SREE NARAYANA COLLEGE
KANNUR

ACCREDITED BY NAAC WITH 'A' GRADE (AFFILIATED TO KANNUR UNIVERSITY)
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CRITERIA -1

1.1 CURRICULAM PLANNING AND IMPLIMENTATION FILES

OUTCOME BASED EDUCATION (OBE) - P.O, P.S.O AND COURSE OUTCOMES CURRICULAM

Sree Narayana College, Kannur

Programme Outcomes (PO)

ENGLISH(Common course)

PO 1.Critical Thinking:

1.1. Acquire the ability to apply the basic tenets of logic and science to thoughts, actions and interventions.

1.2. Develop the ability to chart out a progressive direction for actions and interventions by learning to recognize the presence of hegemonic ideology within certain dominant notions.

1.3 Develop self-critical abilities and also the ability to view positions, problems and social issues from plural perspectives.

PO 2.Effective Citizenship:

2.1. Learn to participate in nation building by adhering to the principles of sovereignty of the nation, socialism, secularism, democracy and the values that guide a republic.

2.2. Develop and practice gender sensitive attitudes, environmental awareness, empathetic social awareness about various kinds of marginalisation and the ability to understand and resist various kinds of discriminations.

2.3. Internalise certain highlights of the nation's and region's history. Especially of the freedom movement, the renaissance within native societies and the project of modernisation of the post-colonial society.

PO 3.Effective Communication:

3.1. Acquire the ability to speak, write, read and listen clearly in person and through electronic media in both English and in one Modern Indian Language

3.2. Learn to articulate, analyse, synthesise, and evaluate ideas and situations in a well-informed manner.

3.3. Generate hypotheses and articulate assent or dissent by employing both reason and creative thinking.

PO 4.Interdisciplinarity:

4.1. Perceive knowledge as an organic, comprehensive, interrelated and integrated faculty of the human mind.

4.2. Understand the issues of environmental contexts and sustainable development as a basic interdisciplinary concern of all disciplines.

4.3. Develop aesthetic, social, humanistic and artistic sensibilities for problem solving and evolving a comprehensive perspective.

Programme Specific Outcomes for BA in English Language and Literature

PSO 1.Understand the historical contexts behind the origin and development of English literature with a special focus on various movements and the important works belonging to such movements.

PSO 2. Understand the current methodological issues in the study of literature and apply various reading strategies employed to selected literary as well as cultural texts.

PSO 3. Understand and apply the extended meaning of "English Literature" to various post-colonial and other writings in English.

PSO 4. Understand the basics of disciplines like Film Studies, Culture Studies, Fine Arts, Women's Writing, Dalit Writings, Post-colonial writing, Indian writing in English, Malayalam Literature and Literatures in Translation.

PSO 5. Understand and appreciate the interdisciplinary links that literary studies have with disciplines like Philosophy, History, Political Science, Sociology, Anthropology and the Sciences.

MALAYALAM (Additional common courses)

PROGRAMME OUTCOMES

PO 1.Critical Thinking:

1. Acquire the ability to apply the basic tenets of logic and science to thoughts, actions and interventions.

2. Develop the ability to chart out a progressive direction for actions and interventions by learning to recognize the presence of hegemonic ideology within certain dominant notions.

3. Develop self-critical abilities and also the ability to view positions, problems and social issues from plural perspectives.

PO 2.Effective Citizenship:

1. Learn to participate in nation building by adhering to the principles of sovereignty of the nation, socialism, secularism, democracy and the values that guide a republic.

2. Develop and practice gender sensitive attitudes, environmental awareness, the ability to understand and resist various kinds of discrimination sand empathetic social awareness about various kinds of marginalisation.

3. Internalise certain highlights of the nation's and region's history. Especially of the freedom movement, the renaissance within native societies and the project of

modernisation of the post-colonial society.

PO 3.Effective Communication:

1. Acquire the ability to speak, write, read and listen clearly in person and through electronic media in both English and in one Modern Indian Language

2. Learn to articulate analysis, synthesis, and evaluation of situations and themes in a well-informed manner.

3. Generate hypothesis and articulate assent or dissent by employing both reason and creative thinking.

PO 4.Interdisciplinarity:

1. Perceive knowledge as an organic comprehensive, interrelated and integrated faculty of the human mind

2. Understand the issues of environmental contexts and sustainable development as a basic interdisciplinary concern of all disciplines.

3. Develop aesthetic, social, humanistic and artistic sensibilities for problem solving and evolving a comprehensive perspective.

HINDI (Additional common courses)

PROGRAMME OUTCOMES (PO)

PO 1.Critical Thinking:

1.1. Acquire the ability to apply the basic tenets of logic and science to thoughts, actions and interventions.

1.2. Develop the ability to chart out a progressive direction for actions and interventions by learning to recognize the presence of hegemonic ideology within certain dominant notions.

1.3 Develop self-critical abilities and also the ability to view positions, problems and social issues from plural perspectives.

PO 2.Effective Citizenship:

2.1. Learn to participate in nation building by adhering to the principles of sovereignty of the nation, socialism, secularism, democracy and the values that guide a republic.

2.2. Develop and practice gender sensitive attitudes, environmental awareness, empathetic social awareness about various kinds of marginalisation and the ability to understand and resist various kinds of discriminations.

2.3. Internalise certain highlights of the nation's and region's history. Especially of the freedom movement, the renaissance within native societies and the project of modernisation of the post-colonial society.

PO 3.Effective Communication:

3.1. Acquire the ability to speak, write, read and listen clearly in person and through electronic media in both English and in one Modern Indian Language

3.2. Learn to articulate, analyse, synthesise, and evaluate ideas and situations in a well-informed manner.

3.3. Generate hypotheses and articulate assent or dissent by employing both reason and creative thinking.

PO 4.Interdisciplinarity:

4.1. Perceive knowledge as an organic, comprehensive, interrelated and integrated faculty of the human mind.

4.2. Understand the issues of environmental contexts and sustainable development as a basic interdisciplinary concern of all disciplines.

4.3. Develop aesthetic, social, humanistic and artistic sensibilities for problem solving and evolving a comprehensive perspective.

PROGRAMME SPECIFIC OUTCOME

OF

BSc ZOOLOGY PROGRAMME

PSO1: Skill development for the proper identification, naming and classification of life forms especially animals.

PSO2: Acquisition of knowledge on structure, life cycle and life processes that exist among animal diversity through certain model organism studies.

PSO3: Understanding of various interactions that exist among plants animals and microbes; to develop the curiosity and love on the dynamicity of nature.

PSO4: Understanding of the major elements of variation that exist in the living world through comparative morphological and anatomical study.

PSO5: Ability to explain the diversity and evolution based on the empirical evidences in Morphology, Anatomy, Embryology, Physiology, Biochemistry, Molecular Biology and Life history.

PSO6: Skill development in the observation and study of nature, biological techniques and scientific investigation

PSO7: Making aware of the scientific and technological advancements in the fields of Information and Communication, Biotechnology and Molecular Biology for further learning and research.

PSO8: Internalisation of the concept of conservation and evolution through the channel of spirit of inquiry

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PROGRAMME SPECIFIC OUTCOME

of

B. Sc BOTANY

PSO1: Skill development for the proper description using botanical terms, identification, naming and classification of life forms especially plants and microbes.

PSO2: Acquisition of knowledge on structure, life cycle and life processes that exist among plant and microbial diversity through certain model organism studies.

PSO3: Understanding of various interactions that exist among plants, animal and microbes; to develop the curiosity on the dynamicity of nature.

PSO4: Understanding of the major elements of variation that exist in the living world through comparative morphological and anatomical study.

PSO5: Ability to explain the diversity and evolution based on the empirical evidences in morphology, anatomy, embryology, physiology, biochemistry, molecular biology and life history.

PSO6: Skill development for the collection, preservation and recording of information after observation and analysis- from simple illustration to molecular database development.

PSO7: Making aware of the scientific and technological advancements- Information and Communication, Biotechnology and Molecular Biology for further learning and research.

PSO8: Internalisation of the concept of conservation and evolution through the channel of spirit of inquiry.

PROGRAMME SPECIFIC OUTCOME

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of

B.Sc. MICROBIOLOGY

PSO1: Understand general characteristics and classification of microorganisms

PSO2: Understand the physiological and environmental adaptations of microorganisms and the molecular aspects of microbial cells

PSO3: Understand the applicability and significance of microorganisms in the field of health, food, industry, agriculture and environment.

PSO4: Carry out standard laboratory techniques in the field of environmental, medical, agricultural and industrial microbiology

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PROGRAMME SPECIFIC OUTCOMES (PSOS)

OF

BSc CHEMISTRY

After successful completion of three year degree program in Chemistry a student should be able to:

PSO 1 Understand the fundamental concepts, principles and processes underlying the academic field of chemistry, its different subfields (analytical, inorganic, organic and physical), and its linkages with related disciplinary areas/subjects;

PSO 2 Demonstrate procedural knowledge that creates different types of professionals in the field of chemistry and related fields such as pharmaceuticals, chemical industry, teaching, research, environmental monitoring, product quality, consumer goods industry, food products, cosmetics industry, etc.;

PSO 3Employ critical thinking and the scientific method to design, carry out, record and analyse the results of chemical experiments and get an awareness of the impact of chemistry on the environment and the society.

