2.6.1: Programme Outcomes (POs) and Course Outcomes (COs) for all Programmes offered by the institution are stated and displayed on website and attainment of POs and COs are evaluated

EMMANUEL COLLEGE VAZHICHAL

Department wise PO s and CO s

EMMANUEL COLLEGE
VAZHICHAL, THIRUVANANTHAPURAM
A Latin Catholic Institution | Affiliated to the University of Kerala

Department wise POs and COs

Name of Department: Commerce

Programme : UG - B com Computer application

PROGRAMME OUTCOMES

PO 01 - Disciplinary Knowledge

Capability of executing comprehensive knowledge and understanding of one or more discipline that form part of commerce.

PO 02 - Communication Skills

i. Ability to communicate long standing unsolved problems in commerce;

ii. Ability to show the importance of commerce as precursor to various market developments since the beginning of the civilization.

PO 03 - Critical Thinking

i. Ability to engage in reflective and independent thinking by understanding the concepts in every area of Commerce and Business;

ii. Ability to examine the results and apply them to various problems appearing in different branches of Commerce and Business.

PO 04 - Problem solving

i. Capability to deduce a business problem and apply the class room learning into practice

to offer a solution for the same;

ii. Capabilities to analyse and synthesize data and derive inferences for valid conclusion;

iii. Able to comprehend solution to sustain problems originating in the diverse management areas such as Finance, Marketing, Human Resource, and Taxation.

PO 05 - Research Related Skills

i. Ability to search for, locate, extract, organise, evaluate, and use or present information

that is relevant to a particular topic;

ii. Ability to identify the developments in various branches of Commerce and Business.

PO 06 - Information and Communication Technology (ICT) digital literacy

Capability to use various technical ICT tools (like spreadsheet) for exploring, analysis, and using the information for business purposes.

PO 07 - Self-directed Learning

Capability to work independently in diverse projects and ensure detailed study of various facets of Commerce and Business.

PO 08 - Moral and Ethical Awareness/Reasoning

i. Ability to ascertain unethical behaviour, falsification, and manipulation of information;

ii. Ability to manage self and various social systems.

PO 09 - Lifelong learning

Capability of self-paced and self-directed learning aimed at personal development and for

improving knowledge/skill development and reskilling in all areas of Commerce.

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Course Outcomes

UG Course Outcomes

Semester 1

Course Name Methodology And Perspectives Of Business Education

Programme Name B Com (Finance , Co-operation , Computer Application) , B com tourism and Travel Management , B com Tax Procedure and Practice

Course Code CO 1121/ TT1121/CX 1121

CO no Course Outcome

CO 1 The students can explain the role of business & its environment in economic development

CO 2 The students can distinguish the comprehensive and integrated perspective to business education

CO 3 The students can discuss ethical practices in business

CO 4 The students can identify various methods of learning and presenting business information

CO 5 The students can explain the various aspects of human capital management

Course Name Environmental Studies

Programme Name B Com (Finance , Co-operation , Computer Application) , B com tourism and Travel Management, B com Tax Procedure and Practice

Course Code CO 1141/TT1141/CX 1141

CO no Course Outcome

CO 1 The students can basic ideas about environment and emerging issues about environmental problems.

CO 2 The students can distinguish the need and importance of environmental protection

CO 3 The students can discuss the social issues of environment

CO 4 The students can identify various methods of conservation of natural resources

CO 5 The students can explain the various aspects of conservation of bio diversity.

Course Name Management Concepts And Thought

Programme Name B Com (Finance , Co-operation , Computer Application)

Course Code CO 1142

CO no Course Outcome

CO 1 The students can understand the nature and evolution of modern management

CO 2 The students can identify the management process

CO 3 The students can clarify different communication barriers

CO 4 The students can recall communication and motivation theories

CO 5 The students can explain leadership styles and different qualities of an effective leader

Course Name Managerial Economics

Programme Name B Com (Finance , Co-operation , Computer Application) , B com Tax Procedure and Practice

Course Code CO 1131/CX 1131

CO no Course Outcome

CO 1 Students are able to understanding general economic conditions of the firm.

CO 2 Students are able to apply determining demand of the product and demand forecast.

CO 3 Students are able to apply production theories in the business

CO 4 Students are aware to fixation of product price and apply promotional strategies on the basis of the economic conditions of the business.

CO 5 Acquiring knowledge for identifying problems faced on different stages of business cycles.

Course Name Tourism Principles and Practices

Programme Name B com tourism and Travel Management

Course Code TT 1171

CO no Course Outcome

CO 1 Can able to familiarize with the basic concepts of tourism.

CO 2 Can able to acquaint knowledge on Tourism Management.

CO 3 Can able to understand the trends in tourism.

Course Name Social psychology

Programme Name B com tourism and Travel Management

Course Code PG 1131.1

CO no Course Outcome

CO 1 Describe the basic social psychological concepts and relevant methods

CO 2 Identify skills pertaining to evaluating the realities in social situations.

CO 3 Express the social influence processes particularly the influence of others on individual behaviour and performance

CO 4 Explain the social affective processes including people's harming and helping behaviours

Course Name Principles of Taxation

Programme Name B com Tax Procedure and Practice

Course Code CX 1171

CO no Course Outcome

CO 1 The students can clarify basic principles of taxation in India

CO 2 The students can understand on sources of public revenue Indian tax system.

CO 3 The students get a basic knowledge on the role of tax laws in constitution and different classification of taxes

CO 4 The students can discuss the different tax systems in india

CO 5 The students can summarize direct and indirect taxes.

Semester 2

Course Name Informatics And Cyber Laws

Course Code CO 1221/ TT 1221/CX 1221

Programme Name B Com (Finance , Co-operation , Computer Application) , B com Travel and tourism Management , B com Tax Practice and Procedure

CO no Course Outcome

CO 1 The students can clarify the students the knowledge of informatics and cyber laws.

CO 2 The students can understand social informatics

CO 3 The students can explain the application of IT in society

CO 4 The students can identify the different cyber crimes .

CO 5 The students can recall the students the knowledge cyber offenses.

Course Name Financial Accounting

Programme Name B Com (Finance , Co-operation , Computer Application) , B com Travel and tourism Management , B com Tax Practice and Procedure

Course Code CO 1241/TT 1241/CX 1241

CO no Course Outcome

CO 1 The students can identify the concept of accounting procedures and different methods of depreciation

CO 2 The students can distinguish the accounts procedures of hire purchase system and installment system

CO 3 The students can discuss the accounting procedures of Voyage ,package and container accounts

CO 4 The students can explain different investment accounts

CO 5 The students can identify the procedures related to insurance claims

Course Name :Business Regulatory Framework

Programme Name: B Com (Finance , Co-operation , Computer Application)

Course Code: Course Outcome

CO 1 Students can discuss a brief idea about the framework of business laws

CO 2 Students can clarify the provisions of business law in business activities

CO 3 Students can define the provisions related to sale of goods act

CO 4 Student can summaries the different powers, duties, and responsibilities of different regulatory authorities

CO 5 Students can state the process of special contract

Course Name Business Mathematics

Programme Name B Com (Finance , Co-operation , Computer Application) , B com Tax Procedure and Practice

Course Code CO 1231/CX 1231

CO no Course Outcome

CO 1 The students can identify the concept of Number sense

CO 2 The students can Clarify the students with the basic mathematical tools.

CO 3 The students can applying mathematical tools in business practice

Course Name Emerging Trends in Tourism

Programme Name B com tourism and Travel Management

Course Code TT 1271:

CO no Course Outcome

CO 1 Can able to identify the trends in tourism

CO 2 Can able to define and describe the concepts of E - tourism

CO 3 Can able to explain the role of event management for promotion of tourism

CO 4 Can able to discuss MICE tourism and its impact and to identify benefits of conventions

Course Name Communication and Interpersonal Skills

Programme Name B com tourism and Travel Management

Course Code PG 1231.1

CO no Course Outcome

CO 1 State the verbal and nonverbal processes of communication.

CO 2 Clarify psychological barriers to effective communication

CO 3 Demonstrate appreciation of cultural variations in verbal and non-verbal communication.

CO 4 Interpret the nuances of communication gap in interpersonal relationships in social contexts.

CO 5 Express listening and communicating competence.

CO 6 Identify the importance of positive relational attitudes

Course Name: B com Tax Procedure and Practice

Course Code: CX 1271

CO no Course Outcome

CO 1 The students can define income tax, residential status and scope of total income

CO 2 The students can define income tax, residential status and scope of total income

CO 3 The students can carryout income from salary

CO 4 The students can carryout computation of gratuity, pension and provident fund

CO 5 The students can carryout income from house property

Semester 3

Course Name Entrepreneurship Development

Programme Name B Com (Finance , Co-operation , Computer Application)

Course Code CO 1341

CO no Course Outcome

CO 1 The students can clarify the knowledge of successful entrepreneur.

CO 2 The students can familiarize the students with the latest programmes of Government in promoting small and medium industries

CO 3 the students can explain preparation of Feasibility Report

CO 4 The students can prepare Performa of a Project Report

CO 5 The students can regarding starting of new ventures

Course Name Advanced Financial Accounting

Programme Name B Com (Finance , Co-operation , Computer Application) , B com tourism and Travel Management , B com Tax Procedure and Practice

Course Code CO 1342/ TT1342/CX 1342

CO no Course Outcome

CO 1 Can able to understand accounts related to dissolution of partnership firms

CO 2 Can able to apply the system of accounting for different branches and departments.

CO 3 can able to prepare the accounts of consignments

Course Name Company Administration

Programme Name B Com (Finance , Co-operation , Computer Application)

Course Code CO 1343

CO no Course Outcome

CO 1 Students can able to familiarize provisions Indian companies Act 2013.

CO 2 Students can able to acquaint knowledge of management and administration of company.

CO 3 Students can able to acquaint Knowledge of company formation and winding up procedures .

CO 4 Students can able to familarise provisions of preparations of different company documents.

Course Name Financial Management

Programme Name B Com Finance

Course Code CO 1361.1

CO no Course Outcome

CO 1 Students can understand the conceptual framework of financial management.

CO 2 Students can understand the practical application of cost of capital.

CO 3 Students can analyse the capital structure decisions

CO 4 Students can apply the capital budgeting methods.

CO 5 Students can evaluate the estimation of working capital requirements.

Course Name Principles of Co-Operation

Programme Name B Com Co-Operation

Course Code CO 1361.2

CO no Course Outcome

CO 1 The student can define different aspects of cooperation like economic, social and moral elements.

CO 2 The student can explain orgin and development of co-operation in Kerala and world.

CO 3 the student will apply principles of co-operation with the management and working in different co-operatives.

CO 4 The student will understand different co-operatives and their federations

CO 5 the student can discuss different co-operatives like primary cooperatives, urban, dairy, processing co-operatives etc. and also discuss co-operative movements in different nations.

Course Name Computer Application For Publications

Programme Name B Com Computer application

Course Code CO 1361.2

CO no Course Outcome

CO 1 Students can identify functional knowledge in the field of free software.

CO 2 Students can generate practical skills in document preparation, publishing and business presentation.

CO 3 Students can generate skills in electronic data processing and computer application in business operations.

CO 4 Students can create simple to complex multi-page documents such as brochures, flyers, books and magazines.

CO 5 Students can develop professional-level presentations

Course Name Management Concepts And Thought

Programme Name B com tourism and Travel Management and B com Tax Procedure and Practice

Course Code TT 1341/CX 1341

CO no Course Outcome

CO 1 The students can understand the nature and evolution of modern management

CO 2 The students can identify the management process

CO 3 The students can clarify different communication barriers

CO 4 The students can recall communication and motivation theories

CO 5 The students can explain leadership styles and different qualities of an effective leader

Course Name Tourism Marketing

Programme Name B com tourism and Travel Management

Course Code TT 1371

CO no Course Outcome

CO 1 Can able to familiarize with the basic concepts of tourism marketing.

CO 2 Can able to acquaint knowledge on Marketing tourism industry.

CO 3 Can able to understand the trends in tourism marketing.

Course Name Tourism Regulations

Programme Name B com tourism and Travel Management

Course Code TT 1372

CO no Course Outcome

CO 1 Can able to familiarize with the tourism laws and regulation.

CO 2 Can able to acquaint knowledge on Accommodation and Catering regulation.

CO 3 Can able to understand the Environment protection and conservation .

Course Name Personality Development

Programme Name B com tourism and Travel Management

Course Code PG 1331.1

CO no Course Outcome

CO 1 Demonstate a self-reflexive relationship with themselves to deal with future challenges

CO 2 Illustrate different skills needed for effective living

CO 3 Examine biological and environmental influences on personality development

CO 4 Critically describe Psychodynamic Humanistic and Behaviouristic approaches to personality

CO 5 Discuss meaning and conceptual approaches to happiness and well-being.

CO 6 Infer the pathways through which positive emotions and positive traits contribute to happiness and well-being.

Course Name Income Tax Law & Practice II

Programme Name B com Tax Procedure and Practice

Course Code CX 1371

CO no Course Outcome

CO 1 The students can prepare the profit and gains of business or profession

CO 2 The students can carry out computation of income from capital gain

CO 3 The students can summarize the computation of income from other sources

CO 4 The students can use the method of calculating gross total and total income

CO 5 The students can clarify the deduction under Income Tax Act

Course Name Recovery and Refund of Income Tax

Programme Name B com Tax Procedure and Practice

Course Code CX 1372

CO no Course Outcome

CO 1 The students can clarify different modes of recovery of tax

CO 2 The students can use the method of calculating TDS and TCS

CO 3 The students can carry out computation of advance payment of income tax

CO 4 The students can clarify the different methods of refund of tax

CO 5 The students can summarize the computation of interest payment related to assessee

Semester 4

Course Name Indian Financial Market

Programme Name B Com (Finance , Co-operation , Computer Application)

Course Code CO 1441

Course Outcome

CO 1 Students can able to captured depth knowledge on financial and its operations

CO 2 Students can able to clear idea about the functioning of primary market.

CO 3 Students can able to captured knowledge for trading participation in the secondary market

CO 4 Students can able to captured knowledge for the derivatives market

CO 5 Students can able to captured the powers and functions of the SEBI

Course Name: Banking And Insurance

Programme Name: B Com (Finance , Co-operation , Computer Application) , B com tourism and Travel Management , B com Tax Procedure and Practice

Course Code: CO1442/ TT 1442/ CX 1442

Course Outcome

CO 1 The students can recognize various banking and non banking functions .

CO 2 The students can interpret the transferability and negotiability of negotiable instruments.

CO 3 the students can identify the innovations and reforms in Banking.

CO 4 The students can describe the importance of Insurance and its functions.

CO 5 The students can summarize the types of Insurance claims and regulations.

Course Name: Corporate Accounting

Programme Name: B Com (Finance , Co-operation , Computer Application)

Course Code: CO 1443

Course Outcome

CO 1 The students can create awareness about corporate accounting in conformity with the provisions of Companies Act, IAS and IFRS

CO 2 The students can able to prepare accounts of banking and insurance companies.

CO 3 The students can able to prepare and interpret financial statements of joint stock companies.

CO 4 The students explain the internal reconstruction procedure of joint stock companies

CO 5 The students can compute and interpret awareness regarding Earnings per share

Course Name: **Project Finance**

Programme Name: **B Com Finance**

Course Code: **CO1461.1**

Course Outcome

CO 1 Students can identify the concept of project finance

CO 2 Students can interpret the financial techniques for project appraisal and feasibility

CO 3 Students can analysis the risk in capital investment decisions

CO 4 Students can classify the various sources of finance

CO 5 Students can recognize the important of economic allocation of resources

Course Name: **Co-Operative Management And Administration**

Programme Name: **B Com Co-Operation**

Course Code: **CO 1461.2**

Course Outcome

CO 1 The students can describe the concept of principles related with co-operative management and administration.

CO 2 The students can identify the issues related with management and administration of co-operatives.

CO 3 The students can discuss the administrative set up of co-operative department in kerala.

CO 4 The students can clarify the co-operative education and training in kerala.

CO 5 The students can explain working and management of different co-operative organisations like NAFED,NABARD,NDDB etc.

Course Name: **Software For Data Management**

Programme Name: **B Com Computer application**

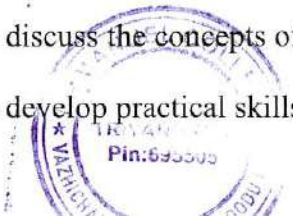
Course Code: **CO 1461.5**

Course Outcome

CO 1 Students can able to identify the students with the basics of Software for data management.

CO 2 Students can able to discuss the concepts of spread sheet application,

CO 3 Students can able to develop practical skills in spread sheet application,



CO 4 Students can able to develop practical skills in statistical software

CO 5 Students can able to develop practical skills in database application

Course Name: **Business Statistics**

Programme Name: **B Com (Finance , Co-operation , Computer Application) , B com Tax Procedure and Practice**

Course Code: **CO 1431/ CX 1431**

Course Outcome

CO 1 The students can gain understanding of statistical techniques those are applicable to business

CO 2 The students can apply statistical techniques in business

CO 3 The students can understand construction of index numbers

CO 4 The students can understand time series analysis

Course Name: **Business Regulatory Framework**

Programme Name: **B com tourism and Travel Management and B com Tax Procedure and Practice**

Course Code: **TT1441/ CX1441**

Course Outcome

CO 1 Students can discuss a brief idea about the framework of business laws

CO 2 Students can clarify the provisions of business law in business activities

CO 3 Students can define the provisions related to sale of goods act

CO 4 Student can summaries the different powers, duties, and responsibilities of different regulatory authorities

CO 5 Students can state the process of special contract

Course Name: **Tourism Products**

Programme Name: **B com tourism and Travel Management**

Course Code: **TT 1471**

Course Outcome

CO 1 Students can able to identify the tourism products

CO 2 Students can able to define and describe the natural and cultural tourism product

CO 3 Students can able to explain the role of cultural and natural tourism

CO 4 Students can able to discuss benefits of religious tourism

Course Name: **Tour Guiding And Escorting**

Programme Name: **B com tourism and Travel Management**

Course Code: **TT 1472**

Course Outcome

CO 1 Students can able to identify the role of tour guide

CO 2 Students can able to define and describe the concepts of tour guide and escorting

CO 3 Students can able to explain the role of tour guiding and escorting in promotion of tourism

CO 4 Students can able to discuss impact and benefits of tour guiding and escorting

Course Name: **Organizational Behaviour**

Programme Name: **B com tourism and Travel Management**

Course Code: **PG 1431.1**

Course Outcome

CO 1 Examine group dynamics in an organisational setup.

CO 2 Determine conflict and peace making strategies in organisation.

CO 3 Differentiate leadership processes on the basis of themes.

CO 4 Describe conceptual and theoretical bases of work motivation.

CO 5 Identify the relationship between performance,job attitude and organizational outcomes.

Course Name: **Income Tax Assessment I**

Programme Name: **B com Tax Procedure and Practice**

Course Code: **CX 1471**

Course Outcome

CO 1 The students can clarify the assessment procedure and filing of return of income of various assesses

CO 2 The students can prepare the total income and tax liability of individuals

CO 3 The students can Carry out computation of total income and tax liability of HUF

CO 4 The students can use the method of calculating total income and tax liability of the firm

CO 5 The students can summarize the computation of total income and tax liability of AOP/BOI

Course Name: **Income Tax Assessment II**

Programme Name: **B com Tax Procedure and Practice**

Course Code: **CX 1472**

Course Outcome

CO 1 The students can prepare the total income and tax liability of companies

CO 2 The students can carry out computation of total income and tax liability of co-operative societies

CO 3 The students can use the method of calculating total income and tax liability of charitable trust

CO 4 The students can clarify the double taxation relief in income tax

CO 5 The students can clarify the electronic media in income tax

Semester 5

Course Name: **Fundamentals of Income Tax**

Programme Name: **B Com (Finance , Co-operation , Computer Application)**

Course Code: **CO 1541**

Course Outcome

CO 1 Students can attain knowledge in concepts and practices of Income Tax law in India..

