



ANWARUL ULOOM COLLEGE (AUTONOMOUS)

(Accredited by NAAC with 'A' Grade & An ISO 9001:2015 Certified Institution)

(Affiliated to Osmania University, Hyderabad)

DEPARTMENT OF ARABIC

COURSE OUTCOMES

BA/B.SC/B.COM/BBA/BBM

YEAR: 2020 -2021

Programme Objective (General)

1. The Arabic language makes the students learn their religious book, the holy Quran.
2. It provides knowledge related to culture & civilization and development of social behaviour.
3. Students gain proficiency in an additional language while supporting maintenance of their mother tongue and cultural heritage.
4. Teaching and learning of languages is to enable the student to become a critical & competent communicator.
5. The Dept. Of Arabic is one of the oldest dept. Of AUC.

PROGRAMME OUTCOMES (GENERAL)

1. Learning Arabic can help the students better communicate with Arabs, they came to know Arab culture, including its religion Islam.
2. Arabic is a very popular second language to be learned as it allows businesses to grow their international relations and expand to new markets.
3. Learn the Arabic language opens up many employment avenues and possibilities such as oil, travel finance industrial collaboration & translation.
4. Students achieve advanced language proficiency in the four areas of language performance, speaking, listening, reading and writing.
5. students graduating with a foreign language(Arabic) from the Dept.of Arabic will be able to: Communicate effectively in the Arabic language

Program specific outcomes:

1. Communication skills in Arabic and English provide immense career and business opportunities.
2. Arabic based computer skills would help in Arabic data entry and back end operations for banks and software companies.
3. work as translators in Arab speaking world.
4. Became freelance writers, journalists and creative artists.
5. Develop competence and calibre to serve as efficient teachers in Arabic.


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PROGRAMME OUTCOMES

Arabic : ba/b.sc/b.com/bba

UP TO COMPLETION OF DEGREE PROGRAMME, THE GRADUATES WILL BE ABLE TO:	
1. Build themselves with rich life skills.	
2. Secure prospective careers in international bodies, journalism, translation and Administrative services and teaching Arabic.	
3. Pursue critical research in methods of Arabic language learning and literature teaching.	
SEMESTER - I	GRAMMAR
1. Students will be able to distinguish the Arabic alphabet.	
2. Students will understand the basic grammar.	
3. Students develop their reading skill.	
4. They Enhance the skill of writing of Arabic language.	
SEMESTER - I	CLASSICAL PROSE
1. Students will understand the style of classical prose.	
2. Students evaluate the narrative style of the classical and modern prose writing.	
3. Students will understand the morals and ethics of Arabic traditional stories.	
4. They analyze the different style of writings.	
5. Enhance knowledge about the stylistic features of the classical and modern prose.	
SEMESTER - I	HISTORY OF ARABIC LITERATURE
1. Closely observe the customs and cultures of the Arabs.	
2. Know the culture in pre Islamic period	
3. learn the literature (poetry) in pre Islamic period.	
4. Gain the knowledge of Assahab e moullaqat.	
SEMESTER - II	GRAMMAR
1. Learn the classification of different particles in Arabic.	
2. Understand the rules of Arabic Grammar.	
3. Understand & evaluate the types of Arabic Sentences.	
4. Students Analyze the functioning of Arabic Prepositions.	


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SEMESTER - II	CLASSICAL PROSE
<ol style="list-style-type: none">1. Students learn the right way of reading the Arabic (quran)2. Students learn and understand the translation of surahas.3. Students will study the Arabic vocabulary, Sentence structures and the diction.4. Students understand the message of Almighty Allah through this chapter	
SEMESTER - II	HISTORY OF ARABIC LITERATURE
<ol style="list-style-type: none">1. Students gain the knowledge about the features of Arabic language.2. Students are familiar with the social environment of Arabs.3. They know about the pre Islamic period.4. They educate themselves with the lessons gained from the eminent poets of pre Islamic period.	
SEMESTER - III	CLASSICAL PROSE
<ol style="list-style-type: none">1. Students came to know about the introduction of Quran.2. Students understand the style of classical prose.3. Students are critically examine the niceties of the Quranic verses.4. Students Develop proficiency in comparative analysis of classical and modern prose.	
SEMESTER - III	POETRY
<ol style="list-style-type: none">1. Students gain their knowledge about the poetry in pre Islamic period2. Students know about the poets and their feelings.3. They learn about the culture of Arab by poets.4.	
SEMESTER - III	GRAMMAR
<ol style="list-style-type: none">1. Students came to know about verb and its kinds.2. Students understand the genders.3. Students are identify grammatical errors in sentences.4. Students Develop proficiency in writing flawless sentences in Arabic.	


