ST. THOMAS COLLEGE PALAI

NAAC Accredited with 'A' Grade (3rd Cycle, CGPA 3.30) in 2015

College with Potential for Excellence (CPE-UGC)

(Affiliated To Mahatma Gandhi University, Kottayam)

COURSE OUTCOMES

OF

POSTGRADUATE PROGRAMMES

(2019 Admission onwards)

ARUNAPURAM P. O., KOTTAYAM, KERALA – 686 574

www.stcp.ac.in, e-mail: principal@stcp.ac.in, principal.stc@gmail.com

Phone: 04822-212316, 212317; Fax: 04822-216313; Mob: +919447140859

Name of the Programme: **MA English**			
Course Code	**Course Title**	**Course Outcomes**	
SEMESTER 1			
EN010101	Up Until Chaucer: Early Literatures in English	CO1	To make sense of the major themes in Ancient and Medieval English literature as an expression of Anglo-Saxon culture and society as it emerges into a Britain-consciousness
		CO2	To access and understand the personal experiences of people living in a society very different from our own.
EN010102	Literatures of the English Renaissance	CO1	To familiarise the students with the literature, thought and culture of the Renaissance period in England, a historical watershed marking the transition from the medieval to the modern
		CO2	To instilling in the students a capacity to appreciate Renaissance writings bearing the stamp of radical changes in the outlook and ways of life.
EN010103	Literatures of the English Revolution/ Enlightenment	CO1	To familiarise the learner with the English literary texts which reflect the austere Puritan ideals of the late seventeenth century
		CO2	To familiarise the learner with the neoclassical vigour of the eighteenth century considerably influenced by the philosophy of the Enlightenment and the perspectival shift manifested in the transitional literature towards the end of this era.
EN010104	Nineteenth Century English Literatures	CO1	To familiarize students with the fundamental premises of the Romantic Movement and Victorian literature
		CO2	To introduce the theoretical and ideological frameworks, and the major trends and offshoots across various genres.
EN010105	Literary Criticism	CO1	To familiarize the students with the key concepts and texts of literary criticism ever since its emergence
		CO2	To provide theoretical familiarity with the range, approaches, and mechanics of critique.
SEMESTER 2			
EN010201	Modernity and Modernisms	CO1	To familiarize the students with the literary trends of the early twentieth century in the context of the sensibility of literary modernism in the wake of the World War.
		CO2	Introduces the changed literary perspectives in the twentieth century, along with the social, economic and political background
EN010202	Postmodernism and Beyond	CO1	To acquaint the learners with the postmodern works of literature which defy categorisation and prove to be experimental in nature, subverting what is conventionally revered as the norm
		CO2	Familiarises the learners with the theoretical concepts of postmodernism

EN010203	American Literatures	CO1	To introduce the students to the most important branch of English literature belonging to the non- British tradition
		CO2	To provide detailed information to the student regarding the processes and texts chiefly responsible for the evolution of American Literature as a separate branch possessing characteristic features which sets it apart from others
EN010204	English Language History and Contemporary Linguistics	CO1	To inculcate in the students awareness about the basic concepts of linguistics, the scientific study of language after initiating them into the history of English language.
		CO2	To introduce the historical perspective of English language
EN010205	Thinking Theory	CO1	To introduce literary theory and its latest developments to students.
		CO2	Introducing students to certain core aspects of what is currently designated as 'literary theory' and also provide exposure to select current developments in this domain.
SEMESTER 3			
EN010301	Reading India	CO1	To provide an insight to the historical, cultural and literary heritage of India by acquainting the students with major movements and figures of Indian literature in English.
		CO2	Explores the origin and growth of Indian writing in English especially in the colonial and post-colonial context
EN010302	Postcolonial Fiction	CO1	To introduce the students to the discursive nature of colonialism, and the counter-discursive impulses of postcolonial theory, narratives and texts.
		CO2	Addresses the consequences of European expansion and the creation and exploitation of the 'other' worlds, the course also addresses 'internal colonisations' of diverse kinds.
EN010303	Body, Text and Performance	CO1	To facilitate an understanding of the basic structural, thematic and theoretical patterns which govern the poetic process, especially in its relation to the performative or the theatrical.
		CO2	To make the students familiarize the interface between the verbal and the visual
EN010304	Literature and Gender	CO1	To highlight the historic, thematic and cultural concerns that literature attempts against the backdrop of gender issues
		CO2	To view gender as a fluid rather than a mere fixed hetero-normative Male-Female concept.
EN010305	Ethics in/as Literature	CO1	To familiarise the student with certain 'ethics' that narrative fiction has adopted across centuries, continents and languages
		CO2	To introduce the various ethical, formal choices that schools, influences and narrative devices have upheld so as to shape narrative fiction into its present expressive plurality

SEMESTER 4			
EN010401	Cultural Studies	CO1	To introduce students to certain interpretive strategies commonly employed in Cultural Studies.
		CO2	To help the students explore how cultural processes and artifacts are produced, shaped, distributed, consumed, and responded to in diverse ways.
EN010402	Postcolonial Poetry	CO1	To introduce the students to the diversity of poetry coming from the erstwhile colonies of the European Colonial Empires.
		CO2	To clear the ground from where the student can see how, beyond the general discursive constellations, there are regional specifics that 'in a hybrid mode' negotiate issues of sovereignty, language, race, gender, identity and place.
EN820401	Modern European Fiction	CO1	To familiarize the students with the evolution of European fiction over the latter half of the Nineteenth and early twentieth century
		CO2	To acquaint the students with some of the major movements that shaped the growth of the European novel and the makers of European Fiction and to familiarize them with the writings of major novelists belonging to France, Germany, Russia, Greece, Italy and Austria spanning movements as varied as Realism, Existentialism, Naturalism and Postmodernism.
EN820402	Modern European Drama	CO1	To familiarize the student with modern European Drama in terms of topics, perspectives, and dramatic literature
		CO2	To acquaint the student with the social and cultural contexts that inform modern European Drama
EN820403	Indian Poetics: Theories and Texts	CO1	To familiarise the students with the major texts of the Indian tradition in the light of Indian poetic principles.

Name of the Programme: MA Malayalam

Course Code	Course Title	Course Outcomes	
SEMESTER 1			
PC1	Kavitha Pracheenam Madhyakalam	CO1	To identify developments of poetry from medieval
		CO2	Realize aesthetics of oral poetry
PC2	Malayala Bhasha Charithravum Varthamana-vum	CO1	Recognize history of Malayalam through critical attitude
		CO2	Recognize the relation of social development and mother tongue
PC3	Katha Sahithyiam	CO1	Realize evolution and development of Malayalam short story as a narrative

		CO2	Recognize new aesthetic trends in Malayalam short stories
PC4	Sahithya Charirta Vinjaneeyam	CO1	Introducing Stylistics of Sahithia charitram
		CO2	Recognize different meters in narration of Malayalam history
PC5	Sanskrit	CO1	Create an opportunity to study aesthetics of Sanskrit in the same
		CO2	Recognize many aesthetic attitudes of Sanskrit
SEMESTER 2			
PC6	Malayala kavitha - onnam gattam	CO1	To identify the changes of Malayalam poetry in the half of nineteen century
		CO2	Realize the influence of renaissance And colonialism in Malayalam literature
PC7	Bhasha sasthram	CO1	Analyze Malayalam language on the basis of linguistic discourse
		CO2	Realize draveedian Language on the basis of dichromatic age
PC8	Bharateeya Sahithya Sidhanthangal	CO1	Realizing different theories in Bharatheeya Sahithyam
		CO2	Familiarizing coined Books in Bharatheeya Sahithyam
PC9	Bharatheeyethara Sahithya sidhanthangal	CO1	Make an awareness ancient western philosophy all over the world
		CO2	Make an awareness in the development of new philosophical thoughts around the world
PC10	Novel Sahithyam	CO1	Make an awareness about evolution and development of Novel
		CO2	Promote an interest in interdisciplinary Novel aspects
SEMESTER 3			
PC11	Malayala Kavitha Adhuneekam Randam kahattam	CO1	Realize cultural difference in post modern poetry
		CO2	Realize what are the new changes in Malayalam poetry
PC12	MalayalaBhasha Vyakaranam	CO1	Acquiring knowledge of critical thinking in Malayalam Grammar
		CO2	Compare and identify the problems of mile stones in Malayalam grammar
PC13	Malayala Niroopanam	CO1	Realize evolution and development of Malayalam criticism
		CO2	Appreciate its new tendencies
PC14	Drishyakala Sahithyam	CO1	Make a detailed study of history and aesthetics of visual arts
		CO2	Make an enquiry about human aspects and social reality narrated in visual arts
PC15	Kerala Samskara Padanam	CO1	Identify the formation of culture of Kerala through literature
		CO2	Realize problems of narration of history of Kerala
SEMESTER 4			
PC16	Nadakavum cinimayum	CO1	Make a general awareness of theater and cinema.
		CO2	Realize advantages and possibilities of stage.

PE1	Janasaskara Padanam	CO1	Make an awareness to the ideology of Cultural Studies
		CO2	Make a critical thinking about Cultural Studies affects human life.
PE2	Paribhasha – Sidhnthavu prayogavm	CO1	Make a general awareness of translations in Malayalam
		CO2	Inculcate an attitude towards translations
PE3	Stree paksha chinthakal.	CO1	Realize post modernism as a diversity of Feminism and so on
		CO2	Make an invention about Feminine literature
PE4	Puthu Sahithya Sameepana-ngal	CO1	Recognize the importance of Dalit and environmental aesthetics
		CO2	Appreciate different faces of literature

Name of the Programme: MA Hindi			
Course Code	**Course Title**	**Course Outcomes**	
SEMESTER 1			
HN010101	History of Hindi Literature-1	CO1	To develop an outlook about the ancient history of Hindi literature.
		CO2	To know about the important changes and movements of the referred period.
		CO3	To know about the culture of our country through the famous works of this period.
HN010102	Ancient Poetry-1	CO1	To make the student familiar with the ancient culture and political tradition of early and Post medieval Hindi Poetry.
		CO2	To develop the ability to identify a variety of forms and genres of poetry from diverse culture and historic periods
		CO3	To familiarize the rhythms, metrics and other musical aspects of poetry
HN010103	Prose	CO1	To make students familiar with sketches memories auto biography etc
		CO2	TO develop the ability to write clear sentences and construct paragraphs and essays
		CO3	To construct personally meaningful and culturally relevant connections to the text
HN010104	Drama and Theatre	CO1	To make the students familiar with drama and other forms of arts.
		CO2	Students will be able to compare and construct characters within the plays.
		CO3	Students will be able to demonstrate an appreciation of the literature through the discussion and written analysis
HN010105	Translation	CO1	To understand the principles and assumptions governing modern linguistic.
		CO2	To use new technology like internet and computer in learning language and acquiring skills
		CO3	To understand the process of translation and the qualities of translation.