CO 2 Students can discuss the fundamental concepts of Income Tax

CO 3 Students can compute the tax liability of Individual assesses

CO 4 Students can discuss on computation of income from salary & house property

CO 5 Students can to calculate income from business & capital gains

8/6/22

Principal
EMMANUEL COLLEGE
Vazhichal,Kudappanamoodu
Thiruvananthapuram-695505

8-6-22
Lekshmi Vijayamohan

EMMANUEL COLLEGE TRIVANDRUM Pin:695505

EMMANUEL COLLEGE

VAZHICHAL, THIRUVANANTHAPURAM

A Latin Catholic Institution | Affiliated to the University of Kerala

Department wise POs and COs

Name of Department: English

Name of Programme: ENGLISH LANGUAGE AND LITERATURE

PROGRAMME OUTCOMES

PO 1: A comprehensive understanding of the discipline of literary studies

PO 2: Realize the divergent and plural voices that come in to the making of the corpus of literary studies.

PO 3: Understand literature as one of the many arts that seeks literary expression and its close connection with other art forms like painting, music, dance, movie and so on down the ages. PO 4: Imbibe the importance of multidisciplinary approach to understand the nuances of literary expressions.

PO 5: Understand the specific socio-cultural backdrop of the formation of literary representations.

PO 6: Form an awareness of the multiplicities of such socio-cultural realities that shape literary representations and to critique the inherent hegemony.

PO 7: The ability to trace the development of the English language from the early writings to its present-day use in specific contexts.

PO 8: Address the requirements of the language use in a globalized context.

PO 9: Ensure the importance of study of the English language in relation to the study of language and literature of the mother tongue.

PO 10: Have improved competence in translation and to view the same not only as a tool for cultural transmission but also as skill acquisition.

PO 11: Comprehended the current modes of writings - that which encompasses the issues related to race, gender, ethnicity, climate change etc. and realize the role of literature in inculcating social sensitiveness.

PO 12: The competence to identify the literary voices of dissent from diverse parts of the globe and to reflect on the popular culture and literature.

PO 13: A basic knowledge of research methodology and other areas related to the faculty of research.

PO 14: Imbibe a research-oriented approach to the study of humanities in connection with the basic understanding of social sciences to initiate a multidisciplinary approach of study.

PO 15: Contribute to the realm of knowledge production with an increased intellectual, creative, critical and multidisciplinary capability.

EMMANUEL COLLEGE TRIVANDRUM Pin:695505 VAZHICHAL, KUDAPPANAKUNNU P.O

UG Course Outcomes

Semester 1

Course Name : Introduction to Literary Studies I
Programme Name : BA English Language And Literature (CBCS System)
Course Code : En 1141
Course Outcome

CO 1: Introduce varied literary representations.
CO 2: Familiarize students with the nature and characteristics of literature.
CO 3: Discuss the nature and characteristics of literature
CO 4: Introduce two key genres of literature, poetry and drama.
CO 5: Possess a foundational understanding of poetry and drama.

Course Name : Popular Literature and Culture
Programme Name : BA English Language And Literature (CBCS System)
Course Code : EN 1131
Course Outcome

CO 1: Encourage the student to think critically about popular literature.
CO 2: Understand the categories of the —popular‖ and the —canonical‖
CO 3: Identify the conventions, formulas, themes and styles of popular genres such as detective fiction, the science fiction and fantasy, and children's literature.
CO 4: An assessment of the literary and cultural value of popular texts
C O 5: Sensitize students to the ways in which popular fiction reflects and engages with questions of gender, identity, ethics and education.

SEMESTER II

Course Name : Introduction to Literary Studies II
Programme Name : BA English Language And Literature (CBCS System)
Course Code : EN 1241
Course Outcome

CO 1: Cherish a taste for the literary among students
CO 2: Comprehend the nature and characteristics of different genres of literature.
CO 3: Detailed awareness of the two key genres of literature- fiction and non-fiction.
CO 4: Imbibe the representational possibilities of the respective genres.
CO 5: Instill a creative and critical aptitude

Course Name :Art and Literary Aesthetics
Programme Name : BA English Language And Literature (CBCS System)
Course Code : EN 1231
Course Outcome

CO 1: The student will be able to engage with literature in a broader, educated perspective.
CO 2: The student will be able to think with greater originality and independence about the complex interrelationship between different art forms.
CO 3: The student will be trained to engage sensitively and intelligently in new readings of literature.
CO 4:The course develops an understanding of the co-relation between literature, film, music and painting and encourages ways of reading and seeing which deliver insights into literary texts.
CO 5: Initiate students to implement the multidisciplinary scope of art and literary studies

SEMESTER III

Course Name :**British Literature I**

Programme Name : **BA English Language And Literature (CBCS System)**

Course Code : **British Literature I**

Course Outcome

CO 1: Comprehend the origins of English literature
CO 2: Understand the specific features of the particular periods
CO 3: Understand themes, structure and style adopted by early British writers
CO 4: Gain knowledge of growth and development of British Literature in relation to the historical developments
CO 5: Understand how writers use language and creativity to capture human experience through different literary forms

Course Name :**Evolution of the English Language**

Programme Name : **BA English Language And Literature (CBCS System)**

Course Code : **EN 1321**

Course Outcome

CO 1: Knowledge of the paradigm shifts in the development of English.
CO 2: Well aware of the historical paradigm shifts in the history of English Language
CO 3: Imbibe the plural socio cultural factors that went in to the shaping of the English Language.
CO 4: Place English language in a global context.
CO 5: Recognize the politics of many Englishes'

Course Name :**Narratives of Resistance**

Programme Name : **BA English Language And Literature (CBCS System)**

Course Code : **EN 1331**

Course Outcome

CO 1: Be able to identify themes of resistance in different forms and genres of literature.
CO 2: Have a sense of the various kinds of injustice related to race, ethnicity, gender etc. prevalent in society.
CO 3: Develop an idea of literature as a form of resistance to all forms of totalitarian authority.
CO 4: Understand the inter connection between various genres in manifesting resistance
CO 5: How resistance is an undeniable presence in the everyday narratives of literary and other artistic expressions

SEMESTER IV

Course Name : British Literature II

Programme Name : BA English Language And Literature (CBCS System)

Course Code : EN 1441

Course Outcome

CO 1: Sensitize students to the changing trends in English literature in the 18th and 19th centuries and connect it with the sociocultural and political developments.
CO 2: Develop the critical thinking necessary to discern literary merit
CO 3: Be able to recognize paradigm shifts in literature
CO 4: Be able to identify techniques, themes and concerns
CO 5: Connect literature to the historical developments that shaped the English history

Course Name :Literature of the 20th Century

Programme Name : BA English Language And Literature (CBCS System)

Course Code :EN 1442

Course Outcome

CO 1: Understand social, political, aesthetic and cultural transformations of early twentieth century in relation to literary texts with their specific formal features.
CO 2: Know the stylistic features of Modernism and its various literary and aesthetic movements
CO 3: Critically engage the ideas that characterise the period, especially the crisis of modernity
CO 4: Understand contemporary responses to the historical incidents that mark the period
CO 5: Understand and use critical strategies that emerged in the early twentieth century.

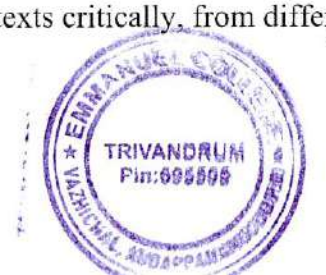
Course Name :Philosophy for Literature

Programme Name : BA English Language And Literature (CBCS System)

Course Code :EN1431

Course Outcome

CO 1: Have a diachronic understanding of the evolution of philosophy from the time of Greek masters to 20th century
CO 2: Have an awareness of the major schools of thought in western philosophy.
CO 3: Have a healthy epistemological foundation at undergraduate level that ensures scholarship at advanced levels of learning.
CO 4: Talk about some of the key figures in Philosophy.
CO 5: Analyze and appreciate texts critically, from different philosophical perspectives



SEMESTER V

Course Name: Literature of Late 20th Century and 21st Century

Programme Name : BA English Language And Literature (CBCS System)

Course Code :EN 1541

Course Outcome

CO 1:Identify the various socio-cultural changes that evolved in the late modernist period
CO 2: Relate to the diverse currents of postmodern literature and its reflections in the contemporary ethos
CO 3: Assimilate the inherent multiplicities and fluidity of societal perspectives
CO 4: Develop an innate sympathy for the tragedies of Holocaust and an awareness regarding the environmental impasses threatening the modern world
CO 5: Empathise with the marginalised and comprehend their predicament.

Course Name: Postcolonial Literatures

Programme Name : BA English Language And Literature (CBCS System)

Course Code :EN 1542

Course Outcome

CO 1: Ability to critique colonial history
CO 2: Awareness of the socio-political contexts of colonialism and postcolonialism
CO 3: Understanding of the effects of colonialism in various nations
CO 4: Knowledge of the key terms in post-colonial thought
CO 5: Study of the race and gender dynamics in postcolonial literature

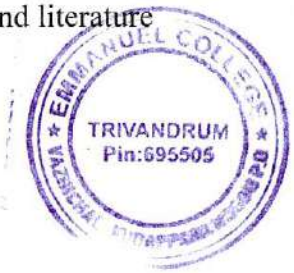
Course Name : 20th Century Malayalam Literature in Translation

Programme Name : BA English Language And Literature (CBCS System)

Course Code:EN 1543

Course Outcome

CO 1: Generate knowledge about the varied milieu of the development and growth of Malayalam literature and be sensitive to its socio cultural and political implications.
CO 2: Get a basic knowledge of the literary and the non-literary works produced inMalayalam
CO 3: Discern the vibrancy of Malayalam literature
CO 4: Sense the distinctness of the socio-cultural arena in which Malayalam literature isproduced
CO 5: Know the value of literature produced in regional languages and key role oftranslation in the growth of language and literature



Course Name: Linguistics and Structure of the English Language

Programme Name : BA English Language And Literature (CBCS System)

Course Code :EN 1544

Course Outcome

CO 1: Understand the phonological and grammatical structure of English Language
CO 2: Be able to analyse actual speech in terms of the principle of linguistics
CO 3: Improve the accent and pronunciation of the language
CO 4: Introduce the students to internationally accepted forms of speech and writing in English.
CO 5: Explore the ancient linguistic tradition of India

Course Name :Criticism and Theory

Programme Name : BA English Language And Literature (CBCS System)

Course Code:EN 1545

Course Outcome

CO 1: Analyze and appreciate texts critically, from different perspectives.
CO 2: Appreciate Indian Aesthetics and find linkages between Western thought and Indian critical tradition.
CO 3: Show an appreciation of the relevance and value of multidisciplinary theoretical models in literary study.
CO 4: Demonstrate an understanding of important theoretical methodologies and develop an aptitude for critical analysis of literary works.
CO 5: Gain a critical and pluralistic understanding and perspective of life

Course Name: Communicative Applications in English

Programme Name : BA English Language And Literature (CBCS System)

Course Code:EN 1551.1

Course Outcome

CO 1: Learners majoring in some subject other than English will have a working knowledge of the type of English that is required in real life situations, especially the globalized workplace.
CO 2: Well trained to write clear, well-framed, polite but concise formal letters and e-mails for a variety of purposes
CO 3: Acquire some of the soft-skills that go hand in hand with English –namely, the ability to prepare for an interview and face it confidently, the ability to participate boldly a group discussion and contribute meaningfully to it, the ability to make a simple and interesting presentation of 5-10 minutes before a mixed audience on anything that they have learnt in the previous semesters of the UG programme

Course Name:Theatre Studies

Programme Name : BA English Language And Literature (CBCS System)

Course Code:EN 1551.2

Course Outcome

CO 1: Understand the various theatres, techniques and practices
CO 2: Appreciate the medium of drama
CO 3: Initiate collaborative performances.
CO 4: Attempt production of plays
CO 5: Equip learners to choose a career in theatre.

Course Name :Film Appreciation

Programme Name : BA English Language And Literature (CBCS System)

Course Code:EN 1551.3

Course Outcome

CO 1: Decipher the meaning of a movie
CO 2: Watch, understand and analyze films from a critical perspective
CO 3: Connect movies to its multidisciplinary scope of appreciation and learning.
CO 4: Equip them to write critically about film.
CO 5: Equip them to be resourceful to find a career in areas related to film

SEMESTER VI

Course Name :Gender Studies

Programme Name : BA English Language And Literature (CBCS System)

Course Code :EN 1641

Course Outcome

CO 1: Recognize the patriarchal bias in the formation of history and knowledge.
CO 2: Analyse the ways in which gender, race, ethnicity class, caste and sexuality construct the social, cultural and biological experience of both men and women in all societies.
CO 3: Recognize and use the major theoretical frames of analysis in gender studies
CO 4: CO 5: Interrogate the social constructions of gender and the limiting of the same in to the male-female binary in its intersections with culture, power, sexualities and nationalities
CO 5: Examine gender issues in relation to the sustainable goals of development

Course Name :Indian Writing in English

Programme Name : BA English Language And Literature (CBCS System)

Course Code: EN 1642

Course Outcome

CO 1: Make students aware of different aspects of colonization like cultural colonization.
CO 2: Trace the historical and literary genesis and development of Indian Writing in English
CO 3:Acquaint them with the major movements in Indian Writing in English across varied period and genres
CO 4: Address the plurality of literary and socio-cultural representations within Indian life as well as letters.
CO 5:Enhance the literary and linguistic competence of students by making them aware of how language works through literature written in the subcontinent

Course Name: Film Studies

Programme Name : BA English Language And Literature (CBCS System)

Course Code :EN 1643

Course Outcome

CO 1: Recognize the language of films and use it creatively.
CO 2: Analyze films from both technical and non-technical perspectives
CO 3: Engage questions of social justice and gender justice by critiquing representations of culture.
CO 4: Use film as a medium of communication
CO 5: Derive an interest in various careers related to film

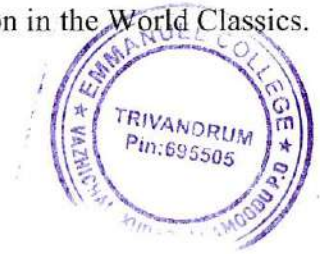
Course Name :World Classics

Programme Name : BA English Language And Literature (CBCS System)

Course Code:EN 1644

Course Outcome

CO 1: Understand the study of Classics as a means of discovery and enquiry into the formations of great literary works and how the rich imagery of these classical works continues beyond the twentieth century.
CO 2: Recognize the diversity of cultures and the commonalities of human experience reflected in the literature of the world.
CO 3: Imbibe a fair knowledge in the various Classical works from different parts of the world, at different time periods, across cultures.
CO 4: Examine oneself and one's culture through multiple frames of reference, including the perception of others from around the world.
CO 5: Develop and aesthetic sense to appreciate and understand the various literary works with a strong foundation in the World Classics.



Course Name: Translation Studies

Programme Name : BA English Language And Literature (CBCS System)

Course Code :EN 1661.1

Course Outcome

CO 1: Comprehend and practise the skills required to become a professional translator
CO 2: Help learners recognize the art involved in translation and encourage translation as a profession
CO 3: Acquire clarity regarding problems of translation
CO 4: Procure and improve language and vocabulary skills
CO 5: undertake an independent translation project.

Course Name :American Literature

Programme Name : BA English Language And Literature (CBCS System)

Course Code :EN 1661.2

Course Outcome

1. Instill a sense of the —Americannessl that characterizes American literature
2. Enable the students to place American literature within the corpus of world literature even while identifying its uniqueness.
3. Identify the themes and narratives particular to American literary expressions
4. Generate interest in a field of specialization
5. Enquire about the recent and more popular forms of literature.

Course Name: Creative Writing

Programme Name : BA English Language And Literature (CBCS System)

Course Code :EN 1661.3

Course Outcome

CO 1: Create a body of original creative works which exhibit basic elements of literary writing.
CO 2: Generate the ability to apply the creative as well as critical approaches to the reading and writing of literary genres.
CO 3: Critique and support the creative writing of peers in a guided workshop environment.
CO 4: Engage in literary output by identifying, analyzing and expressing socially sensitive and personally abstract themes and ideas.
CO 5: Gain expertize in providing critical readings of works of literary expressions.

Course Name: English for the Media

Programme Name : BA English Language And Literature (CBCS System)

Course Code:EN 1661.4

Course Outcome

CO 1: Generate interest in various aspects of media and thereby to equip them with the basic writing skills required for the same.
CO 2: Enable the students to take up jobs in the media industry- both in the print, broadcast and the new media.
CO 3: Equip the students with the necessary writing procedures so that they can initiate themselves into the media industry even without doing a specialized programme on the topic.
CO 4: Promote their writings with the help of the new media
CO 5: Instill confidence in learners to choose a profession in media.

Course Name:20th Century Regional Literatures in English Translation

Programme Name : BA English Language And Literature (CBCS System)

Course Code:EN 1661.5

Course Outcome

CO 1: Think creatively and critically within and beyond the singularity of regional literature
CO 2: Overcome language barrier in the appreciation of literature
CO 3: Equip to identify the uniqueness as well as the shared history of the regional literatures
CO 4: Engage in translating regional texts into English
CO 5: Be able to evaluate their own competences in translation and will be capable of selecting specialized translation courses for higher studies and also as profession.

Course Name: Copy Editing

Programme Name : BA English Language And Literature (CBCS System)

Course Code:EN 1661.6

Course Outcome

CO 1: Gain Through knowledge of the theoretical and practical knowledge of copy editing
CO 2: Copy-edit non–technical materials of moderate difficulty.
CO 3: Produce consistently well-organized written discourse.
CO 4: Find employment in the editing field as copy-editors, sub-editors and web editors.
CO 5: Help them find employment in the publishing field

PROGRAMME NAME: BA ENGLISH AND COMMUNICATIVE ENGLISH

PROGRAMME OUTCOMES

PO 1: Bring in a harmonious blend of sensitive knowledge production and skill development

PO 2: Simultaneous rendering of language use and literary manifestations for a holistic approach towards education.

PO 3: Develop knowledge competence in select thrust areas that would provide directions to the students in terms of research as well as career options

PO 4: Recognize the varied possibilities multiple disciplines offer in terms of knowledge creation and skill acquisition.

PO 5: Make the students aware of the formation of knowledge and the politics of the same. PO 6: Comprehend the current modes of writings - that which encompasses the issues related to power, race, caste, gender, ethnicity, climate change etc. and realize the role of literature in inculcating social sensitiveness

PO 7: Equip the students to identify and resist the socio cultural hegemonies and their literary representations through narratives of pluralities.

PO 8: Contribute to the realm of knowledge production with an increased intellectual, creative, critical and multidisciplinary capability.

PO 9: Enhance the skill attributes in the curriculum and help the students with the same in everyday praxis.

PO 10: Focus on specific vocational skills

PO 11: Address the requirements of the language use in a globalized context.

PO 12: Practice oriented approach for knowledge creation through skill enhancement

PO 13: Put into practice the theoretical, practical and performative elements within the learning of language and literature and connect it to the everyday realities of life and living.

PO 14: Equip the students to enhance their theoretical and practical wisdom to comprehend the regional requirements and contribute to the development of the society and economy.

PO 15: Imbibe a research-oriented approach to the study of humanities in connection with the basic understanding of social sciences to initiate a multidisciplinary approach of study.

SEMESTER I

Course Name: Introduction to Literary Studies

Programme Name: BA English and Communicative English

Course Code :CG 1141

Course Outcome

CO 1: Introduce varied literary representations.

CO 2: Comprehend the nature and characteristics of literature.

CO 3: Possess a foundational understanding of literary forms and representations

Course Name : Soft Skills

Programme Name : BA English and Communicative English

Course Code: CG 1171

Course Outcome

CO 1: Advance unique soft sills which is beneficial for a successful life and better career Performances

CO 2: Increase personal, social and professional skills

CO 3: Confront their surroundings enthusiastically with confidence

Course Name : English for Specific Purposes

Programme Name : BA English and Communicative English

Course Code: CG 1131

Course Outcome

CO 1: Understand ESP and differentiate English for General Purpose and English for Specific Purpose

CO2: Be able to speak and write English for various specific purposes

CO 3: Familiarize with the vocabulary and language of Business English, Technical English, Travel English, Medical English, Legal English, English for Logistics, BPO English

SEMESTER II

Course Name :**British Literature I**

Programme Name : **BA English and Communicative English**

Course Code :**CG 1241**

Course Outcome

CO 1: Comprehend the origins and development of British literature and understand the specific features of the particular periods

CO 2: Understand the major concerns, structure and style adopted by early British writers

CO 3: Gain knowledge of growth and development of British Literature in relation to the historical developments

Course Name :**Narratives of Resistance**

Programme Name : **BA English and Communicative English**

Course Code :**CG 1242**

Course Outcome

CO 1: Be able to identify themes of resistance in different forms and genres of literature and to identify injustices related to race, ethnicity, sexuality, gender etc. prevalent in society.

