DEPARTMENT OF ENGLISH

B.A (ENGLISH)

PROGRAM SPECIFIC OUTCOME (PSO)

PSO1: Students obtain proficiency in English communication.

PSO2: Students master the subtleties of Structural English and can differentiate between right and wrong usages through phonology, morphology and syntax.

PSO3: Their LSRW finds momentum through rigorous training.

PSO4: Students become adept in formal and informal communications and employ advanced business English in oral and written communications.

PSO5: Students acquire job competency as they can write applications, CVs, business reports, memos, emails etc using technology mediated English and make successful careers for themselves.

PSO6: Students by acquiring appreciation, understanding, general proficiency and interest in English grow to become global citizens.

COURSE OUTCOME

SEMESTER - I

COURSE: FOUNDATION I (ENGLISH) **CREDIT : 4**

CO1: Understand and analyze different genres of Poetry and poetical rhythm.

CO2: Classify the different themes and concepts of Prose.

CO3: Inculcate some basic ethics and morals by understanding how characters are portrayed.

CO4: Understand the function of Grammar and able to frame own sentences.

CO5: To Learn Reading Strategies to Comprehend and Evaluate a range of Texts and Tasks.

CO6: To discuss different perspectives and stances on contemporary issues.

COURSE: INDIAN WRITING IN ENGLISH CREDIT: 4

CO1: Evaluate the various phases of the evolution of Indian Writing in English.

CO2: Analyse the thematic concern, genres and trends in Indian Writing in English

CO3: Describe the various aspects of Indian Society.

CO4: Literary texts representing different periods and culture. Explain the Indian Culture reflected in Literature.

CO5: Understand how society and culture played a significant role in the lives and career of the writers of the age.

COURSE: ADVANCED ENGLISH GRAMMAR CREDIT: 4

CO1: Analyze different ways in which grammar has been described

CO2: Understand the difference between Spoken and Written.

CO3: Compare and Contrast various Components of grammar, using examples

CO4: Identify the grammatical structure

CO5: Recognize the various rules of grammar.

CO6: Develop your abilities as a critical reader and writer.

COURSE: LITERARY FORMS AND TERMS CREDIT:4

CO1: Acquaint with minor forms of Literature in English.

CO2: Classify the correct usage of terms

CO3: Analyze the particular forms literally

CO4: Expose and explain with examples about the literary devices used.

CO5: Implement the main idea and style of works written by the writers.

CO6: Medium of language expressed fundamentally to develop interest.

SEMESTER II

COURSE: FOUNDATION II CREDIT: 4

CO1: Understand and analyze different genres of Poetry and poetical rhythm.

CO2: Classify the different themes and concepts of Prose.

CO3: Understand some basic ethics and morals by understanding how characters are portrayed.

CO4: Understand the function of Grammar and able to frame own sentences.

CO5: Appreciate the benefits of learning foreign language.

CO6: Describe the meaningful, observable and measurable, knowledge skills.

COURSE: BRITISH LITERATURE I CREDIT: 4

CO1: Recognize different author's creative and imaginative writings through poetry.

CO2: Identify social status, class system that prevailed in Britain.

CO3: Compare and contrast between different characters.

CO4: Produce their own historical analysis and develop historical knowledge.

CO5: Trace the history of English literature from old English period.

CO6: Identify the transformation of language, style, themes reflected in the literary texts from old English to middle English period.

COURSE: AMERICAN LITERATURE I CREDIT: 4

CO1: Identify the variety of forms and genres of poetry from diverse cultures, epic, free verse.

CO2: Explain the concepts of American Literature.

CO3: Analyze the major themes of American Literature.

CO4: Use historical sources and historical contexts.

CO5: Relate the African American experience in America and analyze the American mind from global perspective.

CO6: Understand the depth and diversity of American Literature, including the history and culture of the United States of America from the colonial period to the present.

COURSE: SOCIAL HISTORY OF ENGLAND CREDIT: 4

CO1: Understand the antiquities of England.

CO2: Define religious groups like Catholism, Puritanism, Protestanism.

CO3: Classify the periods like Elizabethan, Queen Anne, Victorian.

CO4: Compare and contrast the growth of England.

CO5: Describe the social economic and political background of England

CO6: Familiarize with the social events of different ages.

SUBJECT: SOFT SKILLS CREDIT: 1

CO1: Communicate both in Speaking and Writing effectively.

CO2: Define any text analytically and critically.

CO3: Classify the different ways of communication in different contexts.

CO4: Understand clearly through multiple spoken and written forms

SEMESTER III

COURSE: FOUNDATION III **CREDIT: 4**

CO1: Understand and analyze different genres of Poetry and poetical rhythm.

CO2: Classify the different themes and concepts of Prose.

CO3: Inculcate some basic ethics and morals by understanding how characters are portrayed.

CO4: Understand the function of Grammar and able to frame own sentences.

CO5: To realize the beauty and communication power of English.

CO6: To develop students interest in reading .

COURSE: BRITISH LITERATURE II **CREDIT: 4**

CO1: Recognize different author's creative and imaginative writings through poetry.

CO2: Identify social status, class system that prevailed in Britain.

CO3: Compare and contrast between different characters.

CO4: Produce their own historical analysis and develop historical knowledge.

CO5: Understand the theme and structure in British poetry and drama.

CO6: Able to communicate clearly, effectively and handle various authors skills.

COURSE: AMERICAN LITERATURE II CREDIT: 4

CO1: Identify the variety of forms and genres of poetry from diverse cultures, epic, free verse.

CO2: Recognize rhythm metrics and other aspects of Poetry.

CO3: Understand a literary text in different contexts and recognize selected literary text.

CO4: Analyze the Drama using appropriate theoretical, historical and cultural apparatus.

CO5: Understand what is life, culture language and society through literature.

CO6: Able to compare American writings with Indian writings with English.

COURSE: HISTORY OF ENGLISH LITERATURE I CREDIT: 4

CO1: Classify the various contribution of writers in the age of Chaucer.

CO2: Understand religious changes that occurred during the development of Drama.

CO3: Describe the life and works of Shakespearean Era.

CO4: Examine the writing style of Milton's age.

CO5: Evaluate the works of writer's in the age of Dryden.

COURSE: SKILLS FOR EMPLOYMENT I CREDIT: 3

CO1: Define the values and career choices through individual skill assessment.

CO2: Apply the necessary steps to achieve the goal.

CO3: Develop and practice the skills for the better communication.

CO4: Improve personality development.

COURSE: NME- LANGUAGE SKILLS & COMMUNICATION I

CREDIT: 2

CO1: Understand different people at different level.

CO2: Apply the learned skill in communication.

CO3: Improve communication skills.

CO4: Develop personality.

SEMESTER IV

COURSE: FOUNDATION IV **CREDIT: 4**

CO1: Understand and analyze different genres of Poetry and poetical rhythm.

CO2: Classify the different themes and concepts of Prose.

CO3: Inculcate some basic ethics and morals by understanding how characters are portrayed.

CO4: Understand the function of Grammar and able to frame own sentences.

CO5: Identify the importance of communication and the role of grammar.

CO6: Encourage students to go ahead for further references

COURSE: BRITISH LITERATURE III **CREDIT: 4**

CO1: Recognize different author's creative and imaginative writings through poetry.

CO2: Identify social status, class system that prevailed in Britain.

CO3: Compare and contrast between different characters.

CO4: Produce their own historical analysis and develop historical knowledge.

CO5: Trace the history of English literature from old English period.

CO6: Identify the transformation of language style themes reflected in the literary texts from old English to middle English period.

COURSE: HISTORY OF ENGLISH LANGUAGE CREDIT: 4

CO1: Able to define language.

CO2: Classify the various stages of development of English language.

CO3: Compare and contrast the varieties of English used all over the world.

CO4: Understand clearly the coining of different words through different languages spoken in the world.

CO5: Able to form new words.

CO6: Explore literary elements.

CO7: Appreciate literary form and structure in shaping a texts' meaning

COURSE: HISTORY OF ENGLISH LITERATURE II

CREDIT: 4

CO1: Classify the various contribution of writers in the age of Pope.

CO2: Understand social strategies that occurred during the development of Johnson's Era.

CO3: Describe the development of prose in the age Wordsworth.

CO4: Examine the role of novel in the age of Tennyson.

CO5: Evaluate the works of Hardy.

COURSE: SKILLS FOR EMPLOYMENT II CREDIT: 3

CO1: Define the values and career choices through individual skill assessment.

CO2: Apply the necessary steps to achieve the goal.

CO3: Develop and practice the skills for the better communication.

CO4: Improve personality development.

COURSE: NME- LANGUAGE SKILLS & COMMUNICATION II CREDIT:3

CO1: Understand different people at different level.

CO2: Apply the learned skill in communication.

CO3: Improve communication skills.

CO4: Develop personality.

SEMESTER V

COURSE: BRITISH LITERATURE IV CREDIT: 4

CO1: Compare and contrast British Literature with Indian Literature.

CO2: Outline the study of Elizabethan Age.

CO3: Analyze the growth of English Literature.

CO4: Understand the history of British Literature.

CO5: Understand how to distinguish between reason and inspiration in romantic literature.

CO6: Understand the depth and diversity of British culture.

COURSE: LANGUAGE AND LINGUISTICS CREDIT: 4

CO1: Able to define language.

CO2: Recognize speech sounds and phonetic system in English.

CO3: Identify the grammatical and phonemic components of the language.

CO4: Detect pronunciation mistakes.

CO5: Detect misspelling and to remove mistakes.

COURSE: INTRODUCTION TO LITERARY CRITICISM CREDIT: 4

CO1: Develop student's ability to understand a literary piece.

CO2: Develop the ability to conduct literary research.

CO3: Examine the representative text of the Seminal literary critics.

CO4: Understand intrinsic and extrinsic criticism.

CO5: Expose to the concept of the historical perceptions over the centuries.

COURSE: INDIAN LITERATURE IN TRANSLATION CREDIT: 4

CO1: Explain about the information and knowledge regarding history of English Language.

CO2: Recognize the various cultures, periods, elements of Prose and Poetry.

CO3: Improve the cultural knowledge and modes of communication.

CO4: Enrich the vocabulary to enjoy reading, writing & further teaching.

CO5: Attain the skill of translating passages from the source language to the target language and vice versa.

CO6: Inculcate the importance of sense for sense translation, rather than the word for word translation.

COURSE: JOURNALISM AND MASS COMMUNICATION

CREDIT : 3

CO1: Classify newspaper as a recorder of news and events.

CO2: Understand the impact of newspaper on society, socio economic and cultural development.

CO3: Understand the role of the news editors , functions, duties and responsibilities.

CO4: Analyze the features as a special kind of reporting.

CO5: Describing the principles of editing, copy editing and computer editing.

COURSE: CONVERSATIONAL ENGLISH **CREDIT: 3**

CO1: Communicate both in Speaking and Writing effectively.

CO2: Define any text analytically and critically.

CO3: Classify the different ways of communication in different contexts.

CO4: Understand clearly through multiple spoken and written forms.

SEMESTER VI

COURSE: SHAKESPEARE **CREDIT: 5**

CO1: Define the genre of Drama.

CO2: Evaluate the art of writing drama.

CO3: Identify the terminology used during Elizabetahan period.

CO4: Compare and contrast the works of Shakespeare with other dramatists.

CO5: Evaluate the critical approaches of Shakespeare's writing.

CO6: Classify the different genres like Tragedy, Comedy, Historical plays etc.

CO7: Explain the universal appeal in the writings of Shakespeare.

COURSE: BRITISH LITERATURE V CREDIT : 4

CO1: Compare and contrast British Literature with Indian Literature.

CO2: Outline the study of Elizabethan Age.

CO3: Analyze the growth of English Literature.

CO4: Understand the history of British Literature.

CO5: Understand the themes and structure in British poetry and drama.

CO6: Able to communicate clearly , effectively and handle various authors' skills.

COURSE: NEW LITERATURES IN ENGLISH CREDIT: 4

CO1: Broaden the origin of new literature education.

CO2: Focus on emergence and importance of new writing style.

CO3: Widen the knowledge of traditionalism and modernism during colonialism period.

CO4: Understand the cultural dominance, inequality with peculiar presentation.

CO5: Appreciate of the subversive elements of these texts facilitating an understanding of the dichotomy pervasive in all such writings.

CO6: Develop a healthy aspect for the cultures all over the repressed world that survived the imperialistic attitudes and cultural conditioning.

COURSE: TECHNOLOGY MEDIATED ENGLISH CREDIT: 3

CO1: Describe and apply emerging technologies in teaching and learning environments.

CO2: Develop technology enabled assessment and evaluation strategies.

CO3: Demonstrate the uses of online education.

CO4: Display the knowledge of various uses of internet services.

COURSE: COPY EDITING AND PROOF READING CREDIT: 3

CO1: Understand the use of style & style guides in proof reading and copy editing.

CO2: Describe editing tools and techniques.

CO3: Understand the role of the editor and sub-editor.

CO4: Analyze the scheduling and production of print & electronic documents.

COURSE: ENGLISH LANGUAGE AND TEACHING CREDIT: 3

CO1: Explain various teaching strategies.

CO2: Determine the aims of English Language teaching.

CO3: Compute with new methodology of teaching.

CO4: Evaluate the basic concept and principles of English Language teaching

CO5: Encourage learning styles and to increase competence in the use of language.

M.A ENGLISH

PROGRAM SPECIFIC OUTCOMES (PSO)

PSO1: Students demonstrate familiarity with a wide range of representative literary rhetorical texts, including influential criticism of and commentary on those texts.

PSO2: Students master the subtleties of Structural English and can differentiate between right and wrong usages through phonology, morphology and syntax.

PSO3: Students examine the theoretical premises underlying the critical analysis of literature, rhetoric and the teaching of reading and writing.

PSO4: They learn to analyze the functions of texts and their relations with historical, social and political contexts.

PSO5: Students learn to locate, evaluate and synthesize the available resources for researching a significant scholarly topic.

PSO6: They found aptitude in preparing and delivering effective oral presentations and arguments acceptable within the English professions.

COURSE OUTCOME

SEMESTER – I

COURSE: CHAUCER AND ELIZABETHEN LITERATURE

CREDIT:4

CO1: Examine the literary traditions of the Elizabethan period.

CO2: Explain the social-political background of Chaucer age.

CO3: Explore the growth & influence of Renaissance.

CO4: Analyze the life & society of Elizabethan age.

CO5: Define the birth of modern literature.

CO6: Determine various historical perspectives over the centuries.

CO7: Understand the great writers of early period such as Chaucer, Spencer and Donne.

COURSE: AMERICAN LITERATURE CREDIT:4

CO1: Identify and discuss the roles which gender, race, age, wealth, poverty and geography.

CO2: Recognize rhythm, metrics and other aspects of poetry.

CO3: Understand a literary text in different contexts and recognize selected literary text.

CO4: Inculcate a rhetorical, historical and cultural apparatus.

CO5: Analyze the American texts and also the consumptions of myths and beliefs about American cultural history.

COURSE: INDIAN LITERATURE IN ENGLISH CREDIT:4

CO1: Able to evaluate the various phases of the evolution of Indian writing in English.

CO2: Analyze the thematic concerns, genres and trends in Indian literature in English.

CO3: Describe the various aspects of Indian society through a critical examination of the literary texts representing different periods and culture.

CO4: Explain how the Indian culture is reflected in literature

COURSE: MODERN ENGLISH GRAMMAR CREDIT:4

CO1: Acquire a high proficiency in the use of English.

CO2: Understand the dynamic & analytical aspects of the use of language.

CO3: Understand the familiar basic concepts of sociolinguistic.

CO4: Understand the difference between spoken & written English.

CO5: Understand different ways in which grammar has been described.

COURSE: WOMEN'S WRITING CREDIT:4

CO1: Describe the literature.

CO2: Analyze the women's issues like female domination, identity crisis.

CO3: Prepared to write certain poems & articles on it.

CO4: Compare & contrast between American, African and Indian women's writings.

CO5: Recognize literary texts through the perspective of gender.

CO6: Understand various interpretative techniques to approach novels.

SEMESTER – II

COURSE: RESTORATION AND EIGHTEENTH CENTURY LITERATURE CREDIT:5

CO1: Examine the age of romanticism

CO2: Distinguish literary texts that reflect the socio-cultural and political interest of the period.

CO3: Describe and discuss poems of john Milton to john Keats.

CO4: Analyze English literary tradition.

CO5: Categories the genre of novel and short story.

CO6: Describe literary cultures

CO7: Contexts of King Charles II and reopening of theatres.

COURSE: THE ROMANTIC REVIVAL LITERATURE CREDIT:5

CO1: Appreciate the reform literary style of the representative writers of the romantic period.

CO2: Recognize the literary climate where the romantic sensibility finds an authentic voice, touch & intensity.

CO3: Explain the concept of the romantic revival.

CO4: Familiarize with the impact of the French revolution on romantic critical tradition.

CO5: Make aware of the genesis of the preface to the lyrical ballad.

CO6: Understand key concept conversed in the romantic poetry.

CO7: Clarify Romantic poet's views on themes, subject, function & diction of poetry

COURSE: LANGUAGE AND LINGUISTICS CREDIT:5

CO1: Able to define language.

CO2: Recognize speech sounds and phonetic system in English.

CO3: Analyses data from language structures and relate it to language function.

CO4: Demonstrate the knowledge and understanding of linguistic diversity and variability within and across societies.

CO5: Identify the grammatical and phonemic components of the language.

CO6: Detect misspelling and help to remove mistakes.

CO7: Detect pronunciation mistakes.

CO8: Identify the source of errors that occur in the language learning process.

COURSE: LITERARY CRITICISM CREDIT:5

CO1: Develop student's ability to understand a literary piece.

CO2: Develop the ability to conduct, literary research.

CO3: Examine the representative text of the seminal literary critics.

CO4: Understand intrinsic & extrinsic criticism.

CO5: Expose the students to the concepts of the historical perceptions over the centuries.

CO6: Develop the ability to read works of literary, rhetorical & cultural criticism.

CO7: Describe the structure of dramatic experience.

COURSE: INDIAN DIASPORA LITERATURE CREDIT:3

CO1: Understand the issues of Diaspora, location, history and geography in literature.

CO2: Compile global issues like organ selling, alienation and marginalization.

CO3: Evaluate sub continental migration from 18^{th}& 20^{th} century.

CO4: Create new relations between the cultures of origin and adoption.

SEMESTER III

COURSE: SHAKESPEARE STUDIES CREDIT:5

CO1: Define the genre of drama

CO2: Evaluate the art of writing drama

CO3: Identify the terminology used during Elizabethan Period.

CO4: Compare and Contrast the works of Shakespeare with other dramatist

CO5: Evaluate the critical approaches of Shakespeare's writing.

CO6: Classify the different genres like tragedy, Comedy and historical plays.

CO7: Explain the universal appeal in the writings of Shakespeare.

COURSE: VICTORIAN LITERATURE CREDIT:5

CO1: Explore the traits of Victorianism in English literature '

CO2: Evaluate romanticism and Victorianism.

CO3: Explain the various aspects of Victorian writers.

CO4: Analyze the work of Victorian writers.

CO5: Examine the supernatural elements of Victorian writers.

CO6: Understand Victorian literature.

CO7: Explore various genre of Victorian literature.

COURSE: CONTEMPORARY LITERARY THEORY I CREDIT:5

CO1: Understand literary theory as a system.

CO2: Analyze critically & interpret literary texts.

CO3: Develop an understanding of the nature of language through scientific & analytical approaches.

CO4: Understand the broad spectrum of thought that is covered by literary resource.

CO5: Enhance the literary resource.

COURSE: RESEARCH METHODOLOGY CREDIT: 4

CO1: Define the concept of research

CO2: Classify the different types of research methodologies.

CO3: Understand various research terminologies

CO4: Inculcate the research ethics.

COURSE: LITERATURE: ANALYSIS, APPROACHES AND APPLICATIONS CREDIT: 3

CO1: Develop the working knowledge of practical criticism from diverse cultures, epic, free verse.

CO2: Recognize rhythms, metrics and other aspects of poetry.

CO3: Understand a literary text in different context and recognize selected literary text.

CO4: Analyze the drama using appropriate theatrical, historical and cultural apparatus.

CO5: Inculcate a rhetorical approach to the literary study of American text and also the consumption, myths and beliefs about American cultures.

SEMESTER – IV

COURSE: TWENTIETH CENTURY LITEARTURE CREDIT:5

CO1: Help to retrace the diversity of the literary schools of this period.

CO2: Understand more liberal in outlook & scientific in techniques.

CO3: Introduce student's thoroughly competent & literate authors in the traditional mode.

CO4: Understand the impact the world wars on society.

CO5: Recognize different collections of short stories.

CO6: Introduce literary theories such as new criticism.

CO7: Familiarize with the basic theories, knowledge areas and analytical tools of the field.

COURSE: ENGLISH LANGUAGE TEACHING CREDIT:5

CO1: To use the language learning strategies effectively.

CO2: To have professional confidence.

CO3: To develop their English language skills continuously.

CO4: To develop new materials to be in the teaching process.

COURSE: CONTEMPORARY LITERARY THEORY II CREDIT:5

CO1: Understand literary theory as a system.

CO2: Analyze critically & interpret literary texts.

CO3: Develop an understanding of the nature of language through scientific & analytical approaches.

CO4: Understand the broad spectrum of thought that is covered by literary resource.

CO5: Enhance the literary resource

COURSE: CHILDREN'S LITERATURE **CREDIT: 3**

CO1: Display a working knowledge of classic and contemporary children's literature

CO2: Analyze literary prose works from various genres for their structure and meaning, using correct terminology.

CO3: Identify and describe distinct literary characteristic of drama including techniques of illustration and format of children's boon.

CO4: Inculcate the approaches of short stories aspects.

CO5: Explain the concept of drama by using appropriate, theoretical historical & cultural approaches

PROGRAM SPECIFIC OUTCOMES (PSOs) FOR FOUNDATION COURSE TAMIL

PSO1: Understand the history and culture of ancient Tamilians especially Sangam age.

PSO2: Understand the values for life through Thirukkural

PSO3: Understand Tamil Literature on Saivism, Vashnavism, Islam, and Christians.

PSO4: Understand the 20th century poet and poetry's.

COURSE OUTCOME FOR FOUNDATION COURSE TAMIL

SEMESTER I

COURSE: LANGUAGE (TAMIL), PART-I **CREDIT: 4**

CO1: Able to write poetry

CO2: To understand about Poets, Prose, Short stories and Drama in traditional culture.

CO3: To explore the Social values of short stories and develops creativity skills.

CO4: To create awareness on Social evils among students.