PSO 4 Use chemical techniques relevant to academia and industry, generic skills and global competencies, including knowledge and skills that enable students to undertake further studies in the field of chemistry or a related field, and work in the chemical and non-chemical industry sectors.

PSO5 Undertake hands on lab work and practical activities which develop problem solving abilities required for successful career in pharmaceuticals, chemical industry, teaching, research, environmental monitoring, product quality, consumer goods industry, food products, cosmetics industry, etc.

PSO 6Understand safety of chemicals, transfer and measurement of chemical, preparation of solutions, and find out the green route for chemical reaction for sustainable development.

PSO 7 Create an awareness of the impact of chemistry on the environment, society, and development outside the scientific community.

PROGRAMME SPECIFIC OUTCOME

OF

BSc PHYSICS

PSO1: Understand and apply the principles of Classical mechanics, Quantum mechanics, Thermodynamics, Nuclear physics and Electrodynamics

PSO 2:Understand and apply the principles of Solid state physics, Optics, Photonics and Spectroscopy

PSO 3:Understand the principles of Electronics, Design and test electronic circuits

PSO 4: Understand and apply the principles of Mathematical Physics and Computational Physics and do Error analysis in measurements

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PROGRAMME SPECIFIC OUTCOMES
OF
B.Sc. MATHEMATICS

PSO 1: Understand the basic concepts and tools of Mathematical logic, Set theory, Number theory, Geometry, Calculus, Algebra, Abstract structures, Linear Algebra, Analysis, Laplace transforms, Fourier series, Graph theory, and Optimization and methods of proofs.

PSO 2: Model real world problems into Mathematical problems and find solutions and understand the application of Mathematics in other Sciences and Engineering.

PROGRAMME SPECIFIC OUTCOME
OF
B.COM DEGREE

After the successful completion of the B.Com Degree Programme, the students shall be able to;

PSO 1: Understand the concepts and techniques of commerce and its application in business environment

PSO 2: Conceive the ideas on entrepreneurship and develop the skills for setting up and management of business organizations

PSO 3: Develop the skills and abilities to become competent and competitive in the business world

PSO 4: Develop the competency to take wise decisions at personal and professional level

PSO 5: Appraise the impact of other disciplines on the working of business

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PROGRAMME SPECIFIC OUTCOME

OF

BACHELOR OF BUSINESS ADMINISTRATION

PSO 1: Gain knowledge and skills in the areas of Management principles and practices, finance, human resource management and marketing

PSO 2: Acquire knowledge in accounting principles and practices and its application in real business settings

PSO 3: Apply concepts, theories, tools and techniques of statistics, information techniques, economics and numerical skills for decision making

PSO 4: Build entrepreneurial spirit, develop research attitude and entrepreneurial competencies and managerial abilities

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PROGRAMME SPECIFIC OUTCOME

OF

B. A ECONOMICS

The revised curriculum and syllabi of BA Economics Programme of Kannur University provide a structure of core courses, complementary elective courses and generic elective courses. Diversified course structure will contribute towards all round development of the student. The undergraduate programme in economics borrows ideas and techniques from a variety of other disciplines including history, geography, mathematics, statistics, management and environmental science. An undergraduate programme with sound footing in economic

theory and empirics would equip the students to a range of career options in the field of economics, finance, commerce, entrepreneurship and management. The specific outcomes of the programme are summarized below:

1. The programme with structured curricula will support the academic development of the undergraduates.

2. The programme will provide the students with the opportunity to pursue courses that emphasize quantitative, qualitative and theoretical aspects of economics.

3. The programme will provide a well-resourced teaching learning environment for the students of economics, which will definitely lead to the ultimate educational goal of "learning to be".

4. The programme will promote academic writing, critical thinking and research aptitude among the students.

5. Needless to point out, the students will gain a source of livelihood by expanding their skill set and widening their knowledge horizon.

PROGRAMME SPECIFIC OUTCOMES (POS)
OF
B A HISTORY

With the successful completion of BA History Programme from Kannur University, the student should be able to:

PSO.1. Understand factual and conceptual aspects of historical changes in multiple areas of the world

PSO.2. Think contextually and critically about the past to understand human experiences

PSO.3. Analyse why and how historical events take place based on the verification of diverse evidences and arguments

PSO.4. Design and write research papers based on primary and secondary sources

PSO.5. Make logical oral presentation of factual and theoretical knowledge of historical events and changes

PSO.6. Develop rational, humanitarian, democratic and secular outlook based on historical knowledge and contemporary societal, economic and political issues

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COURSE OUTCOMES

Zoology

CODE: 6B09ZLG: CELL BIOLOGY, IMMUNOLOGY AND MICROBIOLOGY

CO1. Structural and functional aspects of basic unit of life i.e. cell concepts

CO2. Gather basic concepts of Cell Biology along with various cellular functions

CO3. Understand the basic concepts of immunity

CO3. Understand the diversity of microbes and their use and harm

Code: 6B 10 ZLG: MOLECULAR BIOLOGY & BIOINFORMATICS

CO1. Understand the importance of Bio molecules

CO2.Familiar with various tools and applications of Bioinformatics

Code: 6B 11 ZLG: ENVIRONMENTAL SCIENCE

CO1. Able to describe the relation between abiotic and biotic factors.

CO2. Students are able to describe various biological interactions.

CO3. Students are able to understand how change in population affect the ecosystem

CODE:6B 12 ZLG: DEVELOPMENTAL BIOLOGY

CO 1 : Understand the major steps in embryological development.

CO 2: Understand the intricate mechanisms involved in the development of animals

Economics

BASIC TOOLS FOR ECONOMIC ANALYSIS II

1. To enable the students to understand and interpret economic concepts with the aid of mathematical and statistical tools.

2. To enable students to apply statistical techniques in Economics.

3. To analyze and interpret empirical data with the help of statistical tools

MACROECONOMIC ANALYSIS II

1. Students will be equipped with a sound idea of advancements in macro economics with tools

like IS-LM and the developments there after.

2. Students will be equipped with the theories of economic fluctuations and needed policy intervention

3. Student will be able to develop critical thinking and research inquisitiveness in macro economics

4. Opportunities to higher studies and prospects for employment through the knowledge of theories and concepts in Macroeconomics will be enhanced.

PUBLIC ECONOMICS

1. Better conceptualization of the economic rationale of govt. in terms of allocation, distribution, stabilization and growth in a federal system

2. Better exposure to resource mobilization by the govt. through innovative fiscal instruments like

GST.

3. Students are expected to get an overall perspective of public policy and the development programmes aimed at public welfare as well

BASIC ECONOMETRIC ANALYSIS

1. This course provides a comprehensive introduction to basic econometric concepts, methodology and techniques of analysis.

2. The Students will acquire knowledge and adequate skills for the development of simple linear

econometric models.

3. The students will be able to perform econometric analysis relating to their project work and future research and development.

English

6B12ENG: Literary Theory

1. Understand the basics of various theoretical positions in literary and culture studies.

2. Apply specific theoretical insights into the study of specific works of art as well as other cultural articulations.

3. Understand the ideological assumptions underlying common-sense notions and canon formation.

6B13ENG: Women's Writing

 Understand women's writing as a specific genre.

 Appreciate the variety in women's literature and the correlation between such variety and specific socio-political contexts.

 Understand the various dialogic positions within women's writing.

6B14ENG: Indian Writing in English

1. Understand Indian Writing in English as a specific genre based on certain common sociopolitical contexts
2. Understand the various dialogic positions within Indian Writing in English.
3. Read specimens of major works belonging to the genre of Indian Writing in English
4. Understand the regional diversities and thematic plurality of IWE

6B15ENG: FILM STUDIES

1. Understand the major Movements, Genres and Masters in the history of Cinema and how cinema connects with history, politics, technology, psychology and performance.
2: Understand the nature of representation on screen and how class, race, caste, ethnicity and gender are represented.
3: Analyze and appreciate film as art form thorough close readings of films.

6B16(1) ENG: World Literature in Translation

1. The student will have an enhancedsensibility to appreciate the great world classics both old and modern and thereby build up a larger perspective of international history and culture.
2. In a period of transnational mobility an understanding of the composite cultures of the world and the evolution of geo-political realties will empower the students to keep their

own adaptability and attitudes well in tune with the newly emerging situations on aninternational level.

3. Literature, language, politics, topographical and national spaces have positively crossed their conventional boundaries so a wide panoramic view of literary and cultural studies will enable students to have a holistic understanding of the new challenges that prevail in contemporary times. This will be a buffer capital to the undergraduate students with regard to their intellectual competence and life skills in taking up challenges with better resilience and compassionate understanding of humanity and practical values.

6B16(2)ENG: Indian Writing in Translation

• To introduce the student to the polyphony of modern Indian writing in translation.

• To understand the multifaceted nature of cultural identities in the various Indian literatures through indigenous literary traditions.

• To compare literary texts produced across Indian regional landscapes to seek similarities and differences in thematic and cultural perspectives.

• To encourage the students to explore texts outside of the suggested reading lists to realize the immense treasure trove of translated Indian literary works.