CO 2: Develop an idea of literature as a form of resistance to all forms of totalitarian authority.

CO 3: Understand the inter connection between various genres in manifesting resistance and how it becomes an undeniable presence in the everyday narratives of literary and other artistic expressions.

Course Name :**Narratives of Social Justice and Restitution**

Programme Name : **BA English and Communicative English**

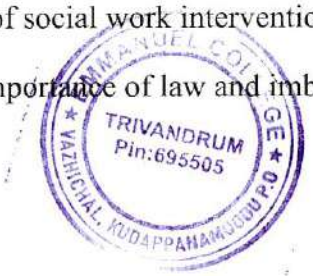
Course Code :**CG 1271**

Course Outcome

CO 1: Make students cognizant regarding pressing social issues and to apply language skills, knowledge, and social skills to identify and defend human rights violations.

CO 2: Acquire skills of social work intervention in human needs and societal issues.

CO 3: Consider the importance of law and imbibe a clear set of values which informs the social work practice.



Course Name **:Language for the Media**

Programme Name **: BA English and Communicative English**

Course Code **:CG 1231**

Course Outcome

CO1: Develop specific language skills for various media

CO2: Comprehend the trends and evolution of language use in media

CO3: Understand the role and use of language in the evolutionary history of medias

SEMESTER III

Course Name **:Evolution of the English Language**

Programme Name **: BA English and Communicative English**

Course Code **:CG 1321**

Course Outcome

CO 1: Knowledge of the paradigm shifts in the development of English.

CO 2: Imbibe the plural socio cultural factors that went in to the shaping of the English Language.

CO 3: Recognize the politics of many 'Englishes'

Course Name **:British Literature II**

Programme Name **: BA English and Communicative English**

Course Code **:CG 1341**

Course Outcome

CO 1: Sensitize students to the changing trends in British literature in the 18th and 19th centuries and connect it with the sociocultural and political developments.

CO 2: Develop the critical thinking necessary to discern literary merit and to recognize paradigm shifts in literary representations.

CO 3: Connect literature to the historical developments that shaped the British history.

Course Name **:Popular Literature**

Programme Name **: BA English and Communicative English**

Course Code **:CG 1342**

Course Outcome

CO 1: Understand the categories of the —popular and the —canonical

CO 2: Identify the conventions, formulas, themes and styles of popular genres such as detective fiction, the science fiction and fantasy, and children's literature and assess the literary and cultural formation of the popular.

CO 3: Sensitize students to the ways in which popular fiction reflects and engages with questions of gender, identity, ethics and education.

Course Name **:Translation Studies**

Programme Name **: BA English and Communicative English**

Course Code **:CG 1371**

Course Outcome

CO1: To appreciate Translation Studies as an independent academic discipline

CO2: To critically reflect on the process of translation and its types

CO3: To build a genuine interest and to focus on a career in the field of translation

Course Name **:Environment Studies and Disaster Management**

Programme Name **: BA English and Communicative English**

Course Code **:CG 1331**

Course Outcome

CO1: understand environmental crises and disaster management situations

CO2: take lead in spreading environmental values and creating awareness among the public

CO 3: respond in a better way to a natural calamity or disaster and articulate environmental concerns using appropriate vocabulary

SEMESTER IV

Course Name **:20th Century World Literature**

Programme Name **: BA English and Communicative English**

Course Code **:CG 1441**

Course Outcome

CO 1: Get acquainted with varied socio-cultural and political experiences and expressions.

CO 2: Gain a theoretical grounding to read literatures in English from different regions and accept the fact that world literature is literature that gains in translation.

CO 3: Learn to avoid homogenising cultures and languages and protect the diversity of languages and cultures present in literary works.

Course Name **:Twentieth Century Malayalam Literature in Translation**

Programme Name **: BA English and Communicative English**

Course Code **:CG 1442**

Course Outcome

CO 1: Discern the varied milieu of the development and growth of Malayalam literature and be sensitive to its socio cultural and political implications.

CO 2: Get a basic knowledge of the literary and the non-literary works produced in Malayalam and the politics of its plurality.

CO 3: Sense the distinctness of the socio-cultural- political arena in which Malayalam literature developed.

Course Name **:Language Editing and Publishing**

Course Code **:CG 1471**

Course Outcome

CO 1: Students must be able to identify the different steps and stakeholders involved in the editorial process

CO 2: Acquire a working knowledge of the mechanics of editing and proof reading and utilize the same on a practical level to create error-free, well edited texts

CO 3: Be sensitized to the legal aspects involved in editing and publishing and find gainful employment in the editing and publishing industry

Course Name : Content Writing

Programme Name : BA English and Communicative English

Course Code :CG 1472

Course Outcome

CO 1: Understand what content writing is and attain an awareness of its scope.

CO2: Gain familiarity with various digital platforms and the formats of online publications.

CO3: Strengthen content writing skills through practice tasks and gain an awareness about style and specifications in digital media platforms.

Course Name :Literatures of Travel and Tourism

Programme Name : BA English and Communicative English

Course Code :CG 1431

Course Outcome

CO1: Familiar with various forms of travel writing.

CO2: Able to effectively produce content using them.

CO3: Acquire language proficiency for professional opportunities and academic settings related to Travel and Tourism.

SEMESTER V

Course Name :Film Studies

Programme Name : BA English and Communicative English

Course code :CG 1541

Course Outcome

CO 1: Recognize the language of films and use it creatively.

CO 2: Analyze films from both technical and non-technical perspectives

CO 3: Use film as a medium of communication and derive an interest in various careers related to film

Course Name :Indian Literature

Programme Name : BA English and Communicative English

Course code :CG 1542

Course Outcome

CO 1: Trace the historical and literary genesis and development of Indian Writing in EnglishCO2: Comprehensive understanding of the major movements in Indian Writing in English across

varied periods and genres

CO 3: Address the plurality of literary and socio-cultural representations within Indian life as

well as letters.

Course Name :Criticism and Theory

Programme Name : BA English and Communicative English

Course code :CG 1543

Course Outcome

CO 1: Analyze and appreciate texts critically, from different perspectives and methodologies

CO 2: Appreciate Indian Aesthetics and find linkages between Western thought and Indian

critical tradition.

CO 3: Gain a critical and pluralistic understanding and perspective of life

Course Name :Theatre Studies

Programme Name : BA English and Communicative English

Course code :CG 1571

Course Outcome

CO1: Develop a culture of theatre in students

CO2: Help students in applying theories and contexts in play texts

CO3: Enhance creativity in students by helping them in the production of a play

Course Name :English Language Teaching

Programme Name : BA English and Communicative English

Course code :CG 1572

Course Outcome

CO1: Understand the theoretical basis of language teaching, and apply it to the actual teaching process

CO2: Be able to assess critically the implications of the various approaches, methods, techniques

CO3: Have the ability to develop material for teaching, to plan lessons and conduct them effectively

Course Name **:Language for Advertising and Marketing**

Programme Name **: BA English and Communicative English**

Course code **:CG 1573**

Course Outcome

CO 1; Prepare a primary advertising model

CO 2: Application of skills.

CO 3: To give students an appreciation of Advertising and Marketing Communications development focusing on the CLIENT's perspective

Course Name **:English for Communication**

Programme Name **: BA English and Communicative English**

Course code **:CG 1551.1**

Course Outcome

CO 1: Learners majoring in some subject other than English will have a working knowledge of the type of English that is required in real life situations, especially the globalized workplace.

CO 2: Well trained to write clear, well-framed, polite but concise formal letters and e-mails for a variety of purposes

CO 3: Acquire some of the soft-skills that go hand in hand with English –namely, the ability to prepare for an interview and face it confidently, the ability to participate boldly a group discussion and contribute meaningfully to it, the ability to make a simple and interesting presentation of 5-10 minutes before a mixed audience on anything that they have learnt in the previous semesters of the UG programme

Course Name **: Film Appreciation**

Programme Name : BA English and Communicative English

Course code :CG 1551.2

Course Outcome

CO 1: Decipher the meaning of a movie

CO 2: Watch, understand and analyze films from a critical perspective

CO 3: Equip them to be resourceful to find a career in areas related to film

SEMESTER VI

Course Name :Gender Studies

Programme Name : BA English and Communicative English

Course code :CG 1641

Course Outcome

CO 1: Analyse the ways in which gender, race, ethnicity class, caste and sexuality construct the social, cultural and biological experience of both men and women in all societies.

CO 2 : Interrogate the social constructions of gender and the limiting of the same in to the malefemale binary in its intersections with culture, power, sexualities and nationalities

CO 3: Recognize and use the major theoretical frames of analysis in gender studies in relation to the sustainable goals of development

Course Name :Linguistics and Structure of English Language

Programme Name : BA English and Communicative English

Course code :CG 1642

Course Outcome

CO 1: Be able to analyse actual speech in terms of the principle of linguistics

CO 2: Improve the accent and pronunciation of the language

CO 3: Introduce the students to internationally accepted forms of speech and writing in English

Course Name :Screen Writing and Subtitling

Programme Name : BA English and Communicative English

Course code :CG 1671

Course Outcome

CO1: Understand the concepts and techniques of scriptwriting and subtitling

CO2: Undertake writing scripts to build a genuine interest in the field and focus on a career in screenwriting.

CO3: Analyse the audio-visual material provided and overcome the challenges in translating cultural symbols in the source language.

Course Name :Public Relations and Corporate Communication

Programme Name : BA English and Communicative English

Course code :CG 1672

Course Outcome

CO 1: Produce effective, sensitive and ethical public relation and communication skills beneficial to the institution.

CO 2: Conduct public relation campaigns through press releases and other interactive methods with special focus on corporate communication.

CO 3: Help them find employment in the public/corporate sector.

Course Name :Proof Reading and Copy Editing

Programme Name : BA English and Communicative English

Course code :CG 1661.1

Course Outcome

CO 1: Gain Through knowledge of the theoretical and practical knowledge of copy editing

CO 2: Copy-edit non–technical materials of moderate difficulty and produce consistently wellorganized written discourse.

CO 3: Find employment in the editing field as copy-editors, sub-editors and web editors.

Course Name :Professional Communication Practice

Course code :CG 1661.2

Course Outcome

CO 1: Develop the skill ecosystem of the students

CO 2: Mold ethical consciousness

C O 3: Be able to meet the demands of the industry and professional options

Course Name **:Academic Writing**

Programme Name **: BA English and Communicative English**

Course code **: CG 1661.3**

Course Outcome

CO1: Comprehend the concept of academic writing

CO2: Improve academic writing skills

CO3: Learn to become responsible scholars

CO4: Undertake research writing and documentation with better perception

PROGRAMME NAME: MA ENGLISH LANGUAGE AND LITERATURE

PROGRAMME OUTCOMES

The student will be able

• to demonstrate the ability to engage critically with a wide range of selected texts by offering interpretations and evaluations from multiple theoretical perspectives

• to develop awareness about pertinent socio-cultural issues related to gender discrimination, environmental awawreness, human rights and so on through the discussion of texts

• to demonstrate an understanding of the formal structure of the various genres of literature

• to show an awareness of the literariness of literary language

• to demonstrate the ability to analyze and explain the complexities and subtleties of human experience as reflected in literary and cultural texts

• to be able to relate the socio-politico-historical context to the evolution of the forms, styles, and themes of texts

• to demonstrate the academic and language skills necessary to do independent, innovative research

• to show they have understood contemporary pedagogic principles and practices in teaching both language and literature

• to demonstrate an ability to communicate effectively in a variety of language situations

SEMESTER 1

Course Name : British Literature I

Course code :EL.511

Course Outcome

CO 1: Comprehended the various socio-political and literary movements from the Anglo-Saxon

to the age of Transition.

CO 2: Identified the writers and their works of the period from Anglo-Saxon to the age of Transition.

CO 3: Analysed the characteristic literary styles of the essayists, dramatists, and writers from Anglo-Saxon to the age of Transition.

Course Name :British Literature II

Course code :EL.512

Course Outcome

The students would have
CO 1: comprehended the various socio-political and literary movements from the Romantic Age period to 20 th century.
CO 2: identified the writers and their works of the period from Romantic Age period to 20 th century.
CO 3: analysed the characteristic literary styles of the essayists, dramatists, and writers from Romantic Age period to 20th century.

Course Name :Shakespeare Studies

Course code :EL.513

Course Outcome

The students would have
CO 1: gained competence to critically analyse the selected plays and sonnets of Shakespeare.
CO 2: gained an understanding of the critical perspectives on Shakespeare.
CO 3: developed an overview of Shakespeare performances and adaptations and their influence on English language and literature through the ages

Course Name :Language Studies

Course code :EL.514

Course Outcome

The students would have
CO 1: understood the basic concepts, branches and history of linguistics.

CO 2: learned to describe and analyze language units based on their phonological, morphological and syntactical features
CO 3: learned to explain the transformation of sentences based on TG grammar
CO 4: gained competence to use language effectively with a conscious understanding of its features, syntactic structures and uses

SEMESTER II

Course Name **:World Literatures I**

Course code **:EL.521**

Course Outcome

The students would have
CO 1: Recognised the various socio-cultural and political experiences and expressions seen in world literatures
CO 2: Learned the theoretical grounding to read literatures in English from different regions
CO 3: Recognised the ways in which transcultural flows affect the readings of texts across social and historical borders
CO 4: Analysed the discursive reach of English in shaping imaginative journeys across continents
CO 5: gained an understanding through reading, discussion and writing about literatures in different genres

Course Name **:Literatures of India**

Programme Name **: MA English Language and literature**

Course code **:EL.522**

Course Outcome

The students would have
CO1: learned to distinguish the theoretical positions that present Indian literature as an essentialist category
CO2: identified the category of ' Literatures of India' in relation to the emerging discourses of nation, marginality, region, and resistance
CO3: learned to interpret the reading of literatures of India in vernacular ways through insightful critical perceptions
CO4: understood the role of translation in the making and unmaking of literary traditions

Course Name **:GENDER STUDIES**

Programme Name **: MA English Language and literature**

Course code **:EL.523**

Course Outcome

The students would have
CO 1: Interrogated and analyzed gendered performance and power in a range of social spheres.
CO2: analyzed patriarchal socio-political-historic structures and cultural representations and discourses
Co 3: Explored and deepened their gender-related perspectives on gender laws, activism, policy/advocacy.
CO 4: Arrived at critically informed readings of literary texts and cultural practices with an understanding of the politics of gender
Co 5: understood the positioning of intersectional gender identities in the process of development.

Course Name **:CRITICAL STUDIES I**

Programme Name **: MA English Language and literature**

Course code **:EL.524**

Course Outcome

The students would have

CO 1: critically analysed literary and cultural texts using the foundational concepts

explored in this course.

CO 2: gained the critical acumen to negotiate contested knowledge systems.

CO 3: learned to steer the theoretical paradigms and unsettle disciplinary boundaries.

SEMESTER III

Course Name **:World Literatures II**

Programme Name **: MA English Language and literature**

Course code **:EL.531**

Course Outcome

The students would have
CO 1: Recognised the various socio-cultural and political experiences and expressions seen in world literatures
CO 2: Learned the theoretical grounding to read literatures in English from different regions
CO 3: Recognised the ways in which transcultural flows affect the readings of texts across social and historical borders
CO 4: Analysed the discursive reach of English in shaping imaginative journeys across continents
CO 5: gained an understanding through reading, discussion and writing about literatures in different genres by writers who have significantly influenced World Literatures

Course Name **:Critical Studies II**

Programme Name **: MA English Language and literature**

Course code **:EL.532**

Course Outcome

The students would have
CO 1: understood new directions that inform the terrain of contemporary critical theory.
CO 2: attained the reflexivity to engage with theory and critical practices
CO 3: gained critical acumen to pursue interdisciplinary academic interests

8.6.22
Lekshmi Vijayanathan

EMMANUEL COLLEGE TRIVANDRUM Pin:695505 VAZHICHAL, KUDAPPANAMOODU P.O

8/6/22
Principal
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Thiruvananthapuram-695505

EMMANUEL COLLEGE

VAZHICHAL, THIRUVANANTHAPURAM

A Latin Catholic Institution | Affiliated to the University of Kerala

Department wise POs and COs

Name of Department: Computer Science

Programme Outcomes(POs)

PO1:Disciplinary knowledge: Apply the knowledge of mathematics, science, computing fundamentals to the solution of complex engineering problems.

PO2:Communication: Communicate effectively on complex computing activities with the tech community and with society as being able to comprehend and write effective reports and design documentations, make presentations, give and receive instructions.

PO3:Critical Thinking: Understand the economic, legal, and social issues surrounding the use of information, and access and use information ethically and legally.

PO4: Problem Solving: Select and use appropriate concepts and methods from a variety of disciplines to solve problems effectively and creatively.

PO5:Analytical Reasoning: Use of critical and observatory skills to analyze a situation.

PO6:Research Related Skills: A systematic approach to work and problem solving.

PO7:Cooperation and teamwork: Function effectively as a member or leader in diverse teams, and in multidisciplinary settings.

PO8: Scientific Reasoning: Able to analyze a problem that involves content, procedural, and epistemic knowledge.

PO9: Reflective Thinking: Able to understand your own experiences to embrace new challenges and improve competencies.

PO10: Digital Literacy: Able to search, find, evaluate, and compose clear information through typing, writing, tapping, and by using other mediums.

PO11: Self Directed Learning: Able to know or learn something without having to take a formal lesson or course.

PO12: Multicultural Competence: Able to deal with cross culture and to identify diverse cultural identities.

PO13: Moral Reasoning: Moral reasoning applies critical analysis to specific events to determine what is right or wrong, and what people ought to do in a particular situation.

PO14: Leadership Readiness: Assesses the personal attributes and competencies critical to success in supervisory and managerial positions.

PO15:Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAMME NAME: BSc Computer Science

COURSE OUTCOMES- SCHEME 2021

Semester 1

Course Code: CS1121
Course Name: COMPUTER FUNDAMENTALS AND PROGRAMMING IN C

COURSE OUTCOMES:
CO1: Remember the basics of computer
CO2: Understand the structure of program writing
CO3: Apply control structures and pointers
CO4: Analyze user defined functions
CO5: Understand dynamic memory allocation
CO6: Understand string handling functions

Course Code: CS1132
Course Name: DIGITAL ELECTRONICS

COURSE OUTCOMES:
CO1: Remember the basic concepts of electronics
CO2: Familiarise the concept of different number systems
CO3: Understanding the properties of logic gates
CO4: Apply different techniques and theorems to simplify the sop forms
CO5: Analyse the characteristics of different combinational logic circuits.

Course Code: CS1122
Course Name: VALUE EDUCATION

COURSE OUTCOMES:
CO1: Remember the basic concepts on NSS and NCC
CO2: Understand the impacts of disaster management in different environments.
CO3 Understand the features of Constitution of India

Course Code: EN 1111.4
Course name: LANGUAGE SKILLS

COURSE OUTCOMES:
CO 01: The students can acquire basic learning skills.
CO 02: The students can understand interactive skills.
CO 03: The students can explain literary works.
CO 04: The students can improve their employability quotient

Course code: MM1131.10
Course Name: Calculus and Number Theory

COURSE OUTCOMES:
CO 01: Ability to apply differentiation to solve problem

CO 02: Ability to apply differential equation to solve problem
CO 03: Ability to apply the concept of set theory
CO 04: Able to formulate problems and solve recurrence relations

Course Code: CS1141
Course Name: C PROGRAMMING LAB

COURSE OUTCOMES:
CO1: Remember the basics of computer
CO2: Understand the structure of program writing
CO3: Apply control structures and pointers
CO4: Analyze user defined functions
CO5: Understand dynamic memory allocation
CO6: Understand string handling functions

Course Code:CS1133
Course Name: DIGITAL ELECTRONICS LAB

COURSE OUTCOMES:
CO1: Remember the basic concepts of electronics
CO2: Familiarise the concept of different number systems
CO3: Understanding the properties of logic gates
CO4: Apply different techniques and theorems to simplify the sop forms
CO5: Analyse the characteristics of different combinational logic circuits.