CO5: Understand and practice the methods to write prose and poetry without errors

SEMESTER II

COURSE: TAMIL **CREDIT: 4**

CO1: Understand devotional Literature

CO2: Explore the richness of the Tamil language

CO3: Develop the literary interests, tests and creative abilities among students

CO4: Develop the ability of communication without mistake

SEMESTER III

COURSE: TAMIL **CREDIT: 4**

CO1: Cultivate a sense of discipline and lead life of integrity through Thirukkural

CO2: Analyze the importance of family values, humanity and honesty through Kappiyangal

CO3: Able to lead the life of purity by comprehending devotional Literature

CO4: Develop a humanitarian outlook.

CO5: Able to prepare Bio-Data, Agenda, Report, Personal and Official letters

COURSE: BASIC TAMIL **CREDIT: 2**

CO1: Understand basics of Tamil Language

CO2: Enables them to enhance their language skills.

CO3: Enables them to develop creative reading and writing.

CO4: Able to participate in dialogue without any difficulty

SEMESTER IV

COURSE: LANGUAGE (TAMIL), PART-I **CREDIT:4**

CO1: Recognize the excellence of ancient Tamil literature

CO2: Develop interest in Sangam literature

CO3: Understand the customs and manners of Tamil Language

CO4: Develop the noble attitudes, relationship with other organisms and living a good life

CO5: Develop the skill of Translation.

COURSE: BASIC TAMIL **CREDIT: 2**

CO1: Learn and practice the methods of writing sentence without errors.

CO2: Understand social value of short stories and develop creative skills.

CO3: Learn Translation and Interviews.

COURSE OUTCOME FOR FOUNDATION COURSE URDU

SEMESTER I

COURSE: URDU **CREDIT: 4**

CO1: Understand Urdu Grammar

CO2: Analyze Urdu Prose

CO3: Understand Mazhar-e-Adab

CO4: Learn the art of letter writing

CO5: Able to differentiate personal and official letter

SEMESTER II

COURSE: URDU **CREDIT: 4**

CO1: Understand Udru ghazaliath

CO2: Analyze manzoomath

CO3: Understand Urdu Drama

CO4: Learn Urdu poem (Nazams)

CO5: Understand Urdu Rubaiyaat

SEMESTER III

COURSE: URDU **CREDIT:4**

CO1: Understand History of Urdu Literature

CO2: Learn Translation

CO3: Understand Grammar

CO4: Learn Composition

CO5: Learn Mazher-e-Adab

SEMESTER IV

COURSE: URDU **CREDIT: 4**

CO1: Understand Non-detailed text

CO2: Learn General Essay

CO3: Learn Urdu fiction writers

CO4: Understand Urdu short stories

CO5: Analyze different author’s style of writing.

DEPARTMENT OF BUSINESS ADMINISTRATION

PROGRAM SPECIFIC OUTCOMES (PSO)

PSO1: To provide conceptual and depth knowledge of various functional areas of business enterprise.

PSO2: To impart and encourage 'Learn to work in teams'.

PSO3: To impart and understand the elements of the complex world of business.

PSO4: To impart knowledge of field visit and training to use techniques of Management

PSO5: To build up self - confidence and ability in students to take up self - serviceable business ventures.

PSO6: To build skills to apply knowledge in project report writing.

PSO7: To impart moral values and social responsibilities

PSO8: To imparts the students to identify their own values.

COURSE OUTCOME

SEMESTER I

COURSE: PRINCIPLES OF MANAGEMENT CREDIT: 4

CO1: Understand the critical management theories and philosophies and how to apply them.

CO2: Recognize the role of a manager and how it relates to the organization's mission.

CO3: Identify and communicate the purpose and functions of management.

CO4: Apply the concepts of decision making in a business situations.

COURSE: BUSINESS MATHEMATICS AND STATISTICS – I

CREDIT: 3

CO1: Identify the scope and limitation of presentation of data.

CO2: Demonstrate the measure of central tendency.

CO3: Analyses the measure of dispersion of range, mean deviation.

CO4: Apply the mathematical for finance of simple and compound interest.

COURSE: BUSINESS ORGANIZATION **CREDIT: 4**

CO1: Understand difference between business and profession.

CO2: Describe and differentiate the forms of business.

CO3: Recognize the need for identifying the location of industry.

CO4: Analyze the work of stock exchange.

CO5: Compare how trade associations differ from chamber of commerce.

SEMESTER II

COURSE: FINANCIAL ACCOUNTING **CREDIT: 4**

CO1: Understand the rules and principles of accounting.

CO2: Understand the concepts of subsidiary books.

CO3: Analyze the need of depreciation.

CO4: Prepare trading, profit and loss account and balance sheet.

COURSE: BUSINESS MATHEMATICS AND STATISTICS – II

CREDIT: 3

CO1: Apply the matrix theory of operation on determinants

CO2: Use the simultaneous equation of matrix method

CO3: Analyses the correlation of Karl Pearson's coefficient for concurrent deviation method.

CO4: Evaluate the component of time series.

CO5: Determine the Index number of weighted and UN weighted index number.

CO6: Use of cost of living index.

COURSE: BUSINESS COMMUNICATION CREDIT: 6

CO1: Understand communication methods and its types.

CO2: Analyze need of offers, quotation and collection letters.

CO3: Recognize the circular letters and insurance correspondences.

CO4: Contrast the use of agenda, minutes and reports.

CO5: Understand the communication media such as telex, fax and internet.

SEMESTER III

COURSE: PRODUCTION MANAGEMENT CREDIT: 4

CO1: Understand functions and scope of production management.

CO2: Describe the use of routing and scheduling, dispatching and maintenance.

CO3: Recognize the plant location and plant layout problems.

CO4: Analyze the need of works study, time study and work measurement.

COURSE: MANAGEMENT ACCOUNTING – I CREDIT: 4

CO1: Develop the ability to collect, analyze and communicate the quantitative and non-quantitative information.

CO2: Assist the management in making more effective planning and control decision.

CO3: Compare and contrast the basic management accounting concept and their application in managerial decision making.

CO4: Analyze and assess the financial situation of a firm with the help of ratio analysis.

COURSE: STRATEGIC MANAGEMENT CREDIT: 4

CO1: Understand the vision, mission and goals of strategic management.

CO2: Identify the corporate strategy.

CO3: Recognize the strategic control process.

CO4: Understand the elements of strategy.

COURSE: MANAGERIAL ECONOMICS CREDIT: 3

CO1: Compare how micro economics differ from macroeconomics.

CO2: Analyze the theory of consumer behavior.

CO3: Understand different cost concepts.

COURSE: OFFICE MANAGEMENT CREDIT: 4

CO1: Understand the management of office, methods and environment.

CO2: Identify the use of office layout and know its accommodation.

CO3: Recognize the use of office furniture, appliances and equipment's.

CO4: Handling of inward mail and outward mail service and to know the mechanical devices for written communication.

COURSE: CUSTOMER RELATIONSHIP MANAGEMENT CREDIT: 3

CO1: Understand the need for CRM and customer loyalty.

CO2: Determine the ground work for effective use of CRM.

CO3: Identify the call center process and selection of CRM package.

COURSE: MEDICINAL CHEMISTRY **CREDIT: 3**

CO1: Understand chemical constituents of medicinal plants

CO2: Compare the biological functions of Vitamins

CO3: Analyze the use of drugs for diseases

SEMESTER IV

COURSE: MATERIALS MANAGEMENT

CREDIT: 4

CO1: Understand the importance of material management.

CO2: Analyze the tools of inventory control like ABC, VED and FSN analysis.

CO3: Understand the protection of store keeping and know the handling of materials.

CO4: Analyze the importance of import purchase procedure.

COURSE: MANAGEMENT ACCOUNTING – II **CREDIT: 4**

CO1: Apply and analyze different types of activity-based management tools through the preparation of estimates.

CO2: Identify the cost- volume- profit techniques to determine optimal managerial decision.

CO3: Preparation of budgets and their role as a planning and control tools.

CO4: Evaluate and estimate the required cost for a production process.

COURSE: BUSINESS ENVIRONMENT **CREDIT: 3**

CO1: Understand the concept of business environment.

CO2: Recognize the provision of Indian constitution pertaining to business.

CO3: Apply the economic parameters like GDP, urbanization, per capita income etc.

CO4: Analyze the working of commercial banks, RBI and NBFC'S.

COURSE: OPERATIONS RESEARCH CREDIT: 3

CO1: Explain about assignment transportation ,travelling salesman etc

CO2: Analyze the problem in mathematically and solve it graphically using simpler methods

CO3: Explain models from the verbal description

CO4: PERT and CPM to be applied in project management

CO5: Explain the group replacement policy

COURSE: ORGANIZATIONAL BEHAVIOUR CREDIT: 4

CO1: Identify the need of behavior in organization.

CO2: Analyze the use of group cohesiveness and group dynamics.

CO3: Recognize how the leadership styles are followed in the organization.

CO4: Understand the theories of motivation.

CO5: Evaluate the culture and conflicts prevail in the organization.

COURSE: TOTAL QUALITY MANAGEMENT CREDIT: 3

CO1: Identify the basic concept of total quality from design assurance to service assurance.

CO2: Understand the implication of quality on business and implement quality programs.

CO3: Realize the importance of quality and manage the quality improvement in business.

COURSE: CHEMISTRY IN EVERYDAY LIFE **CREDIT: 2**

CO1: Understand the basics of chemistry in everyday life

CO2: Identify the food colors.

CO3: Analyze diary chemistry

SEMESTER V

COURSE: MARKETING MANAGEMENT **CREDIT: 4**

CO1: Understand the fundamentals of marketing and its approaches.

CO2: Identify buying motives and factors influencing it.

CO3: Differentiate consumer goods from industrial goods.

CO4: Understand new product development and branding.

COURSE: BUSINESS LAW **CREDIT: 4**

CO1: Understand the formation and elements of contract and agreements.

CO2: Apply basic legal knowledge to business transaction.

CO3: Analyze the nature and terminology of the contract of law.

CO4: Recognize the genuineness of assent in contract formation.

CO5: Understand the legality and statute of frauds in contracts.

COURSE: COST ACCOUNTING **CREDIT: 4**

CO1: Understand the importance of cost ascertainment, cost reduction and control.

CO2: Compare and contrast the Financial Accounting with Cost Accounting

CO3: Prepare the Cost sheet, Tender and Quotations.

CO4: Determine the Levels of stock and methods of pricing of material issues.

CO5: Compute the various methods of wage payment and Incentive plan

CO6: Classify and analyze the Primary and Secondary Distribution of Overheads.

SUBJECT: COMPUTER APPLICATION IN BUSINESS CREDIT: 4

CO1: Understand about Information Technology and its components

CO2: Learn Microsoft Office Word and it's applications in business

CO3: Implement Microsoft Excel and how different calculations can be done by using it.

CO4: Understand Microsoft PowerPoint in Business and learned how it is useful for Business Presentations.

CO5: Understand working of EDI, E-Commerce, Smart Cards and its various applications.

SUBJECT: HUMAN RESOURCE MANAGEMENT CREDIT: 3

CO1: Understand the various kinds of HRM.

CO2: Explain the procedure of recruitment and methods of selection.

CO3: Outline the importance of training and development.

CO4: Describe the performance appraisal, transfer and career development.

SUBJECT: E – BUSINESS CREDIT: 3

CO1: Understand E-Commerce Framework Technologies

CO2: Apply different communication Networks used in Business

CO3: Demonstrate Network Security Tools and Firewalls

CO4: Understand of Electronic Data Interchange and its Application in Business

CO5: Apply of different Electronic Payment System.

SEMESTER VI

COURSE: INDUSTRIAL RELATIONS AND LABOUR LAWS

CREDIT: 4

CO1: Know the development and the judicial setup of labour law.

CO2: Understand the salient features of health, safety, welfare and wage legislations.

CO3: Know the laws related to working conditions in different sectors.

CO4: Identify the terms of collective bargaining in the light of industrial conflicts

COURSE: ENTREPRENEURIAL DEVELOPMENT CREDIT: 4

CO1: Understand the concept and classification of the entrepreneurs.

CO2: Identify the factors influencing entrepreneurship.

CO3: Describe the role played by government and non-government agencies.

CO4: Design and develop business idea and its techniques.

CO5: Identify the various opportunities and evaluate the feasibilities of the project.

CO6: Understand the project appraisal methods and techniques.

COURSE: GROUP PROJECT CREDIT: 6

CO1: Develop the teamwork capacity among the students.

CO2: Understand the various functions of the organization during the training period

CO3: Identify and collect the various sources of data through primary and secondary data

CO4: Understand the various statistical tools.

CO5: Apply the suitable statistical tool and analyze the result

CO6: Identify the findings and suggestions

CO7: Able to prepare the report writing

CO8: Outline the summary to the project

COURSE: INVESTMENT MANAGEMENT CREDIT: 3

CO1: Understand the Investment objectives and its management

CO2: Define mutual funds, real assets, modern investments

CO3: Classify risk and computations of expected risks and returns

CO4: Evaluate time value for money, bond valuations, capital assets pricing

CO5: Outline various investment analysis

COURSE: RURAL MARKETING MANAGEMENT CREDIT: 3

CO1: Understand the rural marketing environment.

CO2: Identify the new product development and product strategy.

CO3: Analyze the rural pricing strategy.

CO4: Recognize the rural distribution system.

COURSE: CREATIVITY AND INNOVATION CREDIT: 3

CO1: Understand creativity, innovation and convergent thinking.

CO2: Recognize the thinking hats method and brain storming.

CO3: Analyze the attitude towards lateral thinking.

DEPARTMENT OF COMPUTER APPLICATION

B.C.A

PROGRAM SPECIFIC OUTCOMES (PSOs)

PSO1: Able to develop Software and can serve as a Software developer and Programmer.

PSO2: Able to serve as the Software Professional in different IT sectors with enhanced knowledge of Software.

PSO3:Understand the Networking concepts and can serve as a Network Infrastructure Developer.

PSO4: Able to serve as a Database developer and also as DBMS Administrator by thoroughly learning DBMS.

PSO5: Able to serve as the Web Designers/Website Developers by knowing various Web Development Software.

PSO6: Able to present their innovations in more unique way by using Software.

COURSE OUTCOME

SEMESTER I

COURSE: DIGITAL LOGIC AND PROGRAMMING IN C

CREDIT: 6

CO1: Apply the principles of number system, binary codes and Boolean algebra to minimize logic expressions.

CO2: Develop K-maps to minimize and optimize logic functions up to 5 variables.

CO3: Design various Combinational and Sequential Circuits such as encoders, decoders and counters using multiplexers and flip flops.

CO4: Identify the errors during the execution of a program.

CO5: Develop their programming skills.

CO6: Understand operators, expressions and pre-processors.

CO7: Understand arrays, its declaration and uses

COURSE: PROGRAMMING IN C LAB CREDIT: 2

CO1: Design programs using Functions, Pointers, Structures and Union in C Language.

CO2: Design a program using File handling.

CO3: Implement arrays in Sorting and Linear Search of an element.

COURSE: MATHEMATICAL FOUNDATIONS I CREDIT: 4

CO1: Understand to simplify and evaluate algebraic expressions.

CO2: Analyze linear equations in one variable.

CO3: Compare linear and non-linear equations using Analytic methods.

CO4: Implement concepts to convert between metric, household and Apothecary Units.

SEMESTER - II

COURSE: C++ & DATA STRUCTURE CREDIT: 6

CO1: Understand The Basic Concepts Of Operators & Expression.

CO2: Create the functions in classes &objects.

CO3: Understand the concept of function overloading.

CO4: Identify all inheritance and file concept.

CO5: Evaluate the data structure & list concept analysis.

CO6: Create data type & operations in data structures concept.

CO7: Compare the binary search tee &graph concept of operation.

COURSE: C++ AND DATA STRUCTURES LAB CREDIT: 2

CO1: Implement the concept of classes, object, constructor, functions and overloading

CO2: Implement the inheritance and error handing functions

CO3: Implement infix to postfix conversion & binary tree traversals (in-order, pre- order& post order).

COURSE: MATHEMATICAL FOUNDATIONS II CREDIT: 6

CO1: Understand Matrix, Skew-Symmetric Matrix

CO2: Understand Cayley-Hamilton theorem

CO3: Analyze definite integrals

CO4: Implement analytical geometry

CO5: Understand 3-Dimension

CO6: Compare area and volume using Integration

CO7: Analyze Planes and Straight Lines

CO8:Analyze Hermition and Skew-Hermition

SEMESTER - III

COURSE: JAVA PROGRAMMING CREDIT: 3

CO1: Use an integrated development environment to write, compile, run and test simple object oriented java programs.

CO2: Read and make elementary modifications to java programs that solve real-world problems.

CO3: Validate input in a java program.

CO4: Identify and fix defects and common security issues in code.

COURSE: E-COMMERCE CREDIT:4

CO1: Understand traditional and electronic business applications

CO2: Analyze network infrastructure For E-Commerce

CO3: Understand network security and Firewalls

CO4: Analyze EDI and its applications

CO5: Understand about Encrypted documents

COURSE: RESOURCE MANAGEMENT TECHNIQUES CREDIT:4

CO1: Understand linear programming problem

CO2: Analyze Assignment and transportation problem

CO3: Learn sequencing Model

CO4: Learn replacement Model

CO5: Understand networking analysis

COURSE: JAVA PROGRAMMING LAB CREDIT: 3

CO1: Implement Package, Inheritances and interfaces

CO2: Analyze Flow, Border and Grid Layouts Validate input in a java program

CO3: Evaluate Dialogs , Menu and Frame

CO4: Implement User defined Exception Handling

COURSE: FINANCIAL ACCOUNTING CREDIT: 4

CO1: Understand financial Accounting concept

CO2: Understand the causes of depreciation

CO3: Analyze calculation of bills exchange and trade bills

CO4: Compare single entry and double entry system.

CO5: Understand profit and loss accounting

COURSE: DESIGN AND ANALYSIS OF ALGORITHM CREDIT: 3

CO1: Understand the concepts of Algorithm and Analysis.

CO2: Learn various advanced design and analysis techniques such as greedy algorithms, dynamic programming.

CO3: Understand different computational models and various complexity measures.

CO4: Analyze the complexity/ performance of different algorithms.

COURSE: TRAINING AND DEVELOPMENT CREDIT: 2

CO1: Understand the training needs and responsibilities of On the job and Off the job training.

CO2: Understand importance of career Planning.

CO3: Understand psychology of the learning process on which training is based.

CO4: Analyze the training needs of an organization.

SEMESTER - IV

COURSE: DATABASE MANAGEMENT SYSTEMS CREDIT: 3

CO1: Understand the basic concepts of Database.

CO2: Analyze different data models.

CO3: Evaluate SQL and PL/SQL concepts

CO4: Implement Procedures, Functions, Triggers and Cursors.

COURSE: ENTERPRISE RESOURCE PLANNING CREDIT: 4

CO1: Describe about business process under ERP system.

CO2: Understand the system of Industrial Credit Management system

CO3: Define the various function areas

CO4: Understand the concept of human resource management

CO5: Compare and contrast traditional system and ERP system

COURSE: DECISION SUPPORT SYSTEM CREDIT: 4

CO1: Understand the concepts of Decision Support system (DSS) and its affect on management.

CO2: Define the purpose of DSS and Data Warehousing.

CO3: Compare data, information and knowledge as they apply to DSS.

CO4: Define and describe the usefulness of the neural network.

CO5: Define and differentiate between the data warehouse, data marts and data mining.

COURSE: RDBMS LAB **CREDIT: 3**

CO1: Implement Simple Queries to fetch data from table.

CO2: Evaluate queries used to fetch data from table using aggregate functions and set operations.

CO3: Compare and Contrast Trigger Before and After

CO4: Implement Functions and Procedures in PL/SQL.

COURSE: FINANCIAL ACCOUNTING II **CREDIT: 6**

CO1: Understand different accounting methods

CO2: Evaluate department and branch account

CO3: Compute partnership account

CO4: Analyze the procedure of dissolution of partnership form

CO5: Understand hire purchase and installation accounts.

COURSE: COMPUTER ORGANISATION AND ARCHITECTURE

CREDIT: 3

CO1: Understand the basic computer architecture.

CO2: Compare the different Addressing Modes

CO3: Analyze Direct Memory Access

CO4: Compare and Contrast Memory Management

COURSE: MANAGEMENT CONCEPTS **CREDIT: 2**

CO1: Understand the functions and responsibilities of managers.

CO2: Analyze tools and techniques to be used in the performance of the managerial job. CO3: Analyze and understand the environment of the organization.

CO4: To develop cognizance of the importance of management principles.

SEMESTER – V

COURSE: MOBILE APPLICATIONS DEVELOPMENT CREDIT: 3

CO1: Acquire knowledge of Mobile Applications Development

CO2: Understand Eclipse and Android Studio

CO3: Implement mobile applications development in Emulator

CO4: Understand Mobile databases

CO5: Understand Android Services and Android User Interface

COURSE: OPERATING SYSTEM CREDIT: 3

CO1: Analyze various operating system services

CO2: Compare and contrast various scheduling algorithm

CO3: Understand memory management techniques

CO4: Implement various file management techniques

COURSE: DATA COMMUNICATION AND NETWORK CREDIT: 2

CO1: Understand data communication and prepare them for better computer networking

CO2: Prepare logical and physical network drawings for fairly simple networks, specifying network and link types, plus costs

CO3. Evaluate a java program using javadoc.

COURSE: MOBILE APPLICATIONS DEVELOPMENT LAB

CREDIT: 3

CO1: Implement Basic Android Applications

CO2: Implement Activity, Intent, Spinner

CO3: Understand Android Studio and Eclipse

CO4: Implement Progress Bar, Gaming Apps, Alert Dialog

COURSE: OPERATING SYSTEM LAB **CREDIT: 3**

CO1: Implement various scheduling algorithm concept

CO2: Analyze producer consumer problem using semaphore

CO3: Implement memory management techniques

CO4: Implement a program for system calls

COURSE: DATA MINING **CREDIT: 3**

CO1: Understand the concepts of data mining and data models

CO2: Acquire good knowledge of data pre processing.

CO3: Understand the concept of data classification.

CO4: Understand the concept of data cluster analysis.

COURSE: SOFTWARE ENGINEERING **CREDIT: 3**

CO1: Understand Software Engineering

CO2: Analyze different Process Models like Waterfall Model, Evolutionary Process Model

CO3: Explain about the Data Engineering and System Architecture Design

CO4: Compare the Black Box and White Box Testing

CO5: Analyze the Project Management.

SEMESTER - VI

COURSE: CLOUD COMPUTING **CREDIT: 5**

CO1: Understand the basic functions, principles and concepts of cloud systems.

CO2: Understand the basic concepts of cloud computing.

CO3: Determine the various services available for developing cloud.

CO4: Troubleshoot the various securities in cloud.