6B16(3) ENG: Writing for Media

1. To understand and analyze the media evolution and critically evaluate the media content.

2. To understand the relationship between society and media and how it operates in the social circles

3. To understand the art of media production through theoretical and practical activities

5D01 (1)ENG:English for Competitive Examinations

• To familiarise students with the language items required to take competitive examinations at various levels

• To acquaint the students with the basics of English grammar

• To enable the students to enrich their vocabulary

• To provide opportunities for the students to improve their listening and reading comprehension

skills

• To familiarise the students with the questions that are commonly asked in various interviews and

to help them frame the desirable responses

5D01(2) ENG:FILM STUDIES

1. Understand the major Movements, Genres and Masters in the history of

Cinema.

2: Understand the nature of representation on screen and how class, race, caste,ethnicity and

gender are represented.

3: Analyze and appreciate film as art form thorough close readings of films.

5D01(3) ENG: Theatre Studies

1. To make the students aware of the various aspects of Theatre.

2. To familiarise the students to representative movements/works.

3. To equip the students to attempt at acting, script writing.

4. To familiarize the process of acting.

5D01(4) ENG: Visual Arts

1. To identify artistic languages

2. To analyse art works from plural perspectives of art writing

3. To read books and write art reviews.

4. To look at art works to re-imagine them

COMMERCE

CORE COURSE I : - MANAGEMENT CONCEPTS AND PRINCIPLES

CO1:- Understand the evolution of management thoughts, concept of

management, scopeand its functions.
CO2:- Familiarize with current management practices.
CO3:- Understand the importance of ethics in business.
CO4:- Acquire knowledge and capability to develop ethical practices for effectivemanagement.
CO5:- Describe the emerging trends in management.

CORE COURSE II : FUNCTIONAL APPLICATIONS OF MANAGEMENT

CO 1: Describe nature and scope of financial management and the elements in themanagement of finance
CO 2: Enumerate marketing management and its different aspects
CO 3: Explain Human Resources Management and the activities involved in it
CO 4: Understand the modern global marketing trends and its challenges

CORE COURSE III : ADVANCED ACCOUNTING

CO 1. Understand the theoretical and practical knowledge of the basics of accounting.
CO 2. Acquire the knowledge of accounting for royalty, Consignment and Hire Purchase
CO 3. Imbibe the accounting concepts of Inland Branch Business.
CO 4. Comprehend the procedure for determining profit and financial position fromincomplete records.

CORE COURSE V : CORPORATE ACCOUNTING

CO 1: Understand the mode of presentation and understanding of financial reporting CO 2: Learn the accounting procedure for recording transaction relating to the issue andredemption of shares and debentures.
CO 3: Imbibe the techniques of recording transactions in respect of amalgamation,reconstruction and liquidation of companies..
CO 4: Understand the concept of IFRS and Ind AS

CORE COURSE VI1: BUSINESS RESEARCH METHODOLOGY

CO 1: Understand the fundamental aspects of research in businessCO2: identify and define research problem
CO 3: formulate research plan
CO 4: understand various methods of collecting data
CO 5: prepare research report themselves

CORE COURSE VIII : INCOME TAX LAW AND PRACTICE

CO 1 Define the basic concepts in Income tax, explain its evolution

CO 2 Determine the residence and incidence of Tax
CO 3 Understand the incomes exempt from tax of an individual
CO 4 Compute income under different heads of income

CORE COURSE IX: COST ACCOUNTING

CO 1: Explain the nature, scope, objectives and limitations of costing
CO 2: Identify the elements of cost and describe the methods of their ascertainment andcontrol
CO 3: Explain the various methods of costing and their suitability for different industriesCO 4: Ascertain the cost of production of products and jobs

CORE COURSE X : BANKING PRINCIPLES AND OPERATIONS

CO 1: Explain banking and describe the different types of banks and the functions ofcommercial bank
CO 2: Narrate the role of RBI in the credit control, promotion and regulation of monitorysystem
CO 3: Describe the relations ship between banker and customer and the procedure foropening and operating the account
CO 4 : Understand the modern trends and technology used in banking

CORE COURSE XII : FINANCIAL MARKETS AND SERVICES

CO 1: understand the financial system and its constituents
CO2: familiarise with the activities taking place in the financial markets
CO 3: Appraise the various financial services available in the financial marketsCO 4: acquire knowledge about financial derivatives and their features

CORE COURSE XIII : MANAGEMENT ACCOUNTING

CO 1. understand the fundamental concepts of management accounting.
CO 2. acquire analytical skills associated with the interpretation of accounting reportsCO 3. apply management accounting concepts in real life situations.
CO 4. develop judgmental skills associated with the use of accounting information indecision making.
CO 5. understand the use of marginal costing and budgetary control to plan and controlcost and profit.

CORE COURSE XIV: AUDITING AND CORPORATE GOVERNANCE

CO 1: understand the term auditing, its concept, principles, procedures and requirementsneeded for Auditing in accordance with current legal requirements and professional standards.
CO 2: familiarize with the various aspects of audit consisting of internal check,

vouching,verification and valuation of assets and liabilities

CO 3: understand the appointment, rights, duties and the liabilities of an auditor.

CO 4: explain the concept of Corporate Governance and its aspects

CORE COURSE XV: INCOME TAX AND GST

CO 1: Compute total income and determine the tax liability of an individual andpartnership firm, company and cooperative society

CO 2: Describe the income tax authorities, their powers and assessment procedure

CO 3: Explain the procedure regarding deduction of tax at source, advance tax, refund,penalties and prosecution

CO 4: Describe Goods and Service Tax, its levy and collection

CORE COURSE XVII: PROJECT

CO 1: understand the method of carrying out a project CO2: undertake project work independently

ELECTIVE STREAM I – CO-OPERATION

CORE COURSE IV : CO-OPERATION I – CO-OPERATIVE PRINCIPLES

CO 1: Understand the concepts and principles of Cooperative movement

CO2: Understand the origin of cooperative movement and the history of cooperatives inthe world

CO 3: Describe Indian cooperative movement, its features , structure and significanceCO 4: Acquaint themselves with the system of cooperative education, training and its impact on the functioning of cooperative organisations

CORE COURSE VI : CO-OPERATION II – MANAGEMENT OF CO-OPERATIVES

CO 1: Understand kinds of cooperatives in India

CO 2: Understand the management and administration of different types of cooperatives

CO 3: Identify the role and significance of cooperative organization in Kerala's Economy

CO 4: Describe various kinds of cooperative institutions

CORE COURSE XI : CO-OPERATION III – CO-OPERATIVE LAWS

CO 1: Understand the historical perspective of cooperative legislation in India andKerala.

CO2: Understand the provisions of Kerala cooperative Societies Act 1969

CO 3: Describe the procedure for the formation and registration of a cooperative organisation

CO 4: describe the provisions of management and winding up of cooperative societies

CORE COURSE XVI : CO-OPERATION IV – CO-OPERATIVE ACCOUNTINGAND LEGISLATIONS

CO 1: prepare and present accounting aspects of cooperative organisations
CO 2: understand the procedure of cooperative auditing
CO 3: Understand the provisions regarding the settlement of disputes in cooperatives
CO 4: Acquaint knowledge on the impact of various other legislations on cooperatives

ELECTIVE STREAM III – FINANCE

CORE COURSE IV : FINANCE I – FINANCIAL MANAGEMENT

CO 1: understand the concept, importance and techniques of capital budgeting.
CO 2: gain knowledge about sources and uses of working capital and significance of working capital management.
CO 3**:** explain optimum capital structure, theories of capital structure, distinguish between financial and operating leverage.
CO 4: describe the concept of cost of capital and compute the component cost of capitaland weighted average cost of capital.
CO 5**:** differentiate the types of dividend, explain dividend policy and factors affecting dividend policy

CORE COURSE VI : FINANCE II – INVESTMENT MANAGEMENT

CO 1: understand the concept of investment and risk
CO2: explain the different types of securities and their schemes
CO 3: develop a thorough knowledge about security market, its participants and factorsaffecting security market
CO 4: conduct fundamental and technical analysis of investments in the security market
CO 5: discuss the application of Portfolio Theory, process of portfolio management andmeasurement of portfolio performance.

CORE COURSE XI : FINANCE III – GOODS AND SERVICE TAX

CO 1: understand the basic concept of GST. CO 2: Explain how GST is levied and collected
.CO 3: describe IGST, its levy and collection
CO 4: femiliarise with the preparation of invoice and filing of return under GST

CORE COURSE XVI : FINANCE IV – CORPORATE TAX PLANNING

CO 1: understand the concept of tax planning and determine the tax liability of companies
CO 2: understand the methods of reducing tax liability through proper tax planning
CO 3: take financial and managerial decisions after considering the impact of direct taxlaws

GENERAL AWARENESS COURSE I : BUSINESS STATISTICS AND BASICNUMERICAL SKILLS

CO 1: Define statistics and explain its importance, scope, applications and limitations CO 2: Understand the basic knowledge of statistical techniques, which are applicable tobusiness.
CO 3: understand basic concepts in mathematics, which are applied in the managerialdecision making.
CO 4: Develop the basic mathematical skill needed for analyzing numeric problemsrelated to business

GENERAL AWARENESS COURSE II : ENTREPRENEURSHIPDEVELOPMENT

CO 1**:** Identify the characteristics of an entrepreneur
CO 2: describe the importance of entrepreneurs in the economic developmet of a nation
CO 3: identify the different types of entrepreneurs
CO 4: to strengthen their skill and quality as an entrepreneur

GENERAL AWARENESS COURSE III : GENERAL INFORMATICS SKILLS

CO 1: Explain the Fundamentals of Computers the use of computers in day to dayapplication
CO 2: Up to date and expand the basic informatics skills necessary in the emergingknowledge society
CO 3: Effectively utilize the digital knowledge resources for their studies
CO 4: State the areas where IT can be used effectively
CO 5: Perform accounting by using the appropriate accounting packages

GENERAL AWARENESS COURSE IV : ENVIRONMENTAL STUDIES ANDDISASTER MANAGEMENT

CO 1: Understand the components of environment and need for the protection of environment
CO 2: Understand the effect of pollution on environment and the ways of

protecting theenvironment
CO 3: Explain the social issues relating to environmental pollution
CO 4: Clearly understand the various environmental hazards and the ways of managing disaster.