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SEMESTER - III HISTORY OF ARABIC LITERATURE

1. Students gain their knowledge about the literature in period of Islam.
2. Students learn how the compilation of Quran takes places.
3. They learn about poets of ummavi period.
4. Students learn about the companions of prophet (saw)

SEMESTER - IV CLASSICAL PROSE


1. Students gain the knowledge about the Female companions of prophet (saw)
2. Students came to know about the battle of Islam.
3. Students came to know how prophet Mohammed saw face difficulties while preaching of Islam
4. They educate themselves with the brief life history of Prophet Mohammed (saw)


SEMESTER -IV GRAMMAR

1. Learn about verb and its kinds.
2. Students understand and learn to make sentences.
3. Students learn about imperfect and perfect verb
4. learn the conjugations.

SEMESTER -IV HISTORY OF ARABIC LITERATURE

1. Closely observe the customs and culture of the Arab.
2. They came to know about the d development of Abbasid period.
3. Enrich themselves with the knowledge of the eminent writers of Abbasid period.
4. Educate themselves, changes takes place in Islamic Period.


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New Mallepally, Hyderabad- 500001, T.S., India.




Course Outcomes and Program Outcomes BBA – Bachelor of Business Administration Programme Code: 684 Academic Year- 2020-2021

Programme Objective (General)
1. An Understanding of Business Functions
2. Providing Global Perspectives
3. Developing Critical and Analytical Thinking Abilities
4. Interpersonal Skill Development
5. Developing Entrepreneurship Acumen.
Programme Outcomes (General)
PO- 1: Acquiring Conceptual Clarity of Various Functional Areas.
PO- 2: Ability to analyze various functional issues affecting the Organizations
PO- 3: Analysis and Interpretation of the data which is used in Decision Making
PO- 4: Demonstrate Effectively Oral and Written Communication
PO -5: Analyze Global Environment and its Impact on Business
Programme Outcomes (Specific)
PSO-1: Understand the Ecosystem of start up in the Country
PSO -2: Demonstrate the Ability to create Business Plans
PSO -3: Analyze Global Environment and its Impact on Business
PSO -4: Demonstrate Ability to work in Groups
PSO -5: Demonstrate the ability to develop models / frameworks to reflect critically on specific business contexts
Course Objective-
PAPER -- I: PRINCIPLES OF MANAGEMENT
CO1: To enable the students to study the evolution of management.
CO2: To study the functions and principles of management.
CO3: To learn the application of the principles in an organization
CO4: To study the system and process of effective controlling in the organization.
CO5: To enable the students to study about Line and Staff relationship
PAPER – II: BASICS OF MARKETING
CO1: To make the Students understand the basic Marketing Concepts and tools of Marketing Management.
CO2: The Concept of Product Life Cycle and Marketing Strategies
CO3: The Concept of Market Segmentation and Product Mix
CO4: The concept of New Product Development
CO5: To understand the concept of Micro & Macro Environment
PAPER- II: BUSINESS ECONOMICS
CO1. The purpose of this course is to apply micro economic concepts and tools for analyzing business problems.
CO2: To make students aware of cost concepts.
CO3: To make accurate decision pertaining to individual firms.
CO4: To understand tools and techniques of micro economics.
CO5: To make the student understand market structure and dynamics.
AECC- I ENVIROMENTAL STUDIES

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CO1:To create awareness about environmental problems among people. CO2:To develop attitude of concern for the environment in the students. CO3:To help students to explore possible solutions of environmental problems, and to lay the foundation for a fully informed and active participation of individual in the protection of environment and the prudent and rational use of natural resource
SEMESTER – II
PAPER – I: ORGANIZATIONAL BEHAVIOUR
CO1:To gain the understanding of concept of Organizational Behavior. CO2:To Understand the theories of Motivation, Group processes and Group dynamism CO3:To understand the concept of change in organization. CO4:To gain insights on factors influencing Organizational Culture. CO5:To prepare the students to Leadership and Conflict Resolution
PAPER – II : BUSINESS STATISTICS
CO1:To provide the student an understanding of basic statistical tools to apply for Management problems and analysis. CO2:To learn data gathering and tabulation CO3:To apply measures of central tendency CO4:To understand the significance of dispersion CO5:To learn about skewness, kurtosis, correlation and regression.
PAPER – III : FINANCIAL ACCOUNTING
CO1:To familiarize students with the mechanics of preparation of financial statements CO2:To understand corporate financial statements. CO3:To analysis and interpret financial statements CO4:To learn Ratio analysis CO5:To gain knowledge of Indian Accounting Standards
PAPER-IV: BUSINESS CORRESPONDENCE AND COMMUNICATION
CO1:To provide an overview of Prerequisites to Business Communication. CO2:To put in use the basic mechanics of Grammar. CO3:To provide an outline to effective Organizational Communication. CO4: To underline the nuances of Business communication. CO5: To understand the Internal communication occurs within the organization through orders, instructions, suggestions, opinions, etc.
AECC2 :BASIC COMPUTER SKILLS
CO1:To enable students to understand basic computer concepts related to day-to-day environment. CO2:To know the different input and output devices that makes a computer operational. CO3:To understand Information systems and Word processors.
SEMESTER-III
PAPER-I: HUMAN RESOURCE MANGEMENT
CO1:To equip the students with the basic concepts of Human Resource Management concepts CO2:To impart knowledge on the development of Human Resources in the organization. CO3:To provide insights on the concepts of Industrial Relations CO4:To study different methods of performance appraisal CO5:To understand organizational climate and culture.
PAPER – II : INFORMATION TECCHNOLOGY FOR BUSINESS