CO5: Evaluate the programming model technique available in cloud.

CO6: Acquire sufficient knowledge about the cloud.

COURSE: OPEN SOURCE PROGRAMMING CREDIT: 4

CO1: Understand the basic concepts of HTML5&CSS

CO2: Analyze various Linux commands & security models

CO3: Discussion on MYSQL and PHP database connectivity

CO4: Evaluate PHP Controls , structures and arrays

CO5: Implement basic form processing with PHP and MYSQL

COURSE: ASP.NET LAB CREDIT: 3

CO1: Implement validation controls.

CO2: Implement Web server controls.

CO3: Implement ADO.NET and how to access database

CO4: Evaluate Ad rotator programs.

COURSE: OPEN SOURCE PROGRAMMING LAB CREDIT: 3

CO1: Implement frames & tables in HTML

CO2: Implement various CSS styles and list concept.

CO3: Evaluate basic shell programs

CO4: Implement cookies and session concept

COURSE: MOBILE COMPUTING CREDIT: 3

CO1: Acquire Good Knowledge of Wireless Communication to Students.

CO2: Understand Fundamentals of Wireless Communication.

CO3: Analyze Security, Mobility, Scalability and Their Unique Characteristics in Wireless Network.

CO4: Apply Knowledge of TCP/IP extension in Mobile computing.

COURSE: MULTIMEDIA SYSTEMS **CREDIT: 3**

CO1: Understand the concept of Multimedia

CO2: Compare different medium like text, audio, video, graphics and animation.

CO3: Analyse Application program interface

CO4: Acquire good knowledge about different Multimedia Software

COURSE: ASP.NET **CREDIT: 3**

CO1: Understand basic concepts of ASP.NET.

CO2: Evaluate different validation controls.

CO3: Analyze Architecture of ADO.net.

CO4: Understand how to access database in web application.

BACHELOR OF COMPUTER SCIENCE

PROGRAM SPECIFIC OUTCOMES (PSOs)

PSO1: Develop student's computer knowledge, their basic understanding of software commonly used in Educational and IT Sectors.

PSO2: Understand how to organize information accurately by using the different software available to perform activities accurately and quickly.

PSO3: Understand how to present their innovations in more unique way by using Software.

PSO4: Develop the various IT skills to the electronic databases. Use the Systems Analysis Design paradigm to critically analyze a problem.

PSO5: Solve the problems in the Information Technology environment (Networking Concepts and their broad usages)

PSO6: Understand how to function effectively as a team to accomplish a task of Software Development.

COURSE OUTCOME:

SEMESTER I

COURSE: DIGITAL LOGIC AND PROGRAMMING IN C CREDIT: 6

CO1: Apply the principles of number system, binary codes and Boolean algebra to minimize logic expressions.

CO2: Develop K-maps to minimize and optimize logic functions up to 5 variables.

CO3: Design various Combinational and Sequential Circuits such as encoders, decoders and counters using multiplexers and flip flops.

CO4: Identify the errors during the execution of a program.

CO5: Develop their programming skills.

CO6: Understand operators, expressions and pre-processors.

CO7: Understand arrays, its declaration and uses

COURSE: PROGRAMMING IN C LAB **CREDIT: 2**

CO1: Design programs using Functions, Pointers, Structures and Union in C Language.

CO2: Design a program using File handling.

CO3: Implement arrays in Sorting and Linear Search of an element.

COURSE: MATHEMATICAL FOUNDATIONS I **CREDIT: 4**

CO1: Understand to simplify and evaluate algebraic expressions.

CO2: Analyze linear equations in one variable.

CO3: Compare linear and non-linear equations using Analytic methods.

CO4: Implement concepts to convert between metric, household and Apothecary Units.

SEMESTER - II

COURSE: C++ & DATA STRUCTURE **CREDIT: 6**

CO1: Understand The Basic Concepts Of Operators & Expression.

CO2: Create the functions in classes &objects.

CO3: Understand the concept of function overloading.

CO4: Identify all inheritance and file concept.

CO5: Evaluate the data structure & list concept analysis.

CO6: Create data type & operations in data structures concept.

CO7: Compare the binary search tee &graph concept of operation.

COURSE: C++ AND DATA STRUCTURES LAB **CREDIT: 2**

CO1: Implement the concept of classes, object, conueer443structor, functions and overloading

CO2: Implement the inheritance and error handing functions

CO3: Implement infix to postfix conversion & binary tree traversals (in-order, pre- order& post order).

COURSE: MATHEMATICAL FOUNDATIONS II CREDIT: 6

CO1: Understand Matrix, Skew-Symmetric Matrix

CO2: Understand Cayley-Hamilton theorem

CO3: Analyze definite integrals

CO4: Implement analytical geometry

CO5: Understand 3-Dimension

CO6: Compare area and volume using Integration

CO7: Analyze Planes and Straight Lines

CO8:Analyze Hermition and Skew-Hermition

SEMESTER - III

COURSE: JAVA PROGRAMMING CREDIT: 3

CO1: Use an integrated development environment to write, compile, run and test simple object oriented java programs.

CO2: Read and make elementary modifications to java programs that solve real-world problems.

CO3: Validate input in a java program.

CO4: Identify and fix defects and common security issues in code.

COURSE: JAVA PROGRAMMING LAB CREDIT: 3

CO1: Implement Package, Inheritances and interfaces

CO2: Analyze Flow, Border and Grid Layouts Validate input in a java program

CO3: Evaluate Dialogs , Menu and Frame

CO4: Implement User defined Exception Handling

COURSE: STATISTICAL METHODS & THEIR APPLICATIONS I

CREDIT:4

CO1: Understand diagrammatic and graphical representation of data.

CO2: Implement Mean, Mode, Median

CO3: Evaluate skewness, co-efficient of skewness

CO4: Implement correlation, regression analysis

CO5: Understand different statistical method

COURSE: DESIGN AND ANALYSIS OF ALGORITHM CREDIT: 3

CO1: Understand concepts of Algorithm and Analysis.

CO2: Learn various advanced design and analysis techniques such as greedy algorithms, dynamic programming.

CO3: Understand different computational models and various complexity measures.

CO4: Analyze the complexity/ performance of different algorithms.

COURSE: BASIC MATHEMATICS CREDIT:2

CO1: Understand power sets, equality of sets

CO2: Understand binary, octal and hexadecimal numbers

CO3: Evaluate logical statements and connectives

CO4: Understand type of matrices

SEMESTER - IV

COURSE: DATABASE MANAGEMENT SYSTEMS CREDIT: 3

CO1: Understand the basic concepts of Database.

CO2: Analyze different data models.

CO3: Evaluate SQL and PL/SQL concepts

CO4: Implement Procedures, Functions, Triggers and Cursors.

COURSE: RDBMS LAB **CREDIT: 3**

CO1: Implement Simple Queries to fetch data from table.

CO2: Evaluate queries used to fetch data from table using aggregate functions and set operations.

CO3: Compare and Contrast Trigger Before and After

CO4: Implement Functions and Procedures in PL/SQL.

COURSE: STATISTICAL METHODS & THEIR APPLICATIONS II

CREDIT:4

CO1: Implement Curve fitting methods

CO2: Understand Baye's Theorem

CO3: Understand Binomial, Poisson, Normal distribution

CO4: Implement test of significance

CO5: Understand one and two way classification.

COURSE: STATISTICS PRACTICAL **CREDIT:2**

CO1: Implement Skewness and Kurtosis

CO2: Understand Correlation and Regression

CO3: Understand Curve Fitting

CO4: Evaluate fitting of distributions – Binomial, Poisson, Normal

COURSE: COMPUTER ORGANISATION AND ARCHITECTURE

CREDIT: 3

CO1: Understand the basic computer architecture.

CO2: Compare the different Addressing Modes

CO3: Analyze Direct Memory Access

CO4: Compare and Contrast Memory Management

COURSE: FOUNDATION MATHEMATICS FOR COMPETITVE EXAMS **CREDIT:2**

CO1: Understand ratio and proportions

CO2: Understand profit and loss, discounts

CO3: Implement Simple and Complex interest

CO4: Understand time, distance and work

SEMESTER – V

COURSE: MOBILE APPLICATIONS DEVELOPMENT CREDIT: 3

CO1: Acquire knowledge of Mobile Applications Development

CO2: Understand Eclipse and Android Studio

CO3: Implement mobile applications development in Emulator

CO4: Understand Mobile databases

CO5: Understand Android Services and Android User Interface

COURSE: OPERATING SYSTEM CREDIT: 3

CO1: Analyze various operating system services

CO2: Compare and contrast various scheduling algorithm

CO3: Understand memory management techniques

CO4: Implement various file management techniques

COURSE: DATA COMMUNICATION AND NETWORK

CREDIT: 2

CO1: Understand data communication and prepare them for better computer networking

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CREDIT: 3

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CO3: Implement memory management techniques

CO4: Implement a program for system calls

COURSE: DATA MINING **CREDIT: 3**

CO1: Understand the concepts of data mining and data models

CO2: Acquire good knowledge of data pre processing.

CO3: Understand the concept of data classification.

CO4: Understand the concept of data cluster analysis.

COURSE: SOFTWARE ENGINEERING **CREDIT: 3**

CO1: Understand Software Engineering

CO2: Analyze different Process Models like Waterfall Model, Evolutionary Process Model

CO3: Understand about the Data Engineering and System Architecture Design

CO4: Compare the Black Box and White Box Testing

CO5: Analyze the Project Management.

SEMESTER - VI

COURSE: CLOUD COMPUTING **CREDIT: 5**

CO1: Understand the basic functions, principles and concepts of cloud systems.

CO2: Understand the basic concepts of cloud computing.

CO3: Determine the various services available for developing cloud.

CO4: Troubleshoot the various securities in cloud.

CO5: Evaluate the programming model technique available in cloud.

CO6: Acquire sufficient knowledge about the cloud.

COURSE: OPEN SOURCE PROGRAMMING **CREDIT: 4**

CO1: Understand the basic concepts of HTML5&CSS

CO2: Analyze various Linux commands & security models

CO3: Discussion on MYSQL and PHP database connectivity

CO4: Evaluate PHP Controls , structures and arrays

CO5: Implement basic form processing with PHP and MYSQL

COURSE: ASP.NET LAB **CREDIT: 3**

CO1: Implement validation controls.

CO2: Implement Web server controls.

CO3: Implement ADO.NET and how to access database

CO4: Evaluate Ad rotator programs.

COURSE: OPEN SOURCE PROGRAMMING LAB **CREDIT: 3**

CO1: Implement frames & tables in HTML

CO2: Implement various CSS styles and list concept.

CO3: Evaluate basic shell programs

CO4: Implement cookies and session concept

COURSE: MOBILE COMPUTING **CREDIT: 3**

CO1: Acquire Good Knowledge of Wireless Communication to Students.

CO2: Understand Fundamentals of Wireless Communication.

CO3: Analyze Security, Mobility, Scalability and Their Unique Characteristics in Wireless Network.

CO4: Apply Knowledge of TCP/IP extension in Mobile computing.

COURSE: MULTIMEDIA SYSTEMS **CREDIT: 3**

CO1: Understand the concept of Multimedia

CO2: Compare different medium like text,audio,video,graphics and animation.

CO3: Analyse Application program interface

CO4: Acquire good knowledge about different Multimedia Software

COURSE: ASP.NET **CREDIT: 3**

CO1: Understand basic concepts of ASP.NET.

CO2: Evaluate different validation controls.

CO3: Analyze Architecture of ADO.net.

CO4: Understand how to access database in web application.

M.Sc (Computer Science)

PROGRAM SPECIFIC OUTCOMES (PSOs)

PSO1: Understand programming language easily with the help of Object Oriented Programming Concepts.

PSO2: Understand thoroughly how to use software, able to develop software for the Client.

PSO3: Able to built a complete software project, to design, analyze, built, code, test etc.

PSO4: Able to develop Software Solutions for Complex Problems.

PSO5: Understand the Networking concepts and can serve as a Network Infrastructure Developer.

PSO6: Able to Serve as a Database developer and also as DBMS Administrator by thoroughly learning DBMS.

PSO7: Able to Serve as the Web Designers/Website Developers by knowing various Web Development Software.

COURSE OUTCOME (CO)

SEMESTER I

COURSE: FORMAL LANGUAGES & AUTOMATA THEORY

CREDIT: 5

CO1: Develop fundamental skills on String, Alphabets and operations

CO2: Understand the formal languages and set theory, relations and functions.

CO3: Develop Deterministic and non-deterministic finite automata.

CO4: Draw the finite automata and Sequential Circuits

CO5: Solve problems on Chomsky classification of grammars

CO6: Understand the basic structure of Turing Machine

CO7: Implement 1’s and 2’s Complement for Turing machines.

COURSE: ADVANCED JAVA PROGRAMMING CREDIT: 3

CO1: Develop Advanced Java Programming skills that are required to fully utilize the capabilities of this Object-Oriented, general-purpose programming language.

CO2: Design and develop GUI applications using Abstract Windowing Toolkit (AWT), Swing and Event handling.

CO3: Design java applications using pre-built framework.

CO4: Learn to access database through Java programs, using Java Data Base Connectivity (JDBC).

COURSE: WEB APPLICATION USING C# CREDIT: 3

CO1: Design and develop console and window base using .NET application

CO2: Understand and implement string manipulation, events and exception handling.

CO3: Understand .NET application environment.

CO4: Implement web control and navigation controls using ASP.NET

CO5: Implement and access database connectivity using ADO.NET framework.

COURSE: DATABASE MANAGEMENT SYSTEMS CREDIT: 3

CO1: Create database and its accessing using Query language.

CO2: Understand relational database model.

CO3:Understand functional dependencies and decomposition.

CO4: Acquire knowledge on Normalization.

CO5: Understand distributed and object based database.

COURSE: ADVANCED JAVA PROGRAMMING LAB CREDIT: 2

CO1: Develop sophisticated applications including Collections using Set, List and Map interfaces, Applet Programs, etc.

CO2: Create a full set of UI widgets and other components, including windows, menus, buttons, checkboxes, text fields, scrollbars and scrolling lists, using Abstract Windowing Toolkit (AWT) and swings.

CO3: Create dynamic web pages using Servlets and JSP.

CO4: Apply event handlings on AWI and Swing components.

COURSE: WEB APPLICATION USING C# LAB CREDIT: 2

CO1: Implement HTML Control classes, request and response classes.

CO2: Implement validation controls, rich controls, data access.

CO3: Evaluate components and Custom controls.

CO4: Implement different User Controls.

COURSE: DATABASE MANAGEMENT SYSTEMS LAB CREDIT: 2

CO1: Implement DDL, DML, Aggregate functions.

CO2: Implement nested queries and join operations.

CO3: Evaluate Cursor, Triggers and Procedures.

CO4: Understand how to connect Ms-Visual Studio with DBMS

COURSE: CLOUD COMPUTING CREDIT: 3

CO1: Understand Cloud Computing Technology.

CO2: Compare different cloud service models.

CO3: Analyze different Cloud Apps provided by different companies.

CO4: Compare different cloud apps used for E-Mail, Video Conferencing, Project Management, Word Processing etc.

CO5: Learn OGSA and OGSI Model.

SEMESTER II

COURSE: COMPILER DESIGN CREDIT: 4

CO1: Compare NFA and DFA

CO2: Analyze of Compiler phases

CO3: Compare different types of Parsers

CO4: Understand Storage Allocation Strategies

CO5: Analyze Code Optimization and Code Generation.

COURSE: ENTERPRISE JAVA PROGRAMMING CREDIT: 3

CO1: Understand basics of Enterprise Java Programming and its benefits.

CO2: Analyze JSP framework and various models.

CO3: Compare and contrast Enterprise Beans with Java Server Pages.

CO4: Understand Hibernate Architecture and its Life cycle.

COURSE: ENTERPRISE APPLICATIONS USING C# CREDIT: 3

CO1: Understand use of c# basics, database components for web form.

CO2: Understand and be able to explain security in the .NET framework and deployment in the .NET.

CO3: Determine develop, implement, and demonstrate component services, caching, enterprise library and windows service.

CO4: Evaluate the use of cryptography security methods for wed form and web application.

COURSE: UNIX NETWORKING PROGRAMMING CREDIT: 3

CO1: Understand File system concepts.

CO2: Analyze various process state, signals and threads.

CO3: Understand Inter-process communication.

CO4: Implement various networking concepts.

CO5: Implement various TCP/UDP protocols.

COURSE: ENTERPRISE JAVA PROGRAMMING LAB CREDIT: 2

CO1: Implement JSF application, HTML render kit in JSF

CO2: Implement core render kit in JSF

CO3: Understand Session Bean, Structs Action, Structs Forward Action

CO4: Implement Object Relational Mapping, Collection Mapping

COURSE: ENTERPRISE APPLICATION USING C# LAB

CREDIT: 2

CO1: Implement data caching and fragment caching.

CO2: Implement deployment tools XCOPY

CO3: Implement Simple and database components.

CO4: Implement Simple profile, and customized settings.

COURSE: UNIX PROGRAMMING LAB CREDIT: 2

CO1: Understand File system concepts.

CO2: Analyze various process state, signals and threads.

CO3: Understand Inter-process communication.

CO4: Implement various networking concepts.

COURSE: CRYPTOGRAPHY AND NETWORK SECURITY

CREDIT: 3

CO1: Identify information security problems in computing, classical encryption techniques and acquire fundamental knowledge of security.

CO2: Apply different digital signature algorithms to achieve authentication and create secure applications.

CO3: Understand the knowledge of cryptographic utilities and authentication mechanisms to design secure applications.

CO4: Understand network security basics analyze different attacks and evaluate the performance of firewalls and security protocols

SEMESTER III

COURSE: DISTRIBUTED OPERATING SYSTEM CREDIT: 5

CO1: Understand DOS, Features and Synchronization

CO2: Implement RPC Model, Server Management

CO3: Analyze Clock Synchronization and event ordering

CO4: Analyze configuration API

CO5: Implement Algorithms and Process Migration

COURSE: SOFTWARE PROJECT MANAGEMENT CREDIT: 3

CO1: Understand the concepts of Software Project Management.

CO2: Learn about different Metrics of SPM.

CO3: Understand the concepts of ERP and DSS.

CO4: Acquire good Knowledge of software Project.

COURSE: MOBILE COMPUTING CREDIT: 3

CO1: Acquire good knowledge of Wireless Communication

CO2: Understand fundamentals of Wireless Communication

CO3: Analyze Security, Mobility, Scalibility and their unique characteristics in Wireless Network.

CO4: Apply knowledge of TCP/IP extension in Mobile Computing.

COURSE: DESIGN AND ANALYSIS OF ALGORITHMS CREDIT: 3

CO1: Understand how to find complexity of algorithms

CO2: Analyze different Algorithms used to solve problems.

CO3: Understand backtracking methods used for solving Hamiltonian and Knapsack problem

CO4:Understand Dynamic programming concepts.

COURSE: MOBILE COMPUTING LAB **CREDIT: 2**

CO1: Implement Button, Text View and Edit Text

CO2: Implement Menus and Intents

CO3: Understand File I/O, RDBMS (SQLite/MySQL)

CO4: Implement Phone services (SMS, Call)

COURSE: DESIGN AND ANALYSIS OF ALGORITHMS LAB

CREDIT: 2

CO1: Understand Divide and Conquer, Sorting Methods

CO2: Implement 0/1 Knapsack problem and Shortest path algorithms

CO3: Implement Minimum cost spanning tree using Prims Algorithms

CO4: Implement N-Queues using Backtracking

COURSE: MINI PROJECT **CREDIT: 2**

CO1: Understand front end and back end

CO2: Understand project design.

CO3: Evaluate testing and its types.

CO4: Understand about software coding.

COURSE: SOFTWARE QUALITY ASSURANCE **CREDIT: 3**

CO1: Understand the role of SQA

CO2: Understand Software Configuration Management

CO3: Implement total quality management

CO4: Analyze Software quality assurance concepts

CO5: Evaluate ISO 9000 Model with SEI's CMM.

SEMESTER IV

COURSE: PROJECT WORK **CREDIT: 20**

CO1: Acquire good knowledge of project management.

CO2: Understand about project planning.

CO3: Evaluate front end and back end

CO4: Understand about project design.

CO5: Analyze testing and its types.

CO6: Troubleshoot software coding.

CO7: Understand about software maintenance.

CO8: Evaluate project documentation.

CO9: Understand project software requirement specification.

CO10: Understand how to develop real time projects.

DEPARTMENT OF MATHEMATICS

PROGRAM SPECIFIC OUTCOMES (PSOs)

PSO 1: Understand the Mathematical concepts and applications in the field of algebra, analysis, computational techniques, optimization, differential equations, engineering, finance and actuarial science.

PSO 2: Develop numerical aptitude applying both qualitative and quantitative knowledge for their future career.

PSO 3: Acquire good knowledge and understanding in advanced areas of Mathematics and Statistics, chosen by the students from the given courses.

COURSE OUTCOME

SEMESTER I

COURSE: ALGEBRA **CREDIT: 3**

CO1: Calculate Symmetric Functions of Roots interms of Coefficient.

CO2: Apply Horners Method And Newton RaphsonMethod .

CO3: Workout Binomial ,Exponential and Logarithmic series

CO4: Define Symmetric And Skew Symmetric Matrices

CO5: Analyse Prime and Composite Number and Decomposition of a composite number

COURSE: TRIGONOMETRY **CREDIT: 3**

CO1: Express angles both in degree and radian measures.

CO2: Solve right and oblique triangles in degree and radian for both special and non special angles.

CO3: Compare and Contrast the difference between a trigonometric functions and an inverse trigonometric functions.

CO4: Develop conceptual understanding and fluency with trigonometric functions, techniques and manipulation necessary for solving the problems.

COURSE: NUMERICAL METHODS-I **CREDIT: 4**

CO1:Apply Various interpolation methods and finite difference concepts

CO2:Compute Gauss forward and Backward formula

CO3:Classify the different types of Unequal intervals

CO4:Calculate the inverse interpolation method

CO5:Calculate Lagrange's interpolation method

CO6: Analyse Gauss Elimination, Gauss-Jacobi, and Gauss Siedel method.

SEMESTER II

COURSE: CALCULUS **CREDIT: 3**

CO1:Describe the concept and applications of derivatives and higher order derivatives.

CO2:Apply Lagrange's multipliers in finding the extreme value of functions .

CO3: Evaluate double integral and triple integral

CO4: Determine the reasonableness of solutions including sign , size and unit of measurement

COURSE: ANALYTICAL GEOMETRY OF THREE DIMENTIONS

CREDIT: 3

CO1:Describe equation of the line that passes through the given point and perpendicular to two lines.

CO2:Formulate the equation of surfaces on Cartesian coordinates.