COMPLEMENTARY COURSE I: QUANTITATIVE TECHNIQUE FOR BUSINESS DECISIONS

CO 1:- Acquaint with the basic statistical tools, which can be applied in business andeconomic situations.
CO 2:- Develop knowledge in quantitative techniques, which help in tackling variousproblems for modern business.
CO 3:- Understand and solve problems in probability, correlation and regression.
CO 4:- Understand the effect of trend and seasonal variations on business.
CO 5:- Familiarize with the testing of hypothesis.

COMPLEMENTARY COURSE II: BUSINESS REGULATORY FRAMEWORK

CO 1: Understand the nature of contracts and the essential elements of a valid contract
CO 2: Explain the difference between a valid contract and a void contract
CO 3: Understand the breach of contract and remedies available for a breach of contract
CO 4: Understand various kinds of special contracts like indemnity, guarantee, bailmentand agency contract

COMPLEMENTARY COURSE III: BUSINESS ECONOMICS

CO 1**:** Understand the concept of economics and its use in business
CO 2: Understand the concept of demand, elasticity and demand forecastingCO 3: Understand production function and law of production
CO 4: Understand the methods of determining price of a product
CO 5: Explain the methods of computing national income.
CO 6: Conceive the developmental issues of Indian economy and Kerala economy

COMPLEMENTARY COURSE IV: CORPORATE LAW AND BUSINESSREGULATIONS

CO 1: Understand the provisions of Companies Act 2013
CO2: Describe the procedure for the formation, registration and winding up of thecompany
CO 3: Explain various kinds of companies and the authorities of companies in India
CO 4: Understand the management and administration of Companies

GENERIC ELECTIVE COURSE I: BASIC ACCOUNTING

CO 1: describe the basic accounting concepts
CO 2: record the business transactions in the proper books of accounts
CO 3: prepare financial statements of a sole trading concern

GENERIC ELECTIVE COURSE II: E-COMMERCE

CO 1: understand the concept of E commerce and its framework.
CO2: understand the concept of web commerce
CO 3: Acquire knowledge regarding cyber laws

GENERIC ELECTIVE COURSE III: PRINCIPLES OF MANAGEMENT

CO 1: understand the basic concept of management
CO2: describe the functions of management

GENERIC ELECTIVE COURSE IV: INSURANCE AND RISK MANAGEMENT

CO 1: explain the concept of insurance, its regulations and types
CO 2: understand the concept insurance risk and its management

GENERIC ELECTIVE COURSE V: FINANCIAL SERVICES

CO 1: Explain financial system and its constituents
CO 2: Identify the different financial services provided by financial institutions
CO 3: Develop a basic understanding of stock broking

POST GRADUATE DEPARTMENT OF ECONOMICS, S.N. COLLEGE, KANNUR
COURSE OUTCOME OF BA ECONOMICS PROGRAMME

The Course Outcomes are the knowledge and skills the student acquire at the end of a course.

CORE COURSE I: MICROECONOMIC ANALYSIS I

COURSE OUTCOME

1. A strong theoretical and empirical foundation in economics which produces employable graduates and has scope for a variety of opportunities for higher education in economics and related disciplines.

2. Students familiarity about the tool box of micro economics will enhance the capacity for understanding the functioning of economies.

3. A thorough knowledge and theoretical understanding of the foundations of modern economic analysis

CORE COURSE II: MICROECONOMIC ANALYSYS II

COURSE OUTCOME

1. Students may acquire confidence to apply the principles of micro economics to the decision making of firms and the functioning of the market.

2. Students will also be able to analyze the distributional dynamics of the economy both at the micro and the macro level

CORE COURSE III: CENTRAL THEMES IN INDIAN ECONOMY

COURSE OUTCOME

1. To help the students to identify the basic structure and working of Indian economy by enabling them to use qualitative and quantitative data relating to various economic issues and policies.

2. Students may get an opportunity to identify the strategic drivers in the development of Indian Economy.

3. It will create an environment to comprehend and critically appraise the current problems and policies relating to Indian economy.

CORE COURSE IV: INTERNATIONAL ECONOMICS

COURSE OUTCOME

1. Enabling the students to assess current international economic issues based on theory and evidence.

2. Preparing the students to undertake higher studies and research in issues related to International Economics

3. Students may get an opportunity to examine the trends in global economic performance

CORE COURSE V RESEARCH METHODS AND TECHNIQUES FOR ECONOMIC ANALYSIS

COURSE OUTCOME

1. To initiate students to the field of academic research.

2. Introduce quantitative, qualitative and analytical tools required to prepare small research projects.

3. To bridge the gap between theory and empirics and to familiarize the use and importance of data in research

4. To highlight the importance of scientific research in economics based on academic honesty, integrity and ethics

CORE COURSE VI: ENVIRONMENTAL ECONOMICS

COURSE OUTCOME

1. To provide a deeper understanding about the interface between ecology and economy.

2. Understand the economic incentives to improve and conserve the environment.

3. To provide basic conceptual understanding of environmental disaster, its management and mitigation 4. Ultimately, greater awareness will be imparted about the issues of environmentally sustainable development in an interdisciplinary perspective.

CORE COURSE VII: BASIC TOOLS FOR ECONOMIC ANALYSIS I

COURSE OUTCOME

1. To enable the students to understand economic concepts with the aid of mathematical and Statistical tools.

2. To equip the students to quantify economic variables and to enable them to apply statistical techniques in Economics.

3. To analyze and interpret empirical data with the help of statistical tools

CORE COURSE VIII: HETERODOX ECONOMICS

Course Outcome

1. Familiarity with different perspectives of alternative schools of thought may get easily exposed to pluralistic approach to both economic theory and policy.

2. Through such an exposure the course will enhance and diversify the knowledge profile of the students and may get opportunities to pursue higher studies and research in heterodox economics.

CORE COURSE IX MACROECONOMIC ANALYSIS –I

COURSE OUTCOME

1. Students will be able to get a perspective on the working of an economy.

2. By sharpening the macroeconomic tool box students will be able to appreciate macroeconomic policies.

3. Enables the students to pursue higher studies in the core domain of economics.

CORE COURSE X: DEVELOPMENT ECONOMICS

COURSE OUTCOME

1. To make the students aware of the methodological and measurement issues relating to growth and development.

2. To enable the students to understand the theory and empirics of Development Economics with special reference to less developed countries

3. To provide an understanding about the various development issues and the development gap between policy and practice.

CORE COURSE XI: ECONOMICS OF BANKING AND FINANCE

Course Outcome

1 The students will be equipped with theoretical as well as practical aspects of the structure and working of financial system and regulatory mechanisms.

2 The course is expected to expand the skill set of the students for higher studies and employment in finance

3 The students will be aware of the innovations and the related trends in the field of banking and finance with special reference to instruments like derivatives.

CORE COURSE XII BASIC TOOLS FOR ECONOMIC ANALYSIS II

COURSE OUTCOME

1. To enable the students to understand and interpret economic concepts with the aid of mathematical and statistical tools.

2. To enable students to apply statistical techniques in Economics.

3. To analyze and interpret empirical data with the help of statistical tools

CORE COURSE XIII: MACROECONOMIC ANALYSIS II

COURSE OUTCOME

1. Students will be equipped with a sound idea of advancements in macro economics with tools like IS-LM and the developments there after.

2. Students will be equipped with the theories of economic fluctuations and needed policy intervention 3. Student will be able to develop critical thinking and research inquisitiveness in macro economics

4. Opportunities to higher studies and prospects for employment through the knowledge of theories and concepts in Macroeconomics will be enhanced.

CORE COURSE XIV: PUBLIC ECONOMICS

COURSE OUTCOME

1. Better conceptualization of the economic rationale of govt. in terms of allocation, distribution, stabilization and growth in a federal system

2. Better exposure to resource mobilization by the govt. through innovative fiscal instruments like GST. 3. Students are expected to get an overall perspective of public policy and the development programmes aimed at public welfare as well

CORE COURSE XV: BASIC ECONOMETRIC ANALYSIS

COURSE OUTCOME

1. This course provides a comprehensive introduction to basic econometric concepts, methodology and techniques of analysis.

