framework of budgetary mechanism in India, State activities and various aspects of international trade
PS1331	Public Administration	CO1: To inculcate a basic understanding of the fundamental principles of Public Administration CO2: To create awareness about the basic pillars of Public Administration like Organisation, Personnel Administration, Financial Administration CO3: To impart knowledge about Planning and its machinery. CO4: To create awareness about Citizen's defender mechanisms
HY 1331.5	History of National Movement in India Part III.)	CO1: To understand the historical roots of national movement CO2: To evaluate the various social class role in the national movement CO3: To analyze the theoretical perceptions on national movement CO4: To account the making process of nation in India
MM 1331.5	Mathematics for Economics III	CO 1: Introduce the concept of Integration of functions. CO 2: Demonstrate the concept of anti derivatives. CO 3: Introduce the basic rules like substitution method and integration by parts. CO 4: Introduce the concept of mathematical series. CO 5: Understanding Taylor's formula and Taylor's series.
SEMESTER IV		
EC 1441	Mathematical Methods for Economics	CO1: Provides students an insight into the importance of mathematical methods in Economics CO2: Familiarizes students with the basic mathematical techniques used in economic analysis
EC 1442	Intermediate Macro Economics	CO3: Introduces students to the micro foundations of macroeconomics, inflation and unemployment, economic growth and fiscal and monetary policies in an open economy

EC 1431	Indian Economy since Independence	CO1: Provides basic understanding of the Indian economy CO2: Familiarizes the students about the various concepts of National Income and create awareness about the significance of agriculture, industry and service sector in the Economy
PS1431	International Politics/ complementary VII	CO1: To equip the students with the basic concepts, theories, ideologies, and approaches in the study of International Politics CO2: To provide an overview of the changing power relations in the international arena CO3: To create awareness about major issues in global politics
HY 1431.7	Contemporary India (Complementary for Economics)	CO1: To understand the process of national integration CO2: To understand making process of the constitution CO3: To analyze the political and economic changes in the post-independent India CO4: To account the problems and issues in post independent India
MM1431.5	Mathematics for Economics IV	CO 1: Introduce the concept of differential equations. CO 2: Demonstrate the geometrical interpretation of differential equation representing a family of curves. CO 3: Employ different techniques to solve differential equations of different kinds. CO 4: Introduce differential equations of higher order and techniques to solve second order differential equations with constant coefficients.
SEMESTER V		
EC 1541	Methodology and Perspectives of Social Science	CO1: Familiarizes the students with the broad contours of Social Sciences, specifically Economics and its methodologies, tools and analysis procedures CO2: Creates an enthusiasm among students, incorporating various concepts and issues in economics
EC 1542	Statistical Methods for Economics	CO1: Familiarizes the students with statistical tools and techniques and enable them to apply these tools in Economics
EC 1543	Readings in Political Economy	CO1: Introduces different perspectives of political economy: the perspectives of Adam Smith, John Maynard Keynes, etc.

EC 1544	Economic Growth and Development	CO1: Provides the basic concepts of economic growth and development and enables students to understand multi-dimensional aspects of developmental issues CO2: Inculcates knowledge about theoretical framework of growth and development under different Schools of economic thoughts CO3: Give awareness about the political institutions, the role of the State in economic development and problems that affect State Governance
EC 1545	International Economics	CO1: Provides the basic concepts and theories of international trade and enable students to have a basic understanding of the emerging trends, issues and policies in the field of international economic system
SEMESTER VI		
EC 1641	Indian Economy	CO1: Provides an understanding about growth process in Indian economy, sectoral aspects of the economy by focusing agriculture, industry and service sectors, relations of India with other countries
EC 1642	Banking and Finance	CO1: Familiarizes students with the basic concepts in Banking and Finance and develop a comprehensive knowledge on the role of banks in the operation of an economy CO2: Enables students to know the operation of the Indian Financial System and activities in the financial markets
EC 1643	Public Economics	CO1: Introduces the subject matter and scope of public economics, role of government, types of market failures and the concept of public good CO2: Provides a general understanding on the basic fiscal policy instruments CO3: Generates awareness on public economics in India, with special focus on budgetary system and fiscal federalism
EC 1644	Environmental Economics and Disaster Management	CO1: Creates environmental awareness among students and provides exposure to disaster management
EC 1655.3	Introductory Econometrics	CO1: Introduces students to simple and multiple regression methods for analyzing data in economics and related disciplines

		CO1: Familiarizes with how to conduct and to critique empirical studies in economics and related fields
EC 1645	Project work	CO1: Equips students to identify an issue or topic of their interest and conducting a study in a systematic and scientific way, they get the opportunity to apply various tools they learnt, and to present the report in a structured manner

BA HISTORY

Course code	Course title	Course outcomes
	SEMESTER I	
HY 1141	Discipline of History & Social Sciences: Methodology and Perspectives	CO1: To understand the myriad disciplines of Social Sciences with particular reference to History and its methodology CO2: To understand the autonomy of the discipline of history and the plural- multi character of the discipline. CO3: To apply different theories in understanding past. CO4: To analyse and evaluate the historical processes in relation to power relations of the society CO5: To Evaluate the methodology and objectivity of the discipline of history. CO6: To create critical history introspecting power relations
EC1131	Foundations of Economic Theory	CO1: To provide a basic understanding of economic concepts and theory. CO2: Introduces different concepts of revenue and cost. CO3- Describes different forms of market structure.
PS1131	Introduction to Political Science Compl I	CO1: To familiarize the students with the fundamental principles of Political Science CO2: To introduce the major concepts of Political Science CO 3. To make aware about various political ideologies
	SEMESTER II	
HY 1241	Global History: Socio-Cultural Formations in the Early Period	CO1: To understand the theoretical and ideological background evolution of the world and human origin CO2: To understand the social evolutions of the early world CO3: To analyze the process cultural formations of the early world CO4: To evaluate the genesis and growth of state and society early world

EC1231	Money and Banking	CO1: To provide a basic understanding about the nature of Banking industry in India. CO2: To give an account of the significance of money and banking in the functioning of an economy. CO3: To create awareness about the monetary policy of the RBI. CO4: Introduces the modern banking systems.
PS1231	Indian Government and Politics Compl – III	CO1: To impart knowledge about the functioning of the constitution of India CO2: To study the basic principles of the Indian constitution CO3: To impart awareness about the Political System in India
		SEMESTER III
HY 1321	Reconstructing the Past	CO1: To learn the theory and practice of historical research as practiced by professionals CO2: To understand the method of writing History. CO3: To analyse the various school pertaining to the writing of History CO4: To construct the original historical argument based on primary source material research
HY 1341	Understanding State and Society in Early India	CO1: Locate major pre-historic settlements and evolution of early farming communities CO2: Examine the evolution of Varna and Jati based social structure in Early India CO3: Critique the social base of heterodox religions of 6th Century BC and its influence in power relations CO4: Appraise the cultural achievements of the Guptas CO5: Differentiate Tamil literary traditions and locate Tinai's across time and region.
EC1331	Introduction to International Trade and Public Economics	CO1: To inculcate knowledge about the significance of public finance in the context of increasing role of Government. CO2: To provide the basic theoretical framework of budgetary mechanism in India CO3: To familiarize the students about the various aspects of international trade.
PS1331	Public Administration	CO1: To inculcate a basic understanding of the fundamental principles of Public Administration CO2: To create awareness about the basic pillars of Public Administration like Organisation, Personnel Administration, Financial Administration CO3: To impart knowledge about Planning and its machinery. CO4: To create awareness about Citizen's defender mechanisms
		SEMESTER IV

HY 1441	State and Society in Pre-Colonial India	CO1: To get an overview of the political, cultural, social and economic life in Medieval India CO2: To focus on the regional cultures during the period. CO3: To appraise the linkage effect of the medieval period in the subsequent centuries CO4: Interpret the social cultural and administrative features during the Medieval Period CO5: Develop practical skills helpful in the study and understanding of historical events
HY 1442	Social Formations in Early South India	CO1: Understand the socio, economic and culturalcondition of the pre modern South India CO2: To identify the sources for the history of SouthIndia CO3: Discuss the contribution of Pallavas and Cholas to South Indian art and architecture. CO4: To examine features of social formation in earlySouth India. CO5: To appraise the transformation from Argo-pastoral to agrarian social formation by exploring areas like economy, society and historical process of state formation.
EC1431	Indian Economy Since Independence	CO1: To provide basic understanding of the Indian economy CO2: To familiarize the students about the various concepts of National Income. CO3: To create awareness about the significance of agriculture and service sector in the economy. CO4: To create an understanding of the features of Kerala Economy.
PS1431	International Politics/ complementary VII	CO1: To equip the students with the basic concepts, theories, ideologies, and approaches in the study of International Politics CO2: To provide an overview of the changing power relations in the international arena CO3: To create awareness about major issues in global politics
	SEMESTER V	
HY 1541	Major Trends in Historical Thought and Writings Part I	CO1: To understand the myriad forms ofrepresenting past and differentiating history from the other forms of representation of past CO2: To analyse the genesis and development ofhistorical thought and writing in different times and spaces or societies CO3: To analyse the philosophical foundations of the discipline of history and its changing nature in accordance with time and space. CO4: To evaluate the types of historical literature. CO 5 To create scientific and analytical history.
HY 1542	Capitalism and Colonialism:	CO1: To understand the theoretical and ideologicalbackground of colonialism and Capitalism

	Forms of Resistance in India	CO2: To understand the socio-economic and cultural impingement of colonial intervention CO3: To analyze the process of colonizing India against the backdrop of theoretical insights CO4: To evaluate the genesis and growth of critical intervention of the colonial subjects towardsthe British Raj
HY 1543	Pre-Modern Kerala	CO1: To understand the historical and culturalevolution through the sources of Kerala history CO2: To understand geographical feature andunique ness of Kerala wars and to evaluate the achievements of the international organizations CO3: To evaluate the concept of cultural symbiosisand its impact on material culture and societyof Kerala CO4: To understand and evaluate the significance of the social reform movements in Kerala
HY 1544	Making of a Nation in India	CO1: To understand the theoretical perceptions of nation and nationalism CO2: To evaluate the making process of thenation in India CO3: To analyze the ideological underpinnings behind the construction of nation in India on the backdrop of theoretical insights CO4: To account a sound knowledge about changes that took place among the historians regarding the notion of national movement in India
HY 1545	Transition to Modern World	CO1: To understand the theoretical and ideological background of transformation towards the modern world CO2: To understand the socio-economic, cultural and political intrusions of the process of modern world CO3:To analyze the process and global impacts ofrevolutions CO4: To evaluate the genesis and growth of newnationalism and its aftermath
	SEMESTER VI	
HY 1641	Major Trends in Historical Thought and Writing -Part II	CO1: To understand the myriad developments in the historicalthought and writing in the Modern West and Modern India CO2: To analyse the colonial roots of Indian Historiography and evaluate the multiple Indian responses to it. CO3: To evaluate the critical responses from the subaltern and Women's history approaches. CO 4: To evaluate the Total History approach and post-modernturn in historical thinking and writing. CO5: To create critical history.
HY 1642	Modern Kerala	CO1: To analyse the changing nature of Socio, political and economic structure of Kerala against the backdrop of Colonial Modernity. CO2: To evaluate the process of socio-cultural symbiosis and the

		negotiations and contestations of myriad social categories CO3: To evaluate the process of democratization of Kerala society and polity. CO4: To critically understand the Kerala Model Experience.
HY 1643	Contemporary India	Co1: To understand the process of national Integration CO2: To understand making process of the Constitution CO3: To understand making process of the Constitution CO4: To account the internal contradictions in thepost- independent India
HY 1644	The Twentieth Century World	CO1: To understand the theoretical and ideologicalbackground of socialist revolutions and its impact on the twentieth century world CO2: To understand the political, socio-economic, cultural outcomes of two world wars CO3: To analyze the process of authoritarian and totalitarian concepts CO4: To critically evaluate the exertion of world peace organization CO5: To understand the theoretical and ideological background of global politics and the worldwars.
HY 1661.1	Historical Tourism and Cultural Industry	CO1: To understand the importance of History in Tourism CO2: To analyze the various historical, cultural, religious,touristic resources of India CO3: To understand the cultural heritage of Kerala. CO4: To create awareness among the students about theprospects of historical tourism CO5: To evaluate the importance of Geography and network maps of India
HY 1645	Project Work / Dissertation	CO6: Equips students to identify an issue or topic of their interest within the subject, conducting a study in a systematic and scientific way, and prepare and present the report in a structured manner

BA PHILOSOPHY

Course code	Course title	Course outcomes
		SEMESTER I
PL1141	Methodology and Perspectives of Humanities core I	CO1: Articulate and exemplify the idea of the methodology of humanities CO2: Evaluate the difference between the methodology of science from the methodology of humanities CO3: Explore the different methodologies of humanities and their significance CO4: Analyze narrative modes of thinking in philosophy CO5: Apply philosophical activities and attitudes in practical day to day living
PS1131	Introduction to Political Science Complementary I	CO1: To familiarize the students with the fundamental principles of Political Science CO2: To introduce the major concepts of Political Science CO3: To make aware about various political ideologies
PG1131	Foundations of Psychology complementary II	CO 1: Demonstrate knowledge and understanding in the selected content areas of psychology and understand the nature of psychology as a discipline CO 2: Use concepts, and major theories of the discipline to account for psychological phenomena. CO 3: Explain major modern perspectives of psychology CO 4: Carry out basic studies to address different psychological questions and hypotheses using appropriate research methods CO 5: Explain the biological evidence for psychological claims
		SEMESTER II
PL1241	Philosophic Themes & Methods Core II	CO1: Introduce and clarify the nature and relevance of Philosophy CO2: Analyze the major theories and concepts in Philosophy CO3: Explore philosophical arguments and their significance