CO3: Classify the conditions of perpendicular and parallel lines.

CO4: Express equation of the line and a point in a given direction.

COURSE: NUMERICAL METHODS-II **CREDIT: 4**

CO1: Compute Newtons forward and Backward derivative formula

CO2: Apply Trapezoidal ,Simpsons one third ,three eighth Rule

CO3: Calculate Particular integrals and Complementary Functions For Linear Homogeneous difference Equations

CO4: Determine Bisection,Iteration,RegulaFalsi ,Newton Raphson Method

CO5: Workout the Numerical Solution of Ordinary differential equations

COURSE: NUMERICAL METHODS (ALLIED PRACTICAL)

CREDIT: 2

CO1: Solve problems using Newton's forward and backward interpolation formula.

CO2: Apply trapezoidal and Simpson's one third rules.

CO3: Explain Eulers method.

CO4: Calculate derivatives by Newton's method

III SEMESTER

COURSE: DIFFERENTIAL EQUATIONS CREDIT: 4

CO1: Classifies the differential equations with respect to their order and linearity.

CO2: Determines the types of linear differential equation system.

CO3: Evaluate and apply linear differential equation of second order(and higher)

CO4: Identify the solution of differential equation.

CO5:Compute the solution of Laplace Transform.

COURSE: MATHEMATICAL STATISTICS –I CREDIT: 4

CO1: Apply discrete and continuous probability distributions, including requirements, mean and making decisions

CO2: Describe binomial outcomes and compute probability of getting X success in N trials

CO3: Analysis the characteristic of different discrete and continuous distributions

CO4: Identify the type of statistical situation to which different distributions can be applied

CO5: Apply Poisson, exponential distribution to solve statistical problems

CO6: Apply normal probability distribution including standard normal curve calculations of appropriate areas

CO7:Apply different distribution to solve simple practical problems

COURSE: LINEAR PROGRAMMING CREDIT: 3

CO1:Explain the applications of linear programming.

CO2: Compare and contrast the types of quantitative methods.

CO3: Apply the solution methods for LP models.

CO4: Describe quantitative methods used in decision making

COURSE: ELEMENTS OF FINANCIAL ACCOUNTING (NME)

CREDIT: 2

CO1: Understand the system of financial accounting

CO2: Aquire the knowledge of debit and credit system

CO3: Compute the method of calculating depreciation

CO4: Define differenent types of bills of exchange.

IV SEMESTER

COURSE: VECTOR ANALYSIS AND FOURIER ANALYSIS

CREDIT: 4

CO1:Define a Vector differentiation.

CO2:Describe the Divergence and Curl

CO3:Define the vector integration, line surface and volume integration.

CO4:Evaluate Gauss divergence theorem, Stoke's theorem and Green's theorem.

CO5:Define Fourier series and finding Fourier expansion of a periodic functions with period .

COURSE: MATHEMATICAL STATISTICS -II CREDIT: 4

CO1:Evaluate and interpret the correlation between the variables

CO2:Evaluate the simple linear regression equation for a set of data

CO3:Compute employee the principles of linear regression and correlation, including least square method, predicting a particular value of Y for a given value of X and significance of the correlation coefficient

CO4:Classify the construction of point and interval estimators

CO5:Evaluate the properties of estimators

COURSE: MATHEMATICAL STATISTICS (ALLIED PRACTICAL)

CREDIT: 2

CO1:Analyze the statistical data using measures of central tendency , dispersion and location.

CO2:Compute correlation coefficient for raw and grouped data, rank correlation coefficient.

CO3;Apply test of significance for large and small sample.

COURSE: MATHEMATICS FOR COMPETATIVE EXAMINATION-I

CREDIT: 3

CO1:Identify short tricks, tips and logical methods on difficult problems.

CO2:Compare and contrast the right approach and easiest technique to tackle math problems.

CO3:Plan and find confident in cracking GMAT, SAT and other maths exams.

CO4:Formulate easiest trick for solving challenging problems of maths in right time.

COURSE: ADVERTISING AND SALESMANSHIP CREDIT: 2

CO1:Acquire the knowledge of development of advertisement

CO2:Understand the concept of DAGMAR Approach.

CO3:Define advertisement copy, salesman report

CO4:Understand the quality of good salesman.

V SEMESTER

COURSE: ABSTRACT ALGEBRA CREDIT: 4

CO1:Understand the concept of group,subgroup,normal subgroup.

CO2:Explain the terms Isomorphism and Homomorphism.

CO3:Calculate Permutation,cyclesand Transposition 4) Describe the characteristic of a ring ,quotient ring.

CO4:Define the ideals and their existence with examples.

COURSE: REAL ANALYSIS -I CREDIT: 4

CO1:Describe the basic differences between the rational and the real numbers.

CO2:Define countable and uncountable sets.

CO3:Compare open sets, closed sets and limit points of a set.

CO4:Determine the continuous functions, uniform continuous functions.

COURSE: COMPLEX ANALYSIS -I CREDIT: 4

CO1:Identify the concept of complex integration and series

CO2:Solve problems in derivatives in first order differential equation.

CO3:Compare and contrast the concepts of C.R equation.

CO4:Formulate improper integrals involving conformal mapping.

CO5:Apply the methods of Mapping by elementary transformation.

COURSE: STATICS **CREDIT: 4**

CO1:Apply newton's second law in vector form to problems in more than one dimension.

CO2:Solve static problems in one dimension that involve one or more forces of gravity.

CO3:Compare and contrast problems relating to the motion and a projectile in the absence of speed.

CO4:Explain basic terms for the description of the motion of particles and fundamental laws of mechanics.

COURSE: DYNAMICS **CREDIT: 4**

CO1:Identify and apply specific boundary conditions relevant to specific application

CO2:Analyse the results and draw the appropriate inferences

CO3:Apply Newton's second law in vector form to problems in more than one dimension

CO4:Evaluate mechanics problems in one dimension that involve one or more of the forces of gravity, friction and air resistance

CO5:Understand and use basic terms for the description of the motion of particles vector function and the fundamental laws of Newtonian mechanics

COURSE: GRAPH THEORY **CREDIT: 3**

CO1:Analyse concept of graphs, subgraphs, paths ,cycles ,cut vertex and cut edges.

CO2:Define degree, distance, diameter, matching.

CO3:Classify the vertices, edges, and loops of a graph.

CO4:Determine whether a graph is connected or disconnected.

CO5:Create both a path and a circuit through a graph' 6) Analyse the concepts of planar graphs.

COURSE: MATHEMATICS FOR COMPETATIVE EXAMINATION-II

CREDIT: 3

CO1:Identify short tricks ,tips and logical method on difficult problems.

CO2:Compare and contrast right approach and earliest to tackle math problems.

CO3:Formulate earliest trick for solving challenging problems in time ,work and distance.

CO4:Plan and find confident in cracking SAT , BANK EXAM , RAILWAY EXAM and other math exams.

VI SEMESTER

COURSE: LINEAR ALGEBRA **CREDIT: 4**

CO1:Understand the new terms Basis And Dimensions.

CO2:Analyze finite and infinite Dimensional vector spaces and Subspaces over a field including the Basis structure of vector Spaces

CO3:Compute Characteristic Roots and Characteristic vectors

CO4:Define Trace And Transpose

CO5:Analyz regular,singular and similar matrices

COURSE: REAL ANALYSIS II **CREDIT: 4**

CO1:Understand the basics of Real Analysis.

CO2:Define metric spaces ,such as continuity, compactness, completeness and connectedness

CO3:Describe Limits and how they are used in sequence and series

CO4:Define Riemann Integral

CO5:Apply Taylors theorem.

COURSE: COMPLEX ANALYSIS -II **CREDIT: 4**

CO1:Identify the concept of complex integration and series

CO2:Solve problems in pure as well as in applied mathematics using complex analysis.

CO3:Compare and contrast the concepts of singularities and residues.

CO4:Formulate improper integrals involving trigonometric functions.

CO5:Apply the methods of complex analysis to evaluate definite integrals and infinite series.

COURSE: PROGRAMMING IN C LANGUAGE CREDIT: 3

CO1:Understand Basic Concept Of Variables, Data Types.

CO2:Apply Operators Expression & Pre Processor.

CO3:Determine the Concept Of Arrays And Its Declarations & Uses.

CO4:Determine the User Define Return Values And Their Values. Understand The Structure And Unions.

COURSE: PRACTICAL IN C LANGUAGE CREDIT: 3

CO1:Design A Program Using Looping Concepts

CO2:Create A Program For Counting Vowels & Consonants , Three Dimensional Arrays Using Arrays Concepts

CO3:Implement Program Using Fibonacci Series & Factorials Numbers.

CO4:Design Program Using Sorting Concepts.

COURSE: OPERATIONS RESEARCH CREDIT: 3

CO1:Identify and develop operational research model.

CO2:Apply three time estimates scheduling by PERT.

CO3:Determine sequencing problem .

CO4:Analyz Sequeueing theory by steady state analysis of M/M/1 And M/M/N.

COURSE: FUZZY MATHEMATICS CREDIT: 3

CO1:Apply the fuzzy set theory on the statistical method which is given

CO2:Prepare applications on fuzzy logic membership function fuzzy inference systems

CO3:Decide and compare between Crips and fuzzy set theory

CO4:Calculate homomorphic image and Pre-image

COURSE: MATHEMATICS FOR COMPETATIVE EXAMINATION-III

CREDIT: 3

CO1:Identify short tricks ,tips and logical method on difficult problems.

CO2:Compare and contrast right approach and earliest to tackle math problems.

CO3:Formulate earliest trick for solving challenging problems of maths in area, volume and surface.

CO4:Calculate Time and distance problems

M.Sc (Mathematics)

PROGRAM SPECIFIC OUTCOMES (PSOs)

PSO -1: Students enable to apply the concepts of Graph theory, Fuzzy and Operations Research in real life problems.

PSO -2: Prepare and Motivate Students for research studies in mathematics and related fields.

PSO -3: Assist students in preparing for competitive examinations like CSIR, SET etc.

COURSE OUTCOME (CO)

SEMESTER I

COURSE: ALGEBRA –I **CREDIT: 5**

CO1:Define the class equation for finite groups and its application.

CO2:Explain and compare Sylow's theorem for first, second and third theorems.

CO3:Understand finite abelian group.

CO4:Explain whether Linear Transformatins on canonical forms and Triangular forms.

CO5:Compare Jordan and rational canonical forms.

CO6:Understand Trace and Transpose.

COURSE: REAL ANALYSIS –I **CREDIT: 5**

CO1:Determine the Functions of Bounded Variation

CO2:Define Riemann Stieltjes Integral And Euler Summation Formula

CO3:Analyse the Necessary And Sufficient Conditions for the Existence of Riemann Stieltjes Integral

CO4:Describe Riemanns theorem And Rearrangement Theorem For Double Series

CO5:Understand The Sequence of functions

CO6:Explain Convergence of Series

CO7:Understand Partition and Refinement

COURSE: ORDINARY DIFFERENTIAL EQUATIONS CREDIT: 4

CO1:Evaluate second order differential equation including separable exact linear equations.

CO2:Compare second and first order linear differential equations.

CO3:Create and analyse ordinary and partial equations.

CO4:Identify exact equations lipcitcz condition.

CO5:Compare and contrast second order equations.

COURSE: DIFFERENTIAL GEOMETRY CREDIT: 5

CO1:Identify to compute quantities of geometric interest such as curvature and torsion.

CO2:Compute specialized systems such as semi geodesic coordinate and asymptotic lines.

CO3:Compare and contrast the method of determining the differential equations in surface theory.

CO4:Develop arguments in the geometric descriptions of curves and surfaces.

CO5:Formulate the basic properties of geodesics parallel transport, evaluates, minimal surfaces.

CO6:Analyze the concept of space curves and intrinsic properties of a surface and geodesics.

COURSE: GRAPH THEORY **CREDIT: 3**

CO1:Describe the Origin of Graph Theory.

CO2:Define Trees, fundamental circuits' cut sets, connectivity and seperability.

CO3:Calculate Chromatic Number

CO4:Define Dual and Planar Graph

SEMESTER II

COURSE: ALGEBRA -I **CREDIT: 4**

CO1:Define Extension fields.

CO2:Explain Transcendence of "**e"**.

CO3:Express solvability by radicals about Wedderburn's theorem.

CO4:Understand the concept of Elements of Galois theory.

CO5:Discuss Integral Quaternions and the Four square theorem.

COURSE: REAL ANALYSIS –II **CREDIT: 5**

CO1:Define open,closed set and measurable set

CO2:Analyse the existence of the lebesgue integral for bounded functions

CO3:Understand the properties of the Lebesgue integral for bounded measurable functions

CO4:Apply Riemann Localization theorem.

CO5:Compute Jacobian Matrix

COURSE: PARTIAL DIFFERENTIAL EQUATIONS **CREDIT: 5**

CO1:Understand curves and surfaces

CO2:Define partial differential equations .

CO3:Calculate the first order Differential Equation and classification of parameter.

CO4:Define linear equation and Bernoulli's equation.

CO5:Define second order partial differential equation

COURSE: MECHANICS CREDIT: 4

CO1:Identify generalized coordinate system, virtual work, energy and momentum.

CO2:Evaluate the equations of Newton, Lagrange, Hamilton Jacobi and theory of relativity due to Einstein.

CO3:Determine the mechanical simulation software.

CO4:Apply the vector theorems of mechanics and interpretation of their results.

CO5:Compare and contrast the parameters defining the motion of mechanical systems and their degrees of freedom.

CO6:Analyze the analytic mechanics as a systematic tool for problem solving.

COURSE: PROGRAMMING IN C++ PRACTICAL CREDIT: 3

CO1:Writing a program for class, data member and member function.

CO2:Implement of operator overloading and function , constructor overloading

CO3:Writing a program for various sorting and searching algorithm

CO4:Implement of string manipulation

CO5:Writing a program various inheritance concepts

CO6:Implement of matrix operation

SEMESTER III

COURSE: COMPLEX ANALYSIS –I CREDIT: 5

CO1:Define conformal Mappings and Explain Cauchy's theorem.

CO2:Classify different types of singularities ,Zeros and Poles .

CO3:Understand the Concepts of Residue Theorem and Argument Principle

CO4:Evaluate Definite integrals and Harmonic Functions

CO5:Express Taylors series and Laurent series

CO6:Understand the concept of General Form of Cauchy's theorem.

CO7:Express logarithmic derivative and Rouchers theorem

COURSE: TOPOLOGY **CREDIT: 5**

CO1:Understand terms, definitions and theorems related to Topology.

CO2:Create new Topological spaces by using subspace, product and quotient Topologies.

CO3:Understand the structure of Topological spaces using continuous functions and Homeomorphisms.

CO4:Demonstrate knowledge and understand the concept of metric spaces.

CO5:Apply theoretical concepts in Topology to understand real world applications.

COURSE: OPERATIONS RESEARCH **CREDIT: 5**

CO1:Apply the integer programming models using branch and bound method.

CO2:Understand the best strategy on the basis of decision criteria under risk.

CO3:Understand the best strategy on the basis of decision criteria under the uncertainty.

CO4:Explain fundamental of dynamic programming.

CO5:Use deterministic and stochastic dynamic programming approaches.

CO6:Analyse the general non linear programming problem.

CO7:Create linear integer programming models and discuss the solution technique.

COURSE: PROBABILITY THEORY **CREDIT: 5**

CO1:Apply problem solving techniques to solving real world events.

CO2:Identify the appropriate probability distribution for a given discrete or continuous random variable and use its properties to calculate.

CO3:Evaluate probabilities by applying laws and theoretical results.

CO4:Understand the concept of borelcantelli lemma.

CO5:Describe difference between Binomial, poisson and Normal distribution.

CO6:Explain regression of the first and second type.

CO7:Apply normal probability distribution including standard normal curve calculation of appropriate area.

COURSE: TENSOR ANALYSIS AND RELATIVITY THEORY

CREDIT: 3

CO1:Analyse the concept of tensor calculus

CO2:Apply the special theory of relativity

CO3:Formulate the momentum energy,conservation of energy

CO4:Evaluate christofel symbols and their properties

CO5:Create mixed ,zero tensor,tensorfield,intrinsic differentiation.

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SEMESTER IV

COURSE: COMPLEX ANALYSIS –II **CREDIT: 5**

CO1:Define Riemann Theta function and Normal families.

CO2:Classify infinite Products and canonical Products

CO3:Explain Arzela's theorem and families of analytic function.

CO4:Classify simply periodic functions and doubly periodic functions

CO5:Evaluate differential Equations

CO6:Express Conformal mapping of polygons

COURSE: FUNCTIONAL ANALYSIS **CREDIT: 5**

CO1:Identify duals of some normed spaces.

CO2:Determine whether a real valued function defined on Cartesian product of a vector space.

CO3:Analyse normed space which is not an inner product space.

CO4:Describe orthogonal sets and total sets.

CO5:Analyse Hahn-Banach Theorem.

CO6:Explain Open mapping theorem.

CO7:Apply Closed Graph theorem.

COURSE: MATHEMATICAL STATISTICS CREDIT: 5

CO1:Define Sequential probability ratio test.

CO2:Apply most powerful test using Neymannpearson lemma.

CO3:Explain critical region ,test function , two kinds of error, and power function.

CO4:Explain students t distribution and chi square distribution.

CO5:Describe properties of point estimator such that consistency, unbiasedness, sufficiency and efficiency.

CO6:Prepare ANOVA table for one way and two classification.

CO7:Apply test of significance for large and small sample.

COURSE: DIFFERENCE EQUATIONS CREDIT: 4

CO1:Analyse the general theory of linear difference equation,linear homogeneous equation.

CO2:Explain the Jordan form of linear periodic system.

CO3:Apply the inverse z-transform and solution of difference equation.

CO4:Calculate the second order difference equation of asymptotic diagonal system.

CO5:Evaluate three term difference equation of non linear difference equation of self adjoint second order equation

COURSE: MATHEMATICAL SOFTWARES- PRACTICALSCREDIT: 3

CO1:Compute various mathematical problems like multiplication of matrices and rank of the matrix.

CO2:Design two Dimensional and Three Dimensional graphs using plot function.

CO3:Create histogram and frequency curves.

CO4:Implement ANOVA using MATLAB code.

CO5:Formulate central measures and rank correlation.

M.Phil (Mathematics)

PROGRAM SPECIFIC OUTCOMES (PSOs)

PSO -1: Generate publications in reputed mathematical journals.

PSO -2: Produce next generation researches in Mathematics.

PSO -3: Demonstrate the highest standard of ethics in research.

COURSE OUTCOME (CO)

SEMESTER I

COURSE: ALGEBRA AND ANALYSIS CREDIT: 5

CO1:Define ring, ring homomorphism ,ideals ,Quotient rings and Nilpotent elements.

CO2:Compare and contrast prime and maximal ideals.

CO3:Analyse Operations on submodules ,quotient modules and finitely generated modules.

CO4:Formulate extended and contracted ideals in rings of fraction.

CO5:Apply the primary decomposition in Noetherian rings.

CO6:Solve problems in convex functions and inequalities in L'.

CO7:Identify the concept of Banach space.

COURSE: TOPOLOGY AND DIFFERENTIAL EQUATIONS

CREDIT: 5

CO1:Define Homotopy,fundamental group and covering spaces.

CO2:Analyse fundamental groupof simplicial complex

CO3:Formulate Diagonalization of exponential operators.

CO4:Compare and contrast fundamental and uniqueness theorem.

CO5:Apply limit sets and dynamical systems in problems.

CO6: Identify the concept of stable manifold.

DEPARTMENT OF COMMERCE

B.Com (General)

PROGRAM SPECIFIC OUTCOME (PSOs)

PSO1: To understand the procedural part and documentation in life and general insurance business

PSO2: To analyze the national and international level economy

PSO3: To develop entrepreneurial qualities, skills requires for self employment

PSO4: To understand commercial activities covered by advanced technology like computerized accounting, E-commerce, E-banking, mobile banking, E-taxation.

PSO5: To understand basic knowledge of statistical technique applicable to the business

PSO6: To gain working knowledge of generally accepted auditing procedure, techniques and skills

PSO7: To obtain knowledge of various provisions of Income tax act and their applications in computation of income of individual and firms under various head of incomes.

COURSE OUT COME

SEMESTER I

COURSE: FINANCIAL ACCOUNTING –I **CREDIT: 4**

CO1: Explain the Meaning of financing Accounting

CO2: Explain the causes for depreciation

CO3: Calculation of bills of exchange and trade bills

CO4: Explain the preparation of trading, profit and loss accounting

CO5: Contrast between single entry and double entry

COURSE: BUSINESS ORGANIZATION CREDIT: 3

CO1: Identify the meaning of business and profession.

CO2: Understand the concept of sole trader and partnership

CO3: Explain the chamber of commerce

CO4: Understand the social responsibilities of business.

COURSE: INDIAN ECONOMY –I (ALLIED-I) CREDIT: 4

CO1: Explain the features of less developed and developing Economies

CO2: Define black money

CO3: Analysis of Agricultural productivity

CO4: Understand the recent trends in National Income

CO5: Describe Green Revolution

CO6: Determine Agricultural productivity

CO7: Contrast between single entry and double entry

SEMESTER II

COURSE: FINANCIAL ACCOUNTING II CREDIT: 4

CO1: Understand the concept of the Accounting methods.

CO2: Evaluate the departmental account and branch account

CO3: Compute the partnership account

CO4: Identify the procedure of dissolution of partnership firm.

CO5: Analyze the hire purchase and installment accounts.

COURSE: ELEMENTS OF INSURANCE **CREDIT: 3**

CO1: Classification of contract of insurance

CO2: Analyses the different types of insurance

CO3: Explain the fire and marine insurance

CO4: Understand the inspection of damages

COURSE: INDIAN ECONOMY-II (ALLIED-II) **CREDIT: 6**

CO1: Explain the role of Technology

CO2: Define cyber crime

CO3: Evaluate Information technology and BPO in India

CO4: Classify Transport

CO5: Compute Disinvestment and privatization

CO6: Explain poverty in India

CO7: Analysis of foreign trade and balance of payments

SEMESTER III

COURSE: CORPORATE ACCOUNTING I **CREDIT: 4**

CO1: Understand the equity shares and preference shares.

CO2: Compute the debenture accounts.

CO3: Identify the Acquisition and Amalgamation of companies

CO4: Explain the profit prior incorporation .

CO5: Analyze the final account statements.

COURSE: BUSINESS LAW **CREDIT: 4**

CO1: Explain the formation and Essential Elements of contracts

CO2: Understand the Performance of contracts

CO3: Discuss the Bailor and Bailee

CO4: Definition of sales

CO5: Understand the offer and Acceptance.