2. The Students will acquire knowledge and adequate skills for the development of simple linear econometric models.

3. The students will be able to perform econometric analysis relating to their project work and future research and development.

HISTORY

CORE COURSE 01

History of India I: Pre-historic Times to c.200 CE
1B01 HIS

CO. 1 Recognize important primary sources for the study of ancient Indian history

CO. 2 Identify early Indian settlements, centers of political and cultural importance

CO. 3 Demonstrate factual and theoretical knowledge of social, economic, cultural and political transformations in early India

CO. 4 Analyze and Explain the significance of different religious and philosophical trends in ancient India

CORE COURSE 02

Cultural Transformations in Europe
2B02 HIS

CO. 1 Recognize the geographic locations of Greek and Roman states and medieval towns

CO. 2 Understand the broad pattern of political and cultural changes in Europe before 1500 CE

CO. 3 Discuss cultural and intellectual legacies of Greek and Roman civilizations to Modern West

CO. 4 Evaluate cultural differences between ancient and medieval societies in Europe

CORE COURSE 03

History of India II: Polity, Society and Culture (c.200-1206)
3B03 HIS

CO. 1 Understand factual knowledge of social and political formations

CO. 2 Locate major centers political and cultural importance in India

CO. 3 Explain theories of social formation and feudalism in Indian history

CO. 4 Analyze the intellectual and cultural legacy of ancient and early Medieval India

CORE COURSE 04

History of Kerala I: Earliest Times to c. 1500 CE
3B04 HIS

CO. 1 Identify sources for the study of ancient and medieval Kerala history

CO.2 Locate prehistoric and early historic settlements, ports, towns and political boundaries in Kerala

CO.3 Describe social, economic, political and cultural formations of Kerala in ancient and medieval times

CO.4 Produce well researched written work on any aspects of Kerala history using primary and secondary sources

CORE COURSE 05

History of India III: Sultanate to British Conquest (1206 -1757)
4B05 HIS

1. Understand socio-political formations in Medieval India
2. Describe the evolution of Indo-Saracenic art and architecture
3. Analyze and explain the formation of secular political values in India
4. Locate centers of cultural, political and commercial importance

CORE COURSE 06

Ideologies and Revolutions in the Modern World
4B06 HIS

CO. 1 Understand origin, stages and results of selected revolutions in the modern world

CO. 2 Analyze and explain different interpretations of world revolutions

CO. 3 Relate the results of modern world revolutions to contemporary developments in the world

CO.4 Produce written work on ideological, humanistic and secular aspects of any of the modern world revolutions

CORE COURSE 07

History of India IV: Colonial Transformations (1757-1885)

5B07 HIS

CO 1: Understand the concept of colonialism and its historiography in India

CO 2: Discuss critically the impact of colonial policies in political, social, economic and cultural life of Indians

CO 3: Assess the influence of social and religious reforms in the modernization of India CO 4: Analyze and explain how anti-colonial movements originated in the nineteenth century

CO. 5 Identify major centers of commerce and anti-colonial movements

CORE COURSE 08:

History of India V: Making of the Nation (1885-1947)

5B08 HIS

CO.1 Understand political, social and economic background of freedom struggle

CO.2 Specify major stages of freedom struggle and their ideological distinctions

CO.3 Analyze the role of nationalist movement in the making of modern India

CO.4 Develop an attitude of nationalism cutting across limited boundaries of religion and caste in order to resist communal forces

CORE COURSE 09

History of Kerala II: Making of Modern Kerala (1500 to 1970)

5B09 HIS

CO.1 Understand factual knowledge of modern Kerala history

CO.2 Explain political, social, cultural, religious and intellectual factors that led to the formation of modern Kerala

CO.3 Analyze and discern the influence of caste and communal organizations in Kerala society and politics

CO.4 Understand the significance of secular and egalitarian values and forces in the making of the cultural identity of Kerala

CORE COURSE 10:

Method and Writing of History

5B10 HIS

CO. 1 Distinguish between primary and secondary sources

CO. 2 Use historical and interdisciplinary methods of research and research tools CO. 3 Analyze and synthesize historical data collected from different sources

CO. 4 Create reasonable arguments and interpretations with the support of documentary evidences

CO. 5 Write well researched article on any historical events and leaders

CORE COURSE 11

Historiography: Perspectives & Practices

5B11 HIS

CO: 1 Understand basic terms, concepts and categories of historiography

CO: 2 Describe the origin and growth of history as a branch of knowledge from ancient times

CO: 3 Analyze and explain ideological and methodological foundations of historical writing in ancient, medieval and modern period in world history

CO. 4 Discuss the relevance of interdisciplinary research and objectivity in historical writings

CORE COURSE 12

History of India VI: Developments since Independence (1947-2000)
6B12 HIS

CO:1 Understand political, economic and cultural changes after independence

CO:2 Assess the role of India at global level as an active member in international organisations

CO: 3 Critically examine and explain the growth of communal forces in independent India

CO: 4 Analyse and discuss the condition of marginalised communities in independent India

CORE COURSE 13

History of the Contemporary World (1945 -2000)
6B13 HIS

1. Understand major political issues and events in the world since World War II.
2. Analyze international problems in the context of diverse political interests and ideological movements
3. Interpret the present political issues in relation with pertinent

international events in the twentieth century

4. Develop anti-colonial and anti-racist attitude and universal citizen concept

CORE COURSE 14

Indian Historiography
6B14 HIS

CO.1 Understand the historical traditions and writings in Ancient and Medieval India CO.2 Demonstrate comprehensive understanding of the origin and growth of major schools of modern Indian historiography

CO.3 Explain theoretical and methodological differences in historical writings

CO.4 Develop a critical approach in assessing the work of a historian

CORE COURSE 15 PROJECT

6B15 HIS

CO.1 Learn how to select a research topic and prepare research plan/proposal CO.2 Understand processes of data collection and research methods

CO.3 Undertake critical analysis of data and make interpretations

CO.4 Prepare a well written and authentic research work with proper references and select bibliography

DISCIPLINE SPECIFIC ELECTIVE CORE 01

Gender and Society in India

6B16 HIS-A

CO.1 Understand basic concepts related to gender in Indian society CO.2 Explain central theoretical studies in gender studies

CO.3 Assess and interpret why gender discriminations and oppressions take place in India

CO.4 Develop an attitude and awareness to treat woman as equal human being and respect her rights

DISCIPLINE SPECIFIC ELECTIVE CORE 02

Environmental History of India
6B16 HIS-B

CO.1 Understand the concept of environment and importance of environmental history

CO.2 Explain human interactions with environment and depletion of natural resources

CO.3 Assess the dynamic role of environmental movements in India

CO.4 Develop an attitude and awareness to protect the natural environment of the country

DISCIPLINE SPECIFIC ELECTIVE CORE 03

History of Contemporary Kerala (1956-2000)
6B16 HIS-C

CO.1 Understand political formations, educational progress and economic development of Kerala after 1956

CO.2 Analyze and explain the concept of Kerala model development

CO.3 Infer and Interpret the nature and background of resistance movements CO.3 Critically examine impact of globalization on the people of Kerala

COMPLEMENTARY ELECTIVE 01

History of England I: Earliest Times to c.1600 CE
1C01 HIS

CO.1 Identify geographical features and early settlements

CO.2 Understand the evolution of social and political life in England

CO.3 Describe the origin and growth of English language and literature

CO.4 Analyze and explain historical background of social and cultural transitions

COMPLEMENTARY ELECTIVE 02

History of England II: From 1600 to 2000 CE

2C02 HIS

CO.1 Understand the growth of English literature in different stages CO.2 Explain the political and social history of modern England

CO.3 Analyze how history of England and English literature are intertwined

CO.4 Assess new features of new literary trends in English

COMPLEMENTARY ELECTIVE 03

Transformations in the Modern World

3C03 HIS

CO.1 Understand political, economic and intellectual transformations in the modern world

CO.2 Explain how modern European nation states established their colonial empires in the rest of the world

CO.3 Analyze and describe the positive and negative effects of colonialism

CO.4 Assess the role of anti-colonial movements in the making of democratic systems

COMPLEMENTARY ELECTIVE 04

Intellectual History of the Modern World
4C04 HIS

CO.1 Demonstrate clear understanding of major intellectual traditions of the modern world
CO.2 Explain conceptual and methodological challenges within intellectual history
CO.3 Relate current intellectual trends to studies and researches in Social Sciences and Humanities
CO.4 Elucidate logically how transnational intellectual contributions molded the political and cultural identity of the modern world

COMPLEMENTARY ELECTIVE 05

Economic History of Modern India (1793-1947)
1C07 HIS

1. Demonstrate comprehensive understanding of colonialism and economic changes that took place under colonial rule
2. Explain the nature of industrialization in India and how it acted as impetus to national movement
3. Analyze the impact of British colonialism on Indian economy
4. Develop a critical approach to discuss the exploitative nature of colonial and capitalist economic policies

COMPLEMENTARY ELECTIVE 06

Indian National Movement
2C08 HIS

1. To understand the background of Indian national movement
2. To create awareness on different stages and streams of Indian national Movement
3. To analyze the role of Indian National Movement in the making of modern India
4. To develop a sense of pride in India's past and to mould an ideal citizen
5. To develop a secular and national outlook among the students