		CO4: Evaluate one's own abilities to intervene as methods of Philosophizing CO5: Create perspectives that help link theoretical Philosophy to Practical application
PS1231	Indian Government and Politics Complementary – III	CO1: To impart knowledge about the functioning of the constitution of India CO2: To study the basic principles of the Indian constitution CO3: To impart awareness about the Political System in India
PG1231	Basic Psychological Processes complementary IV	CO 1: Use critical thinking effectively CO 2: Develop creative thinking CO 3: Apply the theoretical knowledge and understanding of psychology effectively in day to day life CS 4: Explain the basic process involved in learning, motivation and emotion. CO 5: Illustrate the basic concepts involved in consciousness.
SEMESTER III		
PL1321	Informatics and Philosophy	CO1:Understand and apply the knowledge skills offered by Information Technology CO2: Assess the IT applications in E Governance, medicine and healthcare, industry and commerce, defense, crime detection, weather forecasting and film and media, and IT services for the differently abled. CO3: Discover the futuristic possibilities in IT like virtual reality and artificial intelligence CO4: Evaluate the social implications of the exponential growth of IT CO5: Analyze the salient features of cyber ethics and evaluate its significance in the society
PL1341	Deductive Logic	CO1: Understand what is logic and examine the nature of logical reasoning CO2: Understand the definition and distinguish basic concepts used in logic CO3: Analyze the laws of thought CO4: Distinguish propositions and illustrate traditional

		square of opposition CO5: Validate categorical syllogism, conditional syllogism, fallacies of syllogism
PS1331	Public Administration	CO1: To inculcate a basic understanding of the fundamental principles of Public Administration CO2: To create awareness about the basic pillars of Public Administration like Organisation, Personnel Administration, Financial Administration CO3: To impart knowledge about Planning and its machinery. CO4: To create awareness about Citizen's defender mechanisms
PG1331	Cognitive Processes	CO 1: Use reasoning to recognize, develops, defend, and criticize arguments. CO 2: Approach Day to day problems effectively. CO 3: Apply psychological principles to promote personal development CO 4: Use the concepts, language and major theories of the discipline to account for psychological phenomena. CO 5: Develop skills to improve memory.
SEMESTER IV		
PL1441	Induction and Scientific Method core IV	CO 1: To inculcate the method of scientific induction among the students. CO 2: To familiarize the students with the nature of inductive reasoning CO 3: To introduce the foundations of scientific method
PL1442	Early Indian Philosophy Core V	CO1: To introduce the students to early Indian Phil Co1 Understand the basic features of Indian Philosophy CO2: Analyze the basic principles underlying this universe with reference to Vedas and Upanishads CO3: Analyze basic concepts in heterodox systems CO4: Evaluate the teachings of Charvaka CO5: Justify the applications of teachings of Gita, Buddhism and Jainism in human life

PS1431	International Politics/ complementary VII	CO1: To equip the students with the basic concepts, theories, ideologies, and approaches in the study of International Politics CO2: To provide an overview of the changing power relations in the international arena CO3: To create awareness about major issues in global politics
PG1431	Psychology of Individual Differences complementary - VIII	CO 1: Describe the diversity in human behavior. CO 2: Explain how individual differences influence beliefs, values and interactions with others, intelligence and personality of an individual. CO 3: Use knowledge of personality and intelligence in formulating career choices. CO 4: Critique the basic theories of intelligence and personality. CO 5: Identify the basic concepts in stress and health. CO 6: Develop skills to manage stress and lead a healthy way of life.
SEMESTER V		
PL1541	Ancient &Medieval Western Philosophy core VI	CO1: Compare and contrast the characteristics of Ancient and Medieval Western Philosophy. CO2: Evaluate Sophist Philosophy in the light of modern ethical theories. CO3: Examine the relevance of Socratic methods in the modern world. CO4: Compare and contrast the concept of Plato and Aristotle. CO5: Assess the contributions of Medieval Philosophers- St. Augustine, St. Anselm of Canterbury and St. Thomas Aquinas. CO6: To give a historical sketch of classical western philosophy from pre-Socratic to Medieval philosophy CO7: To introduce the basic concept of early Greek thought. CO8: To introduce the evolution of thought from early Greek to medieval philosophy

PL1542	Orthodox Systems of Indian Philosophy core VII	CO1: To impart basic knowledge of the orthodox systems in Indian thought CO2: To familiarize the students to the orthod Co1 Understand sad Darsanas of Indian Philosophy CO2: Understand the metaphysical concepts in the six systems of Indian Philosophy CO3: Analyze the epistemological doctrines in the six systems of Indian Philosophy CO4: Compare the Samkhya and Advaita systems of Philosophy Co5 Analyze the theoretical and practical depths of the philosophy of ṣad darsanas.
PL1543	Introduction to Ethics Core VIII	CO 1: To highlight the scope of ethics, to make a judgem Co1 Understand the nature and scope of ethics Co2 Analyze the psychological basis of morality Co3 Evaluate classical ethical theories and approaches Co4 Explore the relationship between individual and society CO5: Categorize the different levels of morality
PL1544	Modern Western Philosophy Core IX	CO1: To introduce the basic characteristics and concepts of modern Western Philosophy. CO2: Co1 Evaluate the origin and characteristics of Modern western philosophy CO2: Examine the constructive development of thought to defend reason in Modern Western Philosophy CO3: Distinguish the way Modern Western Philosophy facilitate experience as a contrast to reason CO4: Evaluate the influence of science in the development of modern thinking CO5: Understand how Modern Western Philosophy integrates knowledge and the methods devised to infer, analyze, criticize, justify and modify thought-process in creating the progress of philosophy
PL 1545	Ancient and Medieval Political Philosophy	CO1: Understand the nature and significance of Political Thought

	Core X	CO2: Understand and assess the political ideologies of Ancient and Medieval Political thinkers CO3: Develop a critical perspective on diverse theories and apply its Significance in the Present context CO4: Examine the functioning of government in ancient Western ideologies and explore its challenges in the present socio-political context CO5: Evaluate the Greek notions on law and citizenship
	SEMESTER VI	
PL1641	Symbolic Logic Core XI	CO1: Understand the background and development of symbolic logic CO2: Analyze the functions of language, validity and invalidity CO3: Understand sentence, propositions and arguments, connectives, punctuations and symbols, argument and argument forms. CO4: Illustrate the basic truth tables CO5: Apply the rules of inference to solve problems
PL1642	Applied Ethics Core XII	CO1:Understand the nature of applied ethics and its different approaches CO2: Analyze the basic principles in medical ethics CO3: Assess the ethical issues of artificial reproductive technologies CO4: Examine the ethical perspectives on gender ethics CO5: Evaluate the impact of media ethics and cyber ethics
PL1643	Recent Trends in Western philosophy Core XIII	. CO1: Understand the different models of philosophy in the recent western philosophical traditions CO2: Evaluate the critical currents in the recent philosophical models and methods CO3: Apply the critical spirit of philosophy in socio-political situations CO4: Analyze the linguistic turn in philosophy CO5: Examine the relevance of phenomenology and existentialism

PL1644	Modern Political Philosophy Core X1V	CO1: Understand the key concepts in the political philosophies of Thomas Hobbes and John Locke CO2: Assess the political philosophy of Jean Jacques Rousseau CO3: Evaluate the political philosophies of George Wilhelm Frederick Hegel and Karl Marx CO4: Examine the political philosophy of Harold J Laski CO5: Explain the theory of distributive justice of John Rawls and the entitlement theory of justice of Robert Nozick
PL1661	Philosophy and Self-Management Open II Elective	CO1:Evaluate the significance of Philosophical concepts in daily life CO2: Understand the self-management methods in Bhagavad Gita, Buddhism, Chinese Philosophy, and Existentialism CO3: Examine Gita as a context for conflict-resolution CO4: Understand Chinese philosophy as natural and ethical CO5: Evaluate existentialism as a philosophy of practice
PL1645	Project	CO1: To come out with research abilities. CO2: To flare up the research potentials and innovative capacities in students and to promote higher prospects in future studies.

BA POLITICAL SCIENCE

Course code	Course title	Course outcomes
	SEMESTER I	
PS 1141	Methodology and Perspectives of Social Sciences	CO1: Help to Identify the main concerns of social science disciplines. CO2: Articulation of the basic terminology and theories prevalent across disciplines. CO3: Understanding of qualitative and quantitative models within the social sciences. CO4: Educate students to apply the methods and theories of social science to contemporary issues.
EC1131	Foundations of Economic Theory	CO1: To provide a basic understanding of economic concepts and theory. CO2: Introduces different concepts of revenue and cost. CO3: Describes different forms of market structure.
HY 1131.2	History of Modern World Part I.	CO1: To understand the theoretical and ideological background of revolution and its impact CO2: To understand the political, socio-economic, changes of the 19th century world CO3: To analyze the process of economic Revolutions CO4: To evaluate the new trends and ideas
	SEMESTER II	
PS 1241	Introduction to Political Theory	CO1: Educates students Political Theory and the basic concepts CO2: Makes students identify various approaches to the study of Political Theory CO3: Provides knowledge about various theories and concepts of Political Theory CO4: Helps students to familiarize about the structure and functions of the organs of Government.
EC1231	Money and Banking	CO1: To provide a basic understanding about the nature of Banking industry in India. CO2: To give an account of the significance of money and banking in the functioning of an economy.

		CO3: To create awareness about the monetary policy of the RBI. CO4- Introduces the modern banking systems.
HY 1231.4	History of Modern World Part II.	CO1: To understand stages of colonialism and colonial expansions CO2: To understand the political outcome of world war I CO3: To analyze the process of socialist revolution in Russia CO4: To critically evaluate the socialist policies
SEMESTER III		
PS 1321	Cyber Politics	CO1: Offers a broad perspective on Cyber Space and the politics involved in it CO2: To introduce the student to Information Communication Technology (ICT) CO3: To familiarize the importance of ICT in Governance and Development CO4: To make the student understand the importance of democratization of cyber space and its security issues
PS 1341	Indian Constitution	CO1: To impart knowledge about the legal and ideological framework of the Indian Constitution CO 2. To create awareness about the political processes and the actual functioning of the political system CO3: To study in detail the political structure – both constitutional and administrative CO4: To study the rights and privileges granted by the constitution
EC 1331	Introduction to International Trade and Public Economics	CO1: To inculcate knowledge about the significance of public finance in the context of increasing role of Government. CO2- To provide the basic theoretical framework of budgetary mechanism in India CO3- To familiarize the students about the various aspects of international trade.
HY 1331.6	History of Modern World Part III	CO1: To understand the theoretical and ideological CO2: To understand the process of World War II CO3: To analyze the post war developments in the World CO4: To critically evaluate the role of India in the post war world
SEMESTER IV		
PS 1441	Dynamics of Indian Politics	CO1: To impart knowledge about the actual working of the Indian political system in a plural set up

		CO2: To study the unique characteristics of the Indian federal system CO3: To motivate the students to critically study the functioning of the constitution CO4: To impart awareness about major issues in Indian political system
PS 1442	Introduction to Comparative Politics	CO1: To highlight the theoretical evolution and approaches to the study of Comparative Politics CO2: To impart skill to analyze in a comparative way political developments across world in the light of various theories. CO3: To familiarize the students basic features about the constitutions of major political systems
EC1431	Indian Economy Since Independence	CO1: To provide basic understanding of the Indian economy CO2- To familiarize the students about the various concepts of National Income. CO3- To create awareness about the significance of agriculture and service sector in the economy. CO4- To create an understanding of the features of Kerala Economy.
HY 1431.8	Contemporary World	CO1: To understand the theoretical and ideological concepts of neo colonialism CO2: To understand the growth and role of third Worlds CO3: To analyze the process and functions of post-world war organizations CO4: To critically evaluate and debate on the contemporary issues of the world
SEMESTER V		
PS 1541	Public Administration	CO1: To inculcate a basic understanding of the fundamental principles of Public Administration CO 2. To create awareness about the basic pillars of Public Administration like Organisation, Personnel Administration, Financial Administration CO3: To impart knowledge about Planning and its machinery. CO4: To create awareness about Citizen's defender mechanisms
PS 1542	Ancient and Medieval	CO1: To familiarize the Ideas of ancient and medieval political thinkers

	Political Thought	CO2: To build in the minds of students an overall outlook about political thought CO3: To study about the relevance of ancient and modern political thought in the modern world
PS 1543	International Relations	CO1: To equip the students with the basic concepts, theories, ideologies and approaches to the study of International Relations CO2: To familiarize the changing nature of power relations CO3: To make an understanding about issues in global politic
PS 1544	Research Methods in Political Science	CO1: To familiarize the students with the research methods in Political Science CO2: To enable for the practical use of students in their Project/Dissertation in the Sixth Semester. CO 3. To identify the different methods and techniques applicable to Political Science Research
PS 1545	Human Rights in India	CO1: To highlight the concept of Human Rights, its evolution and its importance in our society CO2: To make an understanding about various rights, including political, civil, social, economic and cultural rights CO3: To familiarize the Human rights condition in India including constitutional provisions CO4: To equip the students with the skills to evaluate the Human Rights enforcement methods
SEMESTER VI		
PS 1641	Modern Political Thought	CO1: To provide a detailed understanding about modern political thought CO2: To equip the student to develop their own ideas about various political and social issues CO3: To attempt a comparative study of eastern and western political thought
PS 1642	State and Society in Kerala	CO1: To provide a comprehensive analysis of the socio-political structure of Kerala CO2: To familiarize the students with the state and social structure of Kerala

		CO3: To make a detailed analysis of the socio-political evolution of the state of Kerala CO4: To equip the students to analyze the key issues in the state and society in Kerala
PS 1643	Decentralization and Participatory Democracy	CO1: To provide a detailed understanding about democratic decentralization, participatory governance with emphasis on India and Kerala CO2: To impart knowledge about tools of participatory democracy CO3; To inculcate skills for capacity building activities in local self-governing institutions
PS 1644	New Social Movements	CO1: To offer a broad perspective on power and resistance in the era of neoliberal globalisation CO2: To equip the students to understand the dynamics of social conflicts, activism and social change CO3: To familiarize contemporary social movements in the civil society with an emphasis on the movements by the marginalized sections in the era of neoliberal globalization
PS 1661.2	Introduction to Public Policy Analysis	CO1: To equip students to find solutions to practical problems which are brought to the agenda of government CO2: To familiarize the actual situations of Public Policy formulation CO3; To create awareness about the determines of public policy
PS 1645	Project	CO1: To develop an aptitude for research in Political Science CO2: To inculcate proficiency to identify appropriate research topics and presentation

B.SC MATHEMATICS

Course code	Course title	Course outcomes
		SEMESTER I
MM 1141	Methods of Mathematics	CO1: Understanding the concepts of fundamental methods of solving problems like limit, continuity and differentiation CO2: Finding absolute maximum and minimum of functions CO3: Understanding application of extrema problems to Economics CO4: Understanding various Integration Techniques CO 5: Finding Area under a curve through integration, work done, Pappu‟s Theorem and understanding the concept of hyperbolic functions and their applications
ST 1131.1	Descriptive Statistics and Introduction to Probability	CO1: Understand the characteristics of the data and will get acquainted with describing data through illustrating examples. CO2: They will also learn to collect, organize and summarize data. CO3: Be able to create and interpret simple graphs and compute appropriate summary statistics. CO4: Demonstrate and familiarizing basic concepts of correlation and regression. CO5: Acquiring practical knowledge in data analysis using Microsoft Excel such as charts and diagrams, frequency table, calculation of descriptive statistics etc.
PY 1131.1	Mechanics and Properties of Matter	CO1: To apply knowledge of the dynamics of rigid bodies, conservation of energy, oscillations, waves and mechanical properties of matter such as elasticity, fluid dynamics and surface tension to explain natural physical processes and related technological advances. CO2: To understand elementary mathematics along with physical principles to effectively solve problems

		encountered in everyday life and, apply that in the advanced and further study in science. CO3:To do experiments on topics such as Young's modulus for different types of wood, variation of surface tension for different liquids, viscosity of different types of liquids and to arrive at knowledge of its fluidity and variation of surface tension.
SEMESTER II		
MM 1221	Foundations of Mathematics	CO1: Understanding the concepts of sets, functions and the way in which a mathematician formally makes statements and proves or disproves it CO2: Visualize some of the properties of graphs of elementary functions CO3: Understanding foundations of co-ordinate geometry CO4: Understand the application of polar coordinates in Astronomy CO5: Understanding three-dimensional rectangular co-ordinate system and basic operations on vectors
ST 1231.1	Random Variables	CO1: Understanding elementary ideas of probability and random variables. CO2: Understanding basic probability axioms and rules and the moments of discrete and continuous random variables. CO3: Understanding in probability density function of transformations of random variables. CO4: Recognize how to calculate probabilities, and derive marginal and conditional distributions of random variables. CO5: Understanding basic ideas of expectation and its properties. CO6: Acquiring practical knowledge in data analysis using Microsoft Excel such as probability, expectation, moments of random variables.