Semester 2

Course Code: CS1221
Course Name: ENVIRONMENTAL STUDIES

COURSE OUTCOMES
CO1: Understand environmental systems
CO2: Understand the biodiversity and conservation concepts
CO3: Remember concepts of biodiversity and conservations
CO4: Understand natural systems and resources
CO5: Apply pollution management techniques

Course Code: CS1241
Course Name: DATA STRUCTURES

COURSE OUTCOMES:
CO1: Remember purpose of Data Structures
CO2: Understand different Data Structures
CO3: Apply programming languages
CO4: Analyze working of different data structures
CO5: Evaluate expressions
CO6: Create different Data Structures

Course Code :CS1242
Course Name: COMPUTER ARCHITECTURE AND MICROPROCESSORS

COURSE OUTCOMES:
CO1: Remember the basic concepts of computers.
CO2: Understand the functional units of a standard PC and its working.
CO3: Understand the architectural features of 8086 processor.
CO4: Create assembly language programs for 8086 processor.
CO5: Apply the tools debug, TASM/ MASM.

Course Code : EN 1211.4
Subject Name : English for Career

COURSE OUTCOME
CO 01: Acquire the necessary language skills required in the competitive job market.
CO 02: Acquire the cognitive, logical, analytical and verbal skills necessary to succeed in competitive examinations
CO 03: Become familiar with the pattern of questions usually asked in the competitive examinations
CO 04: Get sufficient practice in Vocabulary, Grammar, Comprehension and Remedial English
CO 05: Be able to prepare for and be successful in competitive examinations.

Course Name: DISCRETE MATHEMATICS
Course Code: MM1231.10

COURSE OUTCOMES
CO 01: Ability to apply propositional logic to solve problem
CO 02: Ability to apply predicate logic to solve problem
CO 03: Ability to apply the concept of set theory
CO 04: Able to formulate problems and solve recurrence relations

Course Code:CS1243
Course name: DATA STRUCTURES LAB

COURSE OUTCOMES:
CO1: Remember purpose of Data Structures
CO2: Understand different Data Structures
CO3: Apply programming languages
CO4: Analyze working of different data structures
CO5: Evaluate expressions
CO6: Create different Data Structures

CS1244 : ASSEMBLY LANGUAGE PROGRAMMING LAB

COURSE OUTCOMES:
CO1: Remember the basic concepts of computers.
CO2: Understand the functional units of a standard PC and its working.
CO3: Understand the architectural features of 8086 processor.
CO4: Create assembly language programs for 8086 processor.
CO5: Apply the tools debug, TASM/ MASM.

Semester 3

CS1341: PROGRAMMING IN JAVA

COURSE OUTCOMES:
CO1: Understand the java programming and oops concepts.
CO2: Understand the concepts of Interface, exception handling, threading, and package
CO3: Understand the basic concepts of Applet, Networking.
CO4: Idea to approach and use a new package.

CS1342: SOFTWARE ENGINEERING

COURSE OUTCOMES:
CO1 Understand the importance of having a process for software development.
CO2 Familiarize with various software testing techniques and tools.
CO3 Apply various models in the software development projects.
CO4 Analyze the process of software development

CS1343: OPERATING SYSTEMS

COURSE OUTCOMES:
CO1 Understand working of various Operating Systems
CO2 Apply constrained resource allocation, process scheduling and memory management techniques
CO3 Evaluate synchronization of processes and protection of an Operating System
CO4 Analyze salient features available to various Operating Systems

CS1344: DATABASE MANAGEMENT SYSTEMS

COURSE OUTCOMES:
CO1 Understand the concept of database.
CO2 Develop skills to design an ER diagram.
CO3 Create database using SQL and perform operations in SQL.
CO4 Familiarize the management of concurrent transactions.
CO5 Apply the design concepts and normalization in database easily.

CS1345 : DESIGN AND ANALYSIS OF ALGORITHMS

COURSE OUTCOMES:
CO1. Develop and analyze new algorithms.
CO2. Analyze the complexity of algorithms
CO3. Understand good algorithms among multiple solutions for a problem.
CO4. Have better knowledge on fundamental strategies of algorithm design and awareness on algorithm design strategies
CO5. Implement some typical algorithms

CS1346: JAVA PROGRAMMING LAB

COURSE OUTCOMES:
CO1: Understand the java programming and oops concepts.
CO2: Understand the concepts of Interface, exception handling, threading, and package
CO3: Understand the basic concepts of Applet, Networking.
CO4: Idea to approach and use a new package.

CS1347 : DBMS Lab

COURSE OUTCOMES:
CO1 Understand the concept of database.
CO2 Develop skills to design an ER diagram.
CO3 Create database using SQL and perform operations in SQL.
CO4 Familiarize the management of concurrent transactions.
CO5 Apply the design concepts and normalization in database easily.

Semester 4

CS1441 : SYSTEM SOFTWARE

COURSE OUTCOMES:
CO1 Understand different System Software.
CO2 Analyze SIC machine architecture with its instruction sets and capable to do programing. Illustrate machine dependent, independent assemblers and macro processors.
CO3 Remember the functions of loaders, linkers and illustrate machine dependent loaders and independent loaders.
CO4 Understand the functions of compilers and illustrate the machine dependent and independent compilers.

CS1442 : WEB PROGRAMMING AND PHP

COURSE OUTCOMES:
CO1 Understand the basic skills in moderately complex use of the following tools/scripts/languages: HTML, DHTML, CSS, Javascript.
CO2 Apply the appropriate web tools/languages for creating state-of-the art websites
CO3 Understand the current trends and styles in web design and applications
CO4 Apply PHP in web designing

CS1443 :COMPUTER NETWORKS AND SECURITY

COURSE OUTCOMES:
CO1 Remember various network technologies, design issues and characteristics
CO2 Understand the purpose of computer networks and the basic issues in information security
CO3 Apply the use of layer architecture for networking systems, information security measures
CO4 Analyze the concept of different models of network and the working of various ciphers
CO5 Evaluate data link controls and Information Security policies
CO6 Create awareness on different networking protocols and information security policies

CS1444: COMPUTER GRAPHICS

COURSE OUTCOMES:
CO1 Compare various graphics devices
CO2 Apply various transformations to 2D and 3D graphics objects
CO3 Analyze algorithms for clipping
CO4 Classify various projections of 3D objects
CO5 Explain current trends in computer graphics

CS1445: MINOR PROJECT

COURSE OUTCOMES:
CO1 Plan and Estimate a Project
CO2 Design and Analysis of a Problem
CO3 Coding / Implementation of a Software

CS1446: COMPUTER GRAPHICS LAB

COURSE OUTCOMES:
CO1 Compare various graphics devices
CO2 Apply various transformations to 2D and 3D graphics objects
CO3 Analyze algorithms for clipping
CO4 Classify various projections of 3D objects
CO5 Explain current trends in computer graphics

CS1447: WEB PROGRAMMING AND PHP LAB

COURSE OUTCOMES:
CO1 Understand the basic skills in moderately complex use of the following tools/scripts/languages: HTML, DHTML, CSS, Javascript.
CO2 Apply the appropriate web tools/languages for creating state-of-the art websites
CO3 Understand the current trends and styles in web design and applications
CO4 Apply PHP in web designing

Semester 5

CS1541: PYTHON PROGRAMMING

COURSE OUTCOMES:
CO1 Remember the concepts of python programming
UC O 2 Understand data types and differences
CO3 Apply CGI programming
CO4 Analyze the concepts of database programming in python
CO5 Evaluate the usage of Python package installer PIP
CO6 Create programs using libraries such as Flask, SQL Alchemy, Pandas, Numpy etc.

CS1542 : ARTIFICIAL INTELLIGENCE

COURSE OUTCOMES:
CO1 Remember features of AI and knowledge-based systems
CO2 Understand basic parsing techniques
CO3 Apply search and control strategies
CO4 Understand expert systems
CO5 Evaluate the performance of various searching algorithms
CO6 Evaluate different knowledge representation schemes

CS1543 : FREE AND OPEN SOURCE SOFTWARES (FOSS)

COURSE OUTCOMES:

CO1 Remember FOSS concepts, features
CO2 Understand Linux OS
CO3 Apply shell programming
CO4 Analyze various Linux commands
CO5 Evaluate conditional and looping statements
CO6 Create user defined function

OPEN COURSES
CS1551.1 : DIGITAL MARKETING

COURSE OUTCOMES:
CO1 Understand different digital marketing types
CO2 Understand the main concepts and key technologies of digital marketing.
CO3 Remember the concept of e-banking, cyber security
CO4 Analyze the evolution of digital marketing from the existing technologies.
CO5 Analyze services using digital marketing

CS 1551.2 : INTERNET AND WWW

COURSE OUTCOMES:
CO1 To **understand** the basic concepts of Networks.
CO2 To **learn** the working of Internet.
CO3 To **analyse** different search engines and its working
CO4 To **familiarise** Network Protocols and WWW.

CS 1551.3 : IMPACT OF SOCIAL MEDIA NETWORKS

COURSE OUTCOMES:
CO1 To understand the types of social media networks and its uses.
CO2 To learn the impact of social media on society& commerce
CO3 To analyse the impact of social media on work, training & development and on relationships
CO4 To familiarize challenges of social media in terms of privacy, security & Health

ELECTIVES
CS 1561.1: OBJECT ORIENTED ANALYSIS AND DESIGN

COURSE OUTCOME:
CO1 **Remember** object oriented features
CO2 **Understand** Object Oriented System Development
CO3 **Apply** Unified Approach
CO4 **Analyze** various UML diagrams
CO5 **Evaluate** objects static and dynamic model
CO6 **Create** UML diagrams for any system

CS 1561.2 :EMBEDDED SYSTEMS

COURSE OUTCOMES:
CO1 To understand the basic concepts of Embedded System.
CO2 To familiar with the architecture of Embedded System.
CO3 To understand the Embedded Operating system and Programming languages.

CO4 To analyze the process of Embedded Software Development process.
CO5 To familiarize the various applications of Embedded System.

CS 1561.3 : CLOUD COMPUTING

COURSE OUTCOMES:
CO1 Remember the basics of cloud computing
CO2 Understand the main concepts and key technologies of cloud computing.
CO3 Apply the concept of virtualization in the cloud computing
CO4 Analyze the evolution of cloud from the existing technologies.
CO5 Evaluate and choose the technologies for implementation and use of cloud.
CO6 Create services using cloud computing

CS1544 : PYTHON PROGRAMMING LAB

COURSE OUTCOMES:
CO1 Remember the concepts of python programming
CO2 Understand data types and differences
CO3 Apply CGI programming
CO4 Analyze the concepts of database programming in python
CO5 Evaluate the usage of Python package installer PIP
CO6 Create programs using libraries such as Flask, SQL Alchemy, Pandas, Numpy etc..

CS 1545 : FREE and OPEN SOURCE SOFTWARE (FOSS) LAB

COURSE OUTCOMES:
CO1 Remember FOSS concepts, features
CO2 Understand Linux OS
CO3 Apply shell programming
CO4 Analyze various Linux commands
CO5 Evaluate conditional and looping statements
CO6 Create user defined function

Semester 6

CS1641 : DATA ANALYTICS

COURSE OUTCOMES:
CO1 Remember purpose of data analytics
CO2 Understand the principles and tools of data analytics
CO3 Apply different analytical theories and methods
CO4 Analyze text data

CS1642 :Internet of Things (IoT)

COURSE OUTCOMES:
CO1 **Remember** the purpose of computer networks and its developments

CO2 **nderstand** various network technologies, design issues and characteristics
CO3 **Apply** the use of layer architecture for networking systems
CO4 **Analyze** the working of different models of network and data
CO5 **Ecovmalmuautnei** cdaattiao nli nk controls
CO6 **Create** different networking protocols

CS1643 : CYBER SECURITY

COURSE OUTCOMES:
CO1 Understand the features, development and use of information systems
CO2 Identify the various types of information system risks, threats and pitfalls.
CO3 Analyze the security approaches applied.
CO4 Compare the approaches in the context of achieving security goals.
CO5 Create awareness about cyber laws and cybercrimes and cyber ethics.

ELECTIVES
CS1661.1 : MACHINE LEARNING

COURSE OUTCOMES: CO1 Remember applications of machine learning
CO2 Understand different learning techniques
CO3 Apply clustering of raw data
CO4 Analyse the performance of classification methods
CO5 Evaluate hierarchical methods
CO6 Create a semi supervised learning model

CS1661.2 : BLOCKCHAIN TECHNOLOGY

COURSE OUTCOMES :
CO1 **Understand** the concepts behind Blockchain technology
CO2 **Analyze** the challenges in practical uses
CO3 **Evaluate** the various implementation criteria
CO4 **Remember** the new components of Blockchain technology

CS1661.3 : DIGITAL MARKETING

COURSE OUTCOMES:
CO1 Understand different digital marketing types
CO2 Understand the main concepts and key technologies of digital marketing.
CO3 Remember the concept of e-banking, cyber security
CO4 Analyze the evolution of digital marketing from the existing technologies.
CO5 Analyze services using digital marketing

CS1644: MAJOR PROJECT

COURSE OUTCOMES:
CO1: CREATE an industry-standard project through a real-life project work under time and deliverable constraints, applying the knowledge acquired through various courses.
CO2: To provide an opportunity to apply the knowledge gained through various courses in solving a real life problem

CO3: To provide an opportunity to practice different phases of software/system development lifecycle
CO4 : To introduce the student to a professional environment and/or style typical of a global IT industry
CO5 : To provide an opportunity for structured team work and project management
CO6 : To provide an opportunity for effective, real-life, technical documentation
CO7 : To provide an opportunity to practice time, resource and person Management

SCHEME 2018

SEMESTER ONE

CS1121: COMPUTER FUNDAMENTALS AND ORGANIZATION

COURSE OUTCOMES:
CO1: To get the functional knowledge about PC hardware, operations and concepts.
CO2: To understand the functional units of a standard PC and it's working.
CO3: To understand the memory organization in a computer.

CS1131: DIGITAL ELECTRONICS

COURSE OUTCOMES:
CO1: To review basic electronic concepts
CO2: To review data representation techniques
CO3: To introduce student to basic concepts of digital logic
CO4: To introduce the design of basic logical circuits.

CS1141: INTRODUCTION TO PROGRAMMING

COURSE OUTCOMES:
CO1: To expose students to algorithmic thinking and algorithmic representations.
CO2: To introduce students to basic data types and control structures in C.
CO3: To introduce students to structured programming concepts.
CO4: To introduce students to standard library functions in C language.

CS1142: C PROGRAMMING LAB

COURSE OUTCOMES:
CO1: To expose students to algorithmic thinking and algorithmic representations.
CO2: To introduce students to basic data types and control structures in C.
CO3: To introduce students to structured programming concepts.
CO4: To introduce students to standard library functions in C language.

CS1132: DIGITAL ELECTRONICS LAB

COURSE OUTCOMES:
CO1: To review basic electronic concepts
CO2: To review data representation techniques
CO3: To introduce student to basic concepts of digital logic

CO4: To introduce the design of basic logical circuits.

SEMESTER TWO

CS1221: ENVIRONMENTAL STUDIES

COURSE OUTCOMES:

CO1:To impart the knowledge on the environmental systems
CO2:To impart the knowledge on the biodiversity and conservations
CO3:To impart the knowledge on the environmental pollution and policies and practices
CO4:To impart the knowledge on the impact of human communities on the environments

CS1241: DATA STRUCTURES IN C

COURSE OUTCOMES:

CO1: Be able to write well-structured programs in C
CO2: Be familiar with data structures like array, structures, lists, stacks, queues, trees and graphs
CO3: Able to appreciate various searching and sorting strategies

CS1242: WEB PROGRAMMING

COURSE OUTCOMES:

CO1:To impart basic skills in moderately complex use of the following tools/scripts/languages: HTML, DHTML, Perl, CSS, Javascript.
CO2: To impart necessary ability to choose the appropriate web tools/languages for creating state-of-the art websites
CO3: To Expose students to current trends and styles in web design and applications

CS1243: DATA STRUCTURES LAB

COURSE OUTCOMES:

CO1: Be able to write well-structured programs in C
CO2: Be familiar with data structures like array, structures, lists, stacks, queues, trees and graphs
CO3: Able to appreciate various searching and sorting strategies

CS1244: WEB PROGRAMMING LAB

COURSE OUTCOMES:

CO1:To impart basic skills in moderately complex use of the following tools/scripts/languages: HTML, DHTML, Perl, CSS, Javascript.
CO2: To impart necessary ability to choose the appropriate web tools/languages for creating state-of-the art websites
CO3: To Expose students to current trends and styles in web design and applications

SEMESTER THREE

CS1341: PROGRAMMING IN JAVA

COURSE OUTCOMES:

CO1: Let students install and work with JDK, also make them aware the use of java doc.

CO2: Practice basic data types, operators and control structures in Java

CO3: Practice basic handling of classes and objects in Java

CO4: Introduce the following selected APIs: I/O, Strings, Threads, AWT, Applet, Networking

CO5: Idea to approach and use a new package

CS1342: SOFTWARE ENGINEERING

COURSE OUTCOMES:

CO1: Understand the importance of basic processes in software Development life cycle.

CO2: Understand the various activities incorporate with different models and know their significance.

CO3: Familiarize the requirements in engineering and systematic approach in classical software design and development techniques.

CO4: Familiarize with various software testing techniques and tools.

CS1343: OPERATING SYSTEMS

COURSE OUTCOMES:

CO1: Fundamental concepts of systems software and functions of operating systems as a resource manager

CO2: Strategies for constrained resource allocation and process scheduling

CO3: Memory and I/O Management techniques

CO4: Salient features of popular operating systems.

CS1344: VALUE EDUCATION

COURSE OUTCOMES:

CO1: To explore the idea on national integration and importance humanitarian values on national calamities like disaster management.

CO2: To impart knowledge on the importance of organ donation and social welfares

CS1345: DATABASE MANAGEMENT SYSTEMS

COURSE OUTCOMES:

CO1: Be aware of basic concepts of data bases and data base management systems

CO2: Be aware of concepts of relational data bases.

CO3: Know to normalize relational data bases

CO4: Skilled in using relational algebra and relational calculus

CO5: Develop skills to write database queries

CS1346: JAVA PROGRAMMING LAB

COURSE OUTCOMES:

CO1: Let students install and work with JDK, also make them aware the use of java doc.

CO2: Practice basic data types, operators and control structures in Java

CO3: Practice basic handling of classes and objects in Java

CO4: Introduce the following selected APIs: I/O, Strings, Threads, AWT, Applet, Networking

CO5: Idea to approach and use a new package

CS1347: DBMS LAB

COURSE OUTCOMES:

CO1: Be aware of basic concepts of data bases and data base management systems
CO2: Be aware of concepts of relational data bases.
CO3: Know to normalize relational data bases
CO4: Skilled in using relational algebra and relational calculus
CO5: Develop skills to write database queries

SEMESTER FOUR

CS1441: DESIGN AND ANALYSIS OF ALGORITHMS

COURSE OUTCOMES:

CO1: Be able to analyze the complexity of algorithms
CO2: Be able to select good algorithms from among multiple solutions for a problem
CO3: Have better knowledge on fundamental strategies of algorithm design and awareness on complex algorithm design strategies
CO4: Implement some typical algorithms

CS1442: MICROPROCESSORS & PROGRAMMING

COURSE OUTCOMES:

CO1: Appreciate architectural features of x86 family of processors
CO2: Read and write moderately complex assembly programs for 8086 processor
CO3: Use the tools debug, TASM/MASM, Unix/Linux Code view
CO4: Use assembly routines in C/C++

CS1443: COMPUTER NETWORKS AND SECURITY

COURSE OUTCOMES:

CO1: The basic transmission technologies and characteristics
CO2: The use of layer architecture for networking systems
CO3: The main design issues of transport protocols and the mechanism to control traffic flow and congestion.
CO4: The concept of Information security policies

CS1444: PHP AND MYSQL

COURSE OUTCOMES:

CO1:To impart basic skills in moderately complex use of the following tools/ scripts/ languages:
CO2: To choose the appropriate web tools/languages for creating state-of-the art web sites
CO3: To expose students to current trends and styles in web design and applications

CS1445: MINOR PROJECT

COURSE OUTCOMES:

CO1:To provide an opportunity for structured team work and project management.