COMPLEMENTARY ELECTIVE 07

Tourism Studies: A Historical Perspective
1C09 HIS

CO.1 Understand tourism within global historical, cultural and economic context
CO.2 Show empathy and respect for multicultural expressions and perspectives
CO.3 Evaluate and expose common implications of tourism practices
CO.4 Develop an attitude to promote environment friendly tourism

COMPLEMENTARY ELECTIVE 8

History of Tourism Development in India
2C10 HIS

CO.1 Understand tourism within the historical, cultural and economic context of India

CO.2 Show empathy and respect for multicultural expressions and perspectives of India

CO.3 Evaluate and expose common implications of tourism practices in the country

CO.4 Prepare research projects on any aspect of tourism

GENERIC ELECTIVE COURSE 01

Social Reform Movements in Kerala
5D01 HIS

1. Understand the role of Western education, missionary activities and indigenous reform movements in the making of modern Kerala
2. Evaluate the ideas, programmes and tactics of social reformers
3. Promote critical thinking about various social and religious issues in Kerala
4. Analyze and explain secular foundations of Kerala society

GENERIC ELECTIVE COURSE 02

India's Struggle for Freedom

5D02 HIS

1. Demonstrate factual and theoretical knowledge of India’s freedom struggle
2. Understand diverse perspectives of the leaders of freedom struggle
3. Analyze communal politics and its impact on Indian society
4. Interpret the role of national movement in the making of modern India

GENERIC ELECTIVE COURSE 03

Cultural Heritage of North Malabar
5D03 HIS

1. Identify prominent historical regions in North Malabar
2. Understand cultural formations and identities of North Malabar
3. Analyze how external factors determine the internal dynamics of the region
4. Develop an understanding that pluralistic cultural and religious characteristics of North Malabar should be treated as model for nation building

GENERIC ELECTIVE COURSE 04

Gender in Indian History
5D04 HIS

1. Understand conceptual aspects of gender issues in a male dominated society
2. Demonstrate gender related problems and discriminations against women in Indian society
3. Analyze and explain why discriminations and violence against women take place in India
4. Generate an understanding that women should be treated on an equal position with men, with equal considerations at home and public sphere

GENERIC ELECTIVE COURSE 05

History of Human Rights
5D05 HIS

CO1. Understand the historical evolution of the ideas and practice of human rights at transnational levels

CO.2. Demonstrate ability to critically reflect on the principles and practice of human rights

CO3. Analyze, explain and respond to human right violations in the living surroundings of the learner

CO4.Develp an attitude to respect basic rights of other people, hence to become a universal citizen

BOTANY

CORE COURSE- 1- CYTOLOGY AND ANGIOSPERM ANATOMY

Course Outcomes

1. Knowledge on general terms with updated information used in cell biology.

2. Observation of variations that exist in internal structure of various parts of a plant and as well as among different plant groups in support for the evolutionary concept.

3. Skill development for the proper description of internal structure using botanical terms, their identification and further classification.

4. Induction of the enthusiasm on internal structure of locally available plants.

5. Understanding various levels of organization in a plant body with an outlook in the relationship between the structure and function through comparative studies.

CORE COURSE-2—REPRODUCTIVE BOTANY

Course Outcomes

1. Observation and classification of the floral variations from the premises of college and house.

2. Understanding the various reproductive methods sub-stages in the life cycle of plants

3. Observation and classification of the morphological variations in fruits and seeds of angiosperms.

4. Enthusiasm to understand evolution based on the variations in reproduction among plants.

CORE COURSE-3—PLANT DIVERSITY I- ALGAE AND BRYOPHYTES

Course Outcomes

1. Understanding diversity in morphology, anatomy, reproduction and life cycle in lower groups of plants, algae and bryophytes.

2. Skill Development in collection and preservation of algae and bryophytes.

3. Realizing the economic/ecological importance of Algae and Bryophytes.

4. Understanding the evolutionary lineages in algae and bryophytes

CORE COURSE- 4- PLANT DIVERSITY II – PTERIDOPHYTES AND GYMNOSPERMS

Course Outcomes

1. A comparative knowledge of lower vascular plants and lower group of flowering plants.
2. 2. Skill development for the proper description, identification and classification through morphological, anatomical and life cycle studies.
3. 3. Awareness on the morphological, anatomical and reproductive features of primitive and advanced plants with an evolutionary link between them.
4. 4. Skill development in collection preservation and studies in diversity studies of pteridophytes and gymnosperms.

CORE COURSE-05-CORE PRACTICAL~1

Course Outcomes

1.Learning the fundamental techniques used in a botany lab.
2.Understands the working of science by first-hand experience.
3.By comparing different plants and their vegetative and reproductive structures a generalisation in evolutionary concept is attained.
4.Internalisation of practical skills for further application in free, independent, individual needs and helps in designing scientific experimentation.

CORE COURSE~6-ANGIOSPERM SYSTEMATICS AND ETHNOBOTANY

Course Outcomes

1. Understanding the main features in Angiosperm evolution.
2. Skill development in identification and classification of flowering plants.
3. Ability to identify, classify and describe a plant in scientific terms, thereby.
4. Identification of plants using dichotomous keys.
5. Recognition of locally available angiosperm families and plants.
6. Recognition of economically important plants.

7. Appreciation of human activities in conservation of useful plants from the past to the present.

CORE COURSE-7- PLANT PHYSIOLOGY AND METABOLISM

Course Outcomes

1. Preliminary understanding of the basic functions in a plant body.
2. Awareness on the interdisciplinary nature of botany, chemistry and physics by studying the principles of plant life, growth and reproduction.
3. Recognising the wonderful mechanism of transport and the Interrelationships existing between metabolic pathways thereby gaining and idea about the importance of plants in the dynamicity of nature.
4. Enhance research interest among students by introducing the historical aspects of physiological research.

CORE COURSE-8-- MICROBIOLOGY, MYCOLOGY, LICHENOLOGY AND PHYTOPATHOLOGY

Course Outcomes

1. Understanding and appreciating the unity and diversity of microbes and fungi,
2. Understanding the significance of microbes in nature's dynamicity.
3. Develop skill in studying the fungal diversity through the study of representative taxon and methodology.
4. Understanding the inter-relationship between plants and microbes both beneficial and harmful. 5. Skill development to diagnose plant disease and to apply general control measures.

CORE COURSE-9- RESEARCH METHODOLOGY, INSTRUMENTATION AND BIOSTATISTICS

Course Outcomes

1. Learning of the fundamental characteristics of science as a human enterprise, product and intellectual process
2. Understanding the working of science for further application in free, independent, individual needs and in designing scientific experimentation.
3. Appreciation of several scientific works and assessment of its influence on society.
4. Acquire knowledge on the principles, components and applications of various scientific equipments in biology.
5. Foundation knowledge in the basic concepts, components and functions of informatics.
6. Appreciate the importance of statistical principles in biological research.

CORE COURSE -10- ENVIRONMENTAL SCIENCE AND PHYTOGEOGRAPHY

Course Outcomes

1. Understanding the fundamental concepts in ecology, environmental science and phytogeography.
2. Concept development in conservation, global ecological crisis, Sustainable development and pros and cons of human intervention.
3. Enable the student to appreciate bio diversity and the importance of various conservation strategies, laws and regulatory authorities.
4. Recognition of the need for more research to create a baseline data for sustainable exploitation- Think globally and Act locally
5. Analyse the interrelationship between the geography and pattern of distribution of plants.
6. Appreciate key concepts from economic, political, and social analysis as pertained to the design and evaluation of environmental policies and institutions.

7. Appreciate the ethical, cross-cultural, and historical context of environmental issues and the links between human and natural systems.
8. Reflect critically about their roles and identities as citizens, consumers and environmental actors in a complex, interconnected world.

CORE COURSE -11-GENETICS, MOLECULAR BIOLOGY AND PLANT BREEDING

Course Outcomes

1. Identify the basic principles and current trends in classical genetics.
2. Recognise the historical process of the evolution of molecular genetics from classical genetics. 3. Review the relevance of the application of genetic principles in agriculture, medicine, research and industry.
4. Outlining the use of genetic principles for conservation, defining and better understanding of nature.
5. Develop theoretical background on molecular genetics to provide a strong support for the student for future research and employability.
6. Appreciate the way scientists work in understanding biological processes and the organization of cell.
7. Cite examples for scientific interventions to human and plant life through brief exposure to plant breeding principles.
8. Modify the concept on gender, human diseases and their management based on the study of genetic principles of human beings.

CORE COURSE-12-BIOTECHNOLOGY AND BIOINFORMATICS

Course Outcomes

1. Develop knowledge of the fundamental techniques of biotechnology and the history of its development.
2. Recognise theoretical knowledge on the equipments used in biotechnology which will give a support during future prospects.
3. Connect the genetic engineering principles in agriculture, medicine, research and industry for a better world.
4. Identify the significance of nanobiotechnology results for updated knowledge in that field.
5. Appreciate and criticise the information technology aided advancements in biology.
6. Develop awareness on the economic, social and environmental problems of gene manipulation.