PY 1231.1	Thermal Physics and Statistic Mechanics	CO1: To differentiate thermal conductivity and thermometric conductivity. CO2: To perform Lee's disc experiment in Physics lab. CO3: To know qualitative ideas about different radiation laws about transmission of heat. CO4: To Know about black body radiation spectrum and be able to estimate the solar constant and temperature of the sun. CO5: To get ideas about heat engines and their efficiencies as well as the laws of thermodynamics. CO6: To understand the concept of entropy, and disorder and have a clear understanding about the changes irreversible and irreversible cycles. CO7: To familiarize the fundamental concepts of statistical mechanics. CO8: To solve problems in thermal physics and statistical mechanics by selecting appropriate equations.
SEMESTER III		
MM 1341	Elementary Number Theory and calculus I	CO1: Understanding the fundamental facts in elementary Number Theory CO2: Understand the physical and geometrical interpretations of vectors. CO3: Explain more properties of curves in three-dimension space using the concepts of differentiability CO4: Visualising functions of more than one variable, sketching, contours and level surface plotting CO5: Understanding limits and continuity of multivariable functions, partial derivatives and its geometrical interpretation CO6: Solving extremum problems with constraints using Lagrange multipliers
ST 1331.1	Probability Distributions and	CO1: Understanding elementary ideas of discrete and continuous statistical distribution

	theory of estimations	CO2: Understand the characteristics of each distribution such as moments, characteristic functions, moment generating functions etc. CO3: Demonstrate and familiarizing the ideas of limit theorems and sampling distributions. CO4: Acquiring practical knowledge in data analysis using Microsoft Excel such as discrete and continuous probability distributions and applications, law of large numbers and CLT.
PY 1331.1	Optics, Magnetism, and electricity	CO1: To develop basic knowledge of the physics behind interference, diffraction and polarization. CO2: To understand the principle of operation of laser and the light propagation in optical fibres. CO3: To be able to outline the important applications of lasers and optical fibres in the modern society. CO4: To be able to define magnetism and magnetic properties of matter, derive the relation between magnetic vectors and explain the electron theory of magnetism. CO5: To study in depth, the alternating current response which is essential in understanding the working of electronic circuits. CO6: To be able to solve problems relating to optics, electricity and magnetism.
	SEMESTER IV	
MM 1441	Elementary Number Theory and calculus-II	CO1: Defining the congruence relation and the congruence classes in integers CO2: Understanding Chinese remainder theorem and its applications CO3: Finding double and triple integrals and their applications CO4: Evaluating the integrals of vector valued functions

		CO5: Understanding the concept of Divergence Theorem, Gauss Law, Stoke‟s Theorem and its applications
ST 1431.1	Testing of Hypothesis and Analysis of Variance	CO1: Demonstrate an understanding in point and interval estimations, maximum likelihood estimation. CO2: Be able to create and interpret idea of testing of hypothesis. CO3: Be familiar with large and sample tests in testing of hypothesis. CO 4: Understanding elementary ideas of assumptions and interpretation of one way and two way Anova. CO5: Acquiring practical knowledge in data analysis using Microsoft Excel such as testing and ANOVA.
PY 1431.1	Modern Physics and Electronics	CO1: To have a deep understanding of models in atomic physics such as Bohr atom model and vector atom model. CO2: To explain Bohr's correspondence principle, coupling mechanisms and Pauli's exclusion principle. CO3: To understand the basic properties of nucleus and nuclear forces CO4: To know the fundamental principles absorption and emission spectroscopies. CO5: To know the mathematical foundations of quantum mechanics. CO6: To develop an understanding of how to measure radioactivity. CO7: To analyze, Design and implement combinational logic gate circuits.
ST 1432.1	Statistics Practical using Excel	CO1: Understanding the use of statistical tools available in Excel and have hands on training in data analysis. CO2: Demonstrate an understanding in evaluation of numerical problems using Excel functions. CO3: Be familiar with charts and diagrams using Excel tools. CO4: Acquiring practical knowledge in data analysis using Microsoft Excel and interpreting the results of ANOVA, t- test etc.

PY1432.1	Physics Practical	CO1: To be able to perform basic hands on experiments in some areas physics CO2: To develop an in depth understanding of theories what they have learned from the classrooms and other knowledge resources. CO3: To acquire the capability for suggesting alternate experimental methods for verifying the theories.
		SEMESTER V
MM 1541	Real Analysis-I	CO1: Understands the existence of irrational numbers CO2: state the completeness axiom of the reals and do simple calculations with suprema and infima of bounded sets CO3: Proving the uncountability of R CO4: calculate limits of sequences using the algebra of limits for sequences and the standard list of basic sequences, limits of sequences and to prove Bolzano Weierstrass theorem CO5: state various convergence tests for series (e.g. comparison test or the ratio test) and use them to detect convergence or divergence of series CO6: Understands abstract metric spaces CO7: Understands the construction of Cantor set CO8: Understands the open and closed sets in R and their complements CO9: Understands the compactness, open covers, perfect and connected sets in R CO10: Proves the Baires Theorem
MM 1542	Complex Analysis I	CO1: Understands the algebra of Complex numbers, point representation and its vector and polar form

		CO2: Understands the concept of limit and continuity of functions of complex variable COr: Prove the Cauchy-Riemann equations CO3: Understanding polynomials and rational functions, the exponential, trigonometric, hyperbolic, the logarithmic functions and inverse trigonometric functions CO4: Gets the knowledge of contour integrals and proves Cauchy‟s Integral formula. Also discusses about its applications in evaluating integrals CO5: Understands the Bounds of Analytic functions
MM 1543	Abstract Algebra – Group Theory	CO1: Acquire fundamental concept of Group theory CO2: Enhance capacity for mathematical reasoning CO3: Develop problem solving skill CO4: Students can connect the theory of groups to problems in other discipline CO5: Defining and analysing various permutation groups CO6: Understanding Cosets, Lagrange‟s theorem and fundamental theorem of Isomorphism CO7: Solve boundary value problem
MM 1544	Differential Equations	CO1: Understands first order differential equations and various methods to solve them CO 2: Understanding the existence and uniqueness of solutions theorem CO3: Understands second order differential equations and various methods to solve them
MM 1545	Mathematics software- LATEX & Sage Math	CO1: Enables to prepare a project report in Mathematics using LATEX CO2: Typesets a simple article, prepares a table, inserts figures in the document and adds bibliography CO3: Understands to start Sage Math, use Sage Math cloud

		CO4: Do simple calculations using Sage Math calculator and by basic functions CO5: Plots the graphs of simple functions CO6: Understands matrix algebra, defining functions, operations on polynomials, complex number arithmetic, differentiation of functions CO7: Understands the concepts of combinatorics and number theory, vector calculus
MM 1551.1	Operations Research	CO1: Formulate a linear programming problem and solve it using graphical method or simplex method. CO2: Solve transportation problem and assignment problem. CO3: Analyse project networks using PERT and CPM.
	Project	CO1: Computational understanding of mathematics to a broad understanding encompassing logical reasoning, generalization, abstraction, and formal proof. CO2: Create and verify their own conjectures, rather than simply using provided formulas, rules and theorems in multiple courses throughout the mathematics curriculum. CO3: Construct clear and well-supported mathematical arguments to explain mathematical problems, topics, and ideas in writing
SEMESTER VI		
MM 1641	Real Analysis-II	CO1: State the definition of continuous functions and verify or disprove this in easy examples, formulate characterizations of continuity in terms of convergent sequences and in terms of limits of functions, CO2: State the intermediate value theorem and the boundedness theorem and apply them to solve equations, CO3: State the definition of differentiable functions and to verify or disprove this in easy examples,

		CO4: Calculate derivatives using the chain rule, the algebra of differentiable functions and the rule on derivatives of compositional inverses CO5: State Rolle's theorem, the Mean Value Theorem and L'Hospital's Rule and to apply them to recognise the shape of functions (e.g. existence of local extrema, subjectivity of the derivative) and to calculate limits, CO6: State the definition of Riemann Integrability and derive the Cachy criteria. CO7: Establish the integrability using various results, like squeeze theorem, integrability of monotone functions etc. CO8: Derive the relation between integration and differentiation via fundamental theorem of calculus
MM 1642	Complex Analysis II	CO1: Compute the Taylor and Laurent expansions of simple functions, determining the nature of the singularities CO2: Understands about the point at infinity CO3: Prove the Cauchy Residue Theorem and use it to evaluate improper integrals CO4: Understands the geometric considerations of conformal mapping CO 5: Gets the knowledge of Mobius Transformations
MM 1643	Abstract Algebra – Ring Theory	CO1: Explain fundamental concepts of homomorphism of Groups CO2: Develop the notion of Ring theory CO3: handle Factor ring CO 4: use the theory of rings to problems in other discipline
MM 1644	Linear Algebra	CO1: Understands the basics of Linear Algebra and matrix theory through geometry CO2: Demonstrate understanding of linear independence, span, and basis.

		CO3: Determine eigenvalues and eigenvectors and solve eigenvalue problems CO4: Apply principles of matrix algebra to linear transformations.
MM1645	Integral Transforms	CO1: Understands Laplace Transforms and its properties CO2: Understands its applications to Non- homogeneous Linear ODE CO3: Understands the Fourier series representation of periodic functions, odd and even functions, Half range expansions CO4: Understands Fourier integrals and its properties CO5: Understands Fourier Transform and its properties
MM 1661.1	Graph Theory (Elective)	CO1: Understands the Fundamental Concepts of graph CO2: Understands the trees and Connectedness of graphs CO3: Understands Euler tours and Hamiltonian cycles CO4: Understands the concept of Chinese postman problem, Travelling salesman problem CO 5: Understands the idea of planar graphs CO 6: Gets the knowledge of Platonic bodies and Kuratowski‟s Theorem
	Project	CO1: Appreciate the way pure mathematics is built on rigorous arguments. CO2: Be able to develop their own rigorous mathematical arguments to be able to analyze data CO3: Be able to write project reports and give an oral presentation CO4: Demonstrate an understanding of research methods in mathematics and/or statistics.

B.SC. PHYSICS

Course code	Course title	Course outcomes
		SEMESTER I
PY1141	Basic mechanics & properties of matter	CO1: To develop knowledge and understanding of the historical development of mechanics, some implications of the principle of mechanics and the scope of mechanics CO2: To apply knowledge of the dynamics of rigid bodies, conservation of energy, oscillations, waves and mechanical properties of matter such as elasticity, fluid dynamics and surface tension to explain natural physical processes and related technological advances. CO3: To work on the experimental design and studies on project topics such as Young's modulus for different types of wood, variation of surface tension for different detergents, viscosity of different types of liquids and to arrive at knowledge of its fluidity, wide applications of Bernoulli's equation and variation of surface tension with temperature by Jaeger's method. CO4: To use elementary mathematics along with physical principles to effectively solve problems encountered in everyday life and, apply that in the advanced and further study in science.
MM1131.1	Calculus with Applications in Physics I	CO1: Demonstrate understanding of and proficiency with basic concepts infinite series and limits CO2: Demonstrate understanding of and proficiency with basic concepts in calculus: functions of one variable, differentiation and its applications, the definite integral, techniques of integration and vector algebra . CO3: Employ methods related to these concepts in a variety of applications. CO5: Apply logical thinking to problem-solving in context. CO6: Demonstrate skills in writing mathematics

CH1131.1	THEORETICAL AND ANALYTICAL CHEMISTRY	CO1: Discuss theories of chemical bonding and their limitations CO2: Recognise fundamentals of thermodynamics and the predict spontaneity of reactions CO3: Derive thermodynamic properties of systems in equilibrium CO4: Critically select suitable indicators for acid base and redox titrations CO5: Appreciate the application of common ion effect and solubility product in precipitation and intergroup separation of cations CO6: Discuss the basic principles of paper chromatography and thin layer chromatography CO6: Solve numerical problems on bond order, molarity, normality and Lattice energy
SEMESTER II		
PY1241	Heat and thermodynamics	CO1. To develop knowledge of the laws of thermal conductivity and thermodynamics, and understand its implications. CO2. To develop skills in the problem solving using the concepts of heat and thermodynamics. Introduce applications of thermodynamics to heat engines such as Carnot engine, Otto engine and Diesel engine and the principle of refrigerator. CO3. To develop an appreciation of the concepts of order, disorder and entropy and an understanding of heat as an energy
MM1231.1	Calculus with Applications in Physics II	CO1: Demonstrate understanding of the basic concepts of complex numbers and hyperbolic functions, Partial Differentiation, Multiple integrals, Vector Differentiation. CO2: Demonstrate familiarity with a range of examples of these concepts. CO3: Employ methods related to these concepts in a variety of applications. CO4: Apply logical thinking to problem-solving in context.