COURSE: BANKING THEORY LAW AND PRACTICE CREDIT: 3

CO1: Understand the banking regulation act and role of banking

CO2: Explain the functions of E- Banking

CO3: Classify the different types of banking

CO4: Classify the types of negotiable instrument

COURSE: BUSINESS STATISTICS I **CREDIT: 3**

CO1: Identify the Primary data and Secondary data.

CO2: Computation of Mean, Median ,Mode

CO3: Classifying Mean deviation and Standard deviation.

CO4: Understand the Skewness and Karl Pearson's Co efficient of Skewness.

CO5: Describe the Statistical Quality Control

COURSE: BUSINESS ECONOMICS-I(ALLIED-III) **CREDIT: 4**

CO1: Define Demand analysis

CO2: Explain the social responsibility of business

CO3: Analysis the Utility

CO4: Classify demand forecasting

CO5: Explain the functions of production

CO6: Compute Break-even analysis

CO7: Define Demand curve

COURSE: E-COMMERCE AND ITS APPLICATION (SBS-I)

CREDIT: 3

CO1: Understand the basic concept of E-Commerce.

CO2: Explain the Business models of E-Commerce and its Challenges

CO3: Discuss E-Hub concept and E-Filing

CO4: Define Internet Operation, Web Browsing and Creation of E-mail id

COURSE: INTRODUCTION TO INFORMATION TECHNOLOGY (NME-I)

CREDIT: 2

CO1: Understand the characteristics of Computer.

CO2: Classifies the Networks.

CO3: Describe the types of internet connections

CO4: Understand the Uses of Internet.

SEMESTER IV

COURSE: CORPORATE ACCOUNTING II **CREDIT: 4**

CO1: Explain the Methods of Valuation of Goodwill

CO2: Explain the Liquidation of companies

CO3: Discuss the Bank and insurance company account

CO4: Explain the Holding Company account

CO5: Computation of inflation accounting

COURSE: COMPANY LAW **CREDIT:4**

CO1: Define company

CO2: Classify company

CO3: Compare private company and public company

CO4: Define prospectus

CO5: Evaluate statement in Lieu of prospectus

CO6: Define Directors

CO7: Explain the methods of winding up

COURSE: BUSINESS COMMUNICATION **CREDIT: 3**

CO1: Understand the importance of communication in Commerce , Trade and to draft business letter.

CO2: Explain the basic Principle in Drafting, Appearance, Structure and Layout.

CO3: Analyze the different types of Business letter and Drafting.

CO4: Define letters of Application with CV, Resumes.

CO5: Discuss the types of Business Report and importance.

COURSE: BUSINESS STATISTICS-II **CREDIT: 3**

CO1: Understand and apply statistical tools in Business.

CO2: Computation of Correlation and Regression equation.

CO3: Find out types of Index number and its uses.

CO4: Determine the Time series methods and its uses.

CO5: Analyze the probability and its Theorem.

COURSE: BUSINESS ECONOMY –II (ALLIED-IV) CREDIT -6

CO1: Define cost and revenue.

CO2: Acquire knowledge of market structure and classifies the market

CO3: Discuss distribution theories and profit theories.

CO4: Comparison of perfect and imperfect competition.

CO5: Computation of National Income.

CO6: Explain industrial policy .

CO7: Compare and contrast of revenues and public expenditure.

COURSE: INDUSTRIAL ORGANIZATION (SBS-II) CREDIT: 3

CO1: Discuss the basic Industrial structure and its working.

CO2: Explain Industrial ownership and its types.

CO3: Define Plant Location and Layout.

CO4: Understand the production Management, Material Management and its Techniques

COURSE: INTERNET AND ITS APPLICATION (NME-II)

CREDIT: 2

CO1: Able to use Basics usage of internet

CO2: Prepare digital world

CO3: Create and Learn E-mail

CO4: Design Web pages

SEMESTER V

COURSE: COST ACCOUNTING- I CREDIT: 5

CO1: Aimed to familiarize the concept of cost accounting

CO2: Facilitate the idea and explain the meaning of material control with pricing methods

CO3: Develop the knowledge about remuneration and incentives

CO4: Define the concept of overhead cost

CO5: Understand the concept of Cost control.

CO6: Computation of Machine Hour Rate.

COURSE: PRACTICAL AUDITING CREDIT: 4

CO1: Define Auditing

CO2: Classify the Audit

CO3: Define Audit program

CO4: Evaluate verification and valuation of assets and liabilities

CO5: Define Audit note book

CO6: Explain Qualification and Disqualification of auditors

CO7: Determine Audit working papers

COURSE: BUSINESS MANAGEMENT CREDIT: 4

CO1: Define concept of Business Management and Understand the various theories of management

CO2: Understand the functions of Management and level of management

CO3: Evaluate the concept of organizing and understand the principles of organizing

CO4: .Discuss the function of staffing

CO5: Analyze the concept of directing , coordinating and controlling

CO6: Understand and evaluate the concept of motivation, communication and leadership

COURSE: INCOME TAX TAW AND PRACTICE –I CREDIT: 4

CO1: Define basic roles and Regulation of Income Tax Act

CO2: Explain in order to familiarize the different know how and heads of Income.

CO3: Computation of Income from house property

CO4: Describe more idea about the Income from business or profession

CO5: Familiarizes with the concept of Depreciation and its provisions.

COURSE: ENTREPRENEURIAL DEVELOPMENT (ELECTIVE PAPER –I) CREDIT: 3

CO1: Describe the enterprise.

CO2: Understand the functions of entrepreneurship.

CO3: Differentiate the partnership and sole proprietorship.

CO4: Explain the sources of finance.

CO5: Find the solutions to the problem of women entrepreneurs.

CO6: Understand the incentives and subsidies.

COURSE: PRINCIPLES OF MARKETING (SBS-III) CREDIT: 3

CO1: Meaning and definition of marketing

CO2: Classification of marketing

CO3: Analyses of Marketing mix and Product policy

CO4: Discuss the Recent trends in marketing.

SEMESTER VI

COURSE: COST ACCOUNTING II **CREDIT: 5**

CO1: Understand the knowledge of Job, Batch, and Contract costing

CO2: Define the basic concepts and processes used to determine product costs

CO3: Interpret the Transport costing

CO4: Analyses and evaluate information for cost ascertainments planning, control and decision making

CO5: Solving simple cases.

CO6: Computation of BEP and Margin of Safety.

CO7: Understand the Reconcilation of Cost

COURSE: MANAGEMENT ACCOUNTING **CREDIT: 5**

CO1: Define management accounting

CO2:Explain the functions of management accounting

CO3:Determine Trend Analysis

CO4: Define Ratio Analysis

CO5: Prepare funds flow statement

CO6: Prepare cash Flow statement as per AS3

CO7: Understand the Budget and Budgetary Control

COURSE: INCOME TAX LAW AND PRACTICE – II **CREDIT: 5**

CO1: Develop an idea about Capital Gain

CO2: Determine the concept of Income from other sources.

CO3: Analyze and Determine the Clubbing of Income, Set-off and Carry forward of loss.

CO4: Determine the concept of assessment of Individual.

CO5: Computation on Assessment of firms and Deduction u/s 80.

CO6: Explain the filling of return, PAN, Types of Assessment and Advanced payment of Tax.

COURSE: FINANCIAL MANAGEMENT (ELECTIVE PAPER-II)

CREDIT: 3

CO1: Explain the Function of finance Manager

CO2:Explain the Concept of Financial planning, forecasting

CO3: Calculation of NPV, ARR,IRR Methods

CO4: Analysis of Financial Ratio

CO5: Discuss the Goals of financial Function.

COURSE: HUMAN RESOURCE MANAGEMENT

(ELECTIVE PAPER –III)

CREDIT: 3

CO1: Define the concept of Human Resource Management

CO2: Evaluate the functions and significance of Human Resource Management

CO3: Understand the concept of Recruitment and selection

CO4: Evaluate the concept of training and understand the methods of Training

CO5: Analyze the concept of motivation

CO6: Compare and contradict the theories of motivation

CO7:Evaluate the concept of promotion and career development

COURSE: COMPUTER APPLICATIONS IN BUSINESS (SBS-IV)

CREDIT: 3

CO1: Able to understand the input and output devices.

CO2: Understand the concept of LAN and VAN

CO3: Explain Word Processing.

CO4: Create EXCEL and Power Point formatting and functions.

M.Com

PROGRAM SPECIFIC OUTCOMES – (PSO)

PSO1: To impart the students with higher level knowledge and understanding of contemporary trends in commerce and business finance

PSO2: To equip the students to evaluate environmental factors that influence business operation with the conceptual requirements and skills on preparation and interpretation of financial statements

PSO3: To prepare the students to apply Statistical methods and proficient use of tools for modeling and analysis of business data

PSO4: To facilitate the students to apply capital budgeting techniques for investment decisions

PSO5: To prepare students to appraise the structure and operations of banking system

PSO6: To prepare the students for an in depth analysis of investment, portfolio management, investment banking and liquidation of investments

PSO7: To develop competency in the students about the laws and regulations, and roles of commercial, government and central banks in controlling money market and inflation

PSO8: To facilitate the students to analyze and frame micro financing schemes for rural banking

PSO9: To impart concept of risk mitigation in financial sectors and their role in investment decisions of individuals and business enterprises

PSO10: To provide the guidance to students to plan and undertake independent research in a chosen discipline

Course Outcome

SEMESTER I

COURSE: ADVANCED FINANCIAL MANAGEMENT CREDIT: 5

CO1: Understand the concept of Financial Management.

CO2: Describe the Working Capital financing, Sources and Approaches of Bank credit.

CO3: Explain the long term sources, Shares and Debentures.

CO4: Understand the theories of Capital structure.

CO5: Classifies the Dividend theories.

CO6: Understand the Working capital management and factors affecting working capital.

CO7: Understand the Wealth maximization and profit maximization.

COURSE : ACCOUNTING FOR MANAGERIAL DECISIONS

CREDIT: 5

CO1: Understand the Decision Accounting Vs Financial Accounting and Cost Accounting

CO2: Explain the Analysis and Interpretation

CO3: Prepare Flexible budgeting

CO4: Explain Zero Base Budgeting

CO5: Formulate profitability Ratio

CO6: Define cost management

CO7: Discuss financial decisions.

COURSE: GLOBAL MARKETING CREDIT: 4

CO1: Describe the importance and scope of Global Marketing.

CO2: Understand the Segmentation, Targeting and Positioning

CO3: Able to differentiate GATT/WTO

CO4: Classifies the pre shipment and post shipment

CO5: Understand the Global trade procedure and Export documentation.

COURSE: ADVANCED BUSINESS STATISTICS CREDIT: 4

CO1: Compute Partial Correlation.

CO2: Able to apply Statistical technique.

CO3: Understand the Sampling methods and sampling errors.

CO4: Explain the characteristics and application Chi square distribution.

CO5: Understand the analysis the one way classifications.

COURSE: COMPUTER APPLICATIONS IN BUSINESS (ELECTIVE PAPER –I) CREDIT: 3

CO1: Able to understand the input and output devices.

CO2: Understand the concept of LAN and VAN

CO3: Analyze Word Processing.

CO4: Implement EXCEL and Power Point formatting and functions.

SEMESTER II

COURSE: CORPORATE LAWS CREDIT: 5

CO1: Understand the importance of Doctrine of indoor Management.

CO2: Identify the Mergers and Acquisition

CO3: Explain the Intellectual Property Rights.

CO4: Describe the Corporate Governance.

CO5: Understand the concepts of Consumer Protection Act 1986.

CO6: Explain the powers, duties and functions of Commission-Competition Appellate Tribunal.

CO7: Enable to understand Technology Act

COURSE: HUMAN RESOURCE MANAGEMENT CREDIT: 5

CO1: Define Human Resource Management

CO2: Develop the knowledge of Recruitment and selection process

CO3: Discuss about different compensation policies

CO4: Facilitate the knowledge about performance appraisal and its different methods

CO5: Explain about placement.

CO6: Enable to understand rewards and Incentives.

CO7: Explain methods of Training.

COURSE: ADVANCED ACCOUNTING CREDIT: 4

CO1: Understand the basic concept of Bank and Insurance Company Accounting.

CO2: Identify, classify Legal provisions of Capital adequacy norms.

CO3: Analyze the Insurance Company accounts.

CO4: Understand the methods of solving various issues, complexities and prepare the Process Accounts.

CO5: Able to prepare Holding company Accounts.

CO6: Define Human Resource Accounts and importance of Human Resource Accounts.

COURSE: QUANTITATIVE TECHNIQUES FOR BUSINESS

CREDIT: 4

CO1: Understand the Linear programming and Net Work Analysis.

CO2: Able to understand CPM and PERT and Simplex method.

CO3: Understand the inventory models and EOQ models.

CO4: Define the Formulation and Solution of Assignment models.

CO5: Explain Queuing theory, its objectives and limitations.

COURSE: HUMAN RIGHTS **CREDIT: 2**

CO1: Understand the Concepts of human rights and historical development.

CO2: Explain universal declaration of human rights and international covenant on civil and political rights.

CO3: Comparison of American human rights system and African human rights system.

CO4: Understand the contemporary issues on human rights and directive principles of state policy and fundamental duties and national human rights commission.

COURSE: E- COMMERCE (ELECTIVE PAPER-II) **CREDIT: 2**

CO1: Understand the basic concept and technologies used in the field of E-commerce

CO2: Analyze the impact of E- commerce on business model and strategy.

CO3: Describe the infrastructure for E- commerce

CO4: Discuss the legal issues& privacy in E- commerce.

SEMESTER-III

COURSE: BASICS OF GST **CREDIT: 5**

CO1: Distinguish the earlier Indirect tax system and present indirect tax system

CO2: Explain the structure and analyze the benefits of GST

CO3: Discuss about the basic concepts and terms under CGST and IGST act

CO4: Describe the provisions of levy and collection of GST

CO5: Understand the concept of time, place and value of supply

CO6: Analyze the importance and benefits of Input tax credit

CO7: Develop the knowledge of registration, payment of tax, interest, TDS, TCS, refund and returns.

COURSE: ORGANIZATIONAL BEHAVIOR **CREDIT: 5**

CO1: Understand the Fundamental concepts of Organizational behavior.

CO2: Identify the Early theory and Contemporary theory.

CO3: Compare and contrast the Group dynamics and Group behavior.

CO4: Explain the concepts of Leadership, Trait and Contingency theories.

CO5: Understand the concept of Transactional Analysis.

CO6: Analyze the organizational structure .

CO7: Explain the organizational climate.

COURSE: ADVANCED COST ACCOUNTING **CREDIT: 5**

CO1: Understand the basic concept of Cost Accounting.

CO2: Identify, classify the expenses and prepare the cost sheet.

CO3: Analyze the tenders and prepare the quotations.

CO4: Understand the methods of solving various issues, complexities and explaining to prepare the Process Accounts.

CO5: Understand the concept of contract Accounting and solve the issues, problems and prepare the Contract Accounting.

CO6: Define and compute the variances of difference elements of costing.

CO7: Compare and contrast the Methods of Cost Control and Cost Reductions.

CO8: Identify the wastage, scrape, spoilage and defectiveness and compute the loses.

CO9: Categories the inventories into A,B and C and manage Inventories based on priorities.

COURSE: RESEARCH METHODOLOGY CREDIT: 5

CO1: Define the characteristics, nature and scope of Research.

CO2: Understand the various types of research formulation.

CO3: Able to explain Sampling methods and Sampling errors.

CO4: Explain the Sources of data: Primary and Secondary data.

CO5: Describe Factor analysis.

CO6: Identifying, editing, coding and tabulation.

CO7: Compare and contrast types of the Research reports.

COURSE: COMPUTER AND OFFICE MANAGEMENT(ELECTIVE PAPER-III) CREDIT: 3

CO1: Understand History of computer.

CO2: Analyze Hardware and Software

CO3: Understand Anti -virus programme

CO4: Understand Powerpoint.

SEMESTER IV

COURSE: DIRECT TAXES CREDIT: 5

CO1: Define and determine the residential status of various persons and identify the scope total of income for them.

CO2: Apply the proper provisions of direct tax laws and compute the taxable income of various heads.

CO3: Evaluate and apply the various exemptions and total deductions available as per income tax Act.

CO4: Compare and contrast the various methods of depreciation and compute Depreciation as per the provision of Income tax Act.

CO5: Compute the taxable income and tax liabilities of various Person and Assesses.

CO6: Understand the concept of setoff and carry forward of losses.

CO7: Understand the powers and duties of Income tax authorities.

CO8: Define the procedure to file the income tax return and consequence of failure to file the return of income tax.

COURSE: INVESTMENT MANAGEMENT **CREDIT: 5**

CO1: Understand the Financial Assets.

CO2: Explain the scope of Security analysis.

CO3: Understand the valuation of the securities

CO4: Define the Industry analysis and company analysis.

CO5: Classifies the Efficient market Hypothesis.

CO6: Classifies the debentures and bonds

COURSE: PROJECT **CREDIT: 10**

CO1: Understand the concept of Research and Methods of Research.

CO2: Design the work plan.

CO3: Identify the real issues in business related areas and chose the topic for project.

CO4: State the project topic, importance, objectives, and hypothesis.

CO5: Describe the research methodology and sample frame.

CO6: Design the instruments for data collections.

CO7: Analyze the related theories and reviews.

CO8: Design the suitable instruments' based on the research concepts.

CO9: Make the data editing, data management and apply the suitable statistical tools for analysis the data and make the data interpretations.

CO10: Write the finding, suggestion and conclusion.

COURSE: INTRODUCTION TO INFORMATION TECHNOLOGY (ELECTIVE –IV) **CREDIT: 3**

CO1: Understand the characteristics of Computer.

CO2: Analyze Networks.

CO3: Understand types of internet connections

CO4: Understand the Uses of Internet.

DEPARTMENT OF COMMERCE (COMPUTER APPLICATIONS)

Course: B.Com (CA)

PROGRAM SPECIFIC OUTCOMES (PSOs)

PSO1: Understand Commercial Activities Covered by Advanced Technology like Computerized Accounting, E – Commerce, E – Banking, Mobile Banking, and E – Taxation.

PSO2: Obtain Knowledge of Various Provisions of Income Tax Act, & Their Application in Computation of Individuals & Firms Under Various Heads of Income.

PSO3: Students have a plethora of choices to pursue professional courses such as M.Com CA, M. Com, MBA, CMA, ICWA, M.Com CA etc.

PSO4: Students will be able to pursue their career in teaching and research

PSO5: Develop entrepreneurial qualities and skills require for self employment.

COURSE OUTCOME:

SEMESTER I

COURSE: FINANCIAL ACCOUNTING-I **CREDIT: 4**

CO1: Understand the systems of Financial Accounting.

CO2: Prepare the basic accounting Principles.

CO3: Evaluate the methods of recording depreciation.

CO4: Prepare the Final Accounts, Profit & Loss Account and Balance sheet of a Company.

COURSE: BUSINESS APPLICATIONS & ACCOUNTING SOFTWARE CREDIT: 3

CO1**:** Understand the basics of Computer.

CO2: Able to create a word document, worksheet and its formatting.

CO3: Design MS -PowerPoint presentation.

CO4: Able to prepare generate financial reports.

CO5: Create Company voucher and stock group in Tally ERP 9.

COURSE: BUSINESS STATISTICS-I CREDIT: 4

CO1: Understand the basics of statistic tools in business.

CO2: Able to calculate various averages.

CO3: Able to compare measures of dispersion.

CO4: Compare various methods of computing Skewness.

CO5: Able to Understand SQC and different Control Charts.

SEMESTER II

COURSE: FINANCIAL ACCOUNTING – II CREDIT: 4

CO1: Understand the knowledge of Branch Accounting.

CO2: Prepare the Departmental trading and Profit & Loss Account.

CO3: Able to calculate interest on Hire purchase.

CO4: Outline the fundamentals and reconstitution of Partnership Firm.

COURSE: SOFTWARE & TALLY LAB CREDIT: 3

CO1: Understand the concepts of MS-Word.

CO2: Understand the concepts of MS-Excel.

CO3: Understand the concepts of MS-Power Point and Tally.

CO4: Able to create MS-Office Applications

COURSE: BUSINESS STATISTICS – II **CREDIT: 6**

CO1: Understand basics of Business statistics.

CO2: Computation of correlation Coefficient and rank correlation.

CO3: Derive regression equation.

CO4: Able to calculate various index numbers.

CO5: Able to derive various averages in time series.

CO6: Understand different probability theorem.

CO7: Able to apply statistical tools in business decisions.

SEMESTER III

COURSE: CORPORATE ACCOUNTING – I **CREDIT: 4**

CO1: Understand different methods of valuation of shares.

CO2: Understand different methods of valuation of debentures.

CO3: Acquire the knowledge of acquisition of Business and accounting treatment.

CO4: Prepare the statement of Profit and Loss Account and Balance Sheet.

CO5: Able to know different methods of Purchase Consideration and prepare Amalgamation, Absorption and Internal& External reconstruction.

COURSE: BUSINESS LAW **CREDIT: 4**

CO1: Describe origin of RBI in India.

CO2: Understand the traditional and modern function of the Commercial Banks.

CO3: Identify different methods of Bank Account.

CO4: Acquire the knowledge on Negotiable Instruments.

CO5: Describe about different method of lending and its policies.

COURSE: MANAGEMENT INFORMATION SYSTEM CREDIT: 3

C01: Understand the concepts of Management Information.

CO2: Able to understand the concepts of Information system and its types.

CO3: Understand the concepts of system analysis.

CO4: Understand the concepts of Development, Maintenance of MIS.

COURSE: MOBILE COMPUTING **CREDIT: 4**

CO1: Acquire good knowledge of wireless communication.

CO2: Apply knowledge of GSM and GPRS extension in mobile computing.

CO3: Analyze mobile platforms and its applications.

CO4: Understand the concepts of E-Business, E- Commerce and M-Commerce.

COURSE: ELEMENTS OF INSURANCE **CREDIT: 3**

CO1: Understand the concepts of Insurance.

CO2: Understand the different policies in Life Insurance.

CO3: Acquire the knowledge of Marine Insurance.

CO4: Understand the concepts of Fire Insurance.

COURSE: BASIC TAMIL **CREDIT:2**

CO1: Understand basic of Tamil language.

CO2: Enable them to enhance their language skill.

CO3: Enable them to develop creative reading and writing.

CO4: Able to participate in dialogue without any difficulty.

COURSE: BASIC MATHEMATICS **CREDIT: 2**

CO1: Understand the foundations of Mathematics.

CO2: Able to perform the basic computation in sets.

CO3: Develop and maintain problem solving skills.

COURSE: LANGUAGE SKILL AND COMMUNICATION-I

CREDIT: 2

CO1: Able to understand and apply knowledge of human communication and language.

CO2: Understand the importance of language in communication.