CO2: To provide an opportunity to practice the various phases in the Software Development Life cycle
CO3: To introduce the prospect of effective technical documentation and presentation.
CO4: To provide an opportunity to practice time, resource and person management

CS1446: ASSEMBLY LANGUAGE PROGRAMMING LAB

COURSE OUTCOMES:
CO1: Appreciate architectural features of x86 family of processors
CO2: Read and write moderately complex assembly programs for 8086 processor
CO3: Use the tools debug, TASM/MASM, Unix/Linux Code view
CO4: Use assembly routines in C/C++

CS1447: PHP LAB

COURSE OUTCOMES:
CO1:To impart basic skills in moderately complex use of the following tools/ scripts/ languages:
CO2: To choose the appropriate web tools/languages for creating state-of-the art web sites
CO3: To expose students to current trends and styles in web design and applications

SEMESTER FIVE

CS1541: COMPUTER GRAPHICS

COURSE OUTCOMES:
CO1: handle basic graphic primitives in C/C++ for developing 2D and 3D graphics
CO2: program basic scan-conversion algorithms
CO3: apply various transformations to 2D and 3D graphic objects
CO4: derive various projections of 3D objects
CO5: give realistic rendering to 3D wireframe objects
CO6: be familiar with current trends in computer graphics

CS1542: SYSTEM SOFTWARE

COURSE OUTCOMES:
CO1: Explain the internal working of the system
CO2: Discuss the principles of assemblers and narrate the working of loaders and linkers
CO3: Discuss system development tools

CS1543: PYTHON PROGRAMMING

COURSE OUTCOMES:
CO1: Understand the concepts of python programming
CO2: Create new GUI based programming to solve industry standard problems

CS1551 OPEN COURSE

CS1551.1 DIGITAL MARKETING

COURSE OUTCOMES:

CO1:To familiarize students with Digital marketing function in organizations.

CO2: To understand different modes of payments, beware of security and legal issues in digital marketing

CS1551.2 INTERNET AND WWW

COURSE OUTCOMES:

CO1:To understand the basic concepts of Networks.

CO2: To learn the working of Internet.

CO3: Exposure to Network Protocols and WWW.

CS1551.3 CYBER SECURITY

COURSE OUTCOMES:

CO1: Understand high-level overview of information security principles.

CO2: Understand different roles and responsibilities of security professionals

CO3: Understand cryptography and information system risk management.

CO4: Be aware of multiple security control families as well as benefits of each control family

CS1561 ELECTIVE

CS 1561.1 MULTIMEDIA SYSTEMS

COURSE OUTCOMES:

CO1: Familiar with features of text, audio, images, video and active contents

CO2: Familiar with the file formats for the above elements

CO3: Aware of various application softwares used to process the above elements

CO4: Aware of various applications of multimedia

CS1561.2. MOBILE COMPUTING

COURSE OUTCOMES:

CO1:To understand the basic concepts of Mobile Computing.

CO2: To learn the basics of mobile telecommunication

CO3: Exposure to Ad-Hoc networks

CS1561.3. TRENDS IN COMPUTING

COURSE OUTCOMES:

CO1:To introduce the broad perceptive of cloud architecture& model

CO2: To explore the fundamental concepts of big data analytics

CO3: To introduce basics of edge computing and application

CO4: How problems solved using soft computing

CS1544: COMPUTER GRAPHICS LAB

COURSE OUTCOMES:

CO1: handle basic graphic primitives in C/C++ for developing 2D and 3D graphics

CO2: program basic scan-conversion algorithms

CO3: apply various transformations to 2D and 3D graphic objects

CO4: derive various projections of 3D objects
CO5: give realistic rendering to 3D wireframe objects
CO6: be familiar with current trends in computer graphics

CS1545: PYTHON PROGRAMMING LAB
COURSE OUTCOMES:
CO1: Understand the concepts of python programming
CO2: Create new GUI based programming to solve industry standard problems

SEMESTER SIX

CS1641:Data Mining & Warehousing

COURSE OUTCOMES:
CO1:To get an understanding of the general properties of data in large databases
CO2: Understand a variety of real-world applications that require data mining
CO3: How to discover useful patterns and associations in huge quantities of data

CS1642: INTERNET OF THINGS
COURSE OUTCOMES:
CO1: To get a deep dive into IoT network engineering, from smart objects and the network that connects them to applications, data analytics, and security.
CO2: To guide through the different types of smart objects, from those that simply record information to those that are programmed to perform actions in response to changes.
CO3: To guide through the different common application protocols to generic and web-based protocols.
CO4: To get basic knowledge about the security practices for IT and OT and details how security is applied to an IoT environment.

CS1643: ARTIFICIAL INTELLIGENCE
COURSE OUTCOMES:
CO1:To introduce the notion of machine intelligence.
CO2: To introduce the Symbolic processing paradigm of AI.
CO3: To introduce Knowledge representation formalism.
CO4: To introduce basic concepts and challenges of Speech and Language Processing.
CO5: To introduce basic concepts and challenges of Expert Systems.

CS 1661: ELECTIVES
CS1661.1 GEOGRAPHICAL INFORMATION SYSTEMS

COURSE OUTCOMES:
CO1:Understand spatial data and principles of relational database model
CO2: An overview of the process of creating an integrated GIS
CO3: Use of GIS in decision making

CS1661.2 SOFTWARE TESTING

COURSE OUTCOMES:

CO1:Discuss the basic concept of testing

CO2: Explain the different types of testing

CO3: Describe the tools used for testing

CS1661.3 FREE AND OPEN SOURCE SOFTWARE

COURSE OUTCOMES:

CO1: Explain the features of free & open source software

CO2: Familiarization with LINUX

CO3: Work with PHP

CO4: Demonstrate the working of MySQL

CS1644: MAJOR PROJECT

COURSE OUTCOMES:

CO1: To provide an opportunity to apply the knowledge gained through various courses in solving a real life problem

CO2: To provide an opportunity to practice different phases of software/system development life cycle

CO3: To introduce the student to a professional environment and/or style typical of a global IT industry

CO4: To provide an opportunity for structured team work and project management

CO5: To provide an opportunity for effective, real-life, technical documentation

CO6: To provide an opportunity to practice time, resource and person management.

7.6.22
Lekshmi Vijayamathan

7/6/22
Principal
EMMANUEL COLLEGE
Vazhichal,Kudappanamoodu
Thiruvananthapuram-695505

EMMANUEL COLLEGE
VAZHICHAL, KUDAPPANAMOODU P.O
TRIVANDRUM
Pin:695505

EMMANUEL COLLEGE

VAZHICHAL, THIRUVANANTHAPURAM

A Latin Catholic Institution | Affiliated to the University of Kerala

Department wise POs and COs

Name of Department: Biochemistry

MSc Biochemistry
Programme Outcomes

PO 1: Problem solving and research skill: Carry out research/ investigation and development work to solve practical problems.

PO 2: Lifelong learning: Demonstrate a degree of mastery over the area as per the specialization of the program.

PO 3: Scholarship of knowledge: Apply advanced knowledge and skills appropriate to the discipline.
PO 4: Collaborative and multidisciplinary work: Think critically and apply appropriate logic, analysis, judgment and decision making and to function as an effective member or leader of teams to achieve common goals.

PO 5: Communication: Write and present a substantial technical report/document.

SEMESTER – I
ADVANCED TECHNIQUES IN BIOCHEMISTRY

Course Code: BC 512

Course outcome:

1. To understanding about the principle, applications and basic operational procedures of essential laboratory equipment like bright field and fluorescence microscopy, centrifugation and electrophoresis
2. To understanding of various chromatographic techniques and its application in the isolation of nucleicacids, proteins, sugars and other bio molecules
3. To understanding about the principle and application of immunological techniques
4. To Understand the different processes employed in tissue histopathologic analysis
5. To Understand the techniques like PCR and analysed to understand the source of biological samples.

EMMANUEL COLLEGE TRIVANDRUM Pin.695503 VAZHICHAL, KUDAPPANAKUNNU

PHYSIOLOGY

Course Code: BC 512

Course outcome

1. To Understand the digestion and absorption of macro and micro nutrients of food.
2. To Understand blood components and how gaseous exchange occur in lungs, respiratory adaptationand the role of hemoglobin.
3. To Understand the structure, muscle proteins and molecular events of muscle contraction.
4. To Understand the neuron and synapse transmit nerve impulses and path to brain.
5. To Understand the role of kidney in urine formation and detoxification mechanism occurring in theliver.

PLANT AND MICROBIAL BIOCHEMISTRY

Course Code: BC 513

Course outcome: Students can able to,

1. To Understand the importance and processes of photosynthesis, photorespiration and electrontransport chain in plants.
2. To Understand the value of secondary metabolites produced in plants.
3. To Understand the mechanism of plant resistance and the role of plant hormones and how theseregulate plant functions.
4. To Understand the different groups of microbes, their nutritional requirement and genetic aspects.
5. To apply the theoretical knowledge on various microbial techniques to practical purpose and apply theknowledge in microbial nutrition for the culturing of microbes in laborator

PRACTICAL I: BIOCHEMICAL AND MICROBIAL TECHNIQUES

Course Code: BC 514

Course outcome: Students can able to familiarize the basic techniques and instrumentation for various biochemical analysis and to provide hands own training in basic techniques of microbiology and microbial biochemistry

SEMESTER – II

ENZYMES

Course Code: BC 521

Course outcome:

1. To understand the nomenclature and classification of enzymes and coenzymes
2. To understand the catalytic mechanism of a given reaction type
3. To understand the enzyme kinetics for laboratory and research purpose
4. To understand the isolation and purification of enzymes for practical purpose
5. To understand the major applications of enzymes in industry and medicine

METABOLISM

Course Code: BC 522

Course outcome: Students can able to,

1. To understand the metabolism of carbohydrates & lipids
2. To understand the important biochemical steps in the metabolism of amino acids and nucleic acids
3. To understand the structure of mitochondria and how energy production occur in the organelle
4. To understand the role of oxidative phosphorylation in bioenergetics and ATP generation

CLINICAL BIOCHEMISTRY

Course Code: BC 523

Course outcome: Students can able to

1. To understand the biological sample collection and its interpretation.
2. To understand the automation in the clinical laboratory.
3. To understand the importance of enzymes in diagnosis of diseases.
4. To Understand the etiology of diseases that occur due to improper digestion and absorption of foods.
5. To understand the clinical knowledge on physiological organs and its related disorders.

CELL BIOLOGY AND GENETICS

Course Code: BC 524

Course outcome: Students can able to

1. To understand the Characterize structure, function and models of plasma membrane.
2. To understand the major stages of important cellular processes like cell cycle and apoptosis
3. To understand the cell-cell interactions and molecular players involved.
4. To understand the protein sorting and roles played by vesicles, lysosomes, Golgi apparatus andendoplasmic reticulum
5. To understand the the nature of inheritance, genetic testing and genetic counseling, linkage andgenetic mapping, population genetic

PRACTICAL II: ENZYMOLOGY AND CLINICAL BIOCHEMISTRY

Course Code: BC 525

Course outcome: Students can able to

This lab course helps students to diagnose various derangements in metabolism/organ function. To practicethe optimization of conditions for enzymes isolation, assay and its kinetics

SEMESTER – III

MOLECULAR BIOLOGY

Course Code: BC 531

Course outcome: Students can able to

1. To understand the cellular processes like DNA synthesis, RNA synthesis and protein synthesisand how they relate to each other,
2. To understand the Central dogma of molecular biology and its importance,
3. To understand the gene expression and how a stimulus can affect the expression of a gene &different regulatory mechanisms of gene expression.
4. To understand the RNA functions as genetic material in some organisms.
5. To understand the how misfolded proteins cause diseases in the body & the applications ofmolecular biology in the modern world

IMMUNOLOGY

Course Code: BC 532

Course outcome:To Understand the basics of immune system and the various cells and organs involved

1. To Understand the concept of antigen-antibody interaction and their molecular aspects.
2. To Understand the role of B-lymphocytes & T-lymphocytes at the molecular level.
3. To Understand the serological reactions used in the diagnostic laboratory to detect interactionsbetween antigens and antibodies.
4. To Understand the reasons for vaccination, immunization and immunotherapy.

PHARMACOLOGY AND TOXICOLOGY

Course Code: BC 533

Course outcome:

1. To Understand a drug and to know its nature, classification, dose-response and how todesign/develop drugs.
2. To Understand various drug targets like receptors, enzymes, hormones etc and drug-receptorinteraction with theories.
3. To Understand what drug does to the body by drug-protein interactions.
4. To Understand the concept of pharmacogenomics and its applications.
5. To Understand the diverse modes of drug action of common diseases.

METHODS IN RESEARCH

Course Code: BC 534

Course outcome:

1. To Understand the purpose and scope of research methodology
2. To understanding on various kinds of research, objectives of doing research, research process,research designs, sampling and to explore research methodology seen in literature.
3. To Understand a research design and identify different methods to conduct a research project.
4. To Understand analytical skills and awareness on various aspects of research in biochemistry.
5. To Understand statistical techniques used in data analysis.
6. To Understand the ethics in research involving human samples, embryo and stem cell research andto identify plagiarism and data fabrication

PRACTICAL III: IMMUNOTECHNIQUES AND PHYTOCHEMICAL ANALYSIS

Course Code: BC 535

Course outcome:

The course provides detailed protocols, experimental design and application-oriented training of the routinetechniques in immunology and phytochemistry. Emphasis is given in encouraging self-exploration and analytical thinking in approaching biological samples of investigation and data derivation

SEMESTER – IV

MOLECULAR ENDOCRINOLOGY

Course Code: BC 541

1. To Understand the endocrine system and its mode of operation
2. To Understand the response of endocrine organs to environmental changes
3. To understanding about the role of hormone receptors in hormone action
4. To Understand the mechanism of action of hypothalamus, pituitary, thyroid, pancreatic, adrenal,gastrointestinal hormones
5. To Understand the pathophysiological processes associated with hormone imbalance

BIOTECHNOLOGY AND GENETIC ENGINEERING

Course Code: BC 542

1. To Understand basic idea about recombinant DNA (rDNA) technology, tools and the steps ininvolved in the process.
2. To Understand the knowledge on the requirements, steps and applications of gene cloning.
3. To Understand the basis of gene mapping and its usage.

4. To Understand the importance of genetically modified organisms.
5. To Understand the various applications of biotechnology and genetic engineering

PRACTICAL IV: TECHNIQUES IN MOLECULAR BIOLOGY

Course Code: BC543

Course outcome:

After the completion of this course, the student will be able to:
• Gain insight of molecular biology techniques that are instrumental in analysis of genes atDNA level.
• Acquire practical experience in DNA and RNA extraction and their qualitative andquantitative analysis.
• Learn to isolate DNA and to perform Agarose gel electrophoresis of DNA.
• Understand theoretical and practical introduction to important methods like PCR andplasmid isolation.
• Decide and apply appropriate tools and techniques in molecular biology.

Course Code: BC 544 **DISSERTATION**

COURSE OUTCOME:

After the completion of this course, the student will be able to:
• Identify research methods
• Ask the right scientific questions
• Identify review of literature
• Critically think and evaluate on the topic that is chosen for research
• Combine theory and practice
• Apply the knowledge obtained on the topic to the research being conducted
• Develop a response on the results obtained and analysis done and thereby drawconclusions
• Apply appropriate methods to represent the results
• Communicate the scientific data effectively
• Demonstrate the research skills in career advancement or future work-related studies

B.SC BIOCHEMISTRY

Programme Outcomes

PO 1 Disciplinary Knowledge

a) Ability to understand fundamental concepts of biology, chemistry and biochemistry.

b) Ability to apply basic principles of chemistry to biological systems and molecular biology.

c) Ability to relate various interrelated physiological and metabolic events.

d) A general awareness of current developments at the forefront in biochemistry and allied subjects.

e) Ability to critically evaluate a problem and resolve to challenge blindly accepted concepts.

f) Zeal and ability to work safely and effectively in a laboratory.

g) Good experimental and quantitative skills encompassing preparation of laboratory reagents, conducting experiments, satisfactory analyses of data and interpretation of results.

h) Awareness of resources, and their conservation.

i)Ability to think laterally and in an integrating manner and develop interdisciplinary approach.

j)Overall knowledge of the avenues for research and higher academic achievements in the field of biochemistry and allied subjects.

PO 2 Communication Skills

a) Ability to speak and write clearly in English

b) Ability to listen to and follow scientific viewpoints and engage with them.

PO 3 Critical Thinking

a) Ability to substantiate critical readings of scientific texts in order to persuade others.

) Ability to place scientific statements and themes in contexts and also evaluate them in terms of generic conventions.

PO 4 Problem Solving

a) Ability to closely observe the situation, and apply lateral thinking and analytical skills.

PO 5 Analytical reasoning

a) Ability to evaluate the strengths and weaknesses in scholarly texts spotting flaws in their arguments.

b) Ability to use critics and theorists to create a framework and to substantiate one's argument in one's reading of scientific texts.

PO 6 Research-Related Skills

a) Ability to problematize; to formulate hypothesis and research questions, and to identify and consult relevant sources to find answers.

b) Ability to plan and write a research paper.

PO 7 Teamwork and Time Management

a) Ability to participate constructively in class room discussions.

b) Ability to contribute to group work.

c) Ability to meet a deadline.

PO 8 Scientific Reasoning

a) Ability to analyze texts, evaluating ideas and scientific strategies.

b) Ability to formulate logical and convincing arguments.

PO 9 Reflective Thinking

Ability to locate oneself and see the influence of location—regional, national, global— on critical thinking.

PO 10 Self-Directing Learning

a) Ability to work independently in terms of organizing laboratory, and critically analyzing research literature.

b) Ability to postulate hypothesis, questions and search for answers.

PO 11 Digital Literacy

Ability to use digital sources, and apply various platforms to convey and explain concepts of biochemistry.

PO 12 Multicultural Competence

Ability to engage with and understand cultures of various nations and respect and transcend differences.

PO 13 Moral and Ethical Values

a) Ability to interrogate one's own ethical values, and to be aware of ethical and environmental issues.

b)Ability to read values inherited in society and criticism vis a vis, the environment, religion and spirituality, as also structures of power.

PO 14 Leadership Readiness

Ability to lead group discussions, to formulate questions related to scientific and social issues.

PO 15 Life-long Learning

Ability to retain and build on critical thinking skills, and use them to update scientific knowledge and apply them in day to day business.

Semester I BC1141: Core Course- I

Course Title – Perspectives, Methodology and Biomolecules-I

Course outcome: Student will be able to

1. Elicit the concepts of science
2. Describe the evolution and scope of biochemistry as a science discipline.
3. List out the different experimental approaches to study biochemical processes.
4. Prepare solutions of different concentration and pH.
5. Classify and characterize carbohydrates and lipids.

Semester II

BC 1221: Foundation Course-II
Course Title: Biomolecules-II and Bioinformatics

Course outcome: Student will be able to

1. Elaborate the composition of proteins and their function.
2. Detail the importance of genetic information carrier molecules in life.
3. Recognize the scope and application of Bioinformatics.
4. Perform statistical investigations related to biochemical problems.
5. Identify application of information technology in biology.

Semester III BC1341: Core Course-II
Course Title: Cellular Biochemistry

Course outcome: Student will be able to

1. List out cell organelles and describe their structure and function.
2. Elaborate the different types of transport systems across cell membrane.
3. Explain types of cell division
4. Outline the characteristics of cancer cells and mechanisms involved in cancer biology.
5. Detail on the mechanism of interaction between cell and its environment.
6. Classify enzymes; describe types of enzyme inhibition and regulation.

Semester IV

BC 1441: Core Course- III
Course Title: Techniques in Biochemistry

Course outcome: Student will be able to

1. Explain the principle, working and application of different microscopic, photometricchromatographic, electrophoretic, centrifugation and radioactive techniques.
2. Select most suitable technique for the isolation and purification of biomolecules based ondifferent criteria.

BC 1442: Core course- IV- Practical
Course Title: Qualitative Analysis of Biomolecules

Course outcome: Student will be able to

1. Qualitatively analyse the type of biomolecule.
2. Identify the subclass of each biomolecule by schematic analysis

Semester V

BC 1541: Core Course -V
Course Title: Physiology & Immunology

Course outcome: Student will be able to

1. Explain hemopoiesis and biochemical basis of blood group classification.
2. Elaborate on the transport of gases, acid base and water balance in the body.
3. Remember structure of muscle, neuron and bone.
4. Classify hormones and explain the functions of hormones.
5. Describe various aspects in basic immunology
6. Identify the applications of various techniques involved in immunology.