CH1231.1	Physical and Industrial Chemistry	• Define enthalpies of formation, combustion, neutralization, solution and hydration reactions • Predict the effect of temperature pressure and concentration on a system in equilibrium based on Le Chatelier principle • Classify acidic and basic compounds in accordance with different concepts. • Appreciate the role of solar energy in photosynthesis and discuss methods of solar energy harvesting Discuss and the Illustrate general methods and techniques in metallurgy
SEMESTER III		
PY 1341	Electrodynamics	CO1: To understand the principles and the dynamic as well as the static phenomena of electromagnetism. CO2: To make a mathematical description of electromagnetic phenomena based on basic physical quantities through the fundamental equations of electromagnetism. CO3: To solve electrodynamics problems using the fundamental equations through advanced mathematical steps tools like vector calculus. CO4: To draw qualitative and quantitative conclusions about electrostatic and magneto static phenomena CO5: To equip with the necessary mathematical knowledge for a detailed and accurate description of propagation of electromagnetic waves and for solving related problems.
MM1331.1	Calculus and Linear Algebra	CO1: Understand the basic concepts of differential equations. CO2: Introduce different types of techniques to solve higher order ordinary differential equations. CO3: Demonstrate the idea of vector integration. CO4: Be familiar with physical examples of line integrals. CO5: Appreciate and be able to solve problems in Fourier series.
CH 1331.1	Physical Chemistry	CO1: Understand and apply the basics of electrochemistry in constructing electrochemical cells

		CO2: Apply the principles of physical Chemistry in Catalysis and photochemistry CO3: Understand the effect of temperature on molecular velocities of gases
SEMESTER IV		
PY 1441	Classical and relativistic mechanics	CO1: To understand the concepts of Newtonian mechanics, Lagrangian dynamics, Hamiltonian mechanics, Lorentz transformations and special theory of relativity. CO2: To understand phenomena of length contraction, time dilation, twin paradox and mass-energy equivalence. CO3: To apply their classical mechanical understanding to a variety of dynamical simple configurations and systems for solving its problems. CO4: To equip with the necessary mathematical concepts to be able to solve relativistic problems.
MM 1431.1	Complex Analysis, Special Functions and Probability Theory	CO1: Introduce functions of a complex variable and its differentiability. CO2: Demonstrate the idea of complex integration. CO3: Evaluation of definite integrals using residue theorem. CO4: Introduce the idea of special functions like gamma function and beta function. CO5: Be familiar with the concepts of probability and continuous distributions.
CH 1431.1	Spectroscopy and Advanced Materials	CO1: Discuss the principle and applications of rotational, vibrational, electronic and NMR spectroscopy. CO2: Appreciate the use of co ordination compounds in qualitative and quantitative analysis CO3: Solve numerical problems relating to nuclear chemistry CO4: Apply the importance energy and environment conservation CO5: Get insight to the emerging area of nano and advanced materials
CH1432.1	Course V : Lab Course For Physics	CO1: Understand and develop good lab practices CO2: Develop skill in safe handling of chemicals, take precaution against accidents and follow safety measures

		CO3: Apply the principle of common ion effect and solubility product in the identification and separation of ions CO4: Perform volumetric titrations under acidimetry-alkalimetry, permanganometry, dichrometry, iodimetryiodometry,cerimetry, argentometry and complexometry Determine physical constants
	SEMESTER V	
PY1541	Quantum mechanics	CO1: To understand the limitations of classical physics and the emergence, and the mathematical foundations of quantum mechanics. CO2: To solve the Schrödinger equation for simple configurations CO3: To understand that quantum mechanics is a mathematical model the solutions of which yield wave functions and energies. CO4: To understand the general formalism of quantum mechanics.
PY1542	Statistical physics, research methodology and disaster management	CO1: To solve statistical mechanics problems for simple systems. CO2: To perform basic experiments in physics and to perform a statistical and systematic analysis of experimental data. CO3: To write the results of an experiment in the style of a scientific paper. CO4: To get an awareness of the research thesis writing and have a feeling of what it means to do independent research. CO5: To equip the students a deep awareness about natural disasters and natural hazards CO6: To take actions for emergency response when disasters occur, prepare others to resolve the problems for disasters by imparting the acquired knowledge and skills
PY1543	Electronics	CO1: To understand the basic circuit theorems and apply them to solve circuit problems CO2: To understand the characteristics of a PN junction diode, Zener diode and bipolar junction transistor and analyze its working in different electronic circuits CO3: Know about the working of different types of power amplifiers.

		CO4: To Know the concepts of feedback principles and Barkhausen criterion for oscillations. CO5: To Design and analyze oscillator circuits to determine the frequency of oscillations. CO6: To understand the fundamentals of AM and FM modulations, and demodulations. CO7: To design and analyze the basic operations of MOSFET and UJT and the fundamentals of operational amplifiers.
PY1544	Atomic & molecular physics	CO1: To be familiar with the phenomena in several areas atomic and molecular physics. CO2: To understand the interaction between atoms, molecules and electromagnetic fields. CO3: To be able to account for the effect of nucleus on the electron structure including concepts like mass dependency, and hyperfine structure CO4: To explain the basic principles of molecular rotational, vibrational and electronic spectroscopies. CO5: To know the fundamental principles of NMR, ESR and Mossbauer spectroscopies and be able to outline the applications of resonance spectroscopies. CO6: To perform quantitative calculations based on the relationship between wavelength, energy, speed of light, and the other optical and spectroscopic terms for atomic and molecular properties.
SEMESTER VI		
PY 1641	Solid state physics	CO1: To know how to explain the fundamental features of crystalline solids, metallic conduction through free electron model, Properties of insulators and semiconductors, band theory of solids, dielectric and magnetic properties of materials. CO2: To understand the physics underlying superconductivity and its applications. CO3: To be familiar with the basic theoretical and conceptual models in solid state physics

		CO4: To acquire the capability of elementary problem solving in solid state physics, relating theoretical prediction and analyzing the results. CO5: To gain basic knowledge of solid state physics so as to build a foundation for further study of solid state systems and their application in electronic devices and modern technologies in material sciences. CO6: To be able to outline the relevance of solid state physics in the modern society.
PY 1642	Nuclear and particle physics	CO1: To understand and explain the general properties of nuclei, nuclear structure and nuclear models. CO2: To explain different forms of radioactivity and account for their occurrence. CO3: To account for the nuclear fission and fusion processes . CO4: To understand elementary nuclear particles, and their families, symmetries and conservation laws. CO6: To know and understand various elementary particle interactions and their basic features, and interrelations. CO7: To classify elementary particles. CO8: To master the knowledge of particle detectors and accelerators. CO9: To acquire the capability of elementary problem solving skills
PY 1643	Classical and modern optics	CO1. To develop basic knowledge of physics behind interference, diffraction, polarization and dispersion. CO2. To understand the fundamentals of modern optics like lasers, Fiber optics and holography. CO3. To solve problems in optics by selecting the appropriate equations and performing numerical or analytical calculations.
PY 1644	Digital electronics and computer science	CO1: To understand different number systems CO2: To analyze, design and implement combinational logic gate circuits.

		CO3: To be able to explain Boolean expressions for different logic gate circuits and simplify various Boolean expressions for different inputs using the Boolean algebra and with Karnaugh Map. CO4: To explain principle of operations for various arithmetic and sequential electronic circuits. CO5: To understand the basic components, and operational concepts of computers as well as the basic concepts, and the role of memory systems in computers. CO6: To develop programming skills for solving problems in Physics using C++. CO7: To understand the fundamentals of microprocessors and microcontrollers
PY1645	Advanced physics lab 2	CO1: To engage effectively in advanced experiments CO2: To evaluate critically and analyse the results of the experimental measurements CO3: To design and practice related experiments and acquire data in order to explore physical principles in optics, electricity and magnetism, effectively communicate results, and critically evaluate related scientific studies.
PY1646	Advanced physics lab 3	CO1: To engage effectively in electronics experiments using and execute computer programs in physical science problems. CO2: To critically evaluate and analyse the results of the experimental measurements. CO3: To design and practice related experiments and acquire data in order to explore electronic principles, effectively. communicate results, and critically evaluate related scientific studies.
PY1647	Project	CO1: To get an introduction to research methodology. CO2: To bring out the talents of students in experimental, theoretical or computational researches. CO3: To maintain novelty in approaching any research problem through their first hand experiences. CO4: To adapt to new situations. CO5: To develop their oral and verbal presentation skills

		. CO6: To get an opportunity to communicate with experts in the project/research field so as to share, and clarify their doubts and to seek their opinions and advices CO7: To search for, analysis and synthesis of data and information, with the use of the necessary technology.
	Study tour	CO1: To get an opportunity to visit and to familiar with scientific institutions, and its experts as well as to identify, and understand the essential components and parts of a scientific system and its working. CO2: To develop and integrate their skills in observation, reflection, reasoning, induction, deduction and creative thinking, analysis, concept making and problem solving on specific physical science problem CO3: To analyze the scientific practices critically and suggest alternate methods for experimentation and its implementation.

B.SC. PHYSICS AND COMPUTER APPLICATIONS

Course code	Course title	Course outcomes
		SEMESTER I
PC1121	Mechanics, Thermodynamics & Properties of Matter	CO1: To develop knowledge and understanding of the historical development of mechanics, some implications of the principle of mechanics and the scope of mechanics CO2: To apply knowledge of the dynamics of rigid bodies, conservation of energy, oscillations, waves and mechanical properties of matter such as elasticity, fluid dynamics and surface tension to explain natural physical processes and related technological advances. CO3: To work on the experimental design and studies on project topics such as Young's modulus for different types of wood, variation of surface tension for different detergents, viscosity of different types of liquids and to arrive at knowledge of its fluidity, wide

		applications of Bernoulli's equation and variation of surface tension with temperature by Jaeger's method. CO4: To use elementary mathematics along with physical principles to effectively solve problems encountered in everyday life and, apply that in the advanced and further study in science. CO5: To develop knowledge of the laws of thermal conductivity and thermodynamics, and understand its implications. CO6: To develop skills in the problem solving using the concepts of heat an d thermodynamics. Introduce applications of thermodynamics to heat engines such as Carnot engine, Otto engine and Diesel engine and the principle of refrigerator. CO7: To develop an appreciation of the concepts of order, disorder and entropy and an understanding of heat as an energy.
PC1171	Computer Fundamentals and Organization	CO1: Illustrate Von Neumann Architecture of Computer CO2: Describe different motherboard components and its working. CO3: Describe the characteristics of power supplies and various power connectors. CO4: Explain characteristics and working of different types of secondary storage devices. CO5: Describe the characteristics and functions of different peripheral cables, interfaces and expansion cards. CO6: Illustrate organization of external memory CO7: Illustrate organization of internal memory CO8: Outline I/O module structure and function CO9: Outline Processor Structure and Functions CO10: Outline Control Unit Organization and Parallel Processing
MM 1131.6	Calculus, Infinite series and vector algebra	CO1: Demonstrate understanding of and proficiency with basic concepts infinite series and its limits. CO2: Demonstrate understanding of and proficiency with basic concepts in calculus: functions of one variable, differentiation and its applications, the definite integral, techniques of integration and vector algebra.

		CO3: Employ methods related to these concepts in a variety of applications. CO4: Understand applications of important theorems like Rolle's Theorem and Mean Value Theorem. CO5: Introduce concept of power series and its applications using Taylor's Series.
SEMESTER II		
PC1221	Introduction To Programming	CO1: Write efficient algorithms to solve various problems CO2: Understand and use various constructs of the programming language such as conditionals, iteration, and recursion CO3: Implement your algorithms to build programs in the C programming language CO4: Use functions, arrays, pointers, structure etc to solve various problems CO5: Understand and use file handling in the C programming language
PC 1241	Environmental Studies	CO1: To provide students with a broad interdisciplinary liberal arts framework for understanding the relationship between humans and their environment; CO2: To provide students with informed perspectives on biological and physical processes relevant to environmental problems, to help students understand responsible environmental policy and practice, and to engage students in ethical reflection regarding environmental problems in local, regional, national, and global communities; CO3: To prepare students for careers, citizenship and environmental stewardship through experiential curricular and co-curricular opportunities; CO4: To equip students with the knowledge and skills necessary to pursue professional careers and advanced study related to the multi-faceted nature of environmental studies; and

		CO5: To serve as an environmental resource, through service, outreach and engagement, to the Chicago metropolitan region.
PC1242	Mechanics, Properties Of Matter, Heat and Acoustics	CO1: To be able to perform basic hands on experiments in some area's physics CO2: To develop an in depth understanding of theories what they have learned from the classrooms and other knowledge resources. CO3: To acquire the capability for suggesting alternate experimental methods for verifying the theories.
MM1231.6	Partial Differentiation, Vector Differentiation, Complex Numbers and Multiple Integrals	CO1: Demonstrate understanding of the basic concepts of complex numbers and hyperbolic functions, Partial Differentiation, Multiple integrals, Vector Differentiation. CO2: Demonstrate familiarity with a range of examples of these concepts. CO3: Employ methods related to these concepts in a variety of applications. CO4: Apply logical thinking to problem-solving in context.
PC1271	Programming in C Lab	CO1: Able to Read, understand and trace the execution of programs written in C language. CO2: Write the C code for a given algorithm. CO3: Implement Programs with functions, pointers, structure and arrays, perform pointer arithmetic, and use the pre-processor. CO4: Write programs that perform operations using derived data types.
SEMESTER III		
PC1341	Electrodynamics	CO1: To understand the principles and the dynamic as well as the static phenomena of electromagnetism. CO2: To make a mathematical description of electromagnetic phenomena based on basic physical quantities through the fundamental equations of electromagnetism. CO3: To solve electrodynamics problems using the fundamental equations through advanced mathematical steps tools like vector calculus. CO4: To draw qualitative and quantitative conclusions about electrostatic and magneto static phenomena

		CO5: To equip with the necessary mathematical knowledge for a detailed and accurate description of propagation of electromagnetic waves and for solving related problems.
PC1371	Microprocessors and programming	CO1: Illustrate detailed software and hardware architecture of 8086 CO2: Develop assembly language programs using 8086 instructions set CO3: Identify software and hardware interrupt handling of 8086 CO4: Identify architecture, operating modes and programming of 80186, 80286 ,80386,80486 and 8259 Programmable Interrupt Controller and interfacing with 8086 CO5: Outline Advanced Pentium Processor Technologies
PC1372	Data structures	CO1: Estimate the efficiency of algorithms in terms of running time using asymptotic notations. CO2: Make use of linear data structures such as List, Linked List, Stack Queue for applications CO3: Make use of Non-linear Data Structures Tree and Graph for applications CO4: Apply Searching and Sorting Techniques for solving computational problems
MM1331.6	Theory of Matrices, Vector Integration, Differential Equations, and Fourier Series	CO1: Introduce the concept of rank of a matrix and solving system of linear equations. CO2: Demonstrate the concept of vectors and vector spaces. CO3: Introduce the techniques for evaluating line integrals and surface integrals.basic rules like substitution method and integration by parts. CO4: Demonstrate the geometrical interpretation of differential equation representing a family of curves. CO5: Employ different techniques to solve differential equations of different kinds. CO6: Introduce differential equations of higher order and techniques to solve second order differential equations with constant coefficients. CO7: To represent periodic functions using Fourier series