SEMESTER 2			
HN010201	History of Hindi Literature-1I	CO1	To make the students familiar with ancient and modern culture.
		CO2	To familiarize with great writers and their thoughts and philosophy
		CO3	To develop an authentic knowledge about the development of literature.
HN010202	Ancient Poetry 2	CO1	Ancient poetry conveys Philosophical Heritage of the Middle ages.
		CO2	The student will be able to apply the principles of literary criticism to the analysis of poetry.
		CO3	Student will be able to develop their own creativity enhance their writing skills.
HN010203	Development and structure of Hindi Language	CO1	To understand the principles and assumptions governing modern linguistics.
		CO2	To understand the classification of language and the development of Hindi language and script.
		CO3	Student will be able to develop their own creativity enhance their writing skills.
HN010204	Hindi short story	CO1	To make students familiar with short stories.
		CO2	The study of significant writers like Premchand ,Agneya , Bhishma sahini and Kamaleswar strengthens the moral and human values of the students.
		CO3	To develop the skill to write with proficiency in one or more creative literary form with constructively and critical proficiency.
HN010205	Bharatheeya Kavya Siddhant aur Hindi alochana	CO1	To create an ability in the students to analyses and understand Kavya and its definition.
		CO2	Students will learn many notable works of criticism combine discussions of texts with broad arguments about the nature of literature.
		CO3	Criticism will help the students to cover all phrases of literary understanding.
SEMESTER 3			
HN010301	Modern Poetry 1	CO1	To make aware of the Hindi poets through analyzing their major poetic contributions.
		CO2	To familiarize the different trends in Hindi Poetry such as Chayavad, Pragativad, Prayogvad etc.
		CO3	Students will be able to offer a critical discussion of major texts in a formal academical way.
HN010302	Hindi Novel	CO1	To make students familiar with novels.
		CO2	The study of significant writers like Premchand and Sreelal Shukla strengethens the moral and human values of the students.
		CO3	To understand and appreciate Hindi prose
HN010303	Western Criticism	CO1	To study the development of western poetics.
		CO2	Students will be able to understand western theoreticians from Plato to Deride.
		CO3	Students will be able to understand the development of western poetics.

HN010304	Indian Literature	CO1	To familiarize with the important events of Indian culture.
		CO2	To make the students familiar with ancient and modern culture.
		CO3	To enrich the knowledge of cultural history in India and the historical developments.
HN010305	Bhasha Vigyan	CO1	To understand the principles and assumptions governing modern linguistics.
		CO2	Student will be able to understand different branches of linguistics.
		CO3	Student will be able to understand the concepts, theories and methodologies used by linguists in quantitative and qualitative analysis of linguistic structure and patterns of language use.
SEMESTER 4			
HN010401	Modern Poetry–II	CO1	To experience the various dimensions in the content and form of the poetry of this period
		CO2	The students could familiarize and enjoy the aesthetic and sociological scenario of Post-Independent Hindi poetry.
		CO3	The aspects of modern poetry will help the students to understand society and makes them aware of their rights and duties
HN800401	Special author-Premchand	CO1	To make the students familiar with the famous author Premchand and his works.
		CO2	To give awareness of different literary works like short story and novel.
		CO3	To understand Premchand's vision about Indian society
HN800402	Feminist discourse	CO1	Students will be able to understand the nature of gender inequality.
		CO2	To understand the salient features of feminism through Hindi Literature
		CO3	To know about the famous feminist authors in Hindi.
HN800403	Aadivasi discourse	CO1	To understand the problems faced by tribal community in India.
		CO2	To develop an awareness about the aadivasi movements in India
		CO3	Give awareness about famous aadivasi writers and their writings.
HN010401	Modern Poetry–II	CO1	To experience the various dimensions in the content and form of the poetry of this period
		CO2	The students could familiarize and enjoy the aesthetic and sociological scenario of Post-Independent Hindi poetry.
		CO3	The aspects of modern poetry will help the students to understand society and makes them aware of their rights and duties

Name of the Course: **MA Economics**			
Course Code	**Course Title**	**Course Outcome**	
SEMESTER 1			
EC010101	Micro Economics-1	CO1	The knowledge of consumer behaviour enables the student in taking rational buying decisions
		CO2	It also helps the students to design suitable marketing strategies
		CO3	Students are also exposed to business environment where there is competition among firms.
EC010102	Macro Economics -1	CO1	The students will be able to demonstrate a good understanding of macroeconomic policies, concepts and theories.
		CO2	It analyzes the trade off in the deployment of resources to alternative ends.
		CO3	It integrates theoretical knowledge to evaluate policy measures
EC010103	Development Economics	CO1	It aims to develop conceptual clarity on the issues on the dimensions of development.
		CO2	It identifies the strategic factors in the development of the less developed countries.
		CO3	It enables the student to evolve new strategies for achieving sustainable development and inclusive growth.
		CO4	It leads to identify the strategic factors in the development of the less developed countries.
EC010104	Indian Economy– I	CO1	It provides the students with a critical thinking of the Indian economy so that they may be able to engage meaningfully in debates regarding the country's economy.
		CO2	It introduces the policy formulation techniques to the students.
		CO3	It also helps the students to learn about the budget procedures.
SEMESTER 2			
EC010201	Microeconomics -II	CO1	It helps the students to develop skills in formulating business strategy in the context of market imperfections.
		CO2	The student develops the understanding of the economic information under different situations and the concept of bounded rationality.
		CO3	The students can understand the basic theory of distribution and the source of income generation.
EC010202	MacroeconomicS-II	CO1	It provides some recent developments in the macroeconomic world.
		CO2	The students are familiarized with the basic economic issues or problems that every economy faces.
		CO3	It also makes the students to understand Indian economic issues which are macroeconomic in nature.

EC010203	Public Economics	CO1	It acquaints the students with the issues relating to the role of Government in the changing era and the justification for Government intervention.
		CO2	It intends to make the students aware of the recent trends in taxations and budgetary policy.
		CO3	It familiarizes the students with the various aspects of the theory of Public choice.
		CO4	It also introduces to the students the nature and theories of Public goods.
EC010203	Indian Economy- II	CO1	It helps the students to understand more about Indian economy in relation with policy implementation, planning, and social programmes.
		CO2	This course presents the issues and policies of Indian economy to the students.
		CO3	It enriches the students with the complete information regarding Indian economic issues like population, poverty, unemployment, financial matters and trade etc.
SEMESTER 3			
EC010301	International Economics	CO1	IT provides a deep understanding about the broad principles and theories which tend to govern the free flow of trade in goods, services and capital –both short term and long term –at the global level.
		CO2	It will also help the students to examine the impact of trade policies followed both at national and international level.
		CO3	It explains the recent trade relations of the country.
EC010302	Econometrics-1	CO1	This course helps the students to learn how to estimate a general class of parametric models or semi-parametric models, how to conduct testing and inference, given the data.
		CO2	It also covers the problems encountered in estimation and inference in the context of the single-equation linear regression model.
		CO3	It is intended to expose students to the art of performing estimation, analyzing and interpretation of the estimated econometric model
		CO4	The true objective of this course is to acquaint students with econometric techniques that are widely used in empirical work in Economics and other related disciplines.
EC010303	Heterodox economics	CO1	A better understanding of heterodox principles will lead to a more informed understanding of mainstream economics.
		CO2	The aim of this course is to revisit a set of economic concepts that are being extensively used in the economics curriculum--but with a critical stance that concentrates on philosophical and methodological considerations.
		CO3	This course will survey contemporary heterodox approaches to economic research, both from a microeconomic and a macroeconomic perspective.

EC010304	Environmental Economics	CO1	This course examines the economics behind environmental issues and problems and policies designed to address them.
		CO2	The economic assessment of environmental impacts and the economics of policies and institutions which have a significant bearing on the environment are also covered in the course.
		CO3	This course will provide students with the tools to understand how market inefficiencies might arise in the presence of externalities like pollution and market failures.
		CO4	This course is intended to illustrate how the study of mainstream economics needs to be reoriented in the light of the natural environment of economy and economic sustainability.
EC010305	Kerala Economy	CO1	The basic objective of the course is to introduce students to the current and critical issues, challenges and problems of the Kerala economy.
		CO2	It provides a chance to enhance their analytical ability to understand the dynamics of a regional economy.
		CO3	This course also intends to teach the students about Kerala's development experiences in historical perspective.
SEMESTER 4			
EC010401	International finance	CO1	The course will address the like balance of payments; foreign exchange market and basic characteristics of trade finance and investment instruments; and international capital flows and markets.
		CO2	The intent is to investigate how various financial instruments are used for hedging and speculating in the currency markets and how economic theories are applied to determine the equilibrium exchange rates.
		CO3	This course aims at providing a theoretical exposition of different aspects of international finance and financial institutions
EC010402	Econometric-II	CO1	This course is devoted to equipping the students with advanced theory of econometrics and relevant applications of the methods.
		CO2	It is designed to equip students for analyzing real-life data, related to economics in particular and social science in general.
		CO3	It will acquaint the students with advanced techniques in time-series and panel-data analysis as well as implementation of theory through software applications to gear them towards execution of independent research projects.
EC800401	Agricultural Economics	CO1	This course intends to provide the students a detailed idea regarding the role and importance of agriculture.
		CO2	IT also presents the clear agricultural scenario in the economy.
		CO3	It also provides the role of Agriculture in economic development, the land reforms in India, a comparison

			of the Green revolution in India and Mexico, and the importance of farm budgeting.
EC800402	Industrial Economics	CO1	The basic objective of this course is to provide thorough knowledge about the economics of industry and issues related to market structure, firms' motivations.
		CO2	This course aims to familiarize students with a broad range of the methods and models applied by economists in the analysis of firms and industries.
		CO3	It also provides a detailed understanding of policy debates involved in industrial development in India.
EC800403	Labour Economics	CO1	The major objective of this course is to impart knowledge about the dynamics of labour market.
		CO2	This course emphasizes the power of microeconomic reasoning to answer important economic questions.
		CO3	This course exposes students to theoretical as well as empirical issues relating to the labour market.

Name of the Course: MA Political Science			
Course Code	**Course Title**	**Course Outcome**	
SEMESTER 1			
PS010101	Political Theory	CO1	Students will be able to demonstrate an in-depth understanding of the various theories and concepts of political science.
		CO2	Students will be equipped with a critical perspective and analytical skills to understand contemporary political issues and challenges.
		CO3	To be inspired to read original works, the debates around these work, and will become aware of the different ways in which a text can be read
PS010102	Western Political Thought: Modern Traditions	CO1	On completion of the course students will be able to demonstrate knowledge of significant political ideas since the time of the Greek City-states to Renaissance Europe..
		CO2	They will be familiar with the classical texts of ancient and medieval western political thought and their different interpretations.
		CO3	They will be inspired to read original works, the debates around these work, and will become aware of the different ways in which a text can be read
PS010103	Indian Constitution and Polity	CO1	Students will be able to demonstrate critical insights into the Indian Constitution – its historical development, ideological perspectives and core values, as well as the different organs of government and some of the major cases and amendments relating to the Constitution.