CO3: Analyze the correct usage of grammar in writing and speaking.

SEMESTER IV

COURSE: CORPORATE ACCOUNTING – II **CREDIT: 4**

CO1: Evaluate different methods of valuation of Goodwill and Share.

CO2: Acquire knowledge of preparing liquidator's Final Statement and Affairs.

CO3: Prepare Bank and Insurance Company Accounts.

CO4: Describe Capital and Revenue Profit and Consolidate Balance sheet.

CO5: Understand the limitations of Historical Cost Accounting and evaluate the methods of CPP methods and CCA methods.

COURSE: PRINCIPLES OF MARKETING **CREDIT: 4**

CO1: Understand and describe basics of Marketing.

CO2: Identify market segmentation and Consumer Behavior.

CO3: Acquire knowledge of marketing policy and life cycle of the product.

CO4: Evaluate and determine channel of distribution.

CO5: Identify recent marketing in the Global Scenario.

COURSE: RELATIONAL DATABASE MANAGEMENT SYSTEM

CREDIT: 3

CO1: Understand the concept of Database.

CO2: Analyze different data models available.

CO3: Compare and contrast what is SQL and PL/SQL.

CO4: Analyze and Understand data definition language, Data Manipulation languages.

COURSE: RELATIONAL DATABASE MANAGEMENT SYSTEM LAB

CREDIT: 3

CO1: Understand the concept of manipulation of Queries.

CO2: Develop program based on PL/SQL concepts like procedure, Trigger, Cursor and functions.

CO3: Create and design software using different DBMS Packages.

COURSE: E-COMMERCE AND ITS APPLICATIONS

CREDIT: 6

CO1: Understand the concepts of E-Commerce.

CO2: Acquire the major challenges of B2C and E-Commerce.

CO3: Understand the E-Hub and its Concepts.

CO4: Prepare e-mail Id and etiquettes.

CO5: Define the Web Browsing, Web sites and Web designs.

CO6: Determine the Internet and its operation.

CO7: Compare the difference between B2C and B2B

COURSE: INDUSTRIAL ORGANIZATION CREDIT: 3

CO1: Understand the basic Industrial growth and current Scenario.

CO2: Describe different ownership of the firm.

CO3: Able to know about physical facilities, plant location and plant layout.

CO4: Evaluate the product design, production planning and control.

CO5: Understand different types of purchasing policy and inventory control.

COURSE: BASIC TAMIL CREDIT: 2

CO1: Learn and participate the methods of writing sentence without errors.

CO2: Understand social value of short stories and develop creative skills.

CO3: Learn Translation and Interviews.

COURSE: FOUNDATION MATHEMATICS FOR COMPETITIVE EXAMINATION CREDIT: 2

CO1: Understand the basic formula in computation skill needed in competitive examination.

CO2: Able to perform basic computation in simple and compound interest.

CO3: Develop problem solving skills.

COURSE: LANGUAGE SKILLS AND COMMUNICATION-II

CREDIT: 2

CO1: Discuss different perspective and stances on skills in communication.

CO2: Analyze the importance of skill development.

CO3: Able to understand and apply the knowledge in communication.

SEMESTER V

COURSE: COST ACCOUNTING – I **CREDIT: 4**

CO1: Understand the basic concepts and application of cost accounting in business.

CO2: Able to compute cost sheet.

CO3: Compute material issue price under different techniques.

CO4: Able to calculate labour rate under different methods.

CO5: Computation of machine hour rate and labour hour rate.

CO6: Classify overhead and its appointment.

COURSE: MANAGEMENT ACCOUNTING **CREDIT: 4**

CO1: Understand the basic principles of lying with management accounting.

CO2: Able to prepare various ratios, financial statement from ratios.

CO3: Able to compute cash flow statement and fund flow statement as per AS3

CO4: Able to compute material, labour and overhead variances.

CO5: Compare budget and budgetary control.

COURSE: BUSINESS MANAGEMENT **CREDIT: 4**

CO1: Able to describe about business management basics.

CO2: Compare and Contrast between management and Administration.

CO3: Able to define authority and responsibility

CO4: Understand the role of directing and leadership in business.

CO5: Able to define process controlling and its techniques.

COURSE: INTERNET AND ITS APPLICATION CREDIT: 4

CO1: Understand the concepts of Internet.

CO2: Understand the concepts of Web Browsers.

CO3: Understand the concepts of email and e-marketing.

CO4: Understand the concepts different payment systems.

COURSE: INCOME TAX LAW & PRACTICE – I CREDIT: 3

CO1: Understand the concepts of Income tax act.

CO2: Define the procedure for heads of Incomes.

CO3: Compute the procedure for taxation of salary income.

CO4: Prepare the statement of Profit and Gains of Business.

CO5: Outline the powers and rights of income tax authorities.

COURSE: COMPUTER APPLICATIONS IN BUSINESS CREDIT: 3

CO1: Understand the basics concepts of Computer.

CO2: Able to understand and create MS-Word.

CO3: Able to understand and create MS- Excel.

CO4: Understand concept of E-Commerce and SMART card Applications.

SEMESTER VI

COURSE: COST ACCOUNTING – II **CREDIT: 5**

CO1: Able to calculate cost per unit, job batch and contract.

CO2: Compute problems under process costing and process loss under equivalent production.

CO3: Prepare Operating cost sheet.

CO4: Compute Problems under marginal costing.

CO5: Able to reconcile cost and financial accounts.

COURSE: WEB TECHNOLOGY **CREDIT: 5**

CO1: Able to face the different web Application program using HTML tags.

CO2: Create the HTML program using style sheets.

CO3: Understand the concepts of Object in HTML.

CO4: Create the cookies program using HTML and scripting language.

CO5: Compare the concepts of request and response objects.

CO6: Understand the concepts of OLEDB connections.

CO7: Understand the concepts of HTML server Control.

COURSE: WEB TECHNOLOGY LAB **CREDIT: 5**

CO1: Understand HTML program using HTML basic tags.

CO2: Able to image and table on a web page.

CO3: Create the hyper link on a web page.

CO4: Understand the concept of Script language to display the content on web site.

CO5: Create the cookies program on a web page.

CO6: Understand the various concepts of web Application programs.

CO7: Able to create a web page.

COURSE: INCOME TAX LAW & PRACTICE-II CREDIT: 3

CO1: Understand the concepts of assessment of an Individual Income.

CO2: Prepare the Statement of Capital Gains.

CO3: Outline the procedure of other sources income.

CO4: Determine the concepts of agriculture and clubbing of income.

CO5: Prepare the taxation and filing of an individual's income.

COURSE: ENTERPRISE RESOURCE PLANNING CREDIT: 3

CO1: Describe about business process index ERP System.

CO2: Understand sales order Processing and CRM in ERP Environment.

CO3: Identify production and sales forecasting under SAP ERP.

CO4: Understand system of Industrial Credit Management and Profitability analysis.

CO5: Outline the system of Preparing Payroll and Travel Management under ERP Software.

CO6: Compare and Contrast between traditional system and ERP system.

COURSE: INDUSTRIAL RELATIONS **CREDIT: 3**

CO1: Understand the concepts of Industrial Relation and factors affecting IR in changing Environment.

CO2: Understand the concepts of Trade union.

CO3: Able to know about collective Bargaining and workers participation Management.

CO4: Describe about the Industrial Disputes and the provisions.

CO5: Understand the provision relating to Health, safety and welfare facilities.

DEPARTMENT OF NUTRITION FOOD SERVICE MANAGEMENT AND DIETETICS

B.Sc (NFSM&D)

PROGRAMME SPECIFIC OUTCOME (PSOs)

PSO1: Eligible to work as a "Chief Dietician".

PSO2: Work as a "Chief Chef".

PSO3: Good quality controller in Food service Industry.

PSO4: Good diet counselor for the patient.

PSO5: Good food left –over Manager.

PSO6: Good baker.

PSO7: Best table Decorator.

PSO8: Best health and fitness Manager.

COURSE OUTCOME

SEMESTER I

COURSE: MICROBIOLOGY **CREDIT: 06**

CO1: Understand the role of microorganisms in spoilage of various foods.

CO2: Explain the micro-organism in relation to food and food preservation.

CO3: Design the principles of food preservation.

CO4: Outline the destruction of micro-organism.

CO5: Describe the micro-organism in human welfare.

CO6: Determine the contamination and spoilage of foods.

CO7: Compare and contrast the micro biology of food poisoning, food infection and food borne diseases.

COURSE: CHEMISTRY -I **CREDIT: 4**

CO1: Identify electronic configuration and periodic properties.

CO2: Understand the different types of chemical bonds.

CO3: Describe about nomenclature of aliphatic and alicyclic compounds.

CO4: Analyze different types of states of matter

CO5: Describe basic concepts of bonding in Organic Chemistry

CO6: Explain about different types of Volumetric Analysis

CO7: Analyze classification of elements and factors affecting atomic radii.

SEMESTER II

COURSE: HUMAN PHYSIOLOGY **CREDIT: 05**

CO1: Explain the structure and functions of a typical cells and tissues.

CO2: Identifying the blood grouping.

CO3: Determine the blood pressure and ECG.

CO4: Understand the structure and basic physiology of various organs of the body.

CO5: Understand the principles of nutrition through the study of physiology.

CO6: Determine the Heart beat and Cardiac Cycle.

COURSE: CHEMISTRY -II **CREDIT: 4**

CO1: Discuss about s and p-block elements group study.

CO2: Analyse the comparative study of alkane

CO3: Explain about dienes and stability of cycloalkanes

CO4: Discuss about quantum mechanics and thermodynamics

CO5: Describe about first law of thermodynamics.

CO6: Discuss about thermochemical equations.

COURSE: (A) MICROBIOLOGY (B) HUMAN PHYSIOLOGY – Core Practical – I **CREDIT: 03**

CO1: Define Microscope.

CO2: Identify the yeast, molds, protozoa and bacteria.

CO3: Explain the simple staining and gram method of staining.

CO4: Understand the demonstration of determination of blood count.

CO5: Classify the tissue and Endocrine glands.

SEMESTER III

COURSE: FOOD SCIENCE **CREDIT: 03**

CO1: Define basic 5 food Groups.

CO2: Understand changes during cooking.

CO3: Classify various method of cooking.

CO4: Compare and contrast the nutritive values of Milk, Meat and Poultry.

CO5: Determine stages of sugar cookery.

COURSE: NUTRITIONAL BIOCHEMISTRY (Allied- II) **CREDIT: 03**

CO1: Define biochemistry and relation to Nutrition.

CO2: Classify the based on amino acid.

CO3: Explain the chemical composition of Fats.

CO4: Determine the Nucleic Acids and protein bio synthesis.

CO5: Describe the inborn errors of Metabolism.

COURSE: BAKERY (SBS – I) **CREDIT: 03**

CO1: Understand basic concepts of baking.

CO2: Discuss with the role of various major and minor ingredients in bakery products.

CO3: Explain baking process and operation.

CO4: Define the quality parameters of baking products.

CO5: Formulate the icing pasturing preparation.

COURSE: HEALTH AND FITNESS (NME – I) **CREDIT: 02**

CO1: Define health and wellness.

CO2: Describe nutrition and exercise.

CO3: Explain nutrition in sports nutrient.

CO4: Describe basic components of physical activity.

CO5: Explain awareness health and fitness.

SEMESTER IV

COURSE: HUMAN NUTRITION **CREDIT: 03**

CO1: Define the Health Statics of the people.

CO2: Determine the Energy required by various age groups.

CO3: Understand the effect of lipid on health statics.

CO4: Classify the protein based on the quality.

CO5: Describe the Role of vitamins and minerals.

COURSE: FOOD PRESERVATION (Allied) CREDIT: 04

CO1: Understand the principles of preservation.

CO2: Compare the preservation by high osmotic pressure concentration of salt.

CO3: Explain the preservation by uses of high and low temperature.

CO4: Classify the preservation by using chemicals and food radiation.

CO5: Compare and contrast the drying and dehydration.

COURSE: FOOD PRODUCT DEVELOPMENT AND MARKETING STRATEGY (SBS –II) CREDIT -03

CO1: Develop new marketable, nutritionally and economically viable food products.

CO2: Create entrepreneurship skills for setting up small scale industries.

CO3: Understand packaging of different food products.

CO4: Analyze financial management and marketing food products.

COURSE: NUTRITION FOR THE FAMILY (NME–II) CREDIT: 02

CO1: Classify the basic 5 food groups.

CO2: Explain the dietary problem eating disorders.

CO3: Classify the types of supplementary foods

COURSE: (A) FOOD SCIENCE (B) HUMAN NUTRITION (Practical – II) CREDIT: 03

CO1: Evaluate the Qualitative estimation of CHO.

CO2: Determine the Protein & Minerals present in the food materials.

CO3: Explain the techniques used in measurement of food stuff.

CO4: Formulate different recipes using basic 5 food groups.

CO5: Prepare hot & cold beverages.

COURSE: NUTRITIONAL BIOCHEMISTRY (B) FOOD PRESERVATION (Allied) Practical **CREDIT: 03**

CO1: Determination of CHO – Qualitative tests.

CO2: Explain the blood glucose level.

CO3: Classify the class I, class II food preservatives.

CO4: Identify the uses of sorbic acid and sulphurdioxide as antimicrobial preservatives.

CO5: Classify the Traditional methods of food preservation.

SEMESTER V

COURSE: DIETETICS – I **CREDIT: 05**

CO1: Define role of diet.

CO2: Understand principles of diet.

CO3: Describe menu planning and serving therapeutic diet.

CO4: Analyze the nutritive values.

CO5: Determine the diet in infections and fevers.

CO6: Outline disease of the gastro intestinal tract.

COURSE: NUTRITION THROUGH LIFE CYCLE **CREDIT: 05**

CO1: Explain nutrition during life span.

CO2: Prepare the dietary modification.

CO3: Classify the Recommended allowances.

CO4: Describe the nutrition in pregnancy.

CO5: Determine physiology of lactation hormonal control and reflex action.

CO6: Prepare the infancy feeding programme.

CO7: Explain the packed lunch for school going children.

COURSE: COMMUNITY NUTRITION **CREDIT: 05**

CO1: Define the role of Community Nutrition.

CO2: Understand the mal nutritional Problems among the community.

CO3: Outline the nutrition and health in national development.

CO4: Apply nutrition policy and programs.

CO5: Describe the skills needed to delivery nutrition services.

COURSE: HOSPITAL FOOD SERVICE ADMINISTRATION

(Elective – I) **CREDIT: 03**

CO1: Define role of hospital food service administration.

CO2: Develop skills to maintain medical records.

CO3: Understand the management of resource in hospitals.

CO4: Describe the principles of hospitals management.

CO5: Design hospital diets and housekeeping department.

COURSE: INTERNSHIP (SBS – III) **CREDIT: 03**

CO1: Define role of diet.

CO2: Understand principles of diet.

CO3: Describe menu planning and serving therapeutic diet.

CO4: Analyze the nutritive value of food ingredients.

CO5: Identify the nutrition related problems, determine and evaluate nutrition intervention programs.

SEMESTER VI

COURSE: DIETETICS –II **CREDIT: 05**

CO1: Classify the principles of diet therapy and different therapeutic diets.

CO2: Develop attitude for taking up dietetics as a profession.

CO3: Describe the menu planning to therapeutic diet.

CO4: Explain the food sensitivity and genetic disorder.

CO5: Classify the stages of HIV infections and medical nutritional therapy.

CO6: Compare and contrast the modification of diet in obesity and underweight.

CO7: Outline the disease of liver, gall bladder and pancreas.

COURSE: FOOD SERVICE MANAGEMENT **CREDIT: 04**

CO1: Create and awareness on the organizational aspect and functioning of different types of food service institutions.

CO2: Develop managerial skills among the students.

CO3: Understand the space allocation and arrangement of food service units.

CO4: Explain quantitative and qualitative food analysis.

COURSE: HUMAN DEVELOPMENT & COUNSELLING

CREDIT: 04

CO1: Define concept of development and growth.

CO2: Understand development aspects from conception to old age as they can be guided effectively.

CO3: Explain the behavior pattern of the individual and various factors influencing them.

CO4: Describe the prenatal and postnatal development.

CO5: Classify the stages of life span.

COURSE: FOOD STANDARD AND QUALITY CONTROL (Elective –II)
CREDIT: 03

CO1: Define government regulation in quality control.

CO2: Classify the AGMARK and specification for food grains.

CO3: Explain the consumer protection Act.

CO4: Design the company quality Assurance program.

CO5: Identify the quality control and common food standard.

COURSE: NUTRACEUTICALS AND NUTRIGENOMICS (Elective –III)
CREDIT: 03

CO1: Define Nutraceuticals and nutrigenomics.

CO2: Explain the role of dietary supplements and nutraceuticals in health and disease.

CO3: Classify the probiotics and prebiotics.

CO4: Determine the application of nutrigenomics in health and diesease.

COURSE: PERSPECTIVE OF HOME SCIENCE (SBS –IV)
CREDIT: 03

CO1: Understand the concept and scope of Home science and its components.

CO2: Explain the job opportunities in home science.

CO3: Create new design in home science.

CO4: Outline balanced diet for various age groups.

CO5: Describe human development.

COURSE: (A) NUTRITION THROUGH LIFE CYCLE (B) DIETETICS – I (Practical - III) CREDIT: 03

CO1: Describe menu planning.

CO2: Formulate the food preparation.

CO3: Compare nutritional requirement for infant to old age.

CO4: Analyze nutritional requirements for Expectant and Lactating women

CO5: Describe the menu planning to therapeutic diet.

COURSE: (A) FOOD SERVICE MANAGEMENT (B) DIETETICS –II (Practical – IV) CREDIT: 03

CO1: Outline well organized food service unit.

CO2: Explain table settings.

CO3: Prepare quantity cookery.

CO4: Differentiate normal and therapeutic diet

CO5: Plan and prepare a diet for diabetes mellitus with and without insulin.

M.Sc (FOODS AND NUTRITION)

PROGRAM SPECIFIC OUTCOME (PSOs)

PSO1: To work as a chief dietician.

PSO2: Best Creech center manager.

PSO3: Best New- food formulator.

PSO4: Best food quality controller.

PSO5: Best preservation manager (or) using natural colour.

PSO6: Best kitchen Dietician.

PSO7: Best beverage department manager.

PSO8: Best interior designer.

COURSE OUTCOME (CO)

SEMESTER I

COURSE: ADVANCED PHYSIOLOGY CREDIT: 05

CO1: Understand the general structure and function of various system and organ in the body.

CO2: Outline the abnormal changes in tissues and organs in deceased condition.

CO3: Explain endocrine glands and reproductive organs.

CO4: Compare and contrast respiration and gastrointestinal tract.

CO5: Analysis of blood composition.

CO6: Describe nerves system.

CO7: Explain immunity system.

COURSE: ADVANCED FOOD SCIENCE **CREDIT: 05**

CO1: Understand the principles of cooking.

CO2: Design the composition of various foods.

CO3: Formulated the effect of cooking on composition.

CO4: Analysis the Meat & Meat products.

CO5: Evaluate the Milk and Milk products.

CO6: Classify the Fats & Oil food products.

CO7: Classify the sugar cookery and beverages essentials of macro nutrients.

COURSE: ESSENTIALS OF MACRO NUTRIENTS **CREDIT: 05**

CO1: Understand the role of macronutrients.

CO2: Classify the carbohydrate metabolisms.

CO3: Explain metabolism of macronutrients.

CO4: Describe lipids structure.

CO5: Define Energy content food.

CO6: Analysis of CHO, Protein and Fat.

CO7: Define the metabolism of macro nutrients.

COURSE: HEALTH AND FITNESS (Elective – I) **CREDIT: 03**

CO1: Define health and wellness.

CO2: Describe nutrition and exercise.

CO3: Explain nutrition in sports nutrient.

CO4: Describe basic components of physical activity.

CO5: Explain awareness health and fitness.

SEMESTER II

COURSE: ESSENTIALS OF MICRO NUTRIENTS CREDIT: 03

CO1: Develop competence to carryout investigation of nutrition.

CO2: Explain principles Micro nutrients.

CO3: Describe vitamin A, D, E, and K.

CO4: Determine Electrolytes content of fluid compartments.

COURSE: NUTRITION THROUGH LIFE CYCLE CREDIT: 05

CO1: Explain nutrition during life span.

CO2: Prepare the dietary modification.

CO3: Classify the Recommended allowances.

CO4: Describe the nutrition in pregnancy.

CO5: Determine physiology of lactation hormonal control and reflex action.

CO6: Prepare the infancy feeding programme.

CO7: Plan and prepare a day's menu of adolescent and adult.

COURSE: FOOD MICROBIOLOGY CREDIT: 05

CO1: Understand the role of microorganisms in spoilage of various foods.

CO2: Explain the micro-organism in relation to food and food preservation.

CO3: Design the principles of food preservation.

CO4: Outline the destruction of micro-organism.

CO5: Describe the micro-organism in human welfare.

CO6: Determine the contamination and spoilage of foods.

CO7: Compare and contrast the micro biology of food poisoning, food infection and food borne diseases.

COURSE: FOOD STANDARDS AND QUALITY CONTROL

(Elective –II) CREDIT: 03

CO1: Explain fundamental of food quality control procedures.

CO2: Define the common food standard.

CO3: Classify the food laws.

CO4: Determine food safety and Hygiene.

COURSE: ADVANCE FOOD SCIENCE & ESSENTIAL OF MACRO NUTRIENTS (Practical – I)

CREDIT: 04

CO1: Understand the preparation of rice based products.

CO2: Classify the composition of various foods.

CO3: Identify the effects of cooking on composition.

CO4: Explain the stages of sugar cookery.

CO5: Understand the qualitative and quantitative analysis.

CO6: Describe the total protein by microkjeldhal method.

CO7: Analyse the fat by soxhlet method.

COURSE: (A) ESSENTIALS OF MICRO NUTRIENTS &(B) NUTRITION THROUGH LIFE CYCLE (Practical –II)

CREDIT: 04

CO1: Analysis calcium of food.

CO2: Determine ascorbic acid in cabbage by dye method.

CO3: Plan and prepare a day's menu for infancy to old age.

CO4: Explain menu planning for sports person.

CO5: Classify the type of worker sedentary, moderate and heavy worker.

SEMESTER III

COURSE: NUTRITIONAL BIOCHEMISTRY CREDIT: 04

CO1: Define biochemistry and relation to Nutrition.

CO2: Classify the based on amino acid.

CO3: Explain the chemical composition of Fats.

CO4: Determine the Nucleic Acids and protein bio synthesis.

CO5: Describe the inborn errors of Metabolism.

COURSE: RESEARCH METHODOLOGY AND APPLIED STATISTICS CREDIT: 04

CO1: Explain primary and secondary data.