CORE COURSE-13-EVOLUTION AND PALAEOBOTANY

Course Outcomes

1. Understand the basic principles and current trends in classical evolution.
2. Develop awareness on the historical process of plants and animals with an emphasis on human beings.
3. Relate the evolutionary principles with agriculture, medicine, research and industry.
4. Apply the principles of genetics and evolution in conservation, defining and better understanding of nature.

CORE COURSE- 14- CORE PRACTICAL II

Course Outcomes

1. Learning the fundamental techniques used in a botany lab related to Mycology, Microbiology, Angiosperms systematics

2. Understands the working of science by first-hand experience.
3. Comaprison skill is attained by comparing different plants and their vegetative and reproductive structures.
4. Incuclation of practical skills for further application in free, independent, individual needs and helps in designing scientific experimentation.

CORE COURSE 16- PROJECT/FIELD STUDY/VIVA VOCE

Course Outcomes

1. Learning the fundamental techniques used in a research
2. First-hand experience in doing science.
3. Development of the skill to communicate science.
4. Internalisation of skills for further application in designing scientific experimentation.

COMPLEMENTARY ELECTIVE COURSE IN BOTANY– 1 MICROBIOLOGY, PHYCOLOGY, MYCOLOGY AND LICHENOLOGY

Course Outcomes

1. Understanding of the fundamental concepts in classification of plants.
2. Concept development in structure and reproduction of lower plants.
3. Enable the student to appreciate bio diversity, sustainable development with the help of their core subject and subsidiary subject botany.
4. Induce to experiment on the subject in an intensive way to facilitate an interdisciplinary profession/enterprise/entrepreneurship

COMPLEMENTARY ELECTIVE COURSE IN BOTANY– 2 BRYOLOGY, PTERIDOLOGY, GYMNOSPERM BIOLOGY, PALAEOBOTANY, PHYTOPATHOLOGY AND ANGIOSPERM EMBRYOLOGY

Course Outcomes

1. Understanding of the fundamental concepts in classification of Bryophytes, Pteridophytes, Gymnosperms.
2. Concept development in structure and reproduction of lower plants.
3. Enable the student to appreciate bio diversity, evolution and sustainable development with the help of their core subject and subsidiary subject botany.
4. Induce to experiment on the subject in an intensive way to facilitate an interdisciplinary profession/enterprise/entrepreneurship

COMPLEMENTARY ELECTIVE COURSE IN BOTANY– 3 ANGIOSPERM MORPHOLOGY, ANATOMY AND SYSTEMATICS

Course Outcomes

1. Understanding of the fundamental concepts in classification of Angiosperms.
2. Concept development in diversity that exist in angiosperms through studies in morphology, anatomy and systematic.
3. Enable the student to appreciate economic importance of plants belongin to the specified families.
4. Induce to experiment on the subject in an intensive way to facilitate an interdisciplinary profession/enterprise/entrepreneurship

COMPLEMENTARY ELECTIVE COURSE IN BOTANY – 4 PLANT PHYSIOLOGY, ECOLOGY AND APPLIED BOTANY

Course Outcomes

1. Understanding of the fundamental concepts in Physiology.
2. Concept development in plant ecology.
3. Enable the student to appreciate bio diversity, sustainable development with the help of their core subject and subsidiary subject botany in hts biotechnology era.
4. Induce to experiment on the subject in an intensive way to facilitate an interdisciplinary profession/enterprise/entrepreneurship.

COMPLEMENTARY ELECTIVE COURSE IN BOTANY-5- COMPLEMENTARY BOTANY PRACTICAL

Course Outcomes

1.Learning the fundamental techniques used in a botany lab.
2.First-hand experience in doing science.
3.Internalisation of practical skills for further application in free, independent, individual needs and helps in designing scientific experimentation.

GEC IN BOTANY-1- 5D01BOT - MUSHROOM CULTIVATION

Course Outcomes

1. Knowledge on fundamentals of selected courses- Mushroom cultivation, Botany for beginners, Plant Propagation, Medicinal plants and Plant diversity and human welfare.
2. Familiarity with basic concepts in botany/biology applicable to the respective interest of the student.
3. Ability to appreciate the advancements in the subject.
4. Ability to specialize in commercial plant cultivation and/or commercial utilization of the imparted knowledge.

GEC IN BOTANY--2: 5D02BOT -BOTANY FOR THE BEGINNERS

Course Outcomes

1. Knowledge on fundamentals of selected courses- Mushroom cultivation, Botany for beginners, Plant Propagation, Medicinal plants and Plant diversity and human welfare.
2. Familiarity with basic concepts in botany/biology applicable to the respective interest of the student.
3. Ability to appreciate the advancements in the subject.
4. Ability to specialize in commercial plant cultivation and/or commercial utilization of the imparted knowledge.

GEC IN BOTANY - 3: 5D03BOT- PLANT PROPAGATION

Course Outcomes

1. Knowledge on fundamentals of selected courses- Mushroom cultivation, Botany for beginners, Plant Propagation, Medicinal plants and Plant diversity and human welfare.
2. Familiarity with basic concepts in botany/biology applicable to the respective interest of the student.
3. Ability to appreciate the advancements in the subject.
4. Ability to specialize in commercial plant cultivation and/or commercial utilization of the imparted knowledge.

GEC IN BOTANY 4: 5D04BOT- MEDICINAL PLANTS

Course Outcomes

1. Knowledge on fundamentals of selected courses- Mushroom cultivation, Botany for beginners, Plant Propagation, Medicinal plants and Plant diversity and human welfare.
2. Familiarity with basic concepts in botany/biology applicable to the respective interest of the student.
3. Ability to appreciate the advancements in the subject.
4. Ability to specialize in commercial plant cultivation and/or commercial utilization of the imparted knowledge.

GEC IN BOTANY- 5: 5D05BOT- PLANT DIVERSITY AND HUMAN WELFARE

Course Outcomes

1. Knowledge on fundamentals of selected courses- Mushroom cultivation, Botany for beginners, Plant Propagation, Medicinal plants and Plant diversity and human welfare.
2. Familiarity with basic concepts in botany/biology applicable to the respective interest of the student.
3. Ability to appreciate the advancements in the subject.
4. Ability to specialize in commercial plant cultivation and/or commercial utilization of the imparted knowledge.

MICROBIOLOGY

COURSE OUTCOMES: BSc MICROBIOLOGY

CORE COURSE I: FUNDAMENTALS OF MICROBIOLOGY

CO 1. Understand the history, development & scope of microbiology

CO 2. Understand the principle and procedure of microscopy

CO 3. Understand the detailed structure of bacteria

CO 4. Explain the techniques for visualization of microorganisms

CO 5. Explain various media and components for cultivation of different microorganisms

CO 6. Understand various techniques used for isolation and preservation of bacteria

CO 7. Understand the principle and methods for controlling microorganisms and attain knowledge in controlling microbes in day today life.

CORE COURSE II: MICROBIAL DIVERSITY

CO 1. Understand the basics and tools in Microbial taxonomy

CO 2. Explain classification and diversity of bacteria

CO 3. Understand general characteristics and taxonomy of viruses

CO 4. Understand general characteristics and taxonomy of fungi

CO 5. Understand general characteristics and taxonomy of microscopic algae & protozoa

CORE COURSE III: MICROBIAL PHYSIOLOGY AND METABOLISM

CO 1. Understand the nutritional diversity among microorganisms, the different macro and micronutrients required for microbial growth and understand the physical factors affecting microbial growth.

CO 2. Describe the pattern of growth, reproduction, death and growth kinetics of microbes and measure population growth by different methods.

CO 3. Understand the phototrophic nutrition in microorganisms, different mechanisms seen in different microbial groups and their ecological importance.

CO 4. Understand the unique nutritional type among microorganisms- the chemolithotrophs-, their types, use of different inorganic sources for energy production, ecological importance and role in biogeochemical cycles.

CO 5. Understand how carbohydrates, proteins and fats are metabolized in the microbial cells and the diverse metabolic pathways leading to energy production.

CORE COURSE IV: MICROBIOLOGY PRACTICAL I

CO 1. Understand the basic rules and regulations in Microbiology lab and the procedure of cleaning & preparation of materials for lab experiments

CO 2. Understand the working and understand how to operate major microbiology lab instruments
CO 3. Understand and carry out the preparation of various media for cultivation of microorganisms
CO 4. Carry out the techniques for isolation and cultivation of bacteria CO 5. Understand the procedure of comparing the efficiency of disinfectants commonly used

CORE COURSE V: BASIC IMMUNOLOGY

CO 1. Understand various immune mechanisms

CO 2. Describe various immune cells and organs involved in immunity

CO 3. Understand different immunological techniques used and serological diagnosis of infectious diseases

CO 4. Understand the basis of allergy reactions, auto immune mechanisms, transplantation and cancer immunity.

CORE COURSE VI: MICROBIOLOGY PRACTICAL II

CO 1. Understand the principle, parts of Compound light microscope and carry out the procedure of using Microscope

CO 2. Carry out the techniques of visualizing bacteria

CO 3. Understand and carry out the procedure of differentiating bacterial populations

CO 4. Carry out the techniques for visualizing different parts of bacteria

CO 5. Understand the procedure of separating compounds by using chromatography

CORE COURSE VII: MICROBIAL BIOTECHNOLOGY

CO 1. Describe about fermenter and fermentation technology.

CO 2. Understand microbial products by fermentation process.