		CO2	Students will achieve the skills and ability to analyse and evaluate the essential features and processes of Indian polity.
PS010104	Theories And Concepts of Public Administration	CO2	Students will understand the major theories and concepts of public administration. They will be able to explain and analyse budgetary processes and financial administration.
			They will also benefit by the insights gained into personnel administration and the skills obtained to apply their knowledge in practical life.
PS010105	Research Methodology in Political Science	CO1	Students will gain an understanding of major methods of Political Science research and be able to utilise both quantitative and qualitative research techniques.
SEMESTER 2			
PS010201	Political Sociology	CO1	Students will be equipped to analyse the relationship between society and politics, as well as the inter-relationships between individuals, groups, institutions, governments and their socio-economic and political environments. They will be able to demonstrate knowledge of the basic forces and factors that shape the world.
PS010202	Western Political Thought: Modern Traditions	CO1	Students will be able to demonstrate the ability to identify the dominant political discourses on liberalism, Marxism, sovereignty, justice etc. in a critical perspective so that the scope and limits of such traditions can be ascertained, both theoretically and historically.
PS010203	Issues in Indian Politics	CO1	Students will be able to demonstrate an understanding of the potentials and limits of democratic practices through insights derived from studying specific issues and themes.
		CO2	They will also be equipped to analyse the complex nature of state-society relations through their understanding of how social forces are constituted and function in relation to each other in the context of India.
PS010204	Indian Administration	CO1	Students will be equipped to demonstrate an understanding of the processes and structures of public administration and decentralisation in India.
		CO2	They will be able to analyse decentralised planning and development and explain contemporary issues and challenges in the implementation of decentralised governance and development.
		CO3	They will also be able to think critically about the Panchayat Raj system and its operations at the grass root level.
PS010205	Theoretical Foundations of International Relations	CO1	By the end of the course students will be able to demonstrate a broad understanding of International Relations, its major theoretical traditions and concepts.
		CO2	They will be able to apply conceptual tools to understand, analyse and interpret events and processes in contemporary international politics.

		CO3	They will also possess the skills necessary to think critically and communicate effectively about international relations.
SEMESTER 3			
PSS3CO11	Political Thought: Indian Tradition	CO1	The study of Indian traditions in political thought will enable students to acquire insights useful for understanding contemporary Indian society and politics.
		CO2	They will be equipped with the tools of analysis to comprehend the wide spectrum of Indian traditions in political thought from ancient times.
PSS3CO12	State and Politics of Kerala	CO1	At the end of the course students will develop a comprehensive knowledge about Kerala society, polity and economy.
		CO2	The course will equip students with the necessary skills to analyse key issues in Kerala politics and society.
PSS3CO13	Human Rights in India	CO1	On completion of the course students will be able to demonstrate a theoretical as well as practical understanding of human rights.
		CO2	They will be equipped to perceive and analyse contemporary issues from a rights perspective and will be aware of the institutional mechanisms for the protection of human rights.
PSS3CO14	Decentralisation and Local Governance	CO1	Students will be equipped to understand and demonstrate knowledge about the processes of decentralization.
		CO2	They will be able to analyse decentralised planning and development, and explain contemporary issues and challenges in the implementation of decentralised governance and development.
		CO3	They will also be able to think critically about the Panchayat raj system and its operations at the grassroots level.
PSS3CO15	Research Methodology	CO1	Students will gain an understanding of major methods of Political Science research and be able to utilise both quantitative and qualitative research techniques.
SEMESTER 4			
PSS4CO16	India's Foreign Policy	CO1	At the end of the course students will be able to critically evaluate India's foreign policy and its engagements with the international system.
		CO2	They will be equipped with the framework to understand the changing contours and intricacies of foreign policy making and discern the motivations and goals driving policy decisions.
		CO3	They will also be able to critically identify and discuss the changing contours and key issues surrounding the history and development of India's foreign policy.

PSS4EA3	Theories and Concepts of Administrative Law	CO1	The students will get be familiarised with the ideas and basic concepts of Administrative Law and the functions and powers of the administration and the checks and controls in the exercise of those functions and powers.
PSS4EB2	Political Sociology of India	CO1	Students will be equipped to analyse the relationship between society and politics, as well as the inter-relationships between individuals, groups, institutions, governments and their socio-economic and political environments in India.
		CO2	They will be able to demonstrate knowledge of the basic forces and factors that shape the world such as representation, power, political sociology of caste, linguistic, ethnic and religious mobilisations, state-society dynamics etc.
PSS4EC6	Politics of Postmodernism	CO1	It is expected that, at the end of the course the students will be able to describe fundamental themes and ideas related to Critical theory and Postmodernism and outline the major theoretical writings and locate the nature and distinctiveness of intellectual debates in Critical theory and Post-modernism.
		CO2	They will be able to apply the insights/ideas/resources available Postmodernism to understand and diagnose the problems of contemporary societies
		CO3	They also will be able to recognize the changing nature of social movements/political practices and vocabulary of political debates in everyday life.
PSS4ED4	US Government and Politics	CO1	On completion of the course students will demonstrate an understanding of the nature of government and politics in the United States, including its societal dynamics and their impact on the political processes.
		CO2	They will be able to identify and explain the foundations, institutions and processes of government and politics in the United States, as well as the broad contours of American foreign policy.

Name of the Programme : MA History			
Course Code	**Course Title**	**Course Outcome**	
SEMESTER 1			
HY010101	Perspectives on Historiography	CO1	To open the critical domains of historiography through locating certain significant shift in the methodology and method of history writing.
		CO2	To make student critically aware about the makings of historical perspectives.
		CO3	To understand scientific as well as theoretical foundations of historiography.

HY010102	Transition from Pre-State to State Societies in Indian History	CO1	To provide the students conceptual insights into the transitional processes of early societies in the Indian subcontinent.
		CO2	To make an awareness about the state craft during early times.
		CO3	This course necessitates acquaintance with the relevant social theories
HY010103	History of Social Formations in Kerala : Pre-historic to Pre-modern	CO1	It opens a critical historical understanding about the ancient and early medieval history of Kerala.
		CO2	To enabling conceptualization of society in terms of formations or systems .
		CO3	They are expected to acquire knowledge about the ancient and early social formations of Kerala.
HY010104	Pre-colonial Indian Economy: Production, Appropriation and Exchange	CO1	To focus on the major economic process of the pre-colonial Indian subcontinent and the particular economic institutions and structures.
		CO2	To study the major economic processes of the Indian subcontinent in the 11^{th} to 19^{th} centuries.
		CO3	To provide the students insights into the interconnectedness of agriculture, crafts production, exchange and urban growth.
HY010105	History of Social Revolutions in the World	CO1	To provide good awareness about the major social revolutions of the modern world.
		CO2	To provide the student insights into the factors that make a revolution possible in time and space
		CO3	To focus on the linkage between the socio-economic revolutions of the modern world
SEMESTER 2			
HY020101	History of Social Institutions and Structures of Early India	CO1	To focus on the history of institutions and structures of early societies in the sub-continent.
		CO2	To provide the students with knowledge about what the institutions mean and how they evolved and worked in the past societies.
HY020102	Social Formations of Kerala c. A.D.1200 – 1800	CO1	It provides a critical understanding about the pre-modern history of Kerala.
		CO2	To enable the students to grasp the interconnectedness of social aspects and develop holistic perspective.
HY020103	Debates on Medieval India	CO1	To provide various concepts, institutions and ideologies regarding medieval India; along with its cultural development, source studies and transition.
		CO2	To examine the various political-socio-economic features of medieval India.
HY020104	Reflections on Women's History and Gender in Modern India	CO1	It seeks to examine women's history and gender in the larger context of India's transition to modernity.
		CO2	To familiarize the students with the conceptual and methodological innovations brought into the discipline of history by Women's History, and expansion and reframing of the issues at its core, that this intervention has entailed.

HY020105	India: The Making of a Colony	CO1	To stress on the study of colonial processes and offers a panoramic view on the historical process of making of India as a colony.
		CO2	The students put emphasis on the study of the historical process of the nation building.
		CO3	To gain knowledge about the Historical process of the making of the Indian Nation.
SEMESTER 3			
HY010301	History and Social Theory	CO1	To empower the students for a reflexive thinking on the processes of History that make one capacitated to transcend beyond the borders of normal problamatisation in historical research.
		CO2	To emphasise students the fact that theory is indispensable for reading history seriously.
		CO3	To learn the major contributions in social theory that enables appreciation of history with intellectual depth.
		CO4	To develop and encourage critical consciousness among the students.
HY010302	History of Modern Kerala	CO1	To provide an indepth study that seeks to keep the student knowledgeable in the history of the major Social revolts of modern Kerala.
		CO2	To focus on the linkage between the Socio Economic and Political milieu of the colonial period that engendered revolts and protests.
		CO3	To provide the students insights into the condition that makes dissents, protest and reforms possible
HY010303	State and Society (c.AD 1000 -1800)	CO1	To study of the structure composition and pattern of power relations that the sub-continental state structures had.
		CO2	To learn about the structure, composition and pattern of power relations that the state under the Sultanate of Delhi and Mughal Empire presented.
		CO3	To enable the students to learn the correspondence as well as interface between the social relations of power and the state's power structure.
HY010304	Approaches to the practice of History	CO1	To provide the students the methods of research ie, the basic tools and techniques of research as distinguished from methodology.
		CO2	To provide an insight into the science of the construction of knowledge.
		CO3	To academically enrich research mentality in students.
HY010305	Maritime History of India	CO1	To introduce the student about the concepts and major themes as well as issues of Maritime History, emphasizing geography, coast-line and the rich maritime as well as seafaring traditions of India.
		CO2	To enable the students to understand the way how the circulatory processes in the Indian Ocean shaped India's civilized march.
		CO3	To enhance the student's research potentials and interests in certain specific areas or themes of India's maritime history.
SEMESTER 4			

HY800402	Knowledge Systems in Pre-modern India	CO1	To provide a theoretical outline on Indian Knowledge systems and introduced learners to the vast world of indigenous knowledge system.
		CO2	To enable the students to gain preliminary access to the indigenous knowledge systems of India.
		CO3	To acquaint the students with the traditional knowledge form of Indian subcontinent in the most demystified manner.
HY800403	Perspectives on Human Rights in India	CO1	To introduce the student about the concept and major challenges of various human rights issues.
		CO2	To provide a better understanding of the various concepts, ideas and history of human rights.
		CO3	To provide an insight into different human rights movements in India.
HY800406	Inroads to Contemporary India	CO1	The paper offers study on various realms of Modern India
		CO2	To keep the students' knowledge about the contemporary socio-economic processes.
		CO3	To provide a comprehensive knowledge only about the characteristic features of the contemporary society and economy of India.
HY010401	Situating Environmental History of India	CO1	To provide an integrated perceptions and values of humans that configured their relation with the natural eco-systems and wildlife.
		CO2	Environmental dimensions of political, social, cultural economic, ideological and gender histories are focused to generate a differentiate kind of knowledge perspective about pre-colonial, colonial and post-colonial life world of India.
HY010402	India Nation in the Making	CO1	To study of the historical process of the nation building, As the title presupposes, the purport is to gain knowledge about the Historical process of the making of the Indian Nation.
		CO2	The students put emphasis on the study of the historical process of the nation building.
		CO3	To gain knowledge about the Historical process of the making of the Indian Nation.

Name of the Programme: MSc Mathematics			
Course Code	**Course Title**	**Course Outcomes**	
SEMESTER 1			
ME010101	Abstract Algebra	CO1	To acquire knowledge about algebraic structures like groups, rings, integral domains and fields.
		CO2	To learn application of algebra on irreducible polynomials.