SEMESTER IV		
PC 1441	Classical Mechanics & Theory Of Relativity	CO1: To understand the concepts of Newtonian mechanics, Lagrangian dynamics, Hamiltonian mechanics, Lorentz transformations and special theory of relativity. CO2: To understand phenomena of length contraction, time dilation, twin paradox and mass-energy equivalence. CO3: To apply their classical mechanical understanding to a variety of dynamical simple configurations and systems for solving its problems. CO4: To equip with the necessary mathematical concepts to be able to solve relativistic problems
PC1442	Optics	CO1: To develop basic knowledge of the physics behind interference, diffraction and polarization. CO2: To understand the principle of operation of laser and the light propagation in optical fibres. CO3: To outline the important applications of lasers and optical fibres in the modern society.
PC1443	Heat, electricity and magnetism	CO1: To design and practice related experiments and acquire data in order to explore physical principles in optics, electricity and magnetism, effectively communicate results, and critically evaluate related scientific studies. CO2: To develop their oral and verbal presentation skills CO3: To get an opportunity to communicate with experts in the project/research field so as to share, and clarify their doubts and to seek their opinions and advices CO4: To search for, analysis and synthesis of data and information, with the use of the necessary technology.
PC1471	Software Engineering	CO1: Explain the need for an engineering approach to software development CO2: Compare different software development models and identify their suitability to various projects CO3: Describe how a set of abstract user requirements is transformed to a software design and outline the metrics used for evaluating this design

		CO4: Explain coding techniques and standards and various approaches to test the software during different stages of implementation CO5: Explain the need for managing a software project throughout its life cycle and the management activities performed during each stage CO6: Describe the best practices in project and human resource management and the need for standardisation
PC1472	Object oriented programming using C++	CO1: To develop programming skills using the fundamentals and basics of C++ Language. CO2: To develop programs with the effective usage of arrays, structures, pointers and memory management concepts . CO3: To implement programs with the help of user defined functions
PC1473	Programming C++ lab	CO1: Implement programs using sequence, selection and loop control statements, structure and pointer arithmetic. CO2: Implement programs using user defined function. CO3: Implement simple object oriented programs. CO4: Implement programs using constructors and destructors and friend function. CO5: Implement programs using inheritance and operator overloading and class template. CO6: Implement a simple real world application.
MM1431.6	Abstract Algebra laplace transforms, special functions and functions of a complex variable	CO1: Introduce the concept of Group Theory and Ring Theory. CO2: Introduce the concept of Laplace transform and its applications. CO3: Understand some special functions like Beta and Gamma functions. CO4: Understand the concept of complex differentiation and analyticity. CO5: Understand and apply important theorems of complex analysis to evaluate complex integrals.
SEMESTER V		
PC 1541	Electronics	CO1: To understand the basic circuit theorems and apply them to solve circuit problems

		CO2: To understand the characteristics of a PN junction diode, Zener diode and bipolar junction transistor and analyze its working in different electronic circuits CO3: Know about the working of different types of power amplifiers. CO4: To Know the concepts of feedback principles and Barkhausen criterion for oscillations. CO5: To Design and analyze oscillator circuits to determine the frequency of oscillations. CO6: To understand the fundamentals of AM and FM modulations, and demodulations. CO7: To design and analyze the basic operations of MOSFET and UJT and the fundamentals of operational amplifiers.
PC1542	Atomic & nuclear physics	CO1: To be familiar with the phenomena in several areas atomic and molecular physics. CO2: To understand the interaction between atoms, molecules and electromagnetic fields. CO3: To be able to account for the effect of nucleus on the electron structure including concepts like mass dependency, and hyperfine structure CO4: To explain the basic principles of molecular rotational, vibrational and electronic spectroscopies. CO5: To know the fundamental principles of NMR, ESR and Mossbauer spectroscopies and be able to outline the applications of resonance spectroscopies. CO6: To perform quantitative calculations based on the relationship between wavelength, energy, speed of light, and the other optical and spectroscopic terms for atomic and molecular properties. CO7: To understand and explain the general properties of nuclei, nuclear structure and nuclear models. CO8: To explain different forms of radioactivity and account for their occurrence. CO9: To account for the nuclear fission and fusion processes CO10: To understand elementary nuclear particles, and their families, symmetries and conservation laws. CO11: To know and understand various elementary particle interactions and their basic features, and interrelations.

PC1571	Database management system	CO1: Explain the basic concepts and architecture of database management systems CO2: Explain Database models ,Database design and relational algebra operations CO3: Experiment with Structured Query Language CO4: Apply Normalization to simple databases CO5: Familiarized with Emerging Technologies in the area of database management systems
PC1572	Php and mysql lab	CO1: Familiarise with internet tools CO2: Develop basic web pages using HTML CO3: Develop PHP server side scripts using string, arrays, methods CO4: Implement database access through PHP CO5: Develop applications using database through MYSQL to store and retrieve data CO6: Able to develop software projects.
SEMESTER VI		
PC1641	Solid state physics	CO1: To know how to explain the fundamental features of crystalline solids, metallic conduction through free electron model, Properties of insulators and semiconductors, band theory of solids, dielectric and magnetic properties of materials. CO2: To understand the physics underlying superconductivity and its applications. CO3: To be familiar with the basic theoretical and conceptual models in solid state physics CO4: To acquire the capability of elementary problem solving in solid state physics, relating theoretical prediction and analyzing the results. CO5: To gain basic knowledge of solid state physics so as to build a foundation for further study of solid state systems and their application in electronic devices and modern technologies in material sciences. CO6: To be able to outline the relevance of solid state physics in the modern society
PC1642	Statistical mechanics and quantum mechanics	CO1: To understand the limitations of classical physics and the emergence, and the mathematical foundations of quantum mechanics.

		CO2: To solve the Schrödinger equation for simple configurations CO3: To understand that quantum mechanics is a mathematical model the solutions of which yield wave functions and energies. CO4: To understand the general formalism of quantum mechanics. CO5: To solve statistical mechanics problems for simple systems.
PC 1643	Optics and basic electronics	CO1: To engage effectively in advanced experiments in Optics CO2: To evaluate critically and analyze the results of the experimental measurements CO3: To engage effectively in electronics experiments using transistors and diodes
PC1644	Electronics and computer science	CO1: To engage effectively in electronics experiments using and execute computer programs in physical science problems. CO2: To critically evaluate and analyze the results of the experimental measurements. CO3: To design and practice related experiments and acquire data in order to explore digital electronic principles effectively. CO4: To Practice and analyse computer programmes in C++
PC1671	Computer networks and security	CO1: Describe the basic concepts of data communication and computer networks CO2: Explain different types of multiplexing CO3: Classify transmission media based on their characteristics CO4: Explain categories of switched networks and their features CO5: Explain ISO/OSI Reference model and TCP/IP Protocol suite. CO6: Summarise different methods for detecting and correcting errors in data communication CO7: Explain data link layer protocols CO8: Explain network layer services and addressing and data link layer functions. CO9: Demonstrate network layer protocols and routing algorithms CO10: Explain transport layer services and protocols CO11. Identify and explain application layer services and protocols CO12: Identify information security and cyber security threats. CO13: Study various Encryption and Decryption techniques.

PC1672	Operating system	CO1: Describe the concept of system software and operating systems CO2: Summarize the concept of process and process synchronization CO3: Compare various CPU scheduling algorithms CO4: Explain various memory management techniques and the concept of virtual memory CO5: Describe the concept of file system and file management CO6: Explain the concept of virtualization techniques
PC1673	Major project	CO1: Students should be able to design and construct a hardware and software system, component, or process to meet desired needs . CO2: Students are provided to work on multidisciplinary Problems. CO3: Students should be able to work as professionals, with portfolio ranging from data management, network configuration, designing hardware, database and software design to management and administration of entire systems. CO4: Students should be able to develop a software project using PHP and MySQL

B.SC. CHEMISTRY

Course code	Course title	Course outcomes
	SEMEMSTER I	
CH1141	Inorganic Chemistry I	CO 1: The course helps the students to understand the structure of atom, periodicity and nonaqueous solvents. CO 2: The student will be able to appreciate how the inner structure of elements dictates the chemical properties of the elements and also how the elements are arranged in the periodic table. CO 3: The students will learn the properties and application of s-block elements, the H atom and their compounds
MM1131.2	Calculus with Application in Chemistry I	CO1: Demonstrate understanding of and proficiency with basic concepts in Complex Numbers and hyperbolic Functions. CO2: Demonstrate understanding of and proficiency with basic concepts in calculus: functions of one variable, differentiation and its applications, the definite integral, techniques of integration and vector algebra . CO3: Employ methods related to these concepts in a variety of applications. CO4: Apply logical thinking to problem-solving in context. CO5: Demonstrate skills in writing mathematics
PY1131.2	Rotational Dynamics and Properties of Matter	CO1: To apply knowledge of the dynamics of rigid bodies, oscillations, waves and properties of matter to explain natural physical processes and related technological advances. CO2: To understand elementary mathematics along with physical principles to effectively solve problems encountered in everyday life and, apply that in the advanced and further study in science.

		CO3: To do hands-on-experiments in topics such as Young's modulus for different types of wood, rigidity modulus of wires, surface tension of liquids, variation of surface tension with temperature
SEMESTER II		
CH1221	Chemistry: Its Origin, Methodology and Impacts	CO 1: The students will get a basic understanding to do self-directed experimentation work and research in chemistry under the guidance of and supervision of a mentor. CO 2: The student should be able to write the research projects, its implementation and presentation of the outcome. Also, how to overcome the difficulties posed during experiments, handling different reactions and analytical methods etc. CO 3: Analytical chemistry helps the students to understand about the experimental parts of the theory and safety measures which could follow when doing experiments using chemicals.
MM1231.2	Calculus with Application in Chemistry II	CO1: Demonstrate understanding and proficiency of basic concepts of Infinite series, Partial Differentiation, Multiple integrals, Vector Differentiation. CO2: Demonstrate familiarity with a range of examples of these concepts. CO3: Employ methods related to these concepts in a variety of applications. CO4: Apply logical thinking to problem-solving in context.
PY1231.2	Thermal Physics	CO1: To make comparison between liquid diffusion and heat conduction. CO2: To get ideas about fundamental laws of diffusion. CO3: To understand what diffusion is and be able to estimate concentrations and coefficient of diffusivity. CO4:To get ideas about heat engines and their efficiencies as well as the laws of thermodynamics.

		CO5: To understand the concept of entropy, and disorder and have a clear understanding about the changes irreversible and irreversible cycles. CO6: To Solve problems in thermal physics and statistical mechanics by selecting appropriate equations.
SEMESTER III		
CH1341	Inorganic Chemistry II	CO 1: The course provides a fundamental to detailed knowledge in chemical bonding and compounds of non-transition elements and gives an elementary idea about nano materials. CO 2: The student will also get a strong idea about nuclear chemistry.
MM1331.2	Linear Algebra ,Probability Theory and Numerical Methods	CO1: Introduce concepts of Matrices, row reduction and Determinants. CO2: To learn important ideas like linear dependence and independence, special matrices like hermitian matrices and formulas. CO3: Demonstrate a technical idea of Binomial Distribution, the Normal or Gaussian distribution, the Poisson distribution. CO4: Introduce an important topic of algebraic and transcendental equations. CO5: Study important theorems like Trapezium rule; Simpsons rule; Gaussian integration; Monte Carlo method
PY1331.2	Optics, Magnetism and Electricity	CO1: To develop basic knowledge of the physics behind interference, diffraction and polarization. CO2: To understand the principle of operation of laser and the light propagation in optical fibres. CO3: To outline the important applications of lasers and optical fibres in the modern society. CO4: To define magnetism and magnetic properties of matter, derive the relation between magnetic vectors and explain the electron theory of magnetism.

		CO5: To solve problems relating to optics, electricity and magnetism.
SEMESTER IV		
CH1441	Organic Chemistry I	CO 1: The student should get an idea about the behaviour of aliphatic and aromatic compound and the fundamental concepts about reaction mechanism of organic compounds. CO 2: The course provides an insight in to stereochemical aspects, photochemical reactions and aromaticity of compounds.
CH1442	Inorganic Qualitative Analysis	CO 1: The students will get idea about the systematic qualitative analysis by microscale methods of a mixture containing two acidic and two basic radicals. CO 2: Get an idea about identification and conformation of mixtures
MM1431.2	Differential Equations, Vector Calculus And Abstract Algebra	CO1: Introduce fundamental concepts of Ordinary Differential Equations. CO2: Employ different techniques to solve differential equations of first order and Second order DE. CO3: Demonstrate Vector Integration geometrically and theoretically. CO4: Study classical results like green's theorems and Stokes theorem CO5: Introduce a basic concepts of group theory and representation theory.
PY1431.2	Atomic Physics, Quantum Mechanics and Electronics	CO1: To have a deep understanding of models in atomic physics such as Bohr atom model and vector atom model. CO2: To explain Bohr's correspondence principle, coupling mechanisms and Pauli's exclusion principle. CO3: To understand the basic properties of nucleus and nuclear forces CO4: To know the fundamental principles absorption and emission spectroscopies.

		CO5: To know the mathematical foundations of quantum mechanics. CO6: To develop an understanding of how to measure radioactivity. CO7: To analyze, Design and implement combinational logic gate circuits.
PY 1432.2	Practical	CO1: To be able to perform basic hands on experiments in some areas physics CO2: To develop an in depth understanding of theories what they have learned from the classrooms and other knowledge resources. CO3: To acquire the capability for suggesting alternate experimental methods for verifying the theories.
SEMESTER V		
CH1541	Physical Chemistry I	CO 1: Upon completion of this course, the students will gain an exposure and practice in the areas of physical chemistry. CO 2: The students are able to get concepts about gas, liquid properties and principles of thermodynamics and group theory. CO 3: The laws of thermodynamics forms the appropriate organizational tool to understand the chemistry of bulk systems.
CH1542	Inorganic Chemistry III	CO 1: This course helps the students to learn the important multidisciplinary areas of bio inorganic chemistry and organometallic chemistry. CO 2: The students will gain a thorough understanding of the classification of several organometallic reactions and able to identify the applications of organometallic compounds. CO 3: This also helps the students about analytical methods and techniques and general principle of isolation of

		elements helps the students to understand the isolation of elements from their ores
CH1543	Organic Chemistry II	CO 1: The students will be able to explain the concepts of thermodynamics, quantum mechanics and spectroscopy to chemical, physical and biochemical systems. CO 2: Students will be equipped to derive mathematical relationships in these areas of chemistry. CO 3: Students will evaluate the physical and chemical systems by non-spectroscopic techniques.
CH1544	Inorganic volumetric analysis Lab II of CH 1541, CH 1542, CH 1543	CO 1: The students will get idea about the systematic qualitative analysis by microscale methods of a mixture containing two acidic and two basic radicals. CO 2: Get an idea about identification and confirmation of mixtures. CO 3: The students will be experienced in inorganic preparations. CO 4: The students will get an exposure about acidimetry, alkalimetry, permanganometry etc
CH1545	Physical chemistry experiments)	CO 1: The students will be experienced in the determination of partition coefficient of iodine between CCl4 and water, critical solution temperature of phenol -water system, conductometric titrations, potentiometric titrations, calorimetric experiments, kinetics of ester hydrolysis etc.
CH1646	Project	CO 1: The students should develop an aptitude for research in chemistry, learn research methodology and literature search. To inculcate proficiency to identify appropriate research topic and presentation.
SEMESTER VI		
CH1641	Physical Chemistry II	CO 1: The students will get an idea about the preparation, properties and mechanism of organic reactions.