CO2: Compare and contrast the correlation co- efficient between two variables.

CO3: Analyze statistical data using MS-Excel.

CO4: Describe simple linear regression equation for a set of data.

CO5: Apply test of significance for large and small sample.

COURSE: COMMUNITY NUTRITION **CREDIT: 04**

CO1: Define the role of Community Nutrition.

CO2: Understand the mal nutritional Problems among the community.

CO3: Outline the nutrition and health in national development.

CO4: Apply nutrition policy and programs.

CO5: Describe the skills needed to delivery nutrition services.

COURSE: NUTRITION IN EMERGENCIES (Elective – III)

CREDIT: 03

CO1: Understand the protecting people's right to nutrition during disaster.

CO2: Prepare for emergencies, to prevent hunger, malnutrition and deficiency disorder.

CO3: Create and awareness on nutrition policies and programmes to combat nutritional problems.

CO4: Outline the communicable disease.

COURSE: FUNCTIONAL FOODS AND NUTRACEUTICALS-ELECTIVE -II

CREDIT: 03

CO1: Describe the source of functional foods and nutraceuticals.

CO2: Explain the role of functional foods and nutraceuticals and dietary supplements in health and disease.

CO3: Classification based on food source.

CO4: Create source and role of functional foods and nutraceuticals.

COURSE: INTERNSHIP (SBS – III) **CREDIT: 02**

CO1: Define role of diet.

CO2: Understand principles of diet.

CO3: Describe menu planning and serving therapeutic diet.

CO4: Analyze the nutritive value of food ingredients.

SEMESTER IV

COURSE: DIET THERAPY **CREDIT: 05**

CO1: Understand the principles of diet and nutrition in the causes and treatment of disease.

CO2: Learn recent concept in dietary management of different disease.

CO3: Understand the modification in nutrients and dietary requirement for therapeutic condition.

CO4: Explain principles of nutritional care.

CO5: Plan and prepare a day's menu of disease condition.

CO6: Explain parenteral feeding jejunonstomy, nasogastric, gastronomy, rectal feeding.

CO7: Describe cardio vascular system.

COURSE: FOOD BIOTECHNOLOGY **CREDIT: 03**

CO1: Explain recent updated on recent advanced in the application of genetic engineering in food.

CO2: Develop an understanding about Nano biotechnology industries.

CO3: Describe classical strain improvement.

CO4: Apply the Nano biotechnology in food industries.

COURSE: (A) NUTRITIONAL BIOCHEMISTRY (B) COMMUNITY NUTRITION (Practical) CREDIT: 04

CO1: Determine the saponification number.

CO2: Describe the serum proteins by Biuret method.

CO3: Determine the albumin/ globulin ratio biuret.

CO4: Develop the plan for nutrition education programmes in community.

CO5: Develop the low cost recipes for infant, preschooler, elementary.

CO6: Classify the communication aids for different groups.

COURSE: DIET THERAPY (Practical – IV) CREDIT: 04

CO1: Explain the types of diet.

CO2: Understand the principles of therapeutic diet for various disease conditions.

CO3: Plan and Calculate nutritive value of diet

CO4: Classify the type- I and II diabetes mellitus.

CO5: Plan a diet for deficiency disease.

DEPARTMENT OF BIOCHEMISTRY

B.Sc (Biochemistry)

PROGRAM SPECIFIC OUTCOME (PSO)

PSO1: Students will gain knowledge of cytology, biomolecules

PSO2: Practical skill of Microbial culture and antimicrobial chemotherapy

PSO3:Students will be able to apply analytical instruments in the field of research for Isolation, Separation and Purification of organelles and protein, DNA and RNA

PSO4:Student will be able to understand the Role of enzymes in Metabolism and as Marker for Disease and Industrial application enzymes

PSO5: Students will be able to understand the mechanism of Molecular biology and applications in Recombinant DNA technology, Fingerprinting, Human genome project, Plant and animal cell culture.

PSO6: Students will be able to understand about Etiology of Disease, Diagnosis using laboratory technology and Treatment procedure.

PSO7:Students will able to understand the concept of Immune system which protects the body from disease and Immunological disorders and production of vaccines.

PSO8: Role of computer and Statistics in data analysis in clinical epidemiology and Research.

COURSE OUTCOMES (CO)

SEMESTER-I

Course: CELL BIOLOGY **Credit:4**

CO1: Identify the view of cells origin and the solution of cell theory.

CO2: Compare and contrast of prokaryotic and eukaryotic cells.

CO3: Explain the sub organelles and its type of cell

CO4: Define the nature and role of organelles such as endoplasmic reticulum, ribosome, mitochondria and plasma membrane.

CO5: Outline about chromosomes, chloroplast cell communication.

Course: ALLIED CHEMISTRY I **Credit:4**

CO1: Explain the terms and process used in Metallurgy

CO2: Compare the types of effects of polarisationplays the role in organic reactions.

CO3: Determine the rate of reaction and to compare the types of catalysis.

CO4: Evaluate the types of nuclear reaction and applications of radio-isotopes.

CO5: Classify the types of hybridization and shapes of molecules.

SEMESTER-II

Course: BIOMOLECULES **Credit-4**

CO1: Classifiy of carbohydrates, isomerism of sugars, reactions of carbohydrates.

CO2: Explain about amino acid, protein and its structure.

CO3: Define the functions of lipids with classifications.

CO4: Determine the nature of genetic materials purine and pyrimidine bases

CO5: Design Watson and Crick model of DNA and types of RNA

CO6: Outline of dietary sources, deficiency and biological functions of fat & water soluble vitamins.

Course: ALLIED CHEMISTRY II **Credit-4**

CO1: Describe the coordination compounds and their applications.

CO2: Evaluate the role of carbohudrate, Amino acid, proteins and vitamins.

CO3: Determine the types of conductions in electrochemistry.

CO4: Explain the application of points, chromatographic techniques.

CO5: Evaluate the types of drugs applied for diseases.

Course: Chemistry I & II (Allied Practical) Credit: 2

CO1: Analyze and identify the functional groups present in the given substance.

CO2: Understand types f reaction

CO3: Determine the strength of the solutions.

Course: LANGUAGE SKILLS AND COMMUNICATION-I (NME) Credit-2

CO1: Understand the importance of Language and communication

CO2: Able to understand and apply the knowledge of human communication and language

CO3: Acquire skills like interpersonal, intra personal and intra cultural communication.

Course: Core Practical - Practical I Credits -4

CO1: Analyze qualitative tests of carbohydrates

CO2: Describe about reducing sugar, osazone formation with conformation test

CO3: Analyze qualitative test of amino acids

CO4: Determine quantitative test of sugar, amino acids & ascorbic acids

Course: Allied Practical - Chemistry Practical I & II Credits 2

CO1: Understand the lab safety & handling the apparatus

CO2: Compare the properties of organic substances

CO3: Evaluate the normality of the solutions

Course: Core Practical - Practical II Credits 4

CO1: Understand the concept of isolation process of lipids, cholesterols from egg

CO2: Isolate starch from potato

CO3: Demonstrate colorimetry & chromatographic techniques

CO4: Estimate the quantity of amino acid, protein by colorimetrically

CO5: Preparation of buffer

Course: Allied Practical - Microbiology I & II **Credits 2**

CO1: Understand the sterilization techniques

CO2: Evaluate the soil microorganisms

CO3: Explain staining Techniques

CO4: Explain serial dilution techniques

CO5: Analyze puncture techniques

Course: Core Practical - Practical III **Credits 5**

CO1: Analyze creatinine, urea, glucose by colorimetrically

CO2: Analyze biological samples of salivary amylase

CO3: Estimate enzyme activity of urease

CO4: Analyze serum samples (SGOT, SGPT)

CO5: Demonstration of electrophoretic techniques

CO6: Understand the concept of sample separation by electrophoretic techniques

Course : Elective Practical - Practical IV Medical Lab Technology

Credits 3

CO1: Acquire phlebotomy skills

CO2: Evaluate the haematology parameters

CO3: Identify the normal & abnormal constituents of urine

CO4: Understand microbiological concept of staining, streaking & culturing.

SEMESTER-III

Course: Fundamentals of Computer I (SBS) **Credit: 3**

CO1: Acquire basic word processing skills with Microsoft Word,
such as text input and formatting, editing, cut, copy and paste,
spell check, margin and tab controls, keyboard shortcuts, printing,
as well as how to include some graphics such as pictures and charts.

CO2: Evaluate information on the Web
(learn how to be critical and evaluate what is valid and reliable).

CO3: Explain the basics of e-mail, such as sending, forwarding and receiving mail,
attaching documents, creating mailboxes, filters, and address books.

CO4: To be able to describe why computer systems are important needed to be reliable.

CO5: Explain Fundamental concepts related to computer system.

Course: Biophysical and Biochemical Techniques I **Credit: 3**

CO1: Students will demonstrate a core knowledge base in the theory and practice of modern Biochemistry and biophysical (BB)

CO2: Understand Units of solute measurement in solution.

CO3: Explain about the Concept and application of pH in the buffer.

CO4: Illustrated the Instrumentation and application of electrode

CO5: Understand the partition and abstraction Chromatography Technique.

CO6: Acquire knowledge on Preparative and differential certification technique.

Course: Microbiology (ALLIED) **Credits: 4**

CO1: Understand the microscopic techniques

CO2: Classify the structure and functions of cell organelles

CO3: Understand animal cell culture techniques

CO4: Acquire skills on the classical techniques of microbial identification

CO5: Analyze microbial growth determination

Course: LANGUAGE SKILLS AND COMMUNICATION-II (NME) Credit-2

CO1: Acquire skills on technology mediated communication

CO2: Able to improve the fluency of speaking

CO3: Analyze the correct usage of grammar in writing and speaking.

SEMESTER-IV

Course: BIOPHYSICAL TECHNIQUES –I **Credit-3**

CO1: Create a practical knowledge on the separation of biological sample by centrifugation

CO2: Create analytical skills to separate samples by chromatography.

CO3: Acquire knowledge of spectroscopy.

CO4: Explain about the radiation and types of radio decay.

Course: MICROBIOLOGY **Credit-4**

CO1: Understand the Microbial waste treatment methods.

CO2: Explain about the food prevention techniques.

CO3: Illustrate the distribution and source of airborne microorganisms.

CO4: Design the industrial production of penicillin.

CO5: Theorize the cloning techniques and gene therapy methods.

Course: COMPUTER APPLICATION Credit-3

CO1: Understand operating system, MS DOS and Windows XP opening and closing.

CO2: Construct electronic mailing and web page.

CO3: Solve computer virus and components failure then downloading files.

CO4: Defend computer applications in educational institutions.

SEMESTER-V

Course: ENZYMES AND INTERMETIARY METABOLISM Credit-6

CO1: Classify and nomenclature specificity of enzymes.

CO2: Analyze the factors affecting enzymes activity –pH, temperature, enzyme concentration.

CO3: Formulate metabolic pathways of carbohydrate metabolism.

CO4: Evaluate high energy components of metabolites.

CO5: Explain about the oxidation of fatty acids- β- oxidation, α- oxidation and ω- oxidation.

CO6: Define the degradation of proteins.

CO7: Explain about the biosynthesis and degradation of purine and pyrimidine metabolism.

Course: HUMAN PHYSIOLOGY AND NUTRITIONAL BIOCHEMISTRY Credit-4

CO1: Explain the components of transport of O_2 and CO_2 role of Hb mechanism of respiration.

CO2: Define digestive system, digestion and absorption of nutrients.

CO3: Outline of excretory system and function of urine.

CO4: Design Endocrine glands and their function of nervous system and neurotransmission.

CO5: Analyze basic food groups' role and nutritional significance and malnutrition.

Course: MEDICAL LAB TECHNOLOGY **Credit- 3**

CO1: Understand about the code of conduct for lab personnel.

CO2: Design and handle the basic instruments for laboratory usages.

CO3: Collect and analyze biological samples like urine, blood, fecal sample and its analysis.

CO4: Explain about the CSF, other body fluids and parasites.

Course: GENETICS and MOLECULAR BIOLOGY **Credit-4**

CO1: Understand the concept of hereditary in plant and human being.

CO2: Describe the mechanism of DNA, RNA and Protein synthesis.

CO3: Identify the role of Inhibitors in treatment of cancer.

CO4: Compare and contrast role of mutation in genetic disorder and cancer development.

CO5: Explain the role of mutation in genetic disorders and biodiversity.

SEMESTER VI

Course: IMMUNOLOGY **Credit-3**

CO1: Compare and contrast innate and adaptive immunity

CO2: Design a model of immunoglobulin and its role

CO3: Explain cell types and organ present in the immune response

CO4: Identify various mechanisms that regulate immune response and its tolerance.

Course: CLINICAL BIOCHEMISTRY Credit-6

CO1: Define the fundamental biochemistry knowledge related to health& diseases

CO2: Explain diseases related to carbohydrate, amino acid & lipid metabolism

CO3: Evaluate the clinical importance of inborn errors of metabolism

CO4: Determine the clinical laboratory procedure and quality control, sign and symptoms, diagnosis & treatment

CO5: Define clearance test, and explain the clinical interpretation of function tests

CO6: Outline the functional and non functional plasma enzymes

CO7: Diagnose of clinical disorder by estimation of biomarkers

Course: BIOTECHNOLOGY Credit-4

CO1: Understand the different vectors plasmid, cosmid and phages with its role.

CO2: Understand the types of yeast, plant, animal vector and artificial chromosome.

CO3: Identify selection and screening of recombinant vectors.

CO4: Understand the mechanism and types of animal and plant tissue culture.

CO5: To develop therapeutic vaccines, hormone clotting factors, stem cell and animal cloning.

Course Name: BIOSTATISTICS Credit-3

CO1: Understand the collection, classification and tabulation of statistical data.

CO2: Execute measure of central tendency, mean, median and mode.

CO3: Analyze standard deviation, variance and coefficient of variation.

CO4: Define kinds of probabilities, permutation and combination.

CO5: Compare correlation analysis, partial and total correlation.

M.Sc (Biochemistry)

COURSE OUTCOME

SEMESTER I

Course: CELL DYNAMICS AND ENVIRONMENT BIOLOGY

Credit-4

CO1: Understand the regulation of cell growth in prokaryotes and eukaryotes.

CO2: Define the morphology of cell organelles and its function.

CO3: Distinguish and differentiate the biotic and abiotic environment

CO4: Describe the synthesis of organic polymers

CO5: Understand the concept of evolution, molecular divergence and molecular clock.

Course: CHEMISTRY OF MACROMOLECULES Credit-5

CO1: Describe the structure and function of homo and hetroglycans

CO2: Understand the structural elucidation of amino acids and proteins

CO3: Distinguish the Nucleic acids

CO4: Describe the lipids classification, structure and functions

CO5: Understand the vitamins deficiency diseases

Course: HUMAN PHYSIOLOGY Credit-5

CO1: Describe the composition of digestive system

CO2: Understand the cardiac cycle

CO3: Explain the mechanism of resprition and reproduction

CO4: Explain endocrine & nervous system

CO5: Understand the nutritional value & dietary system

Course: PLANT BIOCHEMISTRY AND PLANT MOLECULAR BIOLOGY **Credit-3**

CO1: Understand the concept of light and dark reaction of photosynthesis in C3 and CAM Plants.

CO2: Understand the Nitrogen fixation in leguminous and non-leguminous plants.

CO3: Distinguish and differentiate the role of plant hormones.

CO4: Understand the DNA polymorphism using RFLP and RAPD in Plant breeding.

SEMESTER II

Course: ANALYTICAL BIOCHEMISTRY **Credit-4**

CO1: Describe the instrumentation & its application of electrodes

CO2: Acquire the concept of chromatographic techniques

CO3: Explain the separation of biological samples by centrifugation techniques

CO4: Describe the instrumentation & applications of Electrophoretic techniques

CO5: Distinguish the principles & methodology molecular techniques

Course: ADVANCED ENZYMOLOGY **Credit-4**

CO1: Explain classification, isolation and purification of enzymes

CO2: Analyze the enzyme kinetics

CO3: Understand the mechanism of enzymication and inhibition

CO4: Distinguish the role co enzymes and isoenzymes

CO5: Understand the uses of enzymes in industrial and clinical

Course: INTERMEDIARY METABOLISM **Credit-4**

CO1: Understand the carbohydrate metabolic pathway

CO2: Describe the lipid metabolism

CO3: Explain protein metabolism

CO4: Understand nucleic acid metabolism

CO5: Understand prophyrin photosynthesis and metabolic activity

Course: MICROBIOLOGY (Elective) Credit-3

CO1: Understand the morphology of ultrastructure of microbes

CO2: Understand the Calvin cycle

CO3: Explain the methods microbial media

CO4: Understand the principle of microbial techniques

Course: Pratical -I – Isolation and purification Credits-5

CO1: Analyzing the isolation of Glycogen, DNA,RNA

CO2: Estimate the quantitatively Pyruvate, Tryptophan,Ascorbic acid

CO3: Understand the chromatographic techniques

CO4: Understand the separation of Protein and Glutathione

CO5: Estimate the amount of iron,Sodium

Course: Pratical -II –Enzymology and purification and kinetic studies Credits-5

CO1: Estimate the amount of isolation of acid phosphates

CO2: Understand the assay of clinical important of enzymes

CO3: Understand the handling and maintance of microbial techniques

CO4: Analyze the assay of serum enzymes

CO5: Understand the various media preparation

CO6: able to know the techniques PCR PAGE TLC

SEMESTER III

Course: ADVANCED ENDOCRINOLOGY Credit-5

CO1: Discuss the classification of hormones based on receptors

CO2: Illustrate the synthesis of amino acid derived hormones

CO3: Understand cyclic hormonal cascade system and protein kinases

CO4: Execute the role hormone receptors and its regulation

CO5: Categorize the steroid hormones

CO6: Describe the hormonal disorders

Course: RESEARCH METHODOLOGY Credit-5

CO1: Discuss the essential features of scientific writing.

CO2: Illustrate the figures, tables and reference style.

CO3: Calculate the test of significance based on large samples.

CO4: Execute the role of computers in biology to find the research articles using science direct/PubMed.

CO5: Categorize the database management systems and searching sequence database using FASTA, BLAST/CLUSTAL.

CO6: Recognize CPCSEA guidelines and ethics in drug safety.

Course: BIOTECHNOLOGY Credit-5

CO1: Understand the different vectors plasmid, cosmid and phages with its role.

CO2: Understand the types of yeast, plant, animal vector and artificial chromosome.

CO3: Seek insertion of foreign DNA using restriction enzyme.

CO4: Identify selection and screening of recombinant vectors.

CO5: Understand the mechanism and types of animal tissue culture.

CO6: Understand the genetically modified organisms

Course: BIOINFORMATICS **Credit-3**

CO1: Understand the data concept of bioinformatics.

CO2: Able to know types of alignment of nucleic acid and protein.

CO3: Analyze the sequences using bioinformatic tools (BLAST, FASTA)

CO4: Evaluate and predict phylogenetic tree, protein structure and drug designing.

SEMESTER IV

Course: MOLECULAR BIOLOGY **Credit-5**

CO1: Understand the type of DNA replication

CO2: Able to know types of RNA and its transcription

CO3: Analyze the genetic codon and its features

CO4: Describe the protein biosynthesis

CO5: Analyze the protein transport and gene expression

CO6: Evaluate type of mutation and repair mechanism

Course: ADVANCED CLINICAL BIOCHEMISTRY **Credit-5**

CO1: Understand the normal values of clinical parameters

CO2: Able to know the method of CSF collection

CO3: Analyze the disorder of carbohydrate metabolism

CO4: Describe the lipid metabolism

CO5: Analyze the protein and clinical enzymology

CO6: Evaluate renal and hepatic function test

Course: HERBAL TECHNOLOGY **Credit-5**

CO1: Understand the Indian system of medicine.

CO2: Distinguish and differentiate the medicinal plant classification.

CO3: Analyze the morphological and histological studies of plant drug.

CO4: Evaluate the medicinal uses and biomedical importance of plants.

CO5: Able to know plant drug used in cardiac disease, cerebral disease and Nasal diseases.

CO6: Able to know conservation of medicinal plants and pharmacological analysis of plant drug.

Course: Core Practical - Practical III Biochemical Analysis of blood, Immunological and molecular biology techniques

Credit: 5

CO1: Analyze creatinine, urea, glucose by semiautoanalyzer

CO2: Analyze biological samples of serum cholesterol, triglycerides

CO3: Estimate bilirubin and hemoglobin

CO4: Analyze blood grouping and Rh typing

CO5: Demonstration of ELISA

CO6: Understand the concept of immunodiffusion

Course: Elective Practical - Practical IV Haematological Methods and Urinary analysis **Credit: 5**

CO1: Acquire clotting bleeding time

CO2: Evaluate the ESR and PTT

CO3: Identify the RBC and WBC count

CO4: Understand urinary analysis

CO5: Demonstration of urinary culture analysis

DEPARTMENT OF CHEMISTRY

B.Sc (Chemistry)

Program specific outcomes (PSO)

PSO1: Understand the basic concepts of organic, inorganic, analytical, and pharmaceutical.

PSO2: Evaluate the practical knowledge about gravimetrical analysis, inorganic analysis and instrumental knowledge.

PSO3: Understand water treatment and analysis.

PSO4: Understand nutritive value of food items and diet.

PSO5: Apply industrial and pharmaceutical related sectors.

COURSE OUTCOME

SEMESTER – I

COURSE: GENERAL CHEMISTRY-I **CREDIT: 6**

CO1: Identify electronic configuration and periodic properties.

CO2: Understand the different types of chemical bonds.

CO3: Describe about nomenclature of aliphatic and alicyclic compounds.

CO4: Analyze different types of states of matter

CO5: Describe basic concepts of bonding in Organic Chemistry

CO6: Explain about different types of Volumetric Analysis

CO7:Analyze classification of elements and factors affecting atomic radii.

COURSE: ALLIED ZOOLOGY-I **CREDIT : 4**

CO1: Acquire Knowledge about different kinds of animal species.

CO2: Understand the systematic and functional morphology of invertebrates and chordate

CO3: Acquire practical skills to comprehend the psychology of each and every vital system.

CO4: Understand the systematic morphology of reptiles.

CO5: Acquire knowledge about different species of Mammalia.

SEMESTER - II

COURSE: GENERAL CHEMISTRY-II **CREDIT : 5**

CO1: Discuss about s and p-block elements group study.

CO2: Analyse the comparative study of alkane

CO3: Explain about dienes and stability of cycloalkanes

Co4: Discuss about quantum mechanics and thermodynamics

CO5: Describe about first law of thermodynamics.

CO6: Discuss about thermochemical equations.