		CO3	Apply Sylow's theorems in the study of simple groups.
		CO4	Application of Fermat's theorem and Euler's theorem in number theory.
ME010102	Linear Algebra	CO1	To generalize the concept of vectors to n-dimensional spaces.
		CO2	To understand matrix as a linear transformation.
		CO3	Finding the eigenvalues and eigenvectors of linear transformations
ME010103	Basic Topology	CO1	Introducing topology as a generalization of metric spaces
		CO2	To introduce the familiar concept of continuity to arbitrary spaces
		CO3	To introduce the peculiarities of compactness and connectedness in different spaces
		CO4	To get an idea about the hierarchy of separation axioms
ME010104	Real Analysis	CO1	Learn the theory of Riemann-Stieltjes integrals, to be aquainted with the ideas of the total variation and to be able to deal with functions of bounded variation.
		CO2	Students should be able to illustrate the effect of uniform convergence on the limit function with respect to boundedness, continuity, differentiability and integrability.
		CO3	The student will gain knowledge of special functions and study various properties of them.
		CO4	After completing the course, the student should be able to recognize, understand and apply concepts and methods in advanced real analysis.
ME010105	Graph Theory	CO1	Logical, systematic framework within which ordinary graphs can be generalized
		CO2	To introduce graphs as a solution of practical problems
		CO3	To introduce connectivity, coloring and the concept of planarity
SEMESTER 2			
ME010201	Advanced Abstract Algebra	CO1	Idea of geometric construction of numbers
		CO2	Application of algebra in finding the roots of polynomials
		CO3	To introduce field extensions
		CO4	Discussion of Galois theory
ME010202	Advanced topology	CO1	To introduce products in arbitrary space.
		CO2	To make familiar with embedding and metrisation and different types of compactness.
		CO3	Introducing nets as a generalization of sequences.
ME010203	Numerical analysis with python	CO1	Learn basics of Python Programming.
		CO2	Make the student capable to do practical problems in more advanced area of Mathematics using Python
		CO3	Develop Problem solving skill using programming languages.
ME010204	Complex analysis	CO1	To introduce complex numbers as points on a sphere.
		CO2	To study power series of complex functions.
		CO3	Introduce complex integration to understand analytic functions in a better way.

ME010205	Measure theory and integration	CO1	Introducing measure as generalization of length
		CO2	To introduce measure theoretic integration.
		CO3	To introduce signed measures and its applications.
		CO4	To introduce product measures
SEMESTER 3			
ME010301	Advanced complex analysis	CO1	To study harmonic functions and its applications.
		CO2	To study Gamma functions and entire functions in detail.
		CO3	To introduce the product development and normal families
		CO4	To introduce elliptic functions
ME010302	Partial differential equations	CO1	To introduce Partial differential equations for solving real life situations.
		CO2	To study different methods of solution of PDE
		CO3	To study non linear equations and families of equi-potential surfaces.
ME010303	Multivariate calculus and integral transforms	CO1	Impart basic knowledge of differentiation and integration in n-dimensional Euclidean space.
		CO2	To discuss different types of integral transforms.
		CO3	Applications in Mathematics and also bring the confidence to handle real life problems.
ME010304	Functional analysis	CO1	On successful completion of this course, the students will be able to appreciate how functional analysis uses and unifies ideas from vector spaces and metric spaces.
		CO2	The learner will be able to identify various types of normed spaces such as Banach Spaces, Inner Product Spaces and Hilbert Spaces and derive various properties of them.
		CO3	The learner will be able to understand and apply fundamental theorems from the theory of linear
		CO4	The students will have the knowledge and skills to demonstrate capacity for mathematical reasoning through analyzing, proving and explaining concepts from functional analysis.
		CO5	The learner will have the ability to pursue further studies in functional analysis and related areas.
ME010305	Optimization techniques	CO1	To introduce programming to handle real life situations.
		CO2	To introduce Goal programming and potentials in networks.
		CO3	To introduce non-linear programming.
		CO4	Familiarize zero - sum games and strategies.
SEMESTER 4			
ME010401	Spectral theory	CO1	The learners will be able to appreciate how functional analysis uses and unifies ideas from normed spaces and complex analysis.
		CO2	Understand and apply fundamental theorems from the theory of normed spaces, including the Uniform Boundedness theorem, the open mapping theorem, the closed graph theorem, and the Banach Fixed Point theorem.
		CO3	Understand the fundamentals of spectral theory and appreciate its power.
		CO4	Have a good grasp of the spectral properties of various operators such as Compact Linear Operators, Self-adjoint

			linear operators, Positive Operators and Projection Operators.
		CO5	Understand and apply ideas from spectral theory to other mathematical contexts and related areas.
ME010402	Analytic number theory	CO1	To introduce arithmetic functions and its application.
		CO2	To study prime number theorem and distribution of primes.
		CO3	To study the application of congruence and quadratic residues and primitive roots for solving numerical problems.
ME800401	Differential geometry	CO1	To get an idea of application of real analysis in geometry.
		CO2	To study geodesics and parallel transport.
		CO3	To introduce parametrized surface and study its basic properties
ME800402	Algorithmic graph theory	CO1	Introducing Algorithms and its complexity
		CO2	Representation of graphs in computer and introduction to networks.
		CO3	To study matching and factorizations.
ME800403	Combinatorics	CO1	To use algebraic concepts to solve basic problems in real life
		CO2	To introduce Ramsey type problems and Ramsey numbers.
		CO3	To get an idea about generating functions and recurrence relations.

Name of the Programme: MSc Statistics			
Course Code	**Course Title**	**Course Outcomes**	
SEMESTER 1			
ST1C01	Distribution theory	CO1	Acquaint the students familiar with basic probability distributions
		CO2	Acquaint the students familiar with their properties of probability distributions
		CO3	Problem solving skill
ST1C02	Analytical tools for statistics	CO1	Students are expected to well conversant with basics of linear Algebra
		CO2	Students are expected to well conversant with basics of linear Algebra Matrix theory.
		CO3	Problem solving skill
ST1C03	Probability theory	CO1	Basic knowledge in probability.
		CO2	Problem solving skill
		CO3	Idea about general integral
ST1C04	Mathematical methods for statistics	CO1	Basic knowledge in measure theory.
		CO2	Idea about R- integral
		CO3	Problem solving skill

ST1C05	Statistical computational techniques	CO1	Learn the basics in R programming
		CO2	Programming skill
		CO3	Learn basics of numerical methods
SEMESTER 2			
ST2C06	Multivariate distributions	CO1	General knowledge of bivariate distributions in
		CO2	General knowledge of multivariate distributions in Statistics
		CO3	Applications of multivariate distributions
ST2C07	Advanced probability theory	CO1	Ensure that the students are familiar with modern probability theory
		CO2	Ensure that the students are familiar with related applications.
		CO3	Problem solving skill
ST2C08	Statistical estimation theory	CO1	Expected to learn the basics of estimation theory
		CO2	Problem solving skill
		CO3	Decision making skill
ST2C09	Stochastic processes	CO1	Impart basic knowledge in Stochastic Models
		CO2	Impart basics kills in Stochastic Models
		CO3	Applications of Stochastic Models in Statistics.
ST2C10	Statistical computing I	CO1	Make the student capable to do practical problems in more advanced area of Statistics using R software
		CO2	Problem solving skill
		CO3	Programming skill
SEMESTER 3			
ST3C11	Sampling Theory	CO1	Course students are expected to be able to apply and use the basic concepts related to sampling techniques,
		CO2	To determine sample size so as the estimator will have a desired precision
		CO3	To use appropriate sampling method and determine optimum sample sizes.
ST3C12	Testing of Hypotheses	CO1	Make the student understand the concepts of testing of hypothesis
		CO2	Develop appropriate tests for testing certain Statistical hypotheses.
		CO3	Formulation of hypothesis
ST3C13	Design and Analysis of Experiments	CO1	Students will be able to conduct experiment by using appropriate design,
		CO2	To test related hypotheses and estimate the parameters
		CO3	Compare different designs and will be capable to use the Analysis Covariance technique for data analysis
ST3C14	Multivariate Analysis	CO1	Impart basic knowledge to the students in applied Multivariate Analysis
		CO2	Impart skills to the students in applied Multivariate Analysis
		CO3	Applied Multivariate Analysis applications in Statistics and also bring the confidence to handle real problems on the spot.
ST3C15	Statistical Computing II	CO1	Make the students able to handle practical problems in testing of hypotheses
		CO2	Make the students able to handle practical problems in design and analysis of experiments

		CO3	Make the students able to handle practical problems in the multivariate techniques
SEMESTER 4			
ST4C16	Statistical Quality Control	CO1	Make the students aware of the modern quality assurance techniques.
		CO2	Make the students aware of the modern quality assurance methods.
		CO3	Decision making skill
ST4E01	Econometric Methods	CO1	Handle models of econometrics and Mathematical Economics.
		CO2	Apply and use the basic concepts related to the economy of a nation
		CO3	Interpret various parameters used to measure economic status of a nation.
ST4E02	Operations Research	CO1	Make the students able to deal with optimization problems and the mathematical theory involved in them.
		CO2	Problem solving skill
		CO3	Decision making skill
ST4E06	Advanced Distribution Thoery	CO1	Acquaint the students familiar with family of probability distributions
		CO2	Acquaint the students familiar with their properties of family of probability distributions
		CO3	Problem solving skill
ST4E08	Statistical Computing 3	CO1	Impart the practical skills in the students in the theories of Econometrics
		CO2	Make them familiar with the software packages
		CO3	Impart the practical skills in the students in the theories of other elective papers.

Name of the Programme: MSc Physics			
Course Code	**Course Title**	**Course Outcomes**	
SEMESTER 1			
PH010101	Mathema-tical methods in physics – I	CO1	Identify a range of mathematical methods that are essential for solving advanced problems in theoretical physics.
		CO2	Achieve a sound knowledge of curvilinear coordinates, matrices, tensors and special functions.
		CO3	Develop proficiency in the analysis of complex physical problems and the use of mathematical or techniques to solve them.
PH010102	Classical mechanics	CO1	Define and understand basic mechanical concepts related to discrete and continuous mechanical systems
		CO2	Represent the equations of motion for complicated mechanical systems using the Lagrangian and Hamiltonian formulation of classical mechanics.

		CO3	Describe and understand planar and spatial motion of a rigid body, concepts of small oscillations, canonical transformations and relativistic effect.
PH010103	Electrodynamics	CO1	Provide advanced knowledge in understanding the principles and dynamic phenomena of electromagnetism that occur in the case of time-varying sources.
		CO2	Interpret the deeper meaning of the Maxwellian field equations and account for their symmetry and transformation properties, domain of validity, and limitations
		CO3	Acquire a sense of unity in physics at a fundamental level by embracing the
PH010104	Electronics	CO1	Demonstrate familiarity with basic electronic components and use them to design simple electronic circuits
		CO2	Analyze and design linear and non-linear applications using op-amps.
		CO3	Apply knowledge and skill in the design and development of Electronics
SEMESTER 2			
PH010201	Mathema-tical Methods in physics – II	CO1	Demonstrate capacity for mathematical reasoning through analysing, proving and explaining concepts from Physics.
		CO2	Familiarize techniques of complex variables, Fourier transforms and Green's function.
		CO3	Learn advanced mathematical techniques and their applications in other fields of Physics
PH010202	Quantum mechanics – I	CO1	Describe the basic Hilbert space structures describing all quantum mechanical theories.
		CO2	Relate the matrix formalism to the use of basis states, and solve simple problems in that formalism
		CO3	Apply Dirac's bra-ket notation, and manipulate Hermitian and unitary operators in quantum mechanical derivations.
PH010203	Statistical mechanics	CO1	Understand and apply statistical methods for describing the classical and quantum particles in various physical systems and processes.
		CO2	Explain statistical physics and thermodynamics as logical consequences of the postulates of statistical mechanics
		CO3	Develop concepts in classical laws of thermodynamics and their application, postulates of statistical mechanics, statistical interpretation of thermodynamics, ensembles, Phase transitions etc.
PH010204	Condensed matter Physics	CO1	Establish fundamental concepts in condensed matter physics
		CO2	The electron theory of solids is developed and applied to explain the physical properties of metals
		CO3	Communicate scientific knowledge in the context of condensed matter physics
SEMESTER 3			
PH010301	Quantum mechanics – II	CO1	Apply the main approximation methods for stationary and time-dependent quantum mechanical problems and model physical systems using common approximation techniques for making dynamical calculations.
		CO2	Describe in detail the quantum formulations of scattering mechanism and have a basic understanding of relativistic effects in quantum mechanics.