		CO 2: Organic chemistry leaning should give the student a knowledge about reactions, reagents and products. CO 3: They are getting ideas about reactive site, nucleophile, electrophiles, the movement of arrows etc. CO 4: The course also gives a sufficient knowledge about the structural elucidation of organic compounds from spectra. This course also gives other novel areas such as supramolecular chemistry and green chemistry.
CH1642	Organic Chemistry III	CO 1: The students will get an idea about the preparation, properties and mechanism of organic reactions. CO 2: The students get an idea about carbohydrates, amino acids, proteins, nucleic acids, alkaloids, polymers and their properties.
CH1643	Physical Chemistry III	CO 1: The students learn the basics of electrochemistry and its application to modern industry and technology. CO 2: The course provides the different types of reactions and the various factors that determine the rate of the reactions. CO 3: The course gives an understanding about the phase diagrams of one teo and three component systems and elementary ideas of photochemistry
CH1644	Organic chemistry experiments	CO 1: The students should be able to develop laboratory skills. CO 2: Apply principles of separation and isolation of organic compounds
CH1645	Gravimetry	CO 1: Gravimetry gives the basic concepts of analytical methods. CO 2: Also get idea about the precipitation coprecipitation and post precipitation possibilities.

CH1651.1	Supramolecular, Nano Particles and Green Chemistry	CO 1: Supramolecular chemistry gives idea about chemistry beyond molecules. CO 2: The learners should get knowledge about the importance of self-assembly. CO 3: Relevance of supramolecular chemistry to mimic biological systems. CO 4: Green chemistry knowledge should equip the student to handle environmentally benign reactions and the minimum use of hazardous chemicals and proper way of chemical waste management
CH1646	Project and Factory visit	CO 1: The students should develop an aptitude for research in chemistry, learn research methodology and literature search. To inculcate proficiency to identify appropriate research topic and presentation.

B.SC. BOTANY

Course code	Course title	Course outcomes
	SEMESTER I	
BO 1141	Angiosperm Anatomy, Reproductive Botany and Palynology	CO 1: Students are able to understand the complexities of cell wall organization, microscopic and sub microscopic structures. CO 2: Students can distinguish various anatomical features of monocots and dicots (stem and root) with respect to permanent tissues and tissue systems. CO 3: Identify and differentiate male and female gametophyte development in angiosperms CO 4: Distinguish monocot and dicot embryo and the basic features of pollen grains.

CH1131.3	Analytical and environmental chemistry	CO1: Predict structure of simple molecules based on the concept of hybridisation CO2: Discuss the theory of volumetric analysis CO3: Become aware of threat of chemical pollutants air, water and soil
BC1131	Biophysical Chemistry	CO1: Gain knowledge about the preparation of different types of solutions and buffers CO2: Identify different types of bonds in biomolecules. CO3: Explain different biochemical separation techniques.
BC1131	Complementary Practical- I	CO1: To resolve quantitative problems concerning the preparation of solutions, buffers, reagents and the introduction of techniques for the separation and analysis of biomolecules
ZO 1231	Animal Diversity II	CO 1: Students learn the evolution, hierarchy and classification of different classes of chordates CO 2: Get an overview of the morphology and physiology of typical examples CO 3: Study the adaptations and economic importance of specific vertebrates
	SEMESTER II	
BO1221	Methodology and Perspectives in Plant Sciences	CO 1. To familiarize the students with the fundamental characteristics of science and significance of scientific studies CO 2. To apply scientific methods independently and familiarize instruments in biological labs CO 3. To interpret scientific data using basic statistical methods CO 4. To develop skills for microscopic specimen preparation CO 5. Students will be familiarized with the fundamental characteristics of Science. CO 6. Develops an idea about involvement of science in improvement of human life. CO 7. Create awareness of scientific approach towards life and learns the values of ethics in science.

		CO 8. Develops skills to interpret scientific data using basic statistical methods. CO 9. Create skills to prepare specimens for microscopic and gross anatomical studies and familiarize with different microscopic methods for sample analysis. CO 10. Students become able to prepare buffers, measure pH, separate plant pigments and construct absorption spectrum of a sample
BO1222	Practical-I- (BO1141 and BO1221)	CO 1. Students are familiarised with the anatomy of stem, roots of monocots and dicots. CO2. Students are aware with the reproduction of plants
CH1231.3	Inorganic & bioinorganic chemistry	CO1: Understand the biological and environmental aspects of organic compounds CO2: Understand and Summarise the applications of radioactivity CO3: Appreciate biological processes like photosynthesis, respiration etc CO4: Realise the use of trace elements in biochemical processes
BC 1231	Biomolecules	CO1: Classify and characterize different types of biomolecules like carbohydrates, lipids, amino acids, proteins, nucleic acids and hormones
BC 1231	Compl Practical -II	CO1: Estimation of biomolecules
ZO 1331	Functional Zoology	CO 1: Students study the structure and function of each organ system in human body CO 2: Study the etiology of common physiological disorders, syndromes and diseases
		SEMESTER III
BO 1341	Microbiology, Phycology, Mycology, Lichenology and Plant Pathology	CO1: To familiarize characteristic features of microbes and their significance CO2: To create awareness about importance of microbes in environment CO3: To generate idea about types of algae, fungi, lichen and their economic as well as evolutionary significance CO4: The student can prepare micropreparations and identify the thallus and reproductive structures of lower plant groups like algae, fungi and lichen

		CO5: An awareness created among students about various microbes, structure and economic importance CO6: Students can use effectively the methodology to isolateand identify bacteria present in curd and root nodules CO7: Can identify various plant diseases, etiology of pathogens and control measures CO8: Able to prepare fungisides like tobacco decoction and Bordeaux mixture
CH1331.3	Physical chemistry	CO1: Understand kinetics of reactions CO2: Understand the theories of catalysis CO3: Discuss the principle and application of UV and NMR spectroscopy. CO4: Understand the properties of colloids and their application
BC 1331	Enzymes and Bioenergetics	CO1: Classify enzymes and describe the factors affecting an enzyme catalyzed reaction CO2: Describe different types of enzyme inhibition. CO3: Elaborate on the role of vitamins in human nutrition. CO3: Elicit different pathways and mechanism of energy production in carbohydrate metabolism
BC 1331	Complementary Practical-III	Qualitative Analysis of Biomolecules
ZO 1331	Functional Zoology	CO1: Students study the structure and function of each organ system in human body CO2: Study the etiology of common physiological disorders, syndromes and diseases
		SEMESTER IV
BO1441	Bryology, Pteridology, Gymnosperms and Paleo botany	CO1: To understand their Diversity. CO2: Know their systematics, morphology and structure CO3: Know life cycle pattern CO4: Know economic importance of cryptogams. CO5: Know its evolution CO6: Know, scope and application of Palaeobotany CO7: Know types of fossils, geological time scale.
BO1442	Practical-II BO1341 & BO1441	CO1: Students are aware with lower groups of plants, its structure, reproduction etc.

		CO 2: To understand their Diversity and evolution of plants
CH1431.3	Organic chemistry	CO1: Identify and distinguish the structure of amino acids, peptides, proteins and nucleic acids. CO2: Categorise crude drugs and explain the method of evaluating crude drugs. CO3: Discuss the extraction process and general properties of natural products -oils, fats, terpenes and alkaloids.
CH 1432.3	Lab course for botany	CO1: Understand and develop GOOD LAB PRACTICES CO2: Develop skill in safe handling of chemicals, take precaution against accidents and follow safety measures CO3: Prepare organic compounds, Purify and recrystallize CO4: Perform volumetric titrations under acidimetry-alkalimetry, permanganometry, dichrometry, iodimetryiodometry,cerimetry, argentometry and complexometry
BC 1431	Intermediary Metabolism	CO1: Describe digestion and absorption of carbohydrates, lipids and proteins. CO2: Elaborate the reactions & regulations involved in carbohydrate, lipid & amino acid metabolism. CO3: Explain the genetic aspects of metabolism.
BC 1431	Complementary Practical-IV	Quantitative Analysis of Biomolecules
ZO 1431	Applied Zoology	CO 1: Students learn the basic principles involved in the culture and breeding of common, edible and ornamental fishes of Kerala and the art of aquarium keeping CO 2: Get a basic understanding of human genomics and reproductive biology including stem cell research and prenatal diagnostic techniques
ZO 1432	Practical I – Animal Diversity I & II, Functional Zoology and Applied Zoology	CO1: Students get hands on training experience in anatomy through simple dissections and mountings CO2: Students are familiarized with conventional organ system in common, easily available animals

		CO3: Emphasize the adage that „seeing is believing“ by studying the typical examples and economically important preserved specimens CO4: Study and carry out clinical analysis of blood and urine
		SEMESTER V
BO1541	Angiosperm Morphology, Systematic Botany, Economic Botany, Ethnobotany and Pharmacognosy	CO1: To know the external peculiarities and features of angiosperms. CO2: To study the classification of angiosperms. CO3: Understand the phylogenic relationship between them. CO4: Know about systematic classification & nomenclature. CO5: Knows about taxonomic aspects of angiosperms CO6: To understand the scope and importance of pharmacognosy. CO7: Know the cultivation, collection, processing & importance of various CO8: herbal drugs. CO9: Understand the scope of economic botany. CO10: Know the botanical resources like non wood forest products. CO11: Understand the concept of Ayurvedic pharmacy
BO 1551.1	Open Course - Horticulture	CO1: Understand economic importance of plant and plant product. CO2: Know the methods of plant propagation. CO 3: Understand the fruit & vegetables production technology CO4: Understand the scope & importance of floriculture. CO5: Understand the methods of cultivation of different flowering plants CO6: To understand about Bonsai and floral arrangements
BO 1541	Angiosperm Morphology, Systematic Botany, Economic Botany, Ethno Botany and Pharmacogn	CO1: To introduce importance of morphological characters in classification and plant identification CO2: To develop skill for herbarium preparation.. CO3: To acquire knowledge about economic, ethnobotanical significance and pharmacognosy of plants. CO4: Ability to identify different types of inflorescences, flowers and fruits, their arrangement and relative position.

		CO5: Familiarization of basic rules of Angiosperm classification and different types of classification CO6: Preparation and maintenance of Herbarium. CO7: Identification of plants to their respective families CO8: Understanding of ethnobotanical and pharmacological significance of plants.
BO 1542	Environmental Studies , Disaster Management, Phytogeography & Research Methodology	CO1: To create awareness about ecosystem and Natural resources. CO2: To generate knowledge about importance of Biodiversity conservation CO3: To understand the need to mitigate pollution and strategies for disaster management CO4: To impart knowledge about phytogeographical regions CO5. To impart knowledge about the methodology of research and preparation of report CO6. Develops awareness about natural resources, its conservation and importance of sustainable lifestyles CO7. Understands and identify different ecosystems and ecosystem processes. CO8. Develops deep understanding about biodiversity and importance of its conservation CO9. Develops skills to identify polluted sites, its major pollutants and recognize the need to mitigate environmental pollution CO10. Awareness about different types of disasters and to adopt strategies to overcome and reduce the impact CO11. Identify the importance of phytogeographical sites in India CO12. Students trained about various steps for the conduct of a research project and write a project report CO13: Can devise an experimental design and carry out a project
BO1543	Cell Biology, Genetics and Evolutionary Biology	CO1: To create awareness about cellular organelles. CO2: To develop skills to identify cell stages and workout problems in classical genetics. CO3: To introduce different theories of evolution etc.

		CO4: Students have a better understanding of cell structure and cell organelles. CO5: Prepare microslides of cell divisions and identify various stages of mitosis and meiosis CO6: Able to workout problems in classical genetics, modified mendelian ratios and population genetics CO7. Able to understand genetic diseases and their inheritance CO8: Understand evolutionary principles, theories and methods of speciation
SEMESTER VI		
BO 1641	Plant Physiology and Biochemistry	CO1: To understand physiology of absorption, photosynthesis and respiration CO2: To study physiological responses in growth, movements and flowering of plants CO3: To generate awareness about biomolecules CO4: To develop skill for testing of biomolecules CO5: Students get a clear understanding of the basic concepts of Physiology and Biochemistry. CO6: Understands photosynthesis, respiration, plant growth regulators, nitrogen metabolism, and stress physiology CO7: Familiarization of basic physiological practical procedures. CO8: Students get the basic knowledge about the macromolecules and their overall role in cell metabolism; and secondary plant products. CO9: Identification of protein, reducing and non reducing sugar by qualitative tests.
BO 1642	Molecular Biology, General Informatics &Bioinformatics	CO1: To generate awareness of genetic material and gene expression CO2: To get an overview of information technology CO3: To develop skill for using internet, biological databases and molecular visualization tools CO4: Understands DNA as genetic material, develops awareness about chemical composition and different types of DNA including their replication method.