COURSE: ALLIED ZOOLOGY-II **CREDIT : 3**

CO1: Understand the principles of cell biology, genetics, development biology, physiology, ecology and evolution.

CO2: Explain the study of the internal structure of animals.

CO3: Explain the relationship between the organisms and their surrounding environments

CO4: Understand heredity and its vibrations.

COURSE: VOLUMETRIC ANALYSIS CORE PRACTICAL-I

CREDIT : 3

CO1: Understand lab safety and handling of apparatus.

CO2: Estimate Acidimetry.

CO3: Estimate Precipitation Titration.

CO4: Evaluate Permanganometry.

SEMESTER - III SEMESTER

COURSE: GENERAL CHEMISTRY-III **CREDIT : 3**

CO1: Outline in organic analysis and its applications.

CO2: Analyze P-block elements and group study.

CO3: Apply aromaticity and substitution reactions.

CO4: Apply different types of reactions their mechanism

CO5: Evaluate second law of thermodynamics concept of entropy.

COURSE: ALLIED BIO-CHEMISTRY-III **CREDIT: 4**

CO1: Classify the structure and functions of carbohydrates

CO2: Understand the reactions and properties of Amino Acids

CO3: Discuss about the various structures of Proteins

CO4: Outline biological functions and classification of peptides.

COURSE: WATER TREATMENT & ANALYSIS (SBS-I) **CREDIT : 3**

CO1: Discuss about water softening methods.

CO2: Explains about desalination of brackish water.

CO3: Deals with sterilization and disinfection of water.

CO4: Discuss about water softening methods.

COURSE: HEALTH AND NUTRITION **CREDIT: 2**

CO1: Understand food groups

CO2: Outline food processing and food preservation

CO3: Estimate food malnutrition

SEMESTER IV

COURSE: GENERAL CHEMISTRY-IV **CREDIT : 3**

CO1: Describe about noble gases their inertness and clatharites.

CO2: Discuss about monody carbocarboxylic acids and amities.

CO3: Concept related to alcohols phenols and properties.

CO4: Evaluate Gibbs-Helmholtz evolution Maxwell relations.

COURSE: ALLIED BIO-CHEMISTRY-II **CREDIT : 4**

CO1: Discuss about TCA Cycle and Glucose Metabolism

CO2: Outline metabolic disorders like diabetes, jaundice.

CO3: Classify the enzymes and mechanism of enzyme action.

CO4: Understand the central dogma of Molecular biology.

CO5: Outline requirement and biological functions of VITAMINS.

COURSE: FOOD CHEMSITRY (SBS-II) **CREDIT : 3**

CO1: Discuss about food prevention food additives packaging of foods.

CO2: Understand food colours, food processing

CO3: Estimate nutritive value of food and food preservation.

CO4: Discuss about food prevention food additives packaging of foods.

COURSE: INORGANIC QUALITATIVE ANALYSIS & PREPATATION (CORE PRACTICAL-II) **CREDIT : 3**

CO1: Understand Inorganic qualitative analysis and preparation

CO2: Provide analysis of two cations and two anions.

CO3: Explain semimicro methods using conventional scheme to be adopted

CO4: Evaluate preparation of different inorganic compounds

COURSE: ALLIED BIOCHEMISTRY I & II (ALLIED PRACTICAL)
CREDIT: 2

CO1: Evaluate volumetric estimation

CO2: Estimate Glucose by Benedict's Method

CO3: Evaluate Glycine by Formal Titration

COURSE: NON MAJOR ELECTIVE FIRST –AID CREDIT: 2

CO1: Explain the importance of giving first-aid.

CO2: Understand knowledge on basic for first-aid treatment in case of injury or accidents.

CO3: Explain the simple life saving techniques that would greatly help in case of emergency.

CO4: Understand to react to a given emergency situations correctly.

SEMESTER - V

COURSE: INORGANIC CHEMISTRY-I CREDIT: 4

CO1: Describes halogens classification of halides comparative study of interhalogen compounds.

CO2: Understand about coordination compounds, nomenclature and isomerism.

CO3: Analyze knowledge of VBT and CFT, hybridization and structures of carbonyls

CO4: Explain different theories of coordination chemistry

CO5: Explain the nature of the solid state

COURSE: ORGANIC CHEMISTRY-I CREDIT: 4

CO1: Understand the carbohydrates structure elucidation of glucose, sucrose.

CO2: Describes stereoisomerism elements of symmetry, chirality etc,

CO3: Explain conformational analysis axial and equatorial interconversions.

CO4: Outlines heterocyclic compounds, huckels rule, aromaticity

CO5: Explain electrophilic substitution reactions.

COURSE: PHYSICAL CHEMISTRY-I CREDIT : 4

CO1: Explain about azeotropic mixtures partially miscible liquids

CO2: Outline applications of phase rule, cooling curves, and Gibb's phase rule.

CO3: Discuss about equivalent conductance, kholraush's law ionic Mobility, hittorff's method.

CO4: Evaluate about cooligative properties, van't haff factors.

CO5: Explain about conductometric measurements.

COURSE: ANALYTICAL CHEMISTRY-I (ELECTIVE-I) CREDIT : 3

CO1: Deals with data analysis, types of errors, solvent extraction

CO2: Describes gravimetric analysis. Ignition of precipitate.

CO3: Discuss about microwave spectroscopy, IR spectroscopy, raman spectroscopy and their applications.

COURSE: PHARMACEUTICAL CHEMISTRY (ELECTIVE-II) CREDIT: 3

CO1: Outline different types of drugs, various diseases and their treatment importance of Indian medicinal plants.
CO2: Discuss about organic pharmaceutical aids, narcotic drugs.
CO3: Analyze different types of drugs like analgesics, anesthetics drugs affecting CNS

COURSE: APPLIED CHEMISTRY (SBS-III) CREDIT: 3

CO1: Classify petrochemicals deals with paper technology, sugar industry.
CO2: Analyze explosives, photography techniques, xerographic copying etc.
CO3: Determine the processing of milk, sterilization homogenization techniques.

VI SEMESTER

COURSE: INORGANIC CHEMISTRY-II CREDIT: 4

CO1: Evaluate nuclear stability, N/P ratio and nuclear binding energy magic numbers.
CO2: Describes nuclear radio activity, half life period, thermo nuclear reactions.
CO3: Analyze metallurgical process, zone refining, deals with comparative study of Ti. V. Cr, Mn.
CO4: Able to make a study of lanthanides and actinides, extraction of thorium and uranium.
CO5: Explain organometallic compounds.

COURSE: ORGANIC CHEMISTRY-II CREDIT: 4

CO1: Imparts knowledge on mechanism of rearrangement reactions differentiate inter molecular
CO2: Formulate amino acids and poly peptides, end group analysis.
CO3: Define proteins and nuclic acids, differentiates DNA and RNA

CO4: Discuss about organo synthetic reagents and natural products

CO5: Explain chemistry of natural products.

COURSE: PHYSICAL CHEMISTRY-II CREDIT: 4

CO1: Outline galvanic cells, emf of a cell, standard hydrogen electrode, reference electrode

CO2: Define liquid junction potential, quinhydrone and glass electrodes

CO3: Evaluate kinetics of reaction by volumetric, polarimetric, spectrophotometric methods.

CO4: Classify adsorption, catalysis and deals with laws of photochemistry.

CO5: Explain kinetics of photochemical reactions.

COURSE: ANALYTICAL CHEMISTRY (ELECTIVE-II) CREDIT:4

CO1: Understand principles and techniques of chromatographic techniques,

CO2: Describe principles and applications of HPLC, gas, Liquid chromatography.

CO3: Apply to ESR spectroscopy and thermo analytical techniques.

CO4: Discuss about rig rule Mc Lafferty rearrangement

CO5: Discuss various components with block diagram.

COURSE: AGRICULTURE & LEATHER CHEMISTRY (SBS-I)

CREDIT: 4

CO1: Outline soil fertility and productivity, soil chemistry

CO2: Outline classification of insecticides, environmental effects of pesticides.

CO3: Apply Dye manufacture of leather, dyeing of leather, treatment of tannery effluents

CO4: Outline effect of tannery effluents

CO5: Discuss vegetable tanning, chrome tanning and deliming.

COURSE: GRAVIMETRIC ESTIMATION (CORE PRACTICAL-IV)
CREDIT: 3

CO1: Describe with gravimetric estimation of sulphate as Barium sulphate

CO2: Evaluate gravimetric estimation of lead as lead chromate

CO3: Discuss about estimation pf calcium as calcium oxalate monohydrate

COURSE: ORGANIC ANALYSIS & PREPARATIONS
(CORE PRACTICAL-V) CREDIT: 3

CO1: Analyze organic compounds containing one functional group and characterization with one derivative

CO2: Analyze of aldehyde, ketone nitro compounds, ester amines.

CO3: Outline organic preparations by acylation, halogenations, diazotization

SUBJECT NAME: PHYSICAL CHEMISTRY EXPERIMENTS (CORE PRACTICAL-VI) CREDIT: 3

CO1: Determine order of reactions by kinetics

CO2: Determine cell constant equivalent conductivities by conductivity experiments.

CO3: Evaluate potentiometric titrations if strong acid against strong base.

DEPARTMENT OF INTERIOR DESIGN AND DÉCOR

B.Sc (IDD)

PROGRAM SPECIFIC OUTCOMES (PSOs)

PSO1: Design consultant for interior work.

PSO2: Work as landscape Designer and space planner or allocator for commercial areas

PSO3: Take up interior projects on contract basis

PSO4: Work as the drafter for plans and colour consultant.

PSO5: Work as set and costume designer

COURSE OUTCOME:

SEMESTER I

COURSE: DESIGN BASICS **CREDIT: 6**

CO1: Understand the elements of design.

CO 2. Understand the various principles of design

CO 3. Learn the application of principles of design in creating beautiful interiors.

CO 4. Learn to develop own innovative designs

CO 5. Compare and contrast the modern trends with the classical interiors.

CO 6. Impart different types of design in interior spaces.

CO 7. Understand the aesthetic concept and its application in interior.

COURSE: APPLIED ARTS ON TEXTILES-I **CREDIT: 4**

CO1: Understand art and apply its principles in the creation and selection of Textiles.

CO2: Develop design in textiles and apply the same on materials.

CO3: Understand and interpret the various finishing process of fabrics.

CO4: Identify Different type of Fabrics and its uses in soft furnishings.

CO5: Understand the manufacturing Techniques of yarn and fabrics.

SEMESTER II

COURSE: COLOUR AND LIGHTING CREDIT: 6

CO1: Formulate the innovative approach on color and lighting and its application in interior

CO2: Understand the sources of color and color and lighting and its dimension

CO3: Compare and contrast various colour theories

CO4. Learn the psychological aspects of lighting and colour in interior spaces.

CO5. Develop colour scheme and lighting fixtures.

CO6. Learn the amount of lighting required in each space.

CO7. Learn the various materials in lighting system.

COURSE: APPLIED ARTS ON TEXTILES-II CREDIT: 4

CO1: Create surface enrichment of fabric using embroidery, appliqué, etc.

CO2: Identify and analyse the various folk embroideries in India

CO3: Evaluate figure irregularities and eliminate using optical illusion

CO4: Learn the various stitching techniques.

CO5: Understand the importance of fabrics in soft furnishings.

CO6: Learn to enhance fabric with decoration.

COURSE: DESIGN CONCEPTS (PRACTICAL) CREDIT: 3

CO1: Have acquired skills in planning spaces for interior.

CO2: Develop fabric surface enrichment using embroidery, sequins, etc.

CO3: Formulate design and color the fabric using printing techniques like stencilling, block printing, etc.

CO4: Create motifs and designs for window grills, Foot mats and bed spreads.

COURSE: APPLIED ARTS ON TEXTILES (PRACTICAL)

CREDIT: 2

CO1: Create fabric using knitting and crochet.

CO2: Develop fabric surface enrichment using embroidery, sequins, etc.

CO3: Formulate design and color the fabric using printing techniques like stencilling, block printing, etc.

SEMESTER III

COURSE: BASIC COMPUTER APPLICATION &AUTOCAD-I

CREDIT: 4

CO1: Understand the need for AutoCAD software.

CO2: Compare and contrast point fixing methods.

CO3: Identify various tools in AutoCAD software.

CO4. Learn how to use modification tools effectively.

CO5.Understand the tools used for drafting plan.

CO6. Learn the dimensioning techniques in AutoCAD.

COURSE: INTERIOR DESIGN STUDIO & BUILDING SYSTEM TECHNOLOGY **CREDIT: 4**

CO1: Analyse various construction techniques in interiors.

CO2: Identify various transportation systems in interiors like elevators, staircases, etc.

CO3: Plan and design rain water harvesting techniques for residential.

CO4.Learn the various materials and finishes used in building construction.

CO5.Undersatnd the types of foundation and its techniques.

CO6. Learn the structural elements of buildings.

COURSE: DRAFTSMAN SHIP-I (SKILL BASED) CREDIT: 3

CO1: Compare and contrast various drafting tools and techniques

CO2: Understand dimensioning and its methods

CO3: Develop skills in technical and free hand sketching

CO4. Develop manual drafting skills.

COURSE: LANGUAGE SKILLS AND COMMUNICATION I (NME)

CREDIT: 2

CO1: understand the importance of language in communication

CO2: Understand and apply knowledge of human communication and language.

CO3: Develop Skills like interpersonal, intrapersonal, intercultural skills and technology mediated communication.

SEMESTER IV

COURSE: BASIC COMPUTER APPLICATION &AUTOCAD-II

CREDIT: 4

CO1: Understand 3D modelling concepts

CO2: Compare and contrast various primitive tools such as box, cone, wedge etc.

CO3: Understand the steps and process of installing lighting and rendering.

CO4. Learn the various inquiry tools in AutoCAD software.

CO5. Learn various dimensioning styles and lettering styles.

CO6. Learn to draw isometric drawings of furniture.

COURSE: INTERIOR DESIGN STUDIO & BUILDING SYSTEM TECHNOLOGY-II

CREDIT: 4

CO1: Understand the importance of acoustics in interior

CO2: Compare and contrast various HVAC systems

CO3: Develop electrical plans for residential and commercial spaces.

CO5. Learn the plumbing plans for residential and commercial spaces.

CO6. Analyse various building by- laws formulated by government.

COURSE: DRAFTSMAN SHIP-II (SKILL BASED) CREDIT: 3

CO1: Understand plumbing systems in buildings.

CO2: Analyze orthographic views.

CO3: Understand the need for symbols used for developing plans

CO4.Compare and contrast the isometric and perspective views.

CO5. Learn to draft plans in perspective, orthographic and isometric view.

COURSE: INTERIOR DESIGN STUDIO & BUILDING SYSTEM TECHNOLOGY (PRACTICAL) CREDIT: 2

CO1: Develop skills on manual ling drafting floor plan

CO2: Create elevation view of the buildings

CO3: Develop perspective and isometric drawings

COURSE: BASIC COMPUTER APPLICATION &AUTOCAD (PRACTICAL) **CREDIT: 3**

CO1: Create orthogonal views for the layouts

CO2: Utilize various text and dimension styles in AutoCAD.

CO3: Design furniture and furnishings using AutoCAD software

COURSE: LANGUAGE SKILLS AND COMMUNICATION I I (NME)

CREDIT: 2

CO1: understand the importance of improving fluency while speaking.

CO2: Develop skills in usage of grammar in writing and speaking.

CO3: Develop Skills in public communication.

SEMESTER V

COURSE: FURNITURE IN INTERIOR

CREDIT: 5

CO1: Learn the various types of furniture used for activities.

CO2: Develop the knowledge on various styles of furniture.

CO3: Understand the selection techniques in furniture.

CO4. Develop skills in furniture arrangement for each room.

CO5. Learn the concepts of techniques in maintaining the furniture.

CO6. Understand the various materials used in furniture and its construction techniques.

COURSE: FLORICULTURE AND LANDSCAPING **CREDIT: 5**

CO1: Learn the various types of plants and Flowers.

CO2: Develop the knowledge on Landscaping Plans.

CO3: Understand the various styles of garden.

CO4. Develop skills in flower arrangement.

CO5. Learn the concepts of lawn growth techniques.

CO6. Understand the various plant growing techniques.

COURSE: PLANNING THE LIFE SPACE **CREDIT: 5**

CO1: Learn the various types of Spaces.

CO2: Develop the knowledge on allocating Spaces.

CO3: Understand the various architectural plans.

CO4. Develop skills in traffic pattern and circulation in interior.

CO5. Learn the concepts of Space saving Techniques.

CO6. Understand the modern building construction techniques.

COURSE: KITCHEN DESIGN **CREDIT: 3**

CO1: Learn the various types Kitchen Layouts and its selection.

CO2: Develop the knowledge on various finishes and materials used in kitchen.

CO3: Understand the anthropometric measurement of human body and its effect in kitchen.

CO4: Learn to design effective kitchen plan which reduces fatigue and discomfort.

COURSE: RESIDENTIAL SPACE DESIGNING (SKILL BASED)
CREDIT: 3

CO1: Learn the housing problems in India and its solution.

CO2: Develop the knowledge on housing Standards.

CO3: Understand the various funding agency and the government schemes for housing.

CO4. Develop zoning and bye laws for building construction.

SEMESTER VI

COURSE: SOFT FURNISHINGS **CREDIT: 5**

CO1: Learn the various types of furnishings used in interior.

CO2: Develop the knowledge on various floor coverings and curtain.

CO3: Understand the selection techniques in furnishings.

CO4. Learn various window treatments and its purpose in interior.

CO5. Learn the concepts of techniques of care and maintenance of soft furnishings.

CO6. Understand the various materials used in furnishings and its manufacture techniques.

COURSE: APPLIED ARTS **CREDIT: 5**

CO1: Learn the various Techniques in enrichment of material.

CO2: Develop the knowledge on creating art pieces.

CO3: Understand the various accessories and its placement.

CO4. Develop skills in table setting with decoration.

CO5. Learn the concepts of craft with various skills.

CO6. Understand techniques of art.

COURSE: PROFESSIONAL PRACTICE **CREDIT: 3**

CO1: Learn the space planning for residence and commercial interior.

CO2: Develop the knowledge on estimation of construction.

CO3: Develop skill to formulate quotation and tender for construction.

CO4. Learn the concepts of Specifications.

COURSE: ERGONOMICS CREDIT: 3

CO1: Learn the concept of ergonomics.

CO2: Develop the knowledge on various ergonomic factors and its effect in interior.

CO3: Understand the anthropometric dimensions.

CO4: Learn to design ergonomic work areas and improve the work efficiency.

COURSE: COMMERCIAL SPACE DESIGNING (SKILL BASED)
CREDIT: 3

CO1: Learn the concept of commercial art.

CO2: Develop the knowledge on designing various commercial interiors.

CO3: Understand the window display and interior display techniques.

CO4: Learn various trends in commercial architecture.

COURSE: FURNITURE AND FURNISHINGS (PRACTICAL)
CREDIT: 3

CO1: Learn the correct usage of furniture and furnishings in the effective way.

CO2: Develop the knowledge on designing various furniture layouts.

CO3: Understand the techniques in stitches and pleats.

CO4: understand the evaluation of furniture.

COURSE: FLORICULTURE AND LANDSCPING (PRACTICAL)
CREDIT: 3

CO1: Learn the techniques of raising various gardens.

CO2: Develop the skill in flower arrangements.

CO3: Understand the method of cultivation.

CO4: Learn to identify various ornamental plants.

DEPARTMENT OF ZOOLOGY

B.Sc (Zoology)

PROGRAM SPECIFIC OUTCOME (PSOs)

PSO1: Student will gain knowledge about invertebrate and chordate.

PSO2: Student can gains practical skill and engage themselves in research studies about the natural world with the help of latest scientific tools and techniques in both nautral environment and laboratory settings.

PSO3: Student can engage themselves in understanding the way living things and their parts work.

PSO4: Students will be able to understand the mechanism of molecular biology and their applications in Recombinant DNA technology be learning genetics, cell and molecular biology and biotechnology.

PSO5: Students will be able to understand the mechanism the role of enzymes and hormones.

PSO6: Students will be able to understand the concept of immune system which protects the body from disease and immunological disorders and production of vaccines.

PSO7: Students will understand the role of computer and statistics in data analysis.

PSO8: Student will able to understand about the department of complex organism from simple organisms.

COURSE OUTCOME:

SEMESTER I

COURSE: INVERTEBRATA **CREDIT: 6**

CO1: Cataloguing and maintaining biodiversity by classifying the different organisms.

CO2: Understand conservation issues and the consequences that follow from the loss oF species.

CO3: Understand the enormous benefits of invertebrates especially the insects and crustreans.

CO4: Understand the origin and evolutionary relationship of different phylum from protozoa TO Echinoderms.

CO5: Explain the life functions of the 9 major phylums.

CO6: Recognise the ecological roles of the different phylums.

CO7: Describe the unique character of organisms belonging to different phylums from protozoa to echinoderms.

COURSE: ALLIED CHEMISTRY I **CREDIT: 4**

CO1: Introduce the terms and process used in metallurgy.

CO2: Compare the type effects of polarisation and the role played in organic reactions.

CO3: Determine the rate of reaction and to compare the types of catalysis.

CO4: Evaluate the types of nuclear reaction and applications of radio-isotopes.

CO5: Classify the types of hybridization and shapes of molecules.

SEMESTER II

Course: CHORDATA **Credit:6**

CO1: Define what the chordates are.

CO2: Understand the different categories of Chordates.

CO3: Recognize the life functions of Urochordates.

CO4: Describe the ecological role of different groups of Chordates.

CO5: Understand the unique characters of Urochordates, Cephalochordates, fishes, amphibians, reptiles, birds and mammals.

CO6: Compare the contrast the origin and evolutionary relationship in different subphylum of chordates.

CO7: Understand the level of organization in chordate subphylum.

COURSE: ALLIED CHEMISTRY II **CREDIT: 4**

CO1: Describe the coordination compounds and their applications.

CO2: Evaluate the role of carbohydrate, amino acids, proteins and vitamins.

CO3: Determining the types of conductance in electrochemistry.

CO4: Explain the application of paints, chromatographic techniques.

CO5: Evaluate the types of drugs applied for diseases.

COURSE: INVERTEBRATA AND CHORDATA **CREDIT: 3**

CO1: Dissecting the vertebrate and chordate organisms to learn about their internal systems.

CO2: Mounting the different parts of the organisms.

CO3: Spotting and studying the different organisms to classify them, understand their adaptations and biological significance, relate their structure and function.

CO4: Learn to draw the sketches of different organisms and identify their parts.

COURSE: ALLIED CHEMISTRY PRACTICALS CREDIT: 2

CO1: Analyse and identify functional groups present in the given substance.

CO2: Understand the types of reaction taken place.

CO3: Determine the strength of the solutions.