		CO3	Critically understand and evaluate modern research utilizing quantum theory in condensed matter, nuclear and particle physics.
PH010302	Computational physics	CO1	Learn basic idea about the techniques used in Physics to solve problems with the help of computers when they cannot be solved analytically with pencil and paper since the underlying physical system is very complex.
		CO2	Identify modern programming methods and describe the extent and limitations of computational methods in physics
		CO3	Develop algorithms of different numerical methods.
PH010303	Atomic and Molecular Physics	CO1	Equip the students with understanding of atomic structure and spectra of one and two electron systems.
		CO2	Learn the theory of microwave, IR, electronic and Raman spectroscopy.
		CO3	Familiarize ESR and NMR spectroscopy along with their instrumentation and applications.
PH810301	Solid state Physics for Materials	CO1	Provides an overview of Materials Science and Engineering as a basis for understanding how structure-property-processing relationships are developed and used for different types of materials.
		CO2	Illustrate the role of materials in modern society by case studies of advances in new materials and processes.
		CO3	Acquire knowledge about composite materials, types, manufacturing methods and their applications.
SEMESTER 4			
PH010401	Nuclear and particle Physics	CO1	Study the basic properties of nucleus and nuclear forces.
		CO2	Familiarize different models of nucleus and learn the theory behind nuclear reactions.
		CO3	Explain the interaction between elementary particles and conservation laws in particle physics.
PH810403	Nanostructures and material characterization	CO1	Provide a panoramic views of various approaches for the synthesis and fabrication of nanostructures and nanoscale devices.
		CO2	Achieve a critical and systematic understanding on advanced methods of characterization techniques for the in depth characterization of materials at a nanometric level.
		CO3	Obtain a broad view of the emerging applications of nanotechnology and nano-electronic and mechanical devices
PH810402	Science of advanced materials	CO1	Explain the features, classification and applications of newer class materials like smart materials, piezoelectric materials, photonic materials, composite materials etc.
		CO2	Derive, based on the properties, the main field of applications of the classes of materials based on a global vision of materials science.
		CO3	Provide an insight for the latest developments in materials processing, characterization and applications.

Name of the Programme : MSc Chemistry			
Course Code	**Course Title**	**Course Outcomes**	
SEMESTER 1			
CH 50 01 01	Organo-metallics and Nuclear Chemistry	CO1	Apply and analyse the methods of synthesis and the mechanism of organic reactions from the structure bonding aspects and reactivity of organometallic compounds.
		CO2	Apply different electron counting rules to predict the shape/geometry of low and high nuclearity metal carbonyl clusters
		CO3	Identify the different types of organometallic reactions and apply the above concepts to explain different catalytic reactions
CH 50 01 02	Structural and Molecular Organic Chemistry	CO1	Apply the fundamental concept and mechanisms of organic and photochemical reaction.
		CO2	Comprehend and Predict the role of temperature, solvents, and catalysts in organic reactions
		CO3	Identify and differentiate prochirality and chirality at centers, axis, planes and helices and determine the absolute configuration
		CO4	Evaluate the stability of various conformers of acyclic and cyclic systems using steric, electronic and stereoelectronic effects and correlate them to reactivity.
		CO5	Use various models for determining stereo selectivity of various organic transformations
CH 50 01 03	Quantum Chemistry and Group theory	CO1	Update the fundamental ideas, mathematical concepts, application of Group theory and Quantum mechanics to molecular systems.
		CO2	Solve all the model problems in quantum mechanics for which exact analytical methods and solutions are available and will apply them to analyze the basis behind the postulatory method of quantum mechanics and which forms the foundations for advanced study of the subject.
		CO3	Relate concepts that were originally introduced purely as modern atomic physics to molecular systems through harmonic oscillator, spin and rigid rotator
		CO4	Determine the symmetry operations of any small and medium-sized molecule and apply point group theory to the study of electrical, optical and magnetic properties and selection rules for absorption
CH 50 01 04	Thermodynamics, Kinetic Theory and Statistical Thermodynamics	CO1	Apply principles and laws of equilibrium thermodynamics to multi-component systems.
		CO2	Apply phase rule and, draw phase diagrams for one, and two component systems, identify the dependency of temperature and pressure on phase transitions, and identify first/second order phase transitions.
		CO3	Solve problems based on Debye-Huckel limiting law. Calculate excess thermodynamic properties.
		CO4	Calculate the absolute value of thermodynamic quantities (U, H, S, A, G) and equilibrium constant (K) from spectroscopic data.

		CO5	Predict heat capacity (Cv, Cp) of an ideal gas of linear and non-linear molecules from the number of degrees of freedom, rotational and vibrational wave numbers.
		CO6	Derive the temperature dependence of the second Virial coefficient (real gases) from interatomic potentials.
SEMESTER 2			
CH 50 02 01	Coordination Chemistry	CO1	Identify the principles, structure and reactivity of selected coordination complexes
		CO2	Interpret their electronic spectra and magnetic properties.
		CO3	Utilize the principles of transition metal coordination complexes in understanding functions of biological system
		CO4	Acquire a foundation of chemistry of sufficient breadth and depth of co-ordination compounds.
CH 50 02 02	Organic Reaction Mechanisms	CO1	Comprehend the structure-reactivity pattern of reactive intermediates involved in organic reactions
		CO2	Comprehend the orbital interactions and orbital symmetry correlations of various pericyclic reactions
		CO3	Write mechanism of organic reactions involving reactive intermediates and concerted processes
		CO4	Apply these reactions in organic synthesis
CH 50 02 03	Chemical Bonding and Computational Chemistry	CO1	Apply, analyse and evaluate group theoretical concepts in spectroscopy.
		CO2	Distinguish different types of hybridization based on geometries of the complex and to calculate for a one-electron and two electron system, all the necessary integrals due to coulombic forces.
		CO3	Apply time independent perturbation theory to complex problems of molecular energy levels in the presence of external electric and magnetic fields.
		CO4	Use standard software tools such as MATLAB and Mathematica to perform algebraic and numerical calculations often required in elementary physical chemistry in the areas of quantum chemistry, spectroscopy, kinetics and thermodynamics
CH 50 02 04	Molecular Spectroscopy	CO1	Apply NMR, IR, MS, UV-Vis spectroscopic techniques in solving structure of organic molecules and in determination of their stereochemistry.
		CO2	Interpret the above spectroscopic data of unknown compounds.
		CO3	Use these spectroscopic techniques in their research
CH 50 02 05	Inorganic Chemistry Practical-1	CO1	Plan and Conduct experiments for identifying and characterizing inorganic compounds
CH 50 02 06	Organic Chemistry Practical-1	CO1	Separate and purify products in organic reactions
		CO2	Characterize organic compounds using spectroscopic and spectrometric techniques
		CO3	Apply the concepts of nanotechnology and polymer chemistry in to research
CH 50 02 07	Physical Chemistry Practical-1	CO1	Explain the principle behind the experiments performed in the laboratory
		CO2	Plan and Perform experiments and Interpret experimental results.

SEMESTER 3			
CH 50 03 01	Structural Inorganic Chemistry	CO1	Acquire basic information about the imperfections of solids, electrical and magnetic properties of solids.
		CO2	Calculate densities from powder XRD data
		CO3	Identify and apply a suitable strategy for synthesizing inorganic crystalline solids in polycrystalline and single crystal forms
		CO4	Correlate and Predict structure-composition-properties (magnetic, electrical and optical) in inorganic crystalline solids
CH 50 03 02	Organic Synthesis	CO1	Use various reagents and organic reactions in organic synthesis
		CO2	Learn the principles of protecting group chemistry.
		CO3	Use retrosynthetic method for the logical dissection of complex organic molecules and devise synthetic methods.
CH 50 03 03	Chemical Kinetics, Surface Chemistry and Crystallography	CO1	Learn the symmetry properties of crystals and properties of liquid crystals
		CO2	Solve problems on rate/rate constants/efficiency for (i) complex reactions (ii) unimolecular and bimolecular reactions, and (iii) electronically excited state dynamics.
		CO3	Plot equations and functions representing kinetic behaviour of chemical systems in ground and electronically excited states.
CH 50 03 04	Spectroscopic Methods in Chemistry	CO1	Apply NMR, IR, MS, UV-Vis spectroscopic techniques in solving structure of organic molecules and in determination of their stereochemistry.
		CO2	Interpret the above spectroscopic data of unknown compounds.
		CO3	Use these spectroscopic techniques in their research.
SEMESTER 4			
CH 80 04 01	Advanced Inorganic chemistry	CO1	Analyze and apply group theoretical principles in hybridization technique in molecules.
		CO2	Design experiments with improved sample preparation, new measurement procedures and tools
		CO3	Quantify analytes with proper data handling and analysis
CH 80 04 02	Advanced Organic Chemistry	CO1	Analyze and interpret molecular recognition and supramolecular chemistry.
		CO2	Comprehend Green alternative to organic synthesis
		CO3	Apply the concepts of nanotechnology and polymer chemistry in to research
CH 80 04 03	Advanced Physical Chemistry	CO1	Learn the kinetics and mechanism of photochemical reactions.
		CO2	Write equations representing electrochemical cell, explain various over potential involved during the operation of the cell.
		CO3	Calculate electrochemical cell parameters, electrochemical active surface area, current and over potential under given condition, amount of corrosion and its rate.
CH 01 04 05	Inorganic Chemistry Practical-2	CO1	Plan and Conduct experiments for identifying and characterizing inorganic compounds

CH 01 04 06	Organic Chemistry Practical-2	CO1	Separate and purify products in organic reactions
		CO2	Characterize organic compounds using spectroscopic and spectrometric techniques
		CO3	Apply the concepts of nanotechnology and polymer chemistry in to research
CH 01 04 07	Physical Chemistry Practical-2	CO1	Explain the principle behind the experiments performed in the laboratory
		CO2	Plan and Perform experiments and Interpret experimental results.