		CO5: Students understand various molecular aspects of gene expression and regulation of genes CO6: Develops awareness about various academic services applied for their studies CO7: Awareness about features of a computer, different application and system software. CO8: Recognizes the need for safe use of internet and also become aware about health issues related to over usage of computers and mobile phones as well as cyber crimes and cyber laws. CO9: Students will be familiarized to molecular phylogeney, Biological Databases, Sequence analysis, Genomics, Proteomics & Comparative genomics
BO 1643	Biotechnology, Nanobiotechnology, Horticulture & Plant Breeding	CO1: To introduce plant biotechnology, tissue culture and rDNA technology CO2: To give insight into applications in industrial biotechnology and nano biotechnology CO3: To get an awareness in principles and methods of gardening CO4: To understand plant breeding techniques and develop skill for hybridization. CO5: To get knowledge about research methodology and preparation of projects CO6: Students are familiarized in preparation of culture solutions, sterilization, inoculation of explants, induction of callus and morphogenesis . CO7: They are familiarized in biotechnological tools like RFLP, RAPD and PCR techniques CO8: Appreciate the application of equipments and tools in biotechnology CO9: Understanding of ethical and legal issues in biotechnology and basic knowledge about IPR CO 10: Better understanding of nanosystems, and applications of nanomaterials

		CO11: Students able to identify and use various horticultural implements CO12: Can propagate plants through grafting, budding and layering &can prepare manures, fungicides etc CO13: Can effectively do plant breeding methods and understands ttheir practical application in betterment of food crops
BO 1661.1	Industry Based Elective Course (a) Organic Farming	CO1: To introduce students to agriculture industry and familiarize students to the potential of Organic farming CO2: Sector / Industry - Agriculture, Companies dealing with production of Biofertilizer/Biopesticide/organic manure. CO3: Placement opportunities – Students can start organic farming initiatives, can lead export of organic farm produce, can get inducted in Biofertilizer/Biopesticide/organic manure preparation and marketing companies CO4: Unique Skills – Learn the basic principles of organic farming, preparation of organic manures, biopesticides and biofertilizers CO5: Students will understand the ancient agricultural practices and protect the environment from the recent indiscriminate, avaricious anthropogenic onslaughts that the extent of damage done is at least be mitigated. CO 6: Students can assess the advantages of organic farming with as an alternative to use of anthropogenic chemicals that biofertilizers and natural means of crop protection including the advocacy of IPM can ensure profitable farming. CO7: Students can analyse the various forms of microbes as suppliers of organic nutrients, including nitrates, phosphates enriching the soil that would eventually have a bearing on the methods of cultivation with enhanced nitrogen supply. CO8: Students apply the knowledge of using biopesticides without harming the co- living microbiota and life forms in

		the ecosystem and understand that the use crop protection chemicals can be avoided to safe guard environment. CO9: Students will use the acquired knowledge needed to prepare eco friendly commercial formulations meeting national and international standards and regulations and float newer entrepreneurial ventures
BO 1661.2	Industry Based Elective Course (b) Mushroom Culture Technology	CO1: To introduce students to Mushroom cultivation, post harvest storage, value addition and marketing CO2: Sector / Industry - Mushroom cultivation and marketing industry CO3: Placement opportunities – Students may get absorbed in Mushroom production and processing industries. Also the students may become entrepreneurs to start their own small scale mushroom cultivation units. CO4: Unique Skills – Students will learn the technicalities of cultivation, Harvesting, Value addition, packaging and marketing of mushroom. CO5: Students will be able to Developing skills in identifying locally available common mushrooms, distinguish between edible and non-edible mushrooms. CO6: Analyze the pest and growth limiting factors affecting growth of mushroom. CO7: Develop new skills and technologies of growing mushroom among college students. CO8: Developing skills in making value added products from mushrooms. CO9: Raise linkages to increase employment opportunities and generating income.
BO 1661.3	Industry Based Elective Course (c) Nursery and Garden Management	CO1; To introduce students to techniques involved in Nursery and Garden management business CO2: Sector / Industry - Agriculture, Nursery business CO3: Placement opportunities – Students can start Nursery and gardening initiatives, Can get employment in commercial nurseries

		CO4: Unique Skills – Learn the basic principles of nursery and garden management, Learn the various procedures of plant propagation, Sourcing and marketing of new ornamentals and hybrid varieties of fruit plants. CO5: Preparation of quality nursery plants considering the need of farmers CO6: Root induction from stem cuttings to maximize vegetative propagation CO7: Methodology of seed storage, identify the ideal conditions for seed sowing and growth CO8: Possibilities and types of landscaping CO9: The students are able to carry out best gardening and nursery management practices. CO10: They become skillful professionals in gardening and managing nurseries as well as in the preparation of nursery beds, soil management, planting procedures, control of seedling density, use of fertilizers, irrigation, and pest control. CO11: Also Skilled and professional training ensures quality seedling production and their maintenance in nursery
BO1644)	Practical-III (BO1541 & BO1542	CO1: Students can aware on the environment and pollution CO2: They understand the classification plants and its systematic position CO3: Aware on the cellular and genetic makeup of oraganism and their evolution
BO1645)	Practical-IV (BO 1543, BO1642, BO1642 & BO1643	CO1: Aware on the experimental aspects of plant physiology CO2: Aware on the emerging trends in applied plant research like nanotechnology, bioinformatics etc. CO3: Familiar with research and research methodology in plant science
	PROJECT	CO1: Project helps for creating research attitude among the graduate students

B.SC BOTANY & BIOTECHNOLOGY

Course code	Course title	Course outcomes
		SEMESTER I
BB 1121	Methodology and Perspective of Biotechnology	CO 1: To introduce modern scientific methods and to familiarize biotechnology and its various areas. CO 2: The students will be able to understand how science works. CO3: Students will learn how to apply statistics and IT in Biological science. CO4: They will receive a general awareness about biotechnology and its application in various fields.
BB1131	Introduction to Biochemistry	CO1: To give basic awareness about the concepts and physical aspects in biochemistry and to develop analytical skills in students in order to prepare them to use instruments.
BB 1141	Angiosperm Anatomy and Reproductive Botany	CO 1. To bring the basic concept and understanding about the anatomy of the flowering plants and its relationship to the physiology and environmental adaptability of the plants. CO 2. It also gives a basic idea on the reproduction and development of the flowering plants and its adaptation to suit to its environment. CO 3. Students should be familiar with the structure of anther (mature and young) and embryo (dicot and monocot) using permanent slides.
BB1171	Microbiology	CO1: The course on microbiology is destined to give a thorough and basic understanding in various aspects of classical Microbiology, which forms the basis of any biotechnology application. CO2: Students were expected to master the major theoretical and practical expertise from this course.

BB1131	Introduction to practical biochemistry and Carbohydrate analysis	CO1: To resolve quantitative problems concerning the preparation of solutions, buffers, reagents and analysis of carbohydrates.
SEMESTER II		
BB1221	Biophysics & Instrumentation	CO1: The aim is to introduce the physical aspects and bioenergetics of the living system and to familiarize the principle and working of various instruments used in biotechnology experiments. CO2: The students will be able to understand the fundamentals of biophysics and the general instrumental techniques used in biotechnology.
BB1231	General Biochemistry	CO1: To familiarize the students with the building blocks of living matter, the biomolecules, their structure, components, reactions, their derivatives, biological significance and the basic tests to identify them.
BO 1241	Environmental Studies	CO1: Students should acquire a basic understanding about the structure function of the environment and its interaction with the living systems. CO2: It will impart the geographical distribution of plants and the impact of human intervention in the environment and the delicate balance of various factors in the environment. CO3: It gives an idea about the various types of biodiversity and the influence of environmental pollution on the biodiversity.
BB 1242	Practical Botany -1	CO1: Students are aware on the anatomical, morphological and reproductive aspects CO2: They can understand the environmental aspects of plant science
BB1271	Microbial Metabolism, Genetics and Diseases	CO1: This course is designed to get an in-depth knowledge in Microbial metabolism, microbial genetics, and microbial diseases.

		CO2: This knowledge is very important as far as Biotechnology is concerned. The students are expected to master all microbial related techniques to pursue studies in biotechnology
BB1231	Analysis of amino acids, proteins and enzymes	CO1: To train the students on analysis of amino acids and proteins and to familiarize them with enzyme assays.
		SEMESTER III
BO 1341	Phycology, Mycology, Lichenology & Plant Pathology	CO1: To impart basic knowledge about lower plants such as algae, fungi, Lichen and the diseases caused by these organisms in plants. CO2: This will give an account on the life cycle, habitat, anatomy, classification and its involvement in the life cycle of other members of living world.
BO 1341	Horticulture, Mushroom Cultivation & Marketing	CO1: This course will give an idea about the application of biological science particularly plant science in business generations and self-employment. CO2: This focuses on the horticulture, Mushroom cultivation, its marketing and also in forest depended economy and its impact on society.
BB 1342	Bryology, Pteridology, Gymnosperms & Paleobotany	CO1: Students should be trained in basic botany such as lower plants like Bryophytes, Pteridophytes, Gymnosperms, etc. to get an in-depth knowledge in the4 various aspects of Biotechnology. This is the main purpose of this course.
BB1371	Protista and Animal Diversity	CO1: This course is designed in such a way to get a basic insight into the diversity of animals and its morphological and physiological adaptations suited to their ecosystems.
BB1372	Animal Physiology and Anatomy	CO 1: This course will give very fundamental and essential information about the anatomy and functioning of the various types of cell, tissues and organs in selected model organisms.

BB1331	Analysis of lipids	To train the students on qualitative and quantitative analysis of lipids.
	SEMESTER IV	
BB1431	Metabolism	CO1: The course aims at providing an overview of energy production by explaining the general principles of cellular energy metabolism and schematizing the different metabolic pathwa
BB1431	Practical: Estimation of amino acids, proteins and nucleic acids	CO1: To train the students on qualitative and quantitative analysis of amino acids, proteins and nucleic acids.
BO 1441	Bryology, Pteridology, Gymnosperms & Paleobotany	CO1: Students should be trained in basic botany such as lower plants like Bryophytes, Pteridophytes, Gymnosperms, etc. to get an in-depth knowledge in the4 various aspects of Biotechnology. CO 2: Know their systematics, morphology and structure CO 3: Know life cycle pattern CO 4: Know economic importance of cryptogams. CO 5: Know its evolution CO 6: Know, scope and application of Palaeobotany
BB 1442	Cell biology, Plant breeding and evolutionary biology	CO1: This course will provide a basic understanding in cell biology, plant breeding and evolution, which is needed as a student of biology and can supplement in understanding and pursuing studies in Biotechnology CO 2: To introduce different theories of evolution etc. CO 3: Students have a better understanding of cell structure and cell organelles. CO 4: Prepare microslides of cell divisions and identify various stages of mitosis and meiosis CO 5: Able to workout problems in classical genetics, modified mendelian ratios and population genetics CO 6. Able to understand genetic diseases and their inheritance CO 7: Understand evolutionary principles, theories and methods of speciation

BB 1443	Practical Botany 2	CO 1. Students are able to recognize lower plant groups like algae, fungi, bryophytes and pteridophytes CO 2. They are familiar with diversity and distribution of lower groups and its reproductive aspects
BB1471	Molecular Biology	CO1: Molecular biology is basis of modern biology and biotechnology. CO2: This course imparts a very essential foundation for the proper understanding of life at molecular level, which is essential for further studies related to genetic engineering, immunology and other modern applied aspects of biology.
BB1472	Immunology	CO1: To give a basic training to the students of Biotechnology on immune system, immunology and immunology related techniques. CO2: Training in this course will create an interest in immunology and is essential for further studies in Biotechnology.
BB1431	Estimation of amino acids, proteins and nucleic acids	To train the students on qualitative and quantitative analysis of amino acids, proteins and nucleic acids.
		SEMESTER V
BB 1541	Plant Physiology	CO1: To give basic information on plant physiology and the related biochemical and biophysical aspects to the students of Biotechnology. CO2: This course will equip the students to understand the functions of the plant system on biophysical and biochemical approach
BB 1542	Angiosperm Morphology & Systematic Botany	CO1: The course is designed to give a basic awareness in systematic botany and morphology of higher plants and the course should generate interest on students to pursue continuous studies in systematic botany

		CO 2: To study the classification of angiosperms. CO 3: Understand the phylogenic relationship between them. CO 4: Know about systematic classification & nomenclature. CO 5: Knows about taxonomic aspects of angiosperms
BB1571	Recombinant DNA Technology	CO1: To give a basic training to the students of Biotechnology on recombinant DNA and related techniques. CO2: Training in this course will create an interest in genetic engineering and is essential for further studies in Biotechnology.
BB1572	Plant Biotechnology	CO1: This course is designed to impart basic knowledge in the applied aspects of plant biotechnology for the improvement of agriculture and plant based industries. CO2: It will give an outline of plant tissue culture cell culture and plant genetic transformation methods, which will help the students to pursue further studies in this aspects.
BB1573	Animal Biotechnology	CO1: To introduce the basics of the subject of animal biotechnology and its applications to the students in an attractive and simple manner.
BB1542	Genetics.	CO1: This course is supposed to supplement the basic knowledge in genetics in general and Mendelian genetic in particular. CO2: This is essential to study the various branches of biology like molecular biology and gene technology.
	SEM VI	
BB1641	Genetics	CO1: Gives the basic knowledge in genetics in general and Mendelian genetics in particular CO2: Gives basic and essential knowledge to study the various branches of biology like molecular biology and gene technology

BB 1642	Economic Botany, Ethnobotany & Medicinal Botany	CO1: This gives awareness about the importance of Medicinal plants and its useful parts, economically important plants in our daily life and also about the traditional medicines and herbs, and its relevance in modern times.
BB1671	Industrial Biotechnology	
BB1672	Environmental Biotechnology.	CO1: This course is aimed to bring an enthusiasm on environmental protection and it should give the contribution of biotechnology techniques to keep the environment clean and healthy. CO2: As well it should highlight the economic aspects and bioprocess technology in the application of biotechnology in protecting the environment from pollution.
BB1661	Project on Biotechnology	CO1: Project helps for creating research attitude among the graduate students

B.Sc. ZOOLOGY

Course code	Course title	Course outcomes
	SEMESTER I	
ZO 1141	Animal Diversity – I	CO 1: The students learn the basics of systematics and understand the hierarchy of different categories. CO 2: Learn the diagnostic characters of different phyla through brief studies of examples. Obtain an overview of economically important invertebrate fauna
CH 1131.3	Theoretical Chemistry	CO1: Understand the relevance of periodic classification of elements CO2: Apply the VSEPR theory to explain the geometry of molecules

		CO3: Apply the principles of colorimetry to estimate ions and elements CO4: Recognize the factors affecting environment and solutions for it
BO 1131	Microtechnique, Angiosperm Anatomy and Reproductive Botany	CO1: To generate awareness about anatomical features of Angiosperms & reproductive biology as well as to learn techniques for micropreparations.. CO2: To develop skills for preparation and identification of microscopic structures CO3. To distinguish various tissue systems and internal structure CO4. To acquire basic knowledge about embryo development and pollen grains
BC1131	Complementary Practical- I	CO1: To resolve quantitative problems concerning the preparation of solutions, buffers, reagents and the introduction of techniques for the separation and analysis of biomolecules
BC1131	Biophysical Chemistry	CO1: Gain knowledge about the preparation of different types of solutions and buffers CO2: Identify different types of bonds in biomolecules. CO3: Explain different biochemical separation techniques.
	SEMESTER II	
ZO 1241	Animal Diversity – II	CO 1: Learn the general characteristics and classification of different classes of vertebrates. CO 2: Understand the vertebrate evolutionary tree CO 3: Understand general aspects of applied interest in relation to vertebrates
CH1231.4	Inorganic chemistry	CO1: Understand the biological and environmental aspects of organic compounds CO2: Understand and Summarise the applications of radioactivity CO3: Understand the properties and applications of metal complexes CO4: Discuss the biochemistry of trace elements