BC 1542 : Core Course VI

Course Title: Bioenergetics and Carbohydrate metabolism

Course outcome: Student will be able to

1. Describe the bioenergetics of metabolic pathways.
2. Elaborate the reactions and regulation involved in the metabolism of carbohydrates.
3. List out the inborn errors of carbohydrate metabolism.
4. Enumerate the link between ETC and energy production in plant and animal cells.
5. Elicit the mechanism of energy production in carbohydrate metabolism.

BC 1543: Core Course-VII Course Title: Food Science

Course outcome: Student will be able to

1. Elaborate on the importance of human nutrition.
2. Describe the chemical composition of different types of food.
3. Explain the various food preservation techniques employed.
4. Identify the common adulterants in food.
5. Gain knowledge about the role of microorganisms in food and nutrition
6. Explain the importance of food safety and management systems.

BC 1544: Core Course-VIII
Course Title: Classical and Molecular Genetics

Course outcome: Student will be able to

1. Give an account of Mendelian and non- Mendelian genetics.
2. Predict the type of inheritance of a trait/disease using pedigree analysis.
3. Explain the organization of chromatin and events during gene expression.
4. Illustrate the consequences of different types of mutations and DNA-repair systems

5. Depict the concepts of gene regulation in prokaryotic cells
6. Describe the methods involved in rDNA technology.
7. Provide insight into the molecular and cell-based methods used in the field of biology
8. Understand several modern molecular methods to elucidate molecular and geneticquestions

BC 1545: Core Course – IX -Practical Course
Title: Quantitative Analysis of Biomolecules

Course outcome: Student will be able to quantitatively analyze different biomolecules in a giventest sample.

BC 1551.2: Open Course Course Title: Lifestyle Diseases

CO 01 student will be able to understand different lifestyle diseases

CO 02 student will be able to create general awareness associated with lifestyle diseases CO 03 student will be able to create general awareness associated with prevention and management of lifestyle diseases

Semester VI

BC 1641: Core Course-X
Course Title: Clinical Biochemistry

CO 01 student will be able to understand the laboratory management and laboratory safety CO 02 student will be able to understand the clinical application of biochemistry

CO 03 student will be able to understand microbiology CO 04 student will be able to understand pharmacology.

CO 05 Able to list out the methods of clinical laboratory management and laboratory safety.

BC 1642: Core Course-XI Course Title: Metabolism-II

Course outcome: Student will be able

CO 01 To understand various pathways in lipid metabolism

CO 02 To understand the synthesis and degradation of nucleotides CO 03 To understand nitrogen cycle and biological nitrogen fixation

CO 04 To understand general reactions and disorders in amino acid metabolism CO 05 To understand heme metabolism and detoxification process in liver

BC 1643: Core Course-XII - Practical
Course Title: Clinical Biochemistry and Enzymology

Course outcome: Student will be able to

1. Quantitatively analyze parameters of clinical significance in blood and urine.
2. Detect the presence of abnormal constituents in the urine sample.

BC 1644: Core Course-XIII- Practical Course Title: Food Analysis
Course outcome: Student will be able to

1. Quantitatively estimate the specific biomolecule in any given food sample.
2. Detect the presence of adulterants in different food samples.

BC 1661.1: Elective Course
Course Title: Analytical Biochemistry

Course outcome: Student will be able to

CO 01: To understand the analysis of phytochemicals
CO 02: To understand the importance and impact of pesticides in life
CO 03: To understand food adulteration analysis
CO 04: To understand standards for respective category of water
CO 05: To understand the effect of toxic metals in foods and Analyze toxicants in biological samples

Semester 1

COURSE NAME: THEORETICAL CHEMISTRY COURSE CODE

CH1131.6

COURSE OUTCOME

Upon completion of this course, the students ,

1. Understand the relevance of periodic classification of elements
2. Understand the significance of quantum numbers
3. List the various chemical bonds
4. Apply the VSEPR theory to explain the geometry of molecules
5. Appreciate the laws of thermodynamics
6. Understand spontaneity
7. Compare the stabilities of various nuclei
8. Appreciate the applications of radioactivity

SEMESTER II

COURSE NAME PHYSICAL AND ANALYTICAL CHEMISTRY - I COURSECODE

CH1231.6

COURSE OUTCOME

Upon completion of this course, the students ,

1. Illustrate Le Chatelier's Principle
2. Compare weak and strong acids
3. Appreciate the effect of pH in qualitative analysis
4. Calculate the strength of various solutions
5. Recognize various types of titrations
6. Apply Hess's law
7. Understand the strength of bonds

SEMESTER III

COURSE TITLE PHYSICAL AND ANALYTICAL CHEMISTRY - II COURSE

CODE CH 1331.6

COURSE OUTCOME

Upon completion of this course, the students will:

1. Understand electromagnetic spectrum and relate energy of radiations to their effect on chemical bonds
2. Appreciate different types of spectroscopy
3. Understand order and molecularity
4. Appreciate Arrhenius equation
5. Appreciate action of Enzymes
6. Understand dialysis
7. Comprehend the applications of colloids
8. Recognize the importance of Chromatography as a separation technique
9. Understand adsorption U

SEMESTER IV

COURSE TITLE ORGANIC CHEMISTRY AND SPECTROSCOPY COURSE

CODE CH 1431.6

COURSE OUTCOME

Upon completion of this course, the students ,

1 Relate electron displacements to stability of intermediates

2 Comprehend substitution reactions

3 Predict R & S notations of optical isomers

4 Assign E & Z nomenclature to geometrical isomers

5 Understand the significance of rotation about single bond

6 Understand the significance of saponification value, iodine value and acid value of oils

7 Appreciate hetero cyclic compounds and alkaloids

8 Recognize the role of organo-metallic compounds in medicine

9 Have a good understanding of different spectroscopic techniques

SEMESTER I,II,III &IV

COURSE NAME (Practical)

LAB COURSE FOR BIOCHEMISTRY COURSE CODE CH 1432.6

COURSE OUTCOME

Upon completion of this course, the students

1. Obey Lab safety instructions, develop qualities of punctuality, regularity and scientific attitude, out look and scientific temper
2. Develop skill in safe handling of chemicals, take precaution against accidents and follow safety measures
3. Develop skill in observation, prediction and interpretation of reactions
4. Prepare organic compounds, Purify and recrystallise
5. Develop skill in weight calculation for preparing standard solutions
6. Perform volumetric titrations under acidimetry-alkalimetry, permanganometry, dichrometry, iodimetry-iodometry,cerimetry, argentometry and complexometry Conduct chromatographic separation of mixtures

Zoology Complementary Course I Semester 1

Animal Diversity I

Course Code – ZO1131 Total hours: 36 No. of credits - 2

Course outcome

1. To inculcate in the student a love and understanding of the fascinating world of invertebrates
2. Impart to the student a concrete idea of the evolution, hierarchy and classification of invertebrate phyla
3. Understanding the basics of systematics by learning the diagnostic and general characters of various groups
4. Getting an overview of typical examples in each phyla
5. To study the economic importance of invertebrates with the special reference to insect pests

Semester II

Animal Diversity II

Course outcome **Course Code – ZO1231**

1. To inculcate in the student a fascination for nature and learn the bionomics of vertebrates .
2. Learn the evolution, hierarchy and classification of different classes of chordates
3. To get an overview of the morphology and physiology of typical examples.
4. To study the adaptations and economic importance of specific vertebrates.

Semester III Functional Zoology

Course Code – ZO1331

Course outcome

1. To familiarize students on the physiology of their own body and urge them to take precautionary measures to safeguard their health.
2. To study the structure and function of each system in the human body.
3. To study the etiology of common physiological disorders, syndromes and diseases.
4. Understand about the knowledge of food, composition of food and calorific values and vitamins
5. Understand the role of endocrine system and their function

Semester IV

Applied Zoology Course code – ZO1431

Course outcome

1. To learn the basic principles involved in the culture and breeding of common edible andornamental fishes of Kerala and the art of aquarium keeping.
2. Understand the applied biological sciences such as aqua culture, sericulture &apiculture.
3. Understand the process of development of animals & know the inducer & inductor role in embryogenesis
4. Understand genetic defects & inborn errors of metabolism

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A Latin Catholic Institution | Affiliated to the University of Kerala

Department wise POs and COs

Name of Department: Geography

Programme Outcomes(POs)

BSc. GEOGRAPHY

(i) Attain a common level of understanding in basic principles of Geography and have a strong foundation in earth related sciences for their future courses

(ii) Equip themselves in gathering spatial information, analyse, synthesize and to suggest solutions to geographical problems

(iii) Attain highest academic standards in undergraduate level (iv) Develop their analytical skills through a wide range of expertise in handling applications of Geography by their training acquired through field work and laboratory work.

Programme Outcomes(POs):

MSc. Geography

1. Fostering the ability of the students to encounter practical problems with theoretical knowledge in Geography and Environment

2. Promotion of research aptitude and field work aptitude as well as laboratory based practical works for the students of Geography

3. Capacity enhancement of the students in spatial mapping on digital platform for the Geographical research and studies

4. Orientation of the students Understand various concepts and theories in the field of geographical enquiry

5. Explore real world issues through various research tools of geographical research

3. Students imbibe value system and work ethically in a multidisciplinary environment to enhance the advancement in geography in particular and contribute significantly to society.

BSc GEOGRAPHY

COURSE OUTCOMES

SEMESTER I

GG 1141: FUNDAMENTALS OF GEOMORPHOLOGY

CO1: Understand origin and evolution of Universe/Solar System
CO2: Critically analyse Continental Drift and Plate Tectonics
CO3: Identify major earthquake and volcanic zones of the Earth
CO4: Appreciate and evaluate various endogenic processes
CO5: Critical understanding of exogenic processes and soil Formation

GG 1142 : PRACTICAL PAPER
PHYSICAL GEOGRAPHY

CO1: Understand Latitudes and Longitudes
CO2: Identifies the various erosional and depositional landform features
CO3: Analyses and interprets weather station models
CO4: Illustrates the relief of the ocean floor and ocean currents
CO5: Explore the uses advantages of online maps daily life

SEMESTER II
GG 1221 : CLIMATOLOGY & OCEANOGRAPHY

CO1: Understand the global atmospheric circulation
CO2: Critically examine the distribution of pressure systems and winds
CO3 : Identify different forms of condensation, precipitation and tropical weather systems
CO4 : Appreciate the bottom topography of oceans
CO5 : Critically analyse the environmental issues associated with Oceans

SEMESTER III
GG 1341 : CARTOGRAPHY

CO1: Appreciates the historical evolution of maps
CO2: Acquires skills in enlargement and reduction of maps
CO3: Understanding the principles of Map Design
CO4: Evaluates the maps prepared for various users/purposes
CO5: Familiarizes the latest technologies used in Cartography

GG 1342 : PRACTICAL PAPER
CARTOGRAPHIC TECHNIQUES

CO1 : Understanding the concept of scales
CO2 : Acquiring skills in using magnetic compass

CO3 : Differentiate between Projected and Geographic coordinate Systems
CO4 : Acquire skills in geometrical construction of map Projections

SEMESTER IV
GG 1441 : HUMAN GEOGRAPHY

CO1 : Critical understanding of the nature and scope of Human Geography through a thorough appreciation of the various approaches, and contributions made by renowned geographers
CO2: Familiarize with basic concepts and models of spatial interaction and thereby analyze the factors controlling spatial interaction and how it modifies the earth's surface
CO3: Evaluate how culture and its components diffuse, modify and restructure the earth's surface
CO4: Holistic understanding of the major languages and religions
CO5: Enhance the understanding of human settlements through a critical appraisal of its types, patterns, functions and problem

SEMESTER V
GG 1541 : PHYSICAL GEOGRAPHY OF INDIA

CO1: Understanding the physical characteristics of India
CO2: Acquiring knowledge regarding the drainage systems of India
CO3: Examines the concept of Monsoon and its causes
CO4: Understanding the importance and status of natural resources in India
CO5: Acquiring comprehensive knowledge about the environmental issues

GG 1542 : ECONOMIC AND SOCIAL GEOGRAPHY OF INDIA

CO1: Understanding the history of economic development in India
CO2: Developing a cognitive understanding of the distribution of resource potentials in the country
CO3: Developing skills in mapping the spatial distribution of various resources
CO4: Critically analyses the demographic profile of India

GG 1543 : FUNDAMENTALS OF REMOTE SENSING AND GIS

CO1 : Understand the principles of Remote Sensing system
CO2 : Apply GIS and remote sensing data in various areas of Geographical and Environmental Studies
CO3 : Interpret satellite images and aerial photos with the help of elements of visual image interpretation
CO4 : Conduct Field surveys using GPS system
CO5 : Integrate data from various sources for GIS analysis

GG 1544 : PRACTICAL II
TECHNIQUES OF DATA COLLECTION

CO1 : Shall become aware of various primary data collection techniques.
CO2 : Will have acquired the skill of collecting data and organising them using various methods
CO3 : Will be able to prepare an effective questionnaire

CO4 : Will enhance the skill to find directions and make rough estimate of distances during field survey
CO5 : Will develop the skill to use GPS for finding location and altitude of places

GG 1545 : PRACTICAL – III
MAP READING AND SPATIAL INFORMATION TECHNIQUES

CO1: Will acquire skills in representing relief using contours
CO2: Identify Grid references,conventional signs and symbols used in topographical maps
CO3 : Interpret physical and cultural features represented in topographical maps
CO4 : Comprehend techniques of estimating slope from maps
CO5: Will acquire knowledge on Georeferencing and Digitizing

OPEN COURSE
GG 1551.1 : GEOGRAPHY OF TOURISM

CO1: Analyses various types of tourism and their geo-backup
CO2: Examine the elements of tourism and its significance in the growth and development of tourism
CO3: Evaluate the significance of tourism in the cultural, social and economic milieu of geographic spaces
CO4: Recognize the role of various travel agencies in tourism
CO5: Understand the spatial dimensions of tourism attractions at state and local level

SEMESTER VI
GG 1641 : GEOGRAPHY OF KERALA

CO1: An in-depth knowledge on evolution and physical settings
CO2: Appreciate Agricultural development of Kerala
CO3: Evaluate Mineral and Power Resources of Kerala
CO4: Analyse Industrial Development of the state
CO5: Understanding Population composition and transportation networks of Kerala

GG 1642 : WORLD REGIONAL AND ECONOMIC GEOGRAPHY

CO1: Understand the concept of a Region and classify methods of delineation of regions
CO2: Identify major Natural Regions and differentiate their physical and economic Characteristics
CO3: Classify Natural Resources and understands the concept of Sustainable Development
CO4: Analyze the role of MNC's and TNC's in globalizing world Trade

GG 1643 : PRACTICAL PAPER IV
REPRESENTATION AND INTERPRETATION OF GEOGRAPHIC DATA

CO1: Ability to represent socio-economic data through graphs and diagrams
CO2: Acquire skills to represent climatic data
CO3 : Develop skills to analyse and interpret Weather maps
CO4: Acquire basic awareness on Computers and MS Office Applications

GG 1644 : PRACTICAL PAPER V
FOUNDATION TO SURVEYING AND LEVELLING

CO1: Understand various land surveying techniques
CO2: Sketch a field plan during ground-based survey
CO3: Carry out survey based on principles and procedures
CO4: Estimate the area and relative height of field objects
CO5: Assess the pros and cons of various surveying techniques
CO6: Prepare tour report with critical analysis on field experience

GG 1661.1 : ENVIRONMENTAL GEOGRAPHY & DISASTER MANAGEMENT

CO1: Gains knowledge about concept, scope of Environmental Geography and components of environment
CO2: Develop an idea about human- environment relationships
CO3: Acquiring knowledge on environmental programme and policies
CO4: Understanding the definition, classification of Hazards and disasters
CO5: Acquires an idea about Disaster management cycle

MSc GEOGRAPHY

SEMESTER I

GO 511 : PRINCIPLES OF GEOMORPHOLOGY
Course Outcomes:
- Understanding the basic concepts of Geomorphology
- Analysing River basins on the basis of Morphometric Analysis
- Understands the linkages between river channel form and processes
- Critically evaluates landform evolution and slope development
- Acquires knowledge about influence of climate on landform development
- Apply Geomorphic knowledge in various fields

GO 512 : ADVANCED CLIMATOLOGY
Course Outcomes:
- Understanding the basic concepts of weather phenomena
- Analysing the atmospheric interactions responsible for weather systems
- Assessment of various types of climatic classifications
- Critically evaluates Climate change and its global impact
- Acquires knowledge about application of climatology on modern world

GO 513 A : HYDROLOGY AND OCEANOGRAPHY
Course Outcomes:
- Comprehend hydrologic concepts and understand the human impacts on hydrological cycle.
- Identify various forms of precipitation and effectively role of communicate evaporation process in global hydrological cycle and demonstrate skills in estimation of interception and soil moisture
- Develop skills to measure hydrological components like precipitation, evaporation, infiltration and run off

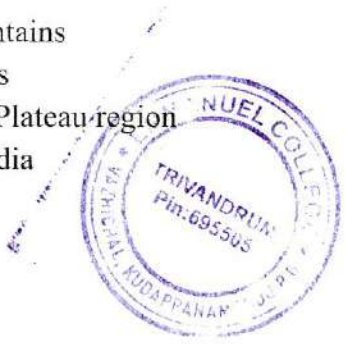
 Apply various scientific techniques in analysis and interpretation of hydrologic data
 Identify major water quality parameters and examine the factors affecting degradation of surface and groundwater systems
 Acquires knowledge on oceanic temperature, pressure, density and salinity etc., updates on marine sediments – source and types
 Comprehend statistical, analytical and numerical methods of modelling hydrologic flow and transport processes
 Apply quantitative models towards the analysis of water quantity, quality and management problems.