Name of the Programme : MSc Botany

Course Code	Course Title	Course Outcomes	
SEMESTER 1			
BY010 101	Microbiology and Phycology	CO1	To understand the world of microbes.
		CO2	To familiarize the algal diversity.
		CO3	To equip the students with in depth knowledge of the kingdom fungi and common diseases affecting plants.
		CO4	To familiarize the diversity of the lower plant groups.
BY010 102	Mycology and crop pathology	CO1	To acquire the knowledge to understand various groups of fungi.
		CO2	To impart an in depth knowledge in the patho-physiological mechanisms in plants.
		CO3	To familiarize the common diseases affecting plants.
		CO4	To understand the basics of plant quarantine measures.
BY010 103	Bryology and Pteridology	CO1	To study the external morphology of Bryophytes.
		CO2	To study the internal structure and reproduction in Bryophytes.
		CO3	To understand the diversity in habits and habitats of pteridophytes.
		CO4	To familiarize the students with the classification of lower forms of plants.
BY010 104	Gymnos-perms, paleobotany and evolution	CO1	To understand the evolutionary trends in gymnosperms.
		CO2	To understand anatomical variations in vascular plants.
		CO3	To understand the significance of paleobotany and its applications.
		CO4	To make the students aware of the past geological factors that led to the evolution of gymnosperms.
SEMESTER 2			
BY010 201	anatomy, developmental biology and horticulture	CO1	To understand the ultrastructure and functioning of cells.
		CO2	To familiarize the students with the processes and events involved in the development of organisms.
		CO3	To introduce the significance of horticulture in the modern world.
		CO4	To understand the students various methods of plant propagation

BY010 202	Cell biology, genetics and plant breeding	CO1	To understand the principles of heredity.
		CO2	To understand the patterns of inheritance in different organisms.
		CO3	To understand the ultrastructure and functioning of cells.
		CO4	Familiarisation of life processes.
BY010 203	Plant physiology and Biochemistry	CO1	To understand the role of biomolecules in plant life.
		CO2	To understand structure and importance of biomolecules associated with plant life.
		CO3	To understand the physiological processes of plant life.
		CO4	To make the students skilled to carry out various physiological experiments.
BY010 204	molecular biology	CO1	To understand the ultrastructure and functioning of cells.
		CO2	Familiarisation of life processes.
		CO3	To understand the basic and scientific aspects of diversity.
		CO4	To understand DNA as the basis of heredity and variation.
SEMESTER 3			
BY010 301	Research methodology, Biophysics, Biostatistics and Micro-technique	CO1	To equip the students with deep knowledge in the methodology of research.
		CO2	To make the students understand various biophysical instrumentation.
		CO3	To develop statistical skills and techniques.
		CO4	To familiarize the students with various microtechnique skills
BY010 302	Biotechnology, bio-informatics and bionano-technology	CO1	Understand the current developments in the field of Biotechnology.
		CO2	Equip the students to carry out plant tissue culture.
		CO3	To equip the students to access and analyze data available in databases.
		CO4	To familiarize the students with the emerging techniques in nano biotechnology
BY010 303	Angiosperm Taxonomy, economic botany and ethnobotany	CO1	To make the students understand the classification, naming and identification of higher plants.
		CO2	To familiarize with the common plants of Kerala and their classification
		CO3	To develop inductive and deductive reasoning ability.
		CO4	To make the students able to identify, classify and name unknown plant species.
BY010 304	environmental science	CO1	To understand the significance of environmental science.
		CO2	To make the students aware about total biodiversity conservation.
		CO3	To help the students to design novel mechanisms for sustainable utilization of natural resources.
		CO4	To familiarize the students with the vast diversity of biomes and their role in phytogeographical conditions.
SEMESTER 4			
BY800 401	Tissue culture and microbial biotechnology	CO1	To understand the tissue culture techniques.
		CO2	To equip the students with knowledge of the microbial world and their role in commercial production of various products.
		CO3	To enable the students to carry out micro propagation of various plant species.

		CO4	To develop an in depth understanding of the applications of microbial biotechnology in medical and agricultural fields
BY800 402	Genetic Engineering, genomics and immunology	CO1	To understand the recombinant DNA technology.
		CO2	To understand the elements of GE so as to encourage the students' interest in advanced biological techniques.
		CO3	To develop high order thinking skills in students so as to enable them to find practical solutions to problems in Biology.
		CO4	To enhance the knowledge on the genetic organization of organisms
BY800 403	Genomics, trans-criptomics, proteomics and bio-informatics	CO1	To familiarize the students with the modern arena of genomics and proteomics
		CO2	Understand the current developments in the field of Biotechnology.
		CO3	To equip the students to access and analyze data available in databases.
		CO4	To understand the current developments in the area of Genomics and Proteomics

Name of the Programme: MSc Biostatistics

Course Code	Course Title	Course Outcomes	
SEMESTER 1			
ST02 0101	Statistical Methods and Probability Distributions	CO1	Able to summarize, visualize and analyze data
		CO2	Able to compute probabilities
		CO3	Able to develop new probability models and test the goodness of fit
		CO4	Able to represent the data using graphs and diagrams
		CO5	Able to study the relationship between variables
ST02 0102	Theory and Methods of Sample Surveys	CO1	Able to conduct sample surveys using various sampling techniques
		CO2	Able to determine sample size and plan Statistical studies
		CO3	Able to estimate population total, mean and variance
		CO4	Able to apply systematic and stratified sampling technique
		CO5	Able to obtain ratio and regression estimates
ST02 0103	Statistical Programming in R and Python	CO1	Able to write computer programs using R and Python
		CO2	Able to generate samples from different populations using R and Python
		CO3	Able to draw graphs and diagrams using R and Python
		CO4	Exposed to logical thinking and analysis
		CO5	Able to solve problems and make optimum decisions
ST02 0104	Statistical Genetics and Ecology	CO1	Able to understand basics of statistical genetics and ecology
		CO2	Become aware of environment, biodiversity and ecological issues
		CO3	Able to study about population growth and develop models
		CO4	Able to quantitative analysis of biodiversity and abundance

		CO5	Able to estimate linkage between hereditary factors and test them
ST02 0105	Statistical Data Analysis using Microsoft Excel, R and Python	CO1	Become experts in Excel, R and Python for data analysis and interpretation
		CO2	Able to test goodness of fit
		CO3	Able to represent data using graphs and diagrams
		CO4	Able to estimate sample size, sample mean and its variance
		CO5	Able to develop programs and solve programs
		CO6	Able to measure diversity and estimate linkage
SEMESTER 2			
ST02 0201	Matrix Algebra and Regression Analysis	CO1	Able to find the correlation between variables
		CO2	Able to develop regression equation for prediction
		CO3	Able to understand and conduct Poison and logistic regression
		CO4	Able to understand bioassays and estimation of safe doses
		CO5	Able to understand non-linear and non-parametric regression
ST02 0202	Sampling Distributions and Statistical Estimation Methods	CO1	Able to understand different estimation methods and estimate the parameters
		CO2	Able to study about performance of estimators
		CO3	Able to develop estimators having minimum variance, maximum likelihood etc.
		CO4	Able to develop Confidence intervals
		CO5	Able to apply the techniques to data from various application fields
ST02 0203	Parametric and Non-parametric Tests	CO1	Able to develop hypothesis and understand P-value
		CO2	Able to test hypotheses regarding mean and various
		CO3	Able to understand different techniques in parametric testing
		CO4	Able to apply SPSS for testing
		CO5	Able to understand different techniques in non-parametric testing
ST02 0204	Epidemiology and Study Designs	CO1	Able to study and plan different epidemiological studies
		CO2	Able to measure disease frequency using different measures
		CO3	Able to find incidence rate, Odds ratio
		CO4	Able to develop the confidence Interval
		CO5	Able to plan a Epidemiological Study
ST02 0205	Statistical Data Analysis Using SPSS, R and Python	CO1	Able to understand different techniques in parametric testing using SPSS
		CO2	Able to understand different techniques in non-parametric testing using SPSS
		CO3	Able to estimate the parameters by using different methods
		CO4	Able to find the correlation between variables using SPSS
		CO5	Able to develop regression equation for prediction using SPSS

SEMESTER 3			
ST02 0301	Design and Analysis of Experiments	CO1	Able to understand different design of experiments
		CO2	Able to do the analysis of different designs using SPSS and SAS
		CO3	Able to understand the efficiency of drugs from different designs
		CO4	Able to apply missing plot techniques
		CO5	Able to understand Analysis of Variance and Analysis of Covariance
ST02 0302	Stochastic Models and Time Series Analysis	CO1	Able to understand basics concepts on Stochastic process and modeling
		CO2	Able to understand birth/death process and their special cases
		CO3	Able to analyze time series data and fit with appropriate models
		CO4	Able to predict future values
		CO5	Able to develop population models and find probability of extinction
ST02 0303	Applied Multivariate Analysis	CO1	Able to understand multivariate data analysis
		CO2	Able to understand applications in tests on mean vector for one and more multivariate normal populations/
		CO3	Able to understand applications in equality of mean vector in a multivariate normal population
		CO4	Able to understand random sampling from a multivariate normal distribution
		CO5	Able to understand the classification and discrimination procedure for discrimination between two multivariate normal populations
ST02 0304	Advanced Epidemiology and Bioassays	CO1	Able to understand bioassays and estimation of safe doses
		CO2	Able to analyze different types of data like categorical, grouped and matched data
		CO3	Able to determine the sample size and power calculation for different epidemiological studies
		CO4	Able to plan different epidemiological studies
		CO5	Able to analyze data from different epidemiological studies and interpret the data
ST02 0305	Statistical Data Management using Python, ADVANCED R and SPSS	CO1	Able to apply multivariate data analysis using SPSS and R programming
		CO2	Able to determine the drug effects from different designs by using SPSS
		CO3	Able to estimate missing values from different designs
		CO4	Able to Able to determine the sample size and power calculation for different epidemiological studies
		CO5	Able to analyze time series data and fit with appropriate models

SEMESTER 4			
ST02 0401	SAS Programming, Bayesian Inference and MCMC Methods	CO1	Able to write programs on SAS programming andAble to apply statistical methods by SAS program
		CO2	Able to simulate samples from different populations
		CO3	Able to visualize data by graphs and diagrams using SAS program
		CO4	Able to understand the concepts of Bayesian Inference
		CO5	Able to understand the concepts of simulation techniques
ST02 0402	Survival Analysis and Lifetime Modeling	CO1	Able to distinguish the lifetime distributions
		CO2	Able to identify the prognostic factors and estimate the survival of diseased persons
		CO3	Able to analyze the patterns of life events
		CO4	Able to compare the distributions of survival times in different groups of individuals
		CO5	Able to examine, how much the factors affect the risk of an event of interest
		CO6	Able to analyze the survival data
ST02 E4.1.1	Clinical Trials and Bioinformatics	CO1	Able to plan a clinical trial
		CO2	Able to understand drug development process
		CO3	Able to analyze continuous, categorical, binary datas
		CO4	Able to writing protocol, statistical analysis plan and clinical study report
		CO5	Able to determine the sample size for the clinical trial and able to understand the handling of missing data and multiplicity
		CO6	Able to understand the sequence alignment, algorithm and tools
		CO7	Able to understand the basics of bioinformatics and biological data analysis
ST02 E4.1.2	Demography & Vital Statistics	CO1	Able to understand vital Statistics and population Models
		CO2	Able to read and understand the life tables
		CO3	Able to predict the population projection
		CO4	Able to understand the Sources of data on mortality and morbidity
		CO5	Able to understand the trends and patterns of urbanization in India
ST02 E4.1.3	Statistical Computing and Data Analysis Using Python, R & SAS	CO1	Able to solve the linear programming problems, transportation problems and assignment problems
		CO2	Able to visualize data by graphs and diagrams using R program
		CO3	Able to apply statistical methods by R program and able to simulate samples from different populations
		CO4	Able to apply survival data analysis techniques
		CO5	Able to understand the computational Biology