BC 1231	Complementary Practical -II	CO1: Estimation of biomolecules
BC 1231	Biomolecules	CO1: Classify and characterize different types of biomolecules like carbohydrates, lipids, amino acids, proteins, nucleic acids and hormones
BO 1231	Thallophytes, Archegoniatae and Plant pathology	CO 1: To create awareness about the world of microbes and non flowering plants. CO 2: To familiarize characteristic features of microbes and their significance in environment CO 3. To generate idea about types of algae, fungi, lichen and their economic as well as evolutionary significance CO 4. To familiarize the students the characteristic features, life cycle and evolutionary significance of Bryophytes, Pteridophytes and Gymnosperms. CO 5. To impart knowledge about diseases in plants
	SEMESTER III	
ZO 1341	Experimental Zoology, Instrumentation, Biostatistics and Bioinformatics	CO 1: Learn the fundamental characteristics of science as a human enterprise CO 2: Understand how science works CO 3: Study to apply scientific methods independently
CH1331	Organic Chemistry	CO1: Classify carbohydrates, aminoacids, proteins, nucleic acids, lipids, polymers and drugs. CO2: Summarize optical, geometrical and conformational isomerism CO3: Predict absolute configuration of stereo center CO4: Explain the synthesis of amino acids, peptide,drug
BC 1331	Enzymes and Bioenergetics	CO1: Classify enzymes and describe the factors affecting an enzyme catalyzed reaction CO2: Describe different types of enzyme inhibition. CO2: Elaborate on the role of vitamins in human nutrition. •CO3: Elicit different pathways and mechanism of energy production in carbohydrate metabolism

BC 1332	Biochemistry Practical	CO1: Qualitative Analysis of Biomolecules
BO 1331	Systematic Botany, Economic Botany, Ethno Botany, Plant Breeding	CO 1: To understand classification, identification and ethnobotanical importance of angiosperms along with plant breeding techniques CO 2: To introduce importance of morphological characters in classification and plant identification. CO 3. To develop skill in identification of plants. CO 4. To acquire knowledge about economic, ethnobotanical significance and pharmacognosy of plants CO 5. To get knowledge about plant breeding techniques
BO 1331	Practical Botany -1	CO 1. Students are aware on the anatomical, morphological and reproductive aspects CO 2. They can understand the environmental aspects of plant science
	SEMESTER IV	
ZO 1441	Ecology, Habitat Destruction and Disaster Management	CO 1: Students get basic knowledge on ecosystems, food chain, food web and energy flow CO 2: Students acquire general awareness on pollution and their impacts CO 3: Students learn about various types of anthropogenic pressures on ecosystem, related degradation and management measures CO 4: Students get awareness of toxicants, their impacts on human health and environment and remedial measures CO 5: Create awareness about disasters, prevention and mitigation measures
ZO 1442	Practical I – Instrumentation, Animal Diversity – I and Animal Diversity – II	CO 1: Students learn anatomy through simple dissections and mountings of permitted species CO 2: Students get familiarized with various organ systems by examining approved animals' CO 3: Emphasize the adage that

		seeing is believing by observing typical examples and economically important specimens CO 4: Students learn the working principle of different scientific instruments CO 5: Students become familiar with economically important species CO 6: Strengthen what students studied in theory by giving them an opportunity to have first-hand experience in lab as well outside
CH 1431.4	Physical chemistry	CO1: Classify reactions on the basis of order and molecularity CO2: Understand different techniques used for the study of colloids CO3: Review the principles underlying the working of sophisticated instruments
CH 1432.4	Course v: lab course for zoology	CO1: Understand and develop good lab practices CO2: Prepare organic compounds, Purify and recrystallize CO3: Perform volumetric titrations under acidimetry-alkalimetry, permanganometry, dichrometry, iodimetryiodometry,cerimetry, argentometry and complexometry
BC 1431	Intermediary Metabolism	CO1: Describe digestion and absorption of carbohydrates, lipids and proteins. CO2: Elaborate the reactions & regulations involved in carbohydrate, lipid & amino acid metabolism. CO3: Explain the genetic aspects of metabolism.
BC 1431	Compl Practical-IV	CO1: Quantitative Analysis of Biomolecules
BO 1431	Plant Physiology, Plant Ecology, Horticulture and Plant biotechnology	CO1: To create awareness about physiological aspects of growth & metabolism along with knowledge about Ecology, horticulture and Biotechnology CO2: To understand physiology of absorption, photosynthesis and respiration. CO3: To study ecosystem and ecological modifications CO4: To generate awareness about horticultural techniques.

		CO5: To familiarize plant tissue culture techniques
BO1432	Practical (BO1131,BO1231 ,BO1331 &BO1431)	CO1:. Students can learn the structure of lower groups like algae, fungi, bryophytes, pteridophytes and gymnosperms. CO2: Students can learn the structure of flowers and classification of plants
	SEMESTER V	
ZO 1541	Cell and Molecular Biology	CO1: Students acquire sufficient knowledge on the fundamental structure, function and biochemistry of the cell CO2: Understand the principles of Molecular Biology and gene manipulation CO3: Students learn ultra-structure of prokaryotic and eukaryotic cells CO4: Students understand the fundamental differences between prokaryotic and eukaryotic cells CO5: Students learn the structure, replication and modification of the genetic material of eukaryotes CO6: Students understand the mechanism of gene expression and gene regulation CO7: Gets an awareness of bacterial recombination CO8: Students acquire scientific knowledge on cancer and ageing
ZO 1542	Genetics and Biotechnology	CO1: Learn the structure of gene CO2: Get educated on the underlying genetic mechanism operating in human and state of the art of biotechniques CO3: Students develop proper understanding on the relation between heredity and variation CO4: Learn the mechanism of crossing over and inheritance patterns in human CO 5: Students become aware of

		different genetic syndromes and the possible ways to reduce its occurrence CO6: Students understand the principles and techniques involved in DNA technology and get an overview of modern techniques like PCR, hybridoma technology, gene therapy and human cloning
ZO 1543	Immunology and Microbiology	CO1: Students understand the scope and importance of clinical immunology CO2: Students understand the principles and mechanisms of immunology CO3: Learn the malfunctioning and disorders of the immune system CO4: Students acquire knowledge on immunodeficiency diseases CO5: Learn the transplantation and mechanism of graft retention and rejection CO6: Students get a brief history of microbiology CO7: Students get a broad understanding of the positive as well as negative aspects of microbes CO8: Economic importance (applied aspects) of microbes in industry can be studied
SEMESTER VI		
ZO 1641	Physiology and Biochemistry	CO1: Students develop a clear understanding of the correlation and coordination between the structure and function of different organs and organ systems of the body CO2: Proper study on the physiology help students understand the physiology of different organ systems of the body CO3: Students learn the correlation between diseases and the abnormal structure or improper functions of organs

		CO4: Students understand the possible causes of abnormal physiology and the resultant diseases CO5: Students understand the structure and function of biomolecules and their role in metabolism
ZO 1642	Developmental Biology and Experimental Embryology	CO1: Students get a brief idea about the history of Developmental Biology CO2: Provide the students a bird's eye view of sophisticated embryological techniques CO3: Study the various stages involved in the development of organisms CO4: Study the initial developmental procedures involved in Amphioxus, Frog and Chick CO5: Procure information on state-of-the-art experimental procedures in embryology CO6: Different control mechanisms of development including gene action are studied
ZO 1643	Ethology, Evolution and Zoogeography	CO1: Study the physiological basis of behaviour CO2: Study the different types of communication system among animals CO3: Students get a concept on organic evolution CO4: Students get knowledge on the distribution of animals in the biosphere
ZO 1651.2	Ornamental fresh water fish production	CO1: Students learn the scientific method of setting up an aquarium CO2: Students learn the culture breeding and marketing techniques of common indigenous ornamental fishes
ZO 1644	Practical II – Cell Biology, Genetics, Bioinformatics, Biotechnology,	CO1: Students develop the skill to prepare and observe chromosomal arrangements during cell division CO2: Students study chromosomal aberrations in man

	Immunology and Microbiology	CO3: Students gain broad knowledge on conventional biotechnological procedures CO4: Students gain skill to perform routine blood analysis
ZO 1645	Practical III – Physiology and Biological Chemistry, Molecular Biology and Biostatistics	CO1: Students learn clinical procedures for blood and urine analysis CO2: Students become skilful in simple biochemical laboratory procedures
ZO 1646	Practical IV – Developmental Biology, Ecology, Ethology, Evolution and Zoogeography	CO1: Students gain knowledge about the different developmental stages of animals CO2: Students learn to estimate the amount of carbon dioxide and oxygen in water samples CO3: Students learn to estimate productivity of aquatic ecosystems CO4: Students learn to assess the water quality by studying various parameters CO5: Study the ecological relationships and adaptations of animals
ZO 1647	Project and Field Study	CO1: Students develop an aptitude for research and higher studies in zoology CO2: Student inculcate proficiency to identify appropriate research topic and presentation CO3: Provide knowledge of a wide range of scientific techniques and application of methods/tools in related fields.

B.Com

Course code	Course title	Course outcomes
		SEMESTER I
CO 1121	Methodology and Perspectives of Business Education	CO1: To create a basic awareness about the business environment and the role of business in economic development. CO2: To provide a holistic, comprehensive and integrated perspective to business education CO3: To give a fundamental understanding about ethical practices in business.
CO 1141	Environmental Studies	CO1: To enable the students to acquire basic ideas about environment and emerging issues about environmental problems. CO2: To give awareness about the need and importance of environmental protection
CO 1142	Management Concepts and Thought	CO1: To equip learners with knowledge of management concepts and their application in contemporary organizations CO2: To facilitate overall understanding of the different dimensions of the management process.
CO 1131	Managerial Economics	CO1: To familiarise students with the economic principles and theories underlying various business decisions. CO2: To equip the students to apply the economic theories in different business situations.
		SEMESTER II
CO 1221	Informatics and Cyber Laws	CO1: To review the basic concepts and fundamental knowledge in the field of informatics and to create an awareness about the nature of the emerging digital knowledge society and the impact of informatics on business decisions.

		CO2: To create an awareness about the cyber world and cyber regulations.
CO 1241	Financial Accounting	CO1: To familiarize the students with different methods of depreciation. CO2: To equip the students to prepare the accounts of specialised business enterprises.
CO1242	Business Regulatory Framework	CO1: To provide a brief idea about the framework of Indian business Laws CO2: To enable the students to apply the provisions of business laws in business activities
CO 1231	Business Mathematics	CO1: To familiarise the students with the basic mathematical tools. CO2: To impart skills in applying mathematical tools in business practice
SEMESTER III		
CO 1341	Entrepreneurship Development	CO1: To familiarize the students with the latest programmes of Government in promoting small and medium industries. CO2: To impart knowledge regarding starting of new ventures.
CO 1342	Advanced Financial Accounting	CO1: To create awareness of accounts related to dissolution of partnership firms. CO2: To acquaint students with the system of accounting for different branches and departments. CO3: To enable students to prepare accounts of consignments
CO 1343	Company Administration	CO1: To familiarize the students about the salient provisions of Indian Companies Act 2013. CO2: To acquaint the students with Management and Administration of Companies, Compliance

		requirements, investigation into the affairs of the company and Winding up procedure.
CO 1361.1	Financial Management	CO1: To familiarise the students with the conceptual framework of financial management. CO 2: To enable the students to understand the practical application of financial management.
CO 1331	E-Business	CO1: To provide students a clear-cut idea of e-commerce and e-business and their types and models. CO2: To acquaint students with some innovative e-business systems. CO3: To impart knowledge on the basics of starting online business
SEMESTER IV		
CO 1441	Indian Financial Market	CO1: To provide a clear-cut ideaabout the functioning of Indian Financial Market in general and Capital market operations in particular.
CO1442	Banking and Insurance	CO1: To provide a basic knowledge about the theory and practice of banking CO2: To provide a basic understanding of Insurance business. CO3: To familiarize the students with the changing scenario of Indian Banking and Insurance.
CO 1443	Corporate Accounting	CO1: To create awareness about corporate accounting in conformity with the provisions of Companies Act, IAS and IFRS. CO2: To help the students in preparation of accounts of banking and insurance companies. CO3: To enable the students to prepare and interpret financial statements of joint stock companies.

CO1461.1	Project Finance	CO1: To familiarise the students with the types of project appraisal, risk analysis, project financing costing and valuing; CO2: To provide an overview of global project appraisal issues.
CO 1431	Business Statistics	CO1: To enable the students to gain understanding of statistical techniques those are applicable to business. CO2: To enable the students to apply statistical techniques in business.
	SEMESTER V	
CO 1541	Fundamentals of Income Tax	CO1: To familiarize the students about the fundamental concepts of Income Tax. CO2: To enable the students to acquire the basic skills required to compute the tax liability of individual assessee with more emphasis on Income from Salaries and Income from House property.
CO 1542	Cost Accounting	CO1: To familiarize the students with cost and cost accounting concepts CO2: To make the students learn cost accounting as a distinct stream of accounting
CO 1543	Marketing Management	CO1: To provide an understanding of the contemporary marketing process in the emerging business scenario. CO2: To study various aspects of application of modern marketing techniques for obtaining a competitive advantage in business organizations.
CO 1551.1	Fundamentals of Financial Accounting	CO1: To enable the students to acquire knowledge in the basic principles and practices of financial accounting. CO2: To equip the students to maintain various types of ledgers and to prepare final accounts

CO 1561.1	Financial Services in India	CO1: To familiarize the students with the structure and functioning of financial service sector in India.
SEMESTER VI		
CO 1641	Auditing	CO1: To provide students the knowledge of auditing principles, procedures and techniques in accordance with current legal requirements and professional standards. CO2: To familiarize students with the audit of Companies and the liabilities of the auditor
CO 1642	Applied Costing	CO1: To acquaint the students with different methods and techniques of costing. CO2: To enable the students to apply the costing methods and techniques in different types of industries.
CO 1643	Management Accounting	CO1: To enable students to acquire sound knowledge of concepts, methods and techniques of management accounting CO2: To make the students develop competence with management accounting usage in managerial decision making and control.
CO 1651.3	Management of Foreign Trade	CO1: To acquaint the students with Indias foreign trade. CO2: To familiarise the students with international trade and services
CO1661.1	Taxation Law and Accounts	CO1: To enable the students to understand the provisions of Income Tax for computing Total Income and Tax liability of various persons. CO2: To familiarise the students with the procedure of Income Tax Assessment CO3: To provide students the basic knowledge of Goods and Service Tax