CO 3. Understand enzyme technology and its application

CORE COURSE VIII: BACTERIAL DISEASES

CO 1. Describe about infection, its types, transmission of infection & virulence factors

CO 2. Understand the details of causative agent of major human bacterial infection

CO 3. Understand the diagnostic & treatment methods of various bacterial infections

CO 4. Understand prophylactic measures of different bacterial diseases

CO 5. Understand epidemiological aspects of bacterial diseases

CORE COURSE IX : ENVIRONMENTAL MICROBIOLOGY

CO 1. Understand the concept of ecosystem and its components and concept of biogeochemical cycles and N, S and P cycles.

CO 2. Explain the principles of microbial interactions and its importance with suitable examples.

CO 3. Describe microorganisms in air, methods by which they reach and remain in air and its medical importance. Air sampling methods and its use in agriculture.

CO 4. Describe microorganisms in aquatic environment, various factors that can influence their survival and distribution in different aquatic systems. Their role in aquatic eco system as biotic factor- producer, consumer and decomposer.

CO 5. Understand the concept of xenobiotics, xenobiotics as pollutants of environment, concept of biomagnification, concept of persistence and recalcitrance of various xenobiotics. Concept of bioremediation of environment and microbial degradation of various xenobiotics.

CO 6. Understand the concepts of leaching, corrosion and microbial biofilms. Involvement of microorganisms in metal leaching and corrosion.

CORE COURSE X: VIRAL, FUNGAL AND PARASITIC DISEASES

CO 1. Understand the architecture of animal viruses, its classification, methods for studying viruses and the multiplication strategies of animal viruses

CO 2. Understand the most prevalent viral diseases of human beings including the emerging viral diseases and to understand the preventive measures to be taken by studying the pathogenesis and mechanism of survival of pathogens.

CO 3. Describe overview of fungal infections affecting human beings and the treatment strategies against fungal infections

CO 4. Understand important protozoan and helminthic infections of human beings

CORE COURSE XI: MICROBIOLOGY PRACTICAL III

CO 1. Perform basic laboratory techniques in Microbiology to detect bacterial motility and use of special media in order to differentiate pathogenic microorganisms

CO 2. Understand the isolation and identification of normal flora

CO 3. Determine the effect of environmental factors influencing the growth of microorganisms

CO 4. Perform basic laboratory experiments in Biochemistry, Genetics and bioinformatics

CORE COURSE XII: MICROBIOLOGY PRACTICAL IV

CO 1. Determine the microbial load and diversity in soil

CO 2. Determine the microbiological quality of drinking water and air

CO 3. Understand the laboratory procedure for the growth of fungi and identify the fungi by macroscopic and microscopic examination

CO 4. Isolate microorganisms with special metabolic capacities from the environment

CORE COURSE XIII: FOOD MICROBIOLOGY

CO 1. Understand the role of microorganisms in food fermentation, food processing, food spoilage and food borne diseases

CO 2. Understand the significance of microbes in spoilage of different varieties of food and the role of intrinsic and extrinsic factors affecting the growth and survival of microbes in food.

CO 3. Describe ways to control the growth of microbes in foods and know the principles involved in methods of food preservation.

CO 4. Understand the beneficial role of microbes in fermented foods and the microbiology of fermented dairy products and other indigenous fermented foods and understand the basis of food safety regulations.

CO 5. Understand the role of microbes in food borne illnesses and their characteristics and their preventive measures

CORE COURSE XIV: SANITATION MICROBIOLOGY

CO 1. Understand the concept of Sanitation and its importance in public health and UN actions

CO 2. Describe the importance of water quality, methods of water quality analysis, water quality standards & the basic principles of water purification and disinfection.

CO 3. Understand the concept of sewage and its microbiology, methods and steps involved in waste water treatment.

CO 4. Explain the principles of solid waste management and methods.

CO 5. Explain sanitary land filling, Composting and biogas plants.

CO 6. Describe principles of air sanitation, methods of air sanitation and air quality standards.

CORE COURSE XV: AGRICULTURAL MICROBIOLOGY AND PLANT PATHOLOGY

CO 1. Understand the role of microbes in agriculture

CO 2. Explain the production and application of biofertilizers

CO 3. Understand plant disease mechanism and how to control plant diseases and also to get awareness on the impact of chemical fertilizer

CO 4. Understand various plant diseases commonly found.

CORE COURSE XVI: MICROBIOLOGY PRACTICAL V

CO 1. Perform Antigen – Antibody reactions for the Serodiagnosis of infectious Diseases

CO 2. Identify bacterial species from clinical samples by microscopy, Cultural characteristics and biochemical reactions

CO 3. Determine the antimicrobial spectrum of the given bacterial species

CORE COURSE XVII: MICROBIOLOGY PRACTICAL VI

CO 1. Determine the microbial count of fish, milk and fermented milk samples

CO 2. Understand the production of wine using yeast

CO 3. Analyze the microbiological quality of milk sample

CO 4. Perform experiments for the isolation of nitrogen fixing bacteria

GENERIC ELECTIVE COURSE I: FOODBORNE DISEASES

CO 1. Understand etiological agents of important foodborne infections and intoxications

CO 2. Explain the sources, symptoms and preventive measures of foodborne illnesses

CO 3. Understand the preventive and prophylactic measures of foodborne diseases.

GENERIC ELECTIVE COURSE II: MICROBES AND ENVIRONMENT

CO 1. Understand the basic concept of Ecology and factors influencing the growth of microorganisms in the environment

CO 2. Understand biogeochemical cycling in the environment and microbial interactions in the soil

CO 3. Explain the role of microorganisms causing diseases transmitted through water and the importance of indicator organisms in determining the microbiological quality of drinking water

CO 4. Understand steps involved in wast water treatment

CO 5. Explain the methods to resolve important global environmental problems

GENERIC ELECTIVE COURSE III: SOLID WASTE MANAGEMENT

CO 1. Understand the magnitude of health risk and other socio economic problems of solid waste.

CO 2. Explain methods of disposal of solid waste , hazardous solid waste and e waste

CO 3. Understand the methods for reduction of solid waste

GENERIC ELECTIVE COURSE IV: MUSHROOM CULTIVATION AND PROCESSING

CO 1. Understand and identify the edible and poisonous mushrooms and their significance

CO 2. Create skills in mushroom cultivation methods

CO 3. Understand the marketing trends of mushroom

CO 4. Train and help students to learn a means of self employment and income generation

GENERIC ELECTIVE COURSE V: FERMENTED FOODS AND BEVERAGES

CO 1. Understand the role of microorganisms in the production of fermented foods and beverages

CO 2. Understand the production of important fermented foods, beverages and single cell proteins

GENERAL AWARENESS COURSE I: BIOCHEMISTRY FOR MICROBIOLOGY

CO 1. Understand the aspects of different types of bonding in biomolecules and the concept and importance of pH and redox reactions in living systems.

CO 2. Describe the detailed structure of carbohydrate with different bonding patterns, their properties, classification and functions in cells.

CO 3. Explain the structure, classification, properties of amino acids and the structure , levels of organization, types, conjugate forms and functions of protein in cells.

CO 4. Understand in detail the properties, classification, mechanism and kinetics of enzyme action and the principles of enzyme regulation.

CO 5. Describe the components, structure and organization of nucleic acids (DNA and RNA) and their functional importance in living systems.

CO 6. Understand the structure, types and properties of fats, fatty acids, lipids, their conjugate forms and their functional importance.

GENERAL AWARENESS COURSE II: BIOINFORMATICS AND BIOINSTRUMENTATION

CO 1.Understand the basic concepts in Bioinformatics and its applications in various fields

CO 2.Describe biological databases available online and sequence alignment using bioinformatics tools

CO 3.Understand bioinformatics tools for phylogenetic analysis, structure prediction and drug designing.

CO 4.Explain the principle, working and applications of biological techniques such as chromatography, electrophoresis, spectrophotometry and centrifuge.

CO 5.Understand basic molecular techniques.

GENERAL AWARENESS COURSE III: MOLECULAR BIOLOGY

CO 1.Understand the history of molecular biology, the experiments that proved the role of DNA as genetic material, physical and chemical properties of DNA, and organisation of genetic material in cells.

CO 2.Explain mechanisms and molecules involved in replication of DNA and different models of replication.

CO 3.Describe molecular mechanisms of recombination.

CO 4.Understand chemical nature and types of RNA , transcription mechanisms and different types of molecules involved and processing of RNA

CO 5.Understand concept of genetic code and concept of translation, steps involved and post translational modification.

CO 6.Understand concept of gene regulation in prokaryotes using lac and trp operon as examples.

GENERAL AWARENESS COURSE IV: MICROBIAL GENETICS AND rDNA TECHNOLOGY

CO 1.Understand genomic organization of prokaryotes including bacterial chromosome, plasmids and transposable genetic material

CO 2.Understand gene transfer mechanism in prokaryotes, its applications and genetic make-up of bacteriophage and yeast briefly

CO 3. Explain molecular mechanism underlying mutations and useful phenotypes of bacterial mutants.

CO 4.Explain the basics and molecular techniques involved in recombinant DNA technology and the role of microbes in rDNA technology

CO 5.Describe the applications of transgenic plants and animals.