GO 514 : PRACTICAL PAPER – I
PHYSICAL GEOGRAPHY
Course Outcomes :
 Understand various methods of representing slopes, relief and illustration of profiles
 Acquires skills in delineation of drainage basin and identification of Thalweg
 Understand techniques of representing climatic data through Diagram and Graphs and determination of water balance
 Attains proficiency in calculating Water Balance using suitable methods
 Comprehend analytical methods for interpolation, estimation of precipitation Intensity

SEMESTER II
GO 521 : CONCEPTS AND TRENDS IN GEOGRAPHY
Course Outcomes:
 Understanding the chronological appraisal of Geographical Thought
 Analyses the various dimensions of Geographical Thoughts
 Evaluates recent developments in Geography
 Critically evaluates the Modern approaches and synthesis of Geography

GO 522 : THEORETICAL ECONOMIC GEOGRAPHY
Course Outcomes:
 Understanding the nature, scope and basic concepts of Economic Geography
 Critically evaluating and appreciation of Agricultural theories and indices
 Analyzing of Industrial locations through examination of various theories
 Understanding the functioning of Agglomeration economies
 Evaluating World Trade through critical appreciation of Trade Zones and Blocs

GO 523 A : REGIONAL GEOGRAPHY OF INDIA
Course Outcomes:
 Understanding the basis of regionalisation
 Appreciating the natural and human resources of the Northern Mountains
 Evaluating the physical and cultural resources of the Northern Plains
 Critical analysis of physical, human and economic resources of the Plateau region
 Acquiring in-depth understanding of Coastal India and Islands of India



GO 524 : PRACTICAL PAPER – II
QUANTITATIVE TECHNIQUES & SURVEYING

Course Outcomes:

- Acquiring knowledge regarding the transport network analysis
- Assimilating skills in preparing thematic maps and diagrams
- Congregates the techniques of advanced surveying
- Understanding the quantitative techniques in geography

SEMESTER III

GO 531 : GEOGRAPHY OF TOURISM

Course outcomes:

- Understand the concept, types and forms of tourism
- Identifies the motivators of tourism and tourist establishments
- Comprehending the benefits and impacts of tourism
- Able to understand the importance of passport and legalities involved in tourism
- Enhancing the knowledge about various tourist attractions in selected countries of the world, India and Kerala

GO 532 : PRINCIPLES OF REMOTE SENSING

Course Outcomes:

- Congregates knowledge about the process of remote sensing and energy interactions
- Develops the skills of aerial photo analysis and photogrammetric applications
- Understanding the resolutions of sensors and various satellite programmes for remote sensing data acquisition
- Developing the knowledge and skills in Digital image processing
- Assess the role of remote sensing technology in solving problems in the society

GO 533A : RESEARCH METHODOLOGY IN GEOGRAPHY

Course Outcomes :

- Comprehend the basic ideas and concepts salient to research processes and its role in scientific development
- Acquire an ability to formulate plan and outline for a research activity
- Identify and discuss the concepts and procedures of sampling, data collection and analysis
- Understand data sources and acquisition tools for research processes
- Formulate a research report incorporating ethical aspects of research

GO 534: PRACTICAL PAPER – III

REMOTE SENSING

Course Outcomes :

- Identify the different features from imageries based on visual interpretation keys
- Apply principles of Remote sensing to collect, map and retrieve spatial information
- Demonstrate higher level of professional skills to tackle multidisciplinary and complex problems related to Remote Sensing
- Process the remotely sensed with satellite image processing techniques
- Classify the processed remote sensing data and Evaluate the accuracy of image classification
- Apply the advanced processing methods for deriving the useful information

SEMESTER IV

GO 541 : ENVIRONMENTAL MANAGEMENT

Course Outcomes :

- Understand the scope and goals of environmental management
- Evaluate the status of disturbed ecosystems
- Understand the concept of restoration ecology
- Plan appropriate strategies for EIA and Environmental Auditing
- Apply various environmental management techniques to practical situations
- Appreciate the environmental policies and laws

GO 542 : URBAN AND REGIONAL PLANNING

Course Outcomes:

- Acquiring knowledge regarding the Classification of Towns by different scholars
- Congregating the awareness of theories on Urban Development
- Understanding the Urban problems and Morphology of towns
- Identifying various types of Regions and their structure
- Awareness regarding the levels of Planning in India

GO 543 A : GEOGRAPHIC INFORMATION SYSTEM

Course Outcomes:

- Acquiring knowledge about the process of GIS and its components
- Analyzing the Spatial Data Management tools and techniques in GIS
- Congregates the Web and Mobile based GIS application in problem solving
- Evaluating the natural and man-made systems using GIS models and methods

GO 544 : PRACTICAL PAPER – IV
GEOGRAPHIC INFORMATION SYSTEM

Course Outcomes:

- Acquiring skills to compile, analyse, and present Geospatial data
- Emphasizing the value of visual communication and basic Geospatial concepts
- Assimilation of industry standard GIS Technology in day to day applications

8.6.22
Lekshmi Vijayanathan

EMMANUEL COLLEGE VAZHICHAL KUDAPPANAMOODU P.O TRIVANDRUM Pin:695503

8/6/22
Principal
EMMANUEL COLLEGE
Vazhichal Kudappanamoodu
Venjaramoodu

EMMANUEL COLLEGE

VAZHICHAL, THIRUVANANTHAPURAM

A Latin Catholic Institution | Affiliated to the University of Kerala

Department wise POs and COs

Name of Department: Botany and Biotechnology

Programme Outcomes(POs)

PO 1 Disciplinary Knowledge
PO 2 Communication Skills
PO 3 Critical Thinking
PO 4 Problem Solving
PO 5 Analytical reasoning
PO 6 Research-Related Skills
PO 7 Teamwork and Time Management
PO 8 Scientific Reasoning
PO 9 Reflective Thinking
PO 10 Self-Directing Learning
PO 11 Digital Literacy
PO 12 Multicultural Competence
PO 13 Moral and Ethical Values
PO 14 Leadership Readiness
PO 15 Life-long Learning

Programme Name Bsc Botany & Biotechnology
UG BSc Botany & Biotechnology
Course Outcomes
Semester 1
Course Name Methodology And Perspectives Of Biotechnology
Course Code BB1121

CO 1 The students can explain the role of basic things in research
CO 2 The students can distinguish the comprehensive and integrated perspective to Computer in Biotechnology
CO 3 The students can discuss ethical practices in biotechnology
CO 4 The students can identify various applications of biotechnology
CO 5 The students can explain the various aspects of IPR

Course Name Angiosperm anatomy and reproductive Botany
Course Code BB1141

CO 1 The students can basic ideas about environment and emerging issues about environmental problems.
CO 2 The students can distinguish the need and importance of environmental protection
CO 3 The students can discuss the social issues of environment
CO 4 The students can identify various methods of conservation of natural resources
CO 5 The students can explain the various aspects of conservation of bio diversity.

Course Name MICROBIOLOGY
Course Code BB1171

CO 1 The students can understand the history of microbiology
CO 2 The students are able to identify the different types of Microbes
CO 3 The students are familiarizing with different cultural techniques
CO 4 Students are able to apply microorganism in various fields

SEMESTER II
Course Name Biophysics & Instrumentation
Course Code BB1221

CO 1 Students are familiarize with different types of microscopy
CO 2 Students can perform various types of electrophoresis
CO 3 Students can understand the mechanism of ATP synthesis
CO 4 Students are familiarize with mechanism of spectrophotometer

Course Name Environmental studies
Course Code BB1241

CO 1 Students can understand various components of ecosystem
CO 2 Students are aware about the importance of biodiversity
CO 3 Students can understand various issues of environment
CO 4 Students can practice disaster management

Course Name Microbial metabolism genetics and diseases
Course Code BB1271

CO 1 Can able to interpret the different kinds of metabolic process in bacteria including aerobic and anaerobic respiration
CO 2 Can able to apply the knowledge in gene transfer and recombination techniques
CO 3 Can able to develop skill in differentiate bacterial and viral diseases of human based on signs and symptom

SEMESTER 3
Course Name Phycology mycology, lichenology & plant pathology
Course Code BB1341

CO 1 Students can understand the classification of algae
CO 2 Students can understand the classification of fungi
CO 3 Students are familiarize with economic importance of lichen
CO4 Students can distinguish various plant diseases

Course Name Horticulture, mushroom cultivation & marketing
Course Code BB1342

CO 1 Students are attracted towards the importance of horticulture
CO 2 Students are equipped with different propagation methods
CO 3 Students are familiar in plant protection methods
CO4 Students are capable of cultivating and marketing mushroom

Course Name Protista & Animal diversity
Course Code BB1371

CO 1 Students can understand the criteria of classification
CO 2 Students can distinguish the different level of structural organization in animal
CO 3 Students can understand the basic features of different phylum
CO4 Students are familiar with different animal kingdoms

Course Name Animal physiology and anatomy
Course Code BB1372

CO 1 Students can understand different types of cell tissues and organs
CO 2 Students are familiarize with different systems in animal body
CO 3 Students acquire basic knowledge about feeding mechanism

SEMESTER IV

Course Name Bryology, pteridology gymnosperm & paleobotany
Course Code BB1441

CO 1 Students are familiarize with economic importance of bryophytes
CO 2 Students can understand the life cycle and reproduction of pteridophytes
CO 3 Students are familiarize with economic importance of gymnosperm
CO4 Students are introduced into the field of paleobotany

Course Name Cell biology, plant breeding and evolutionary biology
Course Code BB1442

CO 1 Students can apply various cytological techniques
CO 2 Students are familiarize with evolutionary biology
CO 3 Students can perform plant breeding g techniques
CO4 Students can understand history of cell biology

Course Name Molecular Biology
Course Code BB1471

CO 1 Students can understand the history and importance of molecular bilogy
CO 2 Students can understand prokaryotic and eukaryotic gene organization
CO 3 Students are familiarize with gene expression
CO4 Students can understand gene regulation

Course Name Immunology
Course Code BB1472

CO 1 Students can understand history of immunology
CO 2 Students can identify the types of antibody
CO 3 Students can perform various immunological techniques
CO 4 Students can understand about autoimmune diseases and hypersensitivity

SEMESTER V
Course Name Plant physiology
Course Code BB1541

CO 1 Students can understand water relations of plants
CO 2 Students can understand mechanism of photosynthesis ,nitrogen mechanism& respiration in plants
CO 3 Students are familiarize with need of mineral nutrition for the growth of plants
CO4 Students acquire the basic knowledge about plant translocation of solutes, growth ,development ,plant movement & stress physiology

Course Name Angiosperm morphology & systematic botany
Course Code BB1542

CO 1 Students can understand the basics of plant classification
CO 2 Students can understand the significance of taxonomy
CO 3 Students can practice binomial nomenclature
CO4 Students are familiarize with the characteristics of different plant family

Course Name DNA technology
Course Code BB1571

CO 1 Students can understand different steps in cloning
CO 2 Students are familiarize with different vector
CO 3 Students can practice different molecular marker techniques
CO4 Students can understand the application of GMO

Course Name Plant BT
Course Code BB1572

CO 1 Students can understand the history of plant tissue culture
CO 2 Students can perform micropropagation

CO 3 Students are able to distinguish various gene transfer method
CO 4 Students can understand the application of genetically modified crops

Course Name Animal BT
Course Code BB1573

CO 1 Students can understand the history of Animal tissue culture
CO 2 Students can identify different types of animal cell culture
CO 3 Students are able to distinguish various culture methods
CO 4 Students can understand the application of genetically modified animals

Course Name Open Course- Food & Dairy Biotechnology
Course Code BB1551.2

CO 1 Students can understand the concept & scope of food biotechnology
CO 2 Students can identify different types of food borne diseases
CO 3 Students are able to distinguish various types of food spoilage
CO 4 Students can understand the application of food preservation.

SEMESTER VI
Course Name Genetics
Course Code BB1641

CO 1 Students can understand details about classical gentics
CO 2 Students can understand mechanism of linkage and crossing over
CO 3 Students are familiarize with molecular genetics
CO4 Students acquire the basic knowledge about po[pulation genetics

Course Name Economic Botany, Ethnobotany & medicinal Botany
Course Code BB1642

CO1 Students can understand the importance of ethanobotany
CO 2 Students can understand the importance of economic botany
CO 3 Students can practice cultivation of medicinal plant
CO4 Students are familiarize with the production of herbal drugs

Course Name Industrial BT
Course Code BB1671

CO 1 Students can differentiate different types of fermentation
CO 2 Students are familiarize with parts of a bioreactor
CO 3 Students can acquire basic knowledge about different types of fermentation media
CO4 Students can understand the application the application of microbial products

Course Name Plant EnvironmentalBT
Course Code BB1672

CO 1 Students can understand the importance of environmental biotechnology
CO 2 Students can acquire depth knowledge in different types of pollution
CO 3 Students are able to distinguish various non conventional energy sources
CO 4 Students can understand the application of waste management& bioremediation
CO 5 Students learn about Environmental legislation ACTS

Course Name Elective Course- Food & Dairy Biotechnology
Course Code BB1681.3

CO 1 Students can understand the concept & scope of food biotechnology
CO 2 Students can identify different types of food borne diseases
CO 3 Students are able to distinguish various types of food spoilage
CO 4 Students can understand the application of food preservation.

8.6.22
Lekshmi Vijayanath

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Department wise POs and COs

Name of Department: Physics and Computer Application

M.Sc Physics

Programme Outcome:

PO1: Apply the knowledge of basic science fundamentals to the solution of complex scientific problems.

PO2: Identify, formulate, review research literature, and analyze complex scientific problems reaching substantiated conclusions using principles of Physic, Chemistry, Mathematics, Zoology, Botany, Geo-Informatics, and Applied Sciences.

PO3: Design solutions for complex scientific problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO4: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO5: Create, select, and apply appropriate techniques, resources, and modern chemical IT tools including prediction and modeling to complex chemical activities with an understanding of the limitations.

PO6: Elicit views of others, mediate disagreements and help reach conclusions in group settings.

PO7: Understand the issues of environmental contexts and sustainable development.

PO8: Recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them

PO9: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO10: Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media and technology.

PO11: Demonstrate scientific knowledge with the understanding of the management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO12: Acquire the ability to engage in independent and life-long learning in the broadest context research, scientific and technological change.

Programme Outcome: B.Sc Physics

PO1: Acquire adequate knowledge of the subject

PO2: Obtain a foundation for higher learning

PO3: Be initiated into the basics of research

PO4: Imbibe sound moral and ethic values

PO5: Become conscious of environmental and social responsibilities

PO6: Attain skills for communication

PO7: Learn to tackle diverse ideas and different points of view

PO8: Become empowered to face the challenges of the changing universe

Programme Name B.Sc Physics and computer application
UG Course Outcomes
Semester 1
Course Name Mechanics, Thermodynamics & Properties
Course Code PC 1121

CO 1 Correlate the knowledge gathered to the immediate experimental curriculum.
CO 2 Distinguish the dynamics of rigid bodies of different shapes
CO 3 Explain the implications of conservation laws
CO 4 Interpret the flavour of classical fields from oscillations and waves
CO 5 Handle the known problems in elasticity, surface tension and viscosity in a more mathematically rigorous way

Course Name Introduction to IT
Course Code PC1171

CO 1 Remember the basic concepts of computers
CO 2 Understand the functional knowledge about PC hardware, operations and concepts.
CO 3 Understand the functional units of a standard PC and it's working.
CO 4 Understand the memory organization in a computer.

Course Name Mathematics I
Course Code MM1131.6
CO no Course Outcome
CO 1 The students can understand differentiation and applications
CO 2 The students can understand Integration and its Applications
CO 3 The students can understand infinite Series and its Applications
CO 4 The students can understand Vector Algebra and its Application

Semester – 2

Course Name PROGRAMMING IN C
Course Code PC 1221

CO 1 Remember the basics of computer
CO 2 Understand the structure of program writing
CO 3 Apply control structures and pointers
CO 4 Analyze user defined functions
CO 5 Evaluate dynamic memory allocation
CO 6 Create string handling functions

Course Name C PROGRAMMING LAB
Course Code PC 1271

CO 1 Remember the basics of computer
CO 2 Understand the structure of program writing
CO 3 Apply control structures and pointers
CO 4 Analyze user defined functions
CO 5 Evaluate dynamic memory allocation
CO 6 Create string handling functions

Course Name MATHEMATICS - 11
Course Code MM 123.1

CO No Course Outcome
CO 1 Remember the basic concepts of linear algebra.
CO 2 Understand the functional knowledge about vector integration concepts.
CO 3 Understand the application of ODE.
CO 4 Understand the application of Fourier series.

Semester – 3

Course Name MICROPROCESSORS
Course Code PC 1371

CO NoCourse Outcome
CO 1 Remember the basic concepts of computers.
CO 2 Understand the functional units of a standard PC and its working.
CO 3 Understand the architectural features of 8086 processor.
CO 4 Create assembly language programs for 8086 processor.
CO 5 Apply the tools debug, TASM/ MASM.

Course Name DATASTRUCTURES
Programme Name BSc PCA
Course Code PC 1372

CO NoCourse Outcome

CO 1 Remember purpose of Data Structures
CO 2 Understand different Data Structures
CO 3 Apply programming languages
CO 4 Analyze working of different data structures
CO 5 Evaluate expressions
CO 6 Create different Data Structures

Course Name MATHEMATICS - III
Course Code MM 1331.6

CO NoCourse Outcome

CO 1 Remember the basic concepts of linear algebra.
CO 2 Understand the functional knowledge about vector integration concepts.
CO 3 Understand the application of ODE.
CO 4 Understand the application of Fourier series.

Course Name ELECTRODYNAMICS
Course Code PC1341

CO no Course Outcome

CO 1 Recognize basic terms in Electrodynamics.
CO 2 Understand the basic principles of magneto statics
CO 3 Apply basics theorems on AC circuits and theorems.
CO 4 Ability to apply electric and magnetic laws.
CO 5 To understand the fundamentals and concepts of electromagnetic theory

Semester – 4

Course Name BASIC ELECTRONICS
Course Code PC 1442

CO no Course Outcome

CO 1 To equip the students understand optical phenomenon
CO 2 To summarize the knowledge of basic laws related with light
CO 3 To equip the students to explain properties and applications of fibers
CO 4 To understand the basic principles of laser

Course Name SOFTWARE ENGINEERING
Course Code PC 1471

CO NoCourse Outcome

CO 1 Understand the importance of having a process for software development.
CO 2 Familiarize with various software testing techniques and tools.
CO 3 Apply various models in the software development projects.

CO 4 Analyze the process of software development

Course Name PYTHON PROGRAMMING
Course Code PC 1472

CO NoCourse Outcome

CO 1 Remember the concepts of python programming
CO 2 Understand data types and differences
CO 3 Apply CGI programming
CO 4 Analyze the concepts of database programming in python
CO 5 Evaluate the usage of Python package installer PIP
CO 6 Create programs using libraries such as Flask, SQLAlchemy, Pandas, numpy etc..

Course Name PYTHON PROGRAMMING LAB
Course Code PC 1473

CO NoCourse Outcome

CO 1 Remember the concepts of python programming
CO 2 Understand data types and differences
CO 3 Apply CGI programming
CO 4 Analyze the concepts of database programming in python
CO 5 Evaluate the usage of Python package installer PIP
CO 6 Create programs using libraries such as Flask, SQLAlchemy, Pandas, numpy etc..

Course Name Mathematics IV
Course Code MM1431.6

CO no Course Outcome

CO 1 Can able to understand the theories of Abstract Algebra
CO 2 Can able to understand Laplace Transforms and its Applications
CO 3 Can able to understand Special Functions and its Applications
CO 4 Can able to understand Functions of a complex variable

Course Name HEAT, ELECTRICITY AND MAGNETISM LAB
Course Code PC1443

CO no Course Outcome

CO 1 To familiarize the fundamental properties and nature of Heat
CO 2 To familiarize the fundamental properties and nature of Electricity
CO 3 To familiarize the fundamental properties and nature of Magnetism

Semester – 5

Course Name DATABASE MANAGEMENT SYSTEMS
Course Code PC 1571

CO NoCourse Outcome

CO 1 Understand the concept of database.

CO 2 Develop skills to design an ER diagram.
CO 3 Create database using SQL and perform operations in SQL.
CO 4 Familiarize the management of concurrent transactions.
CO 5 Apply the design concepts and normalization in database easily.

Course Name IMPACT OF SOCIAL MEDIA NETWORKS
Course Code PC 1551.3

CO NoCourse Outcome
CO 1 To understand the types of social media networks and its uses.
CO 2 To learn the impact of social media on society & commerce
CO 3 To analyse the impact of social media on work, training & development and on relationships
CO 4 To familiarize challenges of social media in terms of privacy, security & health

Course Name PHP AND MYSQL LAB
Course Code PC 1572

CO NoCourse Outcome
CO 1 Understand the concept of database.
CO 2 Develop skills to design an ER diagram.
CO 3 Create database using SQL and perform operations in SQL.
CO 4 Familiarize the management of concurrent transactions.
CO 5 Apply the design concepts and normalization in database easily.

Course Name ATOMIC AND NUCLEAR PHYSICS
Course Code PC1542

CO no Course Outcome
CO 1 To familiarize the fundamental properties of nucleus
CO 2 To familiarize the nuclear structure and its models.
CO 3 To familiarize the fundamental properties of nuclear reactions.
CO 4 To familiarize the fundamentals of nuclear reactions and accelerators
CO 5 To introduce the concept of elementary particles and their interactions.

CourseName ELECTRONICS
Course Code PC 1542

CO no Course Outcome
CO 1 Be familiar with the basic concepts of construction and working of electronic devices
CO 2 Apply the knowledge to understand the working of amplifiers, oscillators and multivibrators
CO 3 Understand the principles of modulation and demodulation
CO 4 understand the basics of digital electronics
CO 5 Apply the principles of feedback in amplifiers and oscillators

Semester – 6
Course Name SOLID STATE PHYSICS
Course Code PC1641

CO no Course Outcome

CO 1 Discuss crystal physics, lattice vibrations, models of thermal properties and band theory of solids.

CO 2 Explain the theoretical concepts of semiconductors, dielectric, magnetic and superconducting materials.

CO 3 To describe the synthesis and characterization techniques of nanomaterials.