Name of the Programme: **MSc Biotechnology**			
Course Code	**Course Title**	**Course Outcomes**	
SEMESTER 1			
BT020101	General Biochemistry	CO1	The study of biochemistry helps one understand the actual chemical concepts of biology.
		CO2	Biochemistry in general deals with body substance like enzymes, carbohydrates, amino acids, fats, proteins, hormones, DNA, RNA, pigments
		CO3	To study life in terms of biochemical reactions. One can understand all the chemical reactions happening at the molecular level in a living cell or living being. The role of biochemistry and its importance in various fields is as described below.
BT020102	Cell Biology and Genetics	CO1	Students will know about the cell and its biology, which will help the students to understand the origins of cells and the generation of cell diversity, as well as the common features of cellular structure and function – how they obtain energy, synthesize new molecules, communicate, proliferate and survive.
		CO2	Students will understand the structures and purposes of basic components of prokaryotic and eukaryotic cells, especially macromolecules, membranes, and organelles
		CO3	Students will understand the cellular components underlying mitotic cell division.
		CO4	The understanding of cells is used for learning the processes such as, absorption, how electrical signals are carried, secretion, why some things such as lack of oxygen can cause death, etc.
BT020104	Biophysics and Bio-informatics	CO1	Students will be able to understand and describe and use the biological databases, perform structured query and analyze and discuss the results in biologically significant way
		CO2	Students will be able to explain principle, algorithm and different methods of sequence alignments as well as execute alignments to address research problems
		CO3	Students will become familiar with a wide variety of bioinformatics tools and softwares and apply these to conduct basic bioinformatics research and thus develop platform for molecular biology experiments
		CO4	Study about the different motif analysis that acts as specific tools for biological interactions.
BT020103	Instrumen-tation and Bio-statistics	CO1	Course is designed to train the students bioinstrumentation techniques essential for the understanding of life science and biotechnology.
		CO2	Course consists of basics of instrumentation techniques.
		CO3	Basic understanding of statistical concept is necessary to effectively evaluate biological data
		CO4	Demonstrate and understanding of the central concept of modern statistical theory and interpret result of descriptive statistical methods effectively

BT020105	Lab Course I	CO1	Study quantitative and qualitative analysis o macromolecules
		CO2	Separation techniques of macromolecules
		CO3	Interpretation and analysis of cell division techniques
SEMESTER 2			
BT020201	Micro-biology	CO1	Student will understand the diversified branches of microbiology
		CO2	Student will know the theoretical and practical aspects of microbial growth and physiology
		CO3	Students will learn about the morphology and physiological characteristics of different groups of microorganisms
		CO4	This course will make the students to understand virus cultivation, phages and bacterial/yeast genetics
BT020202	Immuno-logy	CO1	Students will understand the basic concept of innate and acquired immunity.
		CO2	Students will gain knowledge about immunoglobulin structures and diversity of antibodies, morphology and functions of various immune cells such as dendritic cells, macrophages, neutrophils and their association with MHC molecules will be studied.
		CO3	This study will make the students to understand the basic mechanisms of hypersensitivity responses and their associations with different diseases.
		CO4	The main goal of the course is to provide basic understanding of immunology and immune responses in response to various infectious and non infectious diseases
BT020103	Molecular Biology	CO1	Students will learn DNA replication, recombination and repair, transcription and translation
		CO2	Students will be aware of the modern tools and techniques of genomics and isolation and identification of genes
		CO3	Students will understand the biology and application of antisense technologies and biology of cancer
BT020104	Enzymo-logy and Meta-bolism	CO1	Basic knowledge of structure and functions of major bio-molecules will make the students to understand and implement the acquired knowledge in future.
		CO2	Understanding of metabolic pathways (catabolism as well as anabolism), their diversity and how these are specifically regulated and interrelated in different cells
		CO3	Practical knowledge and hands on tools and techniques for the characterization of bio-molecules will help the students in advanced research programs
		CO4	Concepts of enzyme kinetics, regulation and specificity
BT020205	Lab Course II	CO1	Study various staining procedures
		CO2	Study various cultural characteristics and biochemical reactions of bacteria
		CO3	Study the techniques used for purification and estimation of enzymes
SEMESTER 3			
BT020301	Bioprocess Technology	CO1	Students will gain knowledge of bioreactor
		CO2	Students will understand the application and functioning of bioreactors

		CO3	This course will make the students to understand the downstream procedure and fermenter waste treatment
BT020302	Recom-binant DNA Techno-logy	CO1	Students will become familiar with the tools and techniques of genetic engineering- DNA manipulation enzymes, genome and transcriptome analysis and manipulation tools, gene expression regulation, production and characterization of recombinant proteins.
		CO2	This course exposes students to the applications of genetic engineering in biological research.
		CO3	Students will be able to perform basic genetic engineering experiments at the end of course.
		CO4	Students will acquire knowledge of advances in biotechnology- healthcare, agriculture and environment cleanup via recombinant DNA technology.
BT020304	Plant and Animal Biotechno -logy	CO1	Students will learn the principals and technical advances behind the in vitro culture of plant cells and rDNA techniques
		CO2	Students will learn the applications of plant transformation for improving the productivity and performance of plants under biotic and abiotic stresses
		CO3	. Students will understand the use of antisense technologies for improvement of crop plants
BT020303	Environ-ment Biotech-nology	CO1	The student will be able to evaluate the potential of biodegradation of organic pollutants, taking microbial and physical/chemical environments, as well as the chemical structure of the compound itself, into consideration
		CO2	Students will understand the phenomenon of phytoremediation for the decontamination of soil and water, wetlands as treatment processes, biofilms/biofilters for vapor-phase wastes, and composting
		CO3	Students will learn about the environmental quality evaluation, monitoring, and remediation of contaminated environments
		CO4	Students will learn about the use of biosensors in environmental analysis, environmental engineering.
BT020305	Lab Course III	CO1	Able to device experiments with appropriate hypothesis and controls
		CO2	Study various fermentation techniques
		CO3	Study and analysis of various culture methods
SEMESTER 4			
BT850401	Molecular Biology of development	CO1	Able to understand the cellular processes leading to organogenesis and development.
		CO2	To understand significance of molecular patterns and molecular mechanisms of development in plants and animals
		CO3	To study basic mechanism of senescence and cell death.
BT850402	Cancer Biology	CO1	Basic aspects of cancer pathology.
		CO2	Mechanisms of Carcinogenesis and metastasis
		CO3	Diagnostic techniques and treatment approaches.

BT850403	Genomics: Techniques and Applica-tions	CO1	The structural and functional organization of genome.
		CO2	Human genomic structure and implications of HGP.
		CO3	Techniques involved in genomics and their applications .
BT020401	Lab Course IV	CO1	Able to study various isolation techniques of macromolecules
		CO2	Study expression and purification of recombinant proteins, protein techniques
		CO3	Knowledge about various molecular marker studies

Name of the Programme: MSc Applied Microbiology

Course Code	Course Title	Course Outcomes	
SEMESTER 1			
MG010101	Biochemistry and Microbial metabolism	CO1	Explain the fundamental biochemical principles, such as the structure/function of biomolecules.
		CO2	Explain metabolic pathways, fermentation reactions, and the regulation of biological/biochemical processes.
		CO3	Know the reactions of the major catabolic and anabolic pathways of carbohydrate, lipid, and nucleotides
		CO4	Explain the various fermentation reactions executed by microorganisms
		CO5	Explain the general properties of Enzymes and its regulation
MG010102	Biophysics and Instrumentation	CO1	Explain the installation and operation of various instruments.
		CO2	Explain the importance of thermodynamics in living system.
		CO3	Explain the fundamentals of analytical techniques and steps of a characteristic analysis
		CO4	Evaluate the analytical data
		CO5	Effectively communicate physics basics and how it worth in the biological systems
MG010103	General principles of Microbiology	CO1	Demonstrate theory and practical skills in microscopy and their handling techniques and staining procedures
		CO2	Understand the basic microbial structure and function and study the comparative characteristics of microbes, and also understand the structural similarities and differences among various physiological groups of bacteria.
		CO3	Know the various culture media and their applications and also understand various physical and chemical means of sterilization
		CO4	Understand the microbial transport systems
		CO5	Know the various Physical and Chemical growth requirements of bacteria and fungi

MG010104	Cell Biology and Genetics	CO1	Able to identify the components of a general signal construction pathway, and provide examples of pathways initiated by different receptors.
		CO2	Able to describe the cell cycle progression and cell cycle regulation
		CO3	Able to understand the distinction between genetic screening and genetic testing and aware of the differences and similarities between diagnostic, predictive and carrier genetic testing.
		CO4	Able to synthesize and incorporate the fundamentals of gene technology in order to understand how such technology impacts humans, and also employ the scientific method to generate new knowledge, and to solve problems, regarding human heredity.
		CO5	Able to describe genetics in medical practice including recognizing congenital anomalies and syndromes, risk assessment and genetic counseling, genetic testing and screening, and plans for management and treatment.
MG010105	Laboratory Course- I	CO1	Able to design and carry out experiments (safely) and to interpret experimental data.
		CO2	Acquire, discover and apply the theories and principles of learned subjects in practical, real-world situations and problems.
		CO3	Develop success skills in communication, critical thinking, interaction, information acquisition and interpretation, organization, professionalism, leadership and life long learning
		CO4	Able to devise experiments with appropriate hypotheses and controls
SEMESTER 2			
MG010201	Microbial genetics and Molecular biology	CO1	Understand the scientific process, in the context of learning the fundamental biological and chemical ‘facts' of molecular biology.
		CO2	Gain skills required to effectively do scientific research.
		CO3	Explain the mechanisms of DNA replication and repair, RNA synthesis and processing, and protein synthesis.
		CO4	Describe how gene expression is regulated at the transcriptional and post-transcriptional level.
		CO5	Discuss the mechanisms of cell to cell signalling, including intracellular second-messenger pathways
MG010202	Environmen-tal and Agricultural Microbiology	CO1	Demonstrate insight into quantitative assessments of microbial biodiversity, microbial biomass, growth and metabolic activity of microbes, and relevant environmental parameters in plant – microbe interactions
		CO2	Demonstrate an insight to central methods in plant disease microbiology
		CO3	Devise experimental strategies for analysing microbial populations, and their activity in environment.
		CO4	Critically read, analyse, discuss and present topics

			from the original scientific literature (articles and reviews) in Agricultural and Environmental microbiology.
		CO5	Know various culturing technique for microbes from agricultural field and other environmental niche.
MG010203	Virology	CO1	Describe elements of the viral life cycle, explain viral replication strategies and compare replication mechanisms used by viruses relevant for human disease.
		CO2	Explain host antiviral immune mechanisms, explain vaccine strategies and mechanisms of antiviral drugs.
		CO3	Describe viral strategies to evade host immune and cellular factors.
		CO4	Discuss principles of virus pathogenesis, describe methods used for laboratory diagnosis of viral infections.
		CO5	Acquire knowledge about epidemiology and prophylaxis of viruses that are significant as human pathogens.
MG010204	Immunology	CO1	Describe the basic mechanisms, distinctions and functional interplay of innate and adaptive immunity
		CO2	Define the cellular/molecular pathways of humoral /cell-mediated adaptive responses
		CO3	Define the basic mechanisms that regulate immune responses and maintain tolerance
		CO4	Explain the cellular and molecular aspects of lymphocyte activation, homeostasis, differentiation, and memory.
MG010205	Laboratory Course- II	CO1	Able to design and carry out experiments (safely) and to interpret experimental data.
		CO2	Acquire, discover and apply the theories and principles of learned subjects in practical, real-world situations and problems.
		CO3	Develop success skills in communication, critical thinking, interaction, information acquisition and interpretation, organization, professionalism, leadership and life long learning
		CO4	Able to devise experiments with appropriate hypotheses and controls
SEMESTER 3			
MG010302	Industrial Microbiology	CO1	Students will gain knowledge of bioreactor
		CO2	Students will understand the application and functioning of bioreactors
		CO3	This course will make the students to understand the downstream procedure and fermenter waste treatment
MG010304	Recom-binant DNA Technology	CO1	Technically know- how on versatile techniques in recombinant DNA technology.
		CO2	Understanding on application of genetic engineering techniques in basic and applied experimental biology
		CO3	Show proficiency in designing and conducting experiments involving genetic manipulation