CO 4 To apply the concepts in condensed matter physics to meet the challenges

Course Name COMPUTER NETWORKS AND SECURITY
Course Code PC 1671

CO NoCourse Outcome

CO 1 Remember various network technologies, design issues and characteristics

CO 2 Understand the purpose of computer networks and the basic issues in information security

CO 3 Apply the use of layer architecture for networking systems, information security measures

CO 4 Analyze the concept of different models of network and the working of various ciphers

CO 5 Evaluate data link controls and Information Security policies

CO 6 Create awareness on different networking protocols and information security policies

Course Name OPERATING SYSTEMS
Course Code PC 1672

CO NoCourse Outcome

CO 1 Understand working of various Operating Systems

CO 2 Apply constrained resource allocation, process scheduling and memory management techniques

CO 3 Evaluate synchronization of processes and protection of an Operating System

CO 4 Analyse salient features available to various Operating Systems

COURSE NAME MAJOR PROJECT
Course Code PC 1673

CO NoCourse Outcome

CO 1 CREATE an industry-standard project through a real-life project work under time and deliverable constraints, applying the knowledge acquired through various courses.

CO 2 To provide an opportunity to apply the knowledge gained through various courses in solving a real life problem

CO 3 To provide an opportunity to practice different phases of software/system development lifecycle

CO 4 To introduce the student to a professional environment and/or style typical of a global IT industry

CO 5 To provide an opportunity for structured team work and project management

CO 6 To provide an opportunity for effective, real-life, technical documentation

CO 7 To provide an opportunity to practice time, resource and person management.

Course Name Astronomy and Astrophysics
Course Code PC1661.1.

CO no Course Outcome

CO 1 Recognize basic terms in Statistical Mechanics..

CO 2 Understand the basic principles of quantum particles.

CO 3 Apply basics to construct and solve one particle equations
CO 4 Ability to design and construct particle equations in the free and bound states as well as to analyze and interpret the results
CO 5 To understand the fundamentals and concepts in operator formalism

M.Sc Physics
Course Outcomes (CO s)

PG Course Outcomes
Semester 1

Course name Classical Mechanics
Programme Name Msc Physics
Course Code PH 211

CO no Course Outcome
CO 1 Students are able to learn the concepts of Lagrangian and Hamiltonian mechanics and use them to solve problems in mechanics. Able to learn concepts of generating functions, Poisson brackets Hamilton Jacobi equations and action angle variables.
CO 2 To equip the students to deal with central force problem and analyzingKepler's laws.
CO 3 To inculcate the students the concepts of special and general theory of relativity and related problems.
CO 4 To acquaint the students about the theory of small oscillations and Euler's equations of motions of rigid bodies.
CO 5 To analyze nonlinear dynamical systems and to explain the concepts of classical chaos.

Course Name BASIC ELECTRONICS
Course Code PH 213

CO no Course Outcome
CO 1 To equip the students design and analyze different analogue and digital circuits.
CO 2 To summarize the knowledge of basic arithmetic and data processing circuits and memory devices
CO 3 To equip the students to explain various components in optical communications systems and microwave devices
CO 4 To measure and analyze the different electronic signals.

Course Name GENERAL PHYSICS PRACTICALS
Course Code PH 251

CO no Course Outcome
CO 1 To measure and analyze various physical quantities.
CO 2 To calculate error in various general physics experiments.
CO 3 To develop experimental skills
CO 4 Demonstrate and understand various general physics experiments for acquiring fundamental concepts.

Semester – 2

Course Name Optics and Electromagnetic Theory
Course Code PH 221

CO no Course Outcome

CO 1 Define and explain fundamental ideas and mathematical formalism of theoretical and applied Physics.
CO 2 Identify, classify and extrapolate the physical concepts and related mathematical methods to formulate and solve real physical problems.
CO 3 Identify and solve problems that require simultaneous implementation of concepts from different branches of physics and other related areas.
CO 4 To define a research problem, translate ideas into working models, interpret the data collected draw the conclusions and report scientific data in the form of dissertation.
CO 5 To disseminate scientific knowledge and scientific temper in the society to contribute To wards greater human cause.

Course Name THERMODYNAMICS, STATISTICAL PHYSICS AND BASIC QUANTUM MECHANICS
Course Code PH 222

CO no Course Outcome

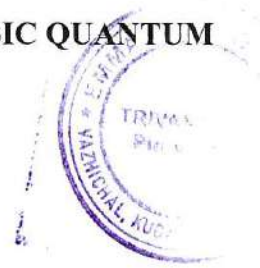
CO 1 course is aimed to introduce the concepts of thermodynamic equations
CO 2 course is aimed to introduce the concepts offoundations of classical and quantum statistics
CO 3 course is aimed to introduce the concepts oftheory of phase transitions
CO 4 course is aimed to introduce the concepts quantum mechanics together with problems

Course Name GENERAL PHYSICS PRACTICALS
Course Code PH 251

CO no Course Outcome

CO 1 To measure and analyze various physical quantities.
CO 2 To calculate error in various general physics experiments.
CO 3 To develop experimental skills
CO 4 Demonstrate and understand various general physics experiments for acquiring fundamental concepts.

Course Name THERMODYNAMICS, STATISTICAL PHYSICS AND BASIC QUANTUM MECHANICS
Programme Name Msc Physics
Course Code PH 222



CO no Course Outcome

CO 1 course is aimed to introduce the concepts of thermodynamic equations
CO 2 course is aimed to introduce the concepts offoundations of classical and quantum statistics
CO 3 course is aimed to introduce the concepts oftheory of phase transitions
CO 4 course is aimed to introduce the concepts quantum mechanics together with problems

Course Name ELECRONICS AND COMPUTER SCIENCE PRACTICALS

Course Name ELECRONICS AND COMPUTER SCIENCE PRACTICALS
Course Code PH 252

CO no Course Outcome

CO 1 To design and construct various electronic circuits and its validation
CO 2 To calculate error in variopus electronic experiments.
CO 3 To develop experimental and programming skills

Semester – 3

Course Name Advanced Quantum Mechanics
Course Code PH 231

CO no Course Outcome

CO 1 To extend the use of approximation methods viz variation, WKB, time dependent and time independent perturbations.
CO 2 To summarize different types of symmetry, conservation laws and quantum theory ofscattering.
CO 3 To distinguish different approximation methods, to study the structure and properties of Many electron systems.
CO 4 To compute eigen values of angular momentum and evaluation of CG coefficients.
CO 5 Infer the requirements of relativistic quantum mechanics.

Course Name ATOMIC AND MOLECULAR SPECTROSCOPY
Course Code PH 232

CO no Course Outcome

CO 1 Explain different symmetry operations and deduction of molecular structure.
CO 2 Distinguish and classify the different spectra shown by atoms and molecules
CO 3 Illustrate the various spectroscopic experimental techniques

Semester – 4

Course Name ADVANCED PHYSICS PRACTICALS
Programme Name MSc Physics
Course Code PH 261

CO no Course Outcome

CO 1 To measure and analyze various physical quantities.
CO 2 To calculate error in various advanced physics experiments
CO 3 To develop experimental skills
CO 4 To analyze and point out results of experimental data

for 8.6.22
Lekshmi Vijayanathan

EMMANUEL COLLEGE * VAZHICHAL, KUDAPPANAKUNNU P.O * TRIVANDRUM Pin.695505

8/6/22
Principal
EMMANUEL COLLEGE

EMMANUEL COLLEGE

VAZHICHAL, THIRUVANANTHAPURAM

A Latin Catholic Institution | Affiliated to the University of Kerala

Department wise POs and COs

Name of Department: Electronics

Programme Outcomes(POs)

PO1 Ability to apply knowledge of mathematics & science in solving electronics related Problems

PO2 Ability to design and conduct electronics experiments, as well as to analyze and interpret data

PO3 Ability to design and manage electronic systems or processes that conforms to a given specification within ethical and economic constraints

PO4 Ability to identify, formulate, solve, and analyze the problems in various disciplines of electronics.

PO5 Ability to function as a member of a multidisciplinary team with sense of ethics, integrity and social responsibility

PO6 Ability to communicate effectively in term of oral and written communication skills

PO7 Recognize the need for and be able to engage in lifelong learning.

PO8 Ability to use techniques, skills, and modern technological/scientific/engineering software/tools for professional practices

PO9 Provide students with skills that enable them to get employment in industries or pursue higher studies or research assignments or turn as entrepreneurs.

SCHEME 2019 COURSE OUTCOMES

SEMESTER 1

EX 1141: ENVIRONMENTAL STUDIES

CO1: Gain knowledge about environment and ecosystem.

CO2: Students will learn about natural resource, its importance and environmental impacts of human activities on natural resource.

CO3: Gain knowledge about the conservation of biodiversity and its importance.

CO4: Aware students about problems of environmental pollution, its impact on human and ecosystem and control measures.

CO5: Students will learn about social issues and the environment and also increase in population growth and its impact on environment.

EX 1142 BASIC ELECTRICAL AND ELECTRONICS ENGINEERING

CO1: Study circuits in a systematic manner suitable for analysis and design

CO2: Analyze the electric circuit using KCL and KVL

CO3: Understand fundamental laws governing Magnetism, Electro Magnetic induction, AC generation

CO4: Evaluate rms value, average value of different waveforms

CO5: Understand the concept of band gap, working of different semiconductor diodes.

EX 1143: ELECTRICAL and ELECTRONICS WORKSHOP

CO1: Verify the network theorems and operation of typical electrical circuits

CO2: Choose the appropriate equipment for measuring electrical quantities and verify the same for different circuits.

CO3: Prepare the technical report on the experiments carried.

EX 1144: DIGITAL ELECTRONICS LAB

CO1: Verify the truth tables of different digital circuits

CO2: Choose the appropriate equipment for measuring electrical quantities and verify the same for different circuits.

CO3: Design simple digital circuits

CO4: Prepare the technical report on the experiments carried.

EX1131: DIGITALELECTRONICS

CO1: Understand and represent numbers in powers of base and converting one from the other, carry out arithmetic operations

CO2: Understand basic logic gates, concepts of Boolean algebra and techniques to reduce/simplify Boolean expressions

CO3: Analyze and design combinatorial as well as sequential circuits

CO4: Familiarize different logic ICs

SEMESTER 2

EX1241: SOLID STATE ELECTRONICS

CO1: Remember symbols of various electronic devices

CO2: Describe the behaviour of semiconductor materials

CO3: Reproduce the I-V characteristics of diode/BJT/MOSFET devices

CO4: Apply standard device models to explain/calculate critical internal parameters of semiconductor devices

CO5: Understand the behaviour and characteristics of power devices such as SCR/UJT etc.

EX1242: NETWORK ANALYSIS

CO1: Analyze the electric circuit using network theorems

CO2: Determine Transient and steady state response for RL,RC and RLC circuits

CO3: Understand time domain, complex frequency, poles and zeros.

CO4: Determine the stability

CO5: Understand the two–port network parameters with an ability to find out two-port network parameters

EX1243: BASIC ELECTRONICS LAB

CO1: Examine the characteristics of basic semiconductor devices.

CO2: Perform experiments for studying the behaviour of semiconductor devices for circuit design applications.

CO3: Calculate various device parameters 'values from their IV characteristics

CO4: Interpret the experimental data for better understanding the device behaviour.

EX1244: C PROGRAMMING LAB

CO1: Write code in C language for arithmetic and logical problems

CO2: Implement conditional branching, iteration and recursion.

CO3: Use concept of modular programming by writing functions and using them to form a complete program

CO4: Prepare the technical report on the experiments carried.

EX1231: PROGRAMMING IN C

CO1: Write code in C language for arithmetic and logical problems

CO2: Implement conditional branching, iteration and recursion.

CO3: Use concept of modular programming by writing functions and using them to form a complete program

CO4: Understand the concept of arrays, pointers and structures and use them to develop algorithms and programs for implementing searching and sorting

SEMESTER 3

EX1341: ELECTRONIC CIRCUITS

CO1: Illustrate about rectifiers, transistor and FET amplifiers and its biasing. Also compare the performances of its low frequency models.

CO2: Describe the frequency response of FET and BJT amplifiers.

CO3: Explain the concepts of feedback and construct feedback amplifiers and oscillators.

CO4: Summarizes the performance parameters of amplifiers with and without feedback

CO5: Describe the concept of power amplifiers and understand various types of distortions in large signal amplifiers

CO6: Design and construct single stage amplifiers, oscillators and wave shaping circuits.

EX1342: COMMUNICATION ENGINEERING

CO 1: Understand the requirements and the protocols employed in the fundamental components in a communication network.

CO 2: Determine the suitability of a particular communication system to a given problem

CO3: Describe the concept of "noise" in analog and digital communication systems

CO 4: Understand the concept of different telephone systems

EX1343: MICROPROCESSOR & INTERFACING

CO1: Understand the Architecture of 8085 Microprocessor

CO2: Familiarize 8085 instruction set and construct 8085 assembly language program

CO3: Analyze the time of Execution and performance of the 8085 processor

CO4: Evaluate the performance of 8085 using 8255

CO5: Analyse the Data transfer through 8237&8259&8251

CO6: Understand the architecture of 8086

EX1344: ELECTRONICS CIRCUITS LAB

CO1: Understand and analyze electronic circuits.

CO2: Choose the appropriate equipment for measuring electrical quantities and verify the same for different circuits.

CO3: Able to understand and apply circuit theorems and concepts in engineering Applications

CO4: Prepare the technical report on the experiments carried.

CO5: Able to design and troubleshoot various electronic circuits using discrete components

EX1345: MICROPROCESSOR LAB

CO1: Be proficient in use of IDE's for designing, testing and debugging microprocessor based system

CO2: Interface various I/O devices and design and evaluate systems that will provide solutions to real-world problem

CO3: Prepare a technical report on the experiments carried

EX 1332: COMPUTER ORGANIZATION

CO1: Recall the basic structure of Computers.

CO2: Explain Multibus Organization.

CO3: Understand the concepts of Memory Structure.

CO4: Understand the concepts of optical storage devices.

C0 5: Explain the concept of Operating Systems.

CO 6: About computers in the corporate world.

SEMESTER 4

EX 1441: APPLIED ELECTROMAGNETIC THEORY

CO1: Understand the fundamentals of Electrostatics and Magnetostatics hence get the insight of the characteristics of materials and their interactions with electric and magnetic fields

CO2: Understand the application of Vector Differential and Integral operators in Electromagnetic Theory.

CO3: Interpret Maxwell's equations in differential and integral forms, both in time and frequency domains.

CO4: Describe the complex ε, μ, and σ, plane waves

C0 5: Understand the concept of TE, TM, TEM waves

EX1442: LINEAR INTEGRATEDCIRCUIT

CO1: Infer the DC and AC characteristics of operational amplifiers and its effect on output and their compensation techniques.

CO2: Elucidate and design the linear and nonlinear applications of an opamp and special application ICs.

CO3: Explain and compare the working of multi vibrators using special application IC 555 and general-purpose op-amp.

CO4: Understand the concept of voltage regulators and design a simple regulator circuits using special IC's

C05: Understand the concept of active filters, analyze its frequency response and design of simple first order butterworth filters

EX 1443: ELECTRONIC INSTRUMENTATION

CO1: Describe the working principle of different measuring instruments

CO2: Choose appropriate measuring instruments for measuring various parameters in their laboratory courses

CO3: Correlate the significance of different measuring instruments, recorders and Oscilloscopes

EX1444. MICROCONTROLLERS AND APPLICATIONS

CO1: Understand the architecture of 8051 microcontroller

CO2: Familiarize the instruction set and construct assembly language program

CO3: Analyze the performance of peripheral Devices interfacing with 8051

CO4: Understand the architecture of PIC16F877A architecture

CO5: Analyze the serial communication using USART, SPI, I^2C

CO6: Evaluate the performance of LED, Switch, LCD, Stepper motor using PIC16F877 E

EX1445: LINEAR IC LAB

CO1: Interpret op-amp data sheets.

CO2: Analyze and prepare the technical report on the experiments carried out.

CO3: Design application-oriented circuits using Op-amp and 555 timer ICs

CO4: Create and demonstrate live project using ICs.

EX 1446: MICROCONTROLLER LAB

CO1: Be proficient in use of IDE 's for designing, testing and debugging microprocessor and microcontroller-based system

CO2: Interface various I/O devices and design and evaluate systems that will provide solutions to real world

CO3: Prepare the technical report on the experiments carried.

EX1451.1: PRINCIPLES OF MOBILE COMMUNICATION

CO1: Illustrate about different communication standards.

CO2: Describe different radio transmission techniques.

CO3: Explain the concepts of multiple access techniques.

CO4: Understand a basic cellular system

CO5: Describe the concept of GSM

CO6: Describe various traffic routing techniques.

SEMESTER 5

EX 1541: DIGITAL SIGNAL PROCESSING

CO1: Understand Digital Signal Processing Systems. Signals Elementary of Discrete Time Signals, Discrete Time Systems - Various Classifications of Discrete Time Systems. Discrete Time Fourier Transform (DTFT)

CO2: Explain and Calculate Discrete Fourier Transform, Circular Convolution, Linear Convolution using. Computation of IDFT.

CO3: Understand and explain Fast Fourier Transforms

CO4: Understand and create IIR and FIR systems

CO5: understand and apply Filters, Design of Analog Butterworth Low Pass filter, Impulse Invariant and Bilinear Transformation

EX1542: DIGITAL COMMUNICATION

CO1: Understand and Explain different pulse modulation schemes.

CO2: Explain digital modulation techniques.

CO3: Understand and explain multiplexing techniques.

CO4: Understand and explain digital transmission schemes.

CO5: Understand and explain spread spectrum techniques.

EX1543: COMPUTER NETWORKS

CO1: Remember various network technologies, design issues and characteristics.

CO2: Understand the purpose of computer networks and basic issues in information security.

CO3: Apply the use of layer architecture for networking systems, information security measures.

CO4: Analyses the concept of different models of network and the working of various layers.

CO5: Evaluate data link controls and Information Security policies.

CO6: Describe the different routing algorithms and its concepts.

EX 1545: COMMUNICATION LAB

CO1: Understand basic elements of a communication system.

CO2: Analyze the baseband signals in time domain and in frequency domain.

CO3: Build understanding of various analog and digital modulation and demodulation techniques.

CO4: Prepare the technical report on the experiments carried.

EX1551.1: ENTERTAINMENT ELECTRONICS TECHNOLOGY

CO1: Understand basic elements of a recording and reproduction system.

CO2: Understand and explain the concept of different types of speakers.

CO3: Understand and explain Television standards.

CO4: Understand and explain various electronic gadgets.

SEMESTER 6

EX 1641: OPTICAL COMMUNICATION

CO1: Recollection of basic principles of optics transmitting light on a fiber. Classification of Optical Fibers.

CO2: Understand the Signal Degradation in Optical Fibers.

CO3: Understand the Optic Fiber Couplers, Splicing Techniques and Optic fiber Connectors.

CO4: Understanding Optical sources and Detectors

EX 1642: BIOMEDICAL ENGINEERING

CO1: Understand the basic knowledge of physiology.

CO2: Explore the occurrence of potential and operation of cardiovascular measurements.

CO3: Understand the basic knowledge on respiratory and pulmonary measurements.

CO4: Describe the methods used for monitoring the patients.

EX1643: NANOELECTRONICS

CO1: Describe the principles of nanoelectronics and the processes involved in making nano components and material.

CO2: Explain the advantages of the nano-materials and appropriate use in solving practical problems.

CO3: Explain the various aspects of nano-technology and the processes involved in making nano components and material.

CO4: Understand and analyze various techniques for characterizing nanomaterials.

EX1644: SIMULATION LAB

CO1: Simulate the characteristics of electronic devices

CO2: Design and Simulate simple electronics circuits and observe its output

CO3: Preparing a Written Report on the Study conducted for presentation to the Department.

EX1651.2: MICROWAVE ENGINEERING

CO1: Understand Microwave frequency band and transmission line used in microwave communication.

CO2: Apply Waveguide theory and Analyze the wave pattern.

CO3: Understand the operation of various microwave devices.

CO4: Analyze the working of various Microwave amplifier and oscillator.

CO5: Understand the working of microwave solid state devices.

EX 1645: PROJECT

CO1: Survey and study of published literature on the assigned topic.

CO2: Working out a preliminary Approach to the Problem relating to the assigned topic.

CO3: Conducting preliminary Analysis/ Modelling/ Simulation/ Experiment/ Design/ Feasibility.

CO4: Preparing a Written Report on the Study conducted for presentation to the Department.

CO5: Final Seminar, as oral Presentation before an Internal & External evaluation committee.

8.6.22

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