		CO4	Demonstrate the basic techniques involved in recombinant DNA manipulations including DNA restriction, ligation, transformation and selection of recombinant plasmid.
		CO5	Explain the principles and application of PCR, and other sophisticated machineries.
MG010301	Medical microbiology	CO1	Identify common infectious agents and the diseases that they cause.
		CO2	Explain general and specific mechanisms by which an infectious agent causes disease.
		CO3	Describe the epidemiology of infectious agents including how infectious diseases are transmitted.
		CO4	Explain interventions employed to prevent infectious diseases including infection control measure and vaccines
		CO5	Acquire comprehensive knowledge and understanding of medically significant microorganisms and its diagnosis and treatment
MG010303	Food and Microbiology	CO1	Identify the important pathogens and spoilage microorganisms in foods and the conditions under which they will grow
		CO2	Identify the conditions under which the important pathogens are commonly inactivated, killed or made harmless in foods
		CO3	Explain the significance and activities of microorganisms in Dairy and dairy products.
		CO4	Explain why microbiological quality control programmes are necessary in food production.
		CO5	Commit to the highest standards of professional integrity and ethical values
MG010305	Laboratory Course - III	CO1	Able to design and carry out experiments (safely) and to interpret experimental data.
		CO2	Acquire, discover and apply the theories and principles of learned subjects in practical, real-world situations and problems.
		CO3	Develop success skills in communication, critical thinking, interaction, information acquisition and interpretation, organization, professionalism, leadership and life long learning
		CO4	Able to devise experiments with appropriate hypotheses and controls
SEMESTER 4			
MG800402	Compu-tational Biology and Research Methodology	CO1	To get introduced to the basic concept of bioinformatics, scope, career and its significance in biological data analysis
		CO2	The collection, classification, storage and analysis of biochemical and biological information using computers
		CO3	Introduction to the basics of macromolecular sequences, alignment and analysis

		CO4	Knowledge about the concept of molecular modeling and various approaches in phylogenetic analysis
		CO5	Analysis and handling of various bioinformatics online tools and servers
MG800401	Pharmaceutical microbiology	CO1	The study of microorganisms associated with the manufacture of pharmaceuticals.
		CO2	Determine antimicrobial effectiveness, microbial contamination or bioburden, analyse endotoxins.
		CO3	Include the research and development of antiinfective agents, the use of microorganisms to detect mutagenic and carcinogenic activity in prospective drugs
		CO4	To study the use of microorganisms in the manufacture of pharmaceutical products
MG800403	Clinical Microbiology	CO1	Study the prevention diagnosis and treatment of infectious disease
		CO2	Study various clinical application of microbes for the improvement of health
		CO3	Study microscopic organisms like bacteria and fungi, to gain knowledge about fighting and preventing diseases
		CO4	Explain how to incorporate testing for diverse group of microorganisms
MG010401	Laboratory Course - IV	CO1	Able to design and carry out experiments (safely) and to interpret experimental data.
		CO2	Acquire, discover and apply the theories and principles of learned subjects in practical, real-world situations and problems.
		CO3	Develop success skills in communication, critical thinking, interaction, information acquisition and interpretation, organization, professionalism, leadership and life long learning
		CO4	Able to devise experiments with appropriate hypotheses and controls

Name of the Programme: M.Com.			
Course Code	**Course Title**	**Course Outcomes**	
SEMESTER 1			
CM010101	Specialised Accounting	CO1	Providing an in depth understanding about theoretical and practical aspects of major Accounting Standards to apply the same in different practical situations.
		CO2	Ascertain the value of goodwill and value of companies based on the value of shares and compare the real value of shares and with the market prices and identify the mispricing.
		CO3	In depth understanding about the determination of purchase consideration in the event of amalgamation and to prepare post amalgamation financial statements

		CO4	Acquaint with the theoretical aspects of emerging areas in accounting
		CO5	Develop a clear understanding about different types of NBFCs, their provisioning norms and to understand the concept of NAV of mutual funds through its computation.
CM010102	Organisational Behaviour	CO1	Basic understanding about the concepts of organisation behaviour.
		CO2	A very good understanding about individual behaviour, personality and motivation
		CO3	Impart knowledge about the role of organisational culture and conflict on organizational behavior.
		CO4	Imparting deep understanding about group behaviour and leadership related to organisational behaviour
CM010103	Marketing Management	CO1	The learner should have a basic understanding about concepts like customer centricity, CRM, value chain and customer delight.
		CO2	The learner should get a clear understanding about the market segmentation process and its applications in marketing strategies
		CO3	Develop an idea about consumer behaviour and its impact.
		CO4	Good understanding about product line, product mix, brand equity, brand identity, brand personality and brand image.
		CO5	Develop sound ideas regarding services marketing and service quality.
CM010104	Management Optimisation Techniques	CO1	Develop theoretical understanding about various business optimisation models
		CO2	Ability to develop Linear Programming Models for business problems and Solve the same.
		CO3	Application of Linear Programming in the areas of transportation and assignment
		CO4	Develop decision making skills under uncertainty, risk and replacement of assets
		CO5	Understand and apply network analysis techniques for project implementation.
CM010105	Methodology for Social Science Research	CO1	Develop a thorough understanding about the basic concepts of social science research.
		CO2	The learner should be able to formulate a research design and Understand the technique of research reporting
		CO3	After studying the theoretical aspects of sampling design, the learner should be able to draw a sampling design.
		CO4	Detailed knowledge about the instrument development, its validation and different forms of scaling
SEMESTER 2			
CM010201	Advanced Corporate Accounting	CO1	Understand the proceedings of the preparation of consolidated financial statements.
		CO2	Preparation of the financial statements of public utility companies and deal with the disposal of surplus.

		CO3	Familiarising the learner with the accounting procedures of liquidation of companies and preparation of various statements required as per the Companies Act.
		CO4	Basic understanding about the preparation of accounts of some special lines of businesses like shipping, hospitals and hotels
		CO5	Develop and awareness on the procedure of bankruptcy under the recent Bankruptcy Procedure Code
CM010202	Human Resource Management	CO1	Acquaintance with basic concepts of HRM and performance appraisal and understand the human resource functions in an organization.
		CO2	Understanding about human resource development, stress management and work life management
		CO3	High level knowledge about various aspects of training.
		CO4	Understanding about various aspects of industrial relations so as to evaluate the real cases of industrial relations.
		CO5	Understanding about HR outsourcing HR accounting and HR audit.
CM010203	International Business And Finance	CO1	Familiarisation with globalisation, internationalisation of business and the international business environment.
		CO2	Understanding about theories of international trade, trade barriers and trade blocks.
		CO3	Imparting idea about various economic institutions related to international trade.
		CO4	Achieve high level knowledge about various aspects of international monetary system.
		CO5	Develop an understanding about the international investment environment
CM010204	Quantitative Techniques	CO1	This course intends to give understanding about the applications of quantitative techniques
		CO2	This course intends to give understanding about the applications of quantitative techniques.
		CO3	After learning this course, the student should be in a position to identify appropriate parametric test for testing the hypotheses
		CO4	The learner should be equipped with the skills to identify the most suitable non parametric test for testing a hypothesis.
		CO5	The learner should be equipped with the skills to apply the principles of SQC
CM010205	Strategic Management	CO1	Strong understanding about the theoretical foundations of strategic management.
		CO2	Clear understanding about various models of environmental and internal analysis
		CO3	Development of an idea about the strategy formulation process at the corporate level
		CO4	Familiarization with various tools strategic planning and evaluation.

		CO5	Understanding about the modes of implementation and control of strategies.
SEMESTER 3			
CM010301	Strategic Financial Management	CO1	Learn the theoretical foundations of financial management and financial management decisions
		CO2	Evaluate the feasibility of different options regarding discount, credit period, storage cost etc related to current assets and current liabilities and estimate working capital requirements.
		CO3	Evaluate long term proposals and evaluate the risk associated with long term investment.
		CO4	Evaluate the decisions regarding leasing of capital assets.
		CO5	Evaluate and Compare the performance of business entities.
CM010302	Income Tax - Law and Practice	CO1	Acquire knowledge regarding the basic concepts of Income Tax.
		CO2	Able to compute the income from salary and house property
		CO3	Determine taxable profit of a business or profession
		CO4	Able to compute capital gain and income from other sources
		CO5	Able to calculate Gross Total Income of an individual.
		CO6	Learner shall be able to determine eligible deductions and compute Taxable Income and tax liability of an individual.
CM010303	Security Analysis And Portfolio Management	CO1	Able to understand the concepts of investments, different types of investments, views of investment and process of investment and apply the theoretical knowledge in investment information for selecting the securities.
		CO2	Understanding the types of risk in security market and Applying various tools for the valuation of bonds as well as economic indicators to predict the market.
		CO3	Understand the tools of technical analysis, analyse the patterns and trends in the market by using various tools and enable to take investment decisions after understanding market efficiency level also.
		CO4	Applying Modern portfolio theories and construct optimum portfolios
		CO5	Revising constructed portfolios as per risk and return association by using different strategies.
CM800301	Indirect Tax Laws	CO1	Understand the basic concepts of the Goods and Services Tax
		CO2	Develop a clear idea about the levy and collection of tax and tax credit
		CO3	Develop the knowledge about the provisions regarding registration , preparations of books of accounts and filing of returns under the Act
		CO4	Understand about the powers of GST authorities regarding inspection, search and seizure
		CO5	Basic understanding about the Customs Law in India.

SEMESTER 4			
CM010401	Advanced Cost and Management Accounting	CO1	Apply activity based absorption methods instead of conventional absorption method.
		CO2	Apply the marginal costing principles in decision making situations of businesses
		CO3	Dealing with practical cases of pricing decisions in different situations
		CO4	Understand the concepts of standard costing, and the process of cost control through it.
		CO5	Deal with the practical issues related to transfer pricing
CM010402	Income Tax – Assessment & Procedures	CO1	Compute the total income and tax liability of firms and Association of Persons
		CO2	Carry out assessment of companies and determine their tax liability
		CO3	Make the assessment of co operative societies and trusts.
		CO4	Understanding about the assessment procedures, TDS and advance payment of tax and application in various situations
		CO5	Learn tax planning concepts and apply the same
CM800401	Derivatives and Risk Management	CO1	Knowledge about the derivative market in India, its evolution, types, players, risks involved and basic quantitative foundations
		CO2	Analyze the implications of Risk in the perception of individuals and Institutions and measurement of risks
		CO3	Understand and explain the concept of forward market and its function
		CO4	Analyse the operation and pricing of various types of futures
		CO5	Understand the concepts and methodology of option trading and apply the models of pricing the option contracts
CM800402	Personal Investment and Behavioural Finance	CO1	Understand the meaning and significance of Financial literacy, Financial Discipline & Financial Competency, the role of family and parents in financial socialisation
		CO2	Understand and Evaluate the Significance of savings on financial destiny and it relationship with Consumerism and to understand the different elements/steps in Personal Financial Planning to attain Financial Well Being and Evaluate the different retail investment avenues.
		CO3	Know the meaning of Behavioural Finance, its evolution and related theories
		CO4	To understand different Heuristics, Biases and other Irrational Investment Behaviours
		CO5	Understand the relationship between biases and to adopt techniques to lower the impact of biases

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