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CO1:To familiarize management student to basics of IT. Its applications and importance to present day management and organization.
 CO2:The focus of the subject is on introducing skills relating to IT basics, computer applications, programming, interactive medias, internet basics etc.
 CO3:it give a management students practical experience on working in typical office software like MS-OFFICE.
 CO4:To understand Information Technology and its practices in managing the business
 Conceptualize the process of Technology acquisition in an Industry.
 CO5:To familiarize the concept of digital technology in research, analysis, and critical inquiry.

PAPER-III: FINANCIAL MANAGEMENT

CO1:To learn about the scope and goal of financial management.
 CO2:To familiarize the student with the concepts of long term and short-term investment decisions.
 CO3:To understand the sources of capital.
 CO4:To learn about receivables and inventory management
 CO5:To familiarize the students with Receivable Management

SEC -1 ADVANCED COMPUTERS

CO1:To train individuals who have completed Basic Computer Literacy to an advanced level.
 CO2:To Learners will be able to then transfer data between applications, apply various functions and formulas.

SEC-2 BUSINESS POLICY AND STRATEGY

CO1:To acquaint the students with understanding the business environment and design strategies to meet challenges.
 CO2:To Learn about the role of Macro Economic factors that affect Business Policy
 CO3:To focus on designing plans and policies.

SEMESTER-IV

PAPER-I: BUSINESS LAW & ETHICS

CO1:To develop knowledge of the legal principles and environment in which a consumer and business operates
 CO2:The appreciate the relevance of business law to individuals and businesses
 CO3:To study the whole of law in an economic, political and social context.
 CO4:To understand various negotiable instruments
 CO5:To study consumer protection laws in India.


PAPER-II: MARKET RESEARCH

CO1:To develop an understanding of the basic framework of Research Process.
 CO2: To Various Research designs and Techniques
 CO3:To Various Sources of Information and their identification for literature review and Data collection
 CO4:Some basic Concepts of Research and its Methodologies
 CO5:To provide the students to understand the techniques of Sampling .


PAPER-III: MANAGEMENT SCIENCE

CO1:To give an overview of different Optimization Techniques useful for problem solving and decision making.
 CO2:To introduce OR techniques such as Linear Programming Problem.
 CO3:To analyze the managerial applications of Assignment problems and Transportation problems.
 CO4:To study capacity planning and sequencing of operations.
 CO5:To analyze the Transportation Problem (TP) - Mathematical model, IBFS using North West Corner Rule, Least Cost Method (LCM) and Vogel's Approximation Method(VAM).

SEC-3 PERSONALITY DEVELOPMENT-II


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CO1: To make the personal and social life.
CO2: To study the Personality Development, Positive Attitude, Self-respect, Knowledge, Self Confidence, Thoughts, Organization Efficiency
SEC-4 BUSINESS INTELLIGENCE & DATA VISUALIZATION
CO1: To study how to improving strategic decision-making and providing a competitive advantage.
CO2: Identify the technological architecture that makes up BI systems.
SEMESTER – V
PAPER – I : COST ACCOUNTING
CO1: Recognize and apply appropriate theories, principles and concepts relevant to cost accounting.
CO2: Exercise appropriate judgment in selecting and presenting information using various methods relevant to cost accounting.
CO3: Plan, design and execute practical activities using techniques and procedures appropriate to cost accounting.
CO4: Respond to change within the external and internal business environments and its effect on cost accounting.
CO5: Solve problems relevant to cost accounting systems using ideas and techniques some of which are at the forefront of the discipline
PAPER – II: PRODUCTION AND OPERATIONS MANAGEMENT
CO1: Student should know the knowledge of the design, planning and control of operating systems for the provision of goods and services.
CO2: Students with knowledge and understanding of the nature and characteristics of operating systems in both the manufacturing and service sectors.
CO3: Maximum customer satisfaction through quality, reliability, cost and delivery time.
CO4: Minimum scrap/rework resulting in better product quality.
CO5: Minimum possible inventory levels
PAPER – III BUSINESS LAW
CO1: To develop knowledge of the legal principles and environment in which a consumer and business operates.
CO2: To appreciate the relevance of business law to individuals and businesses
CO3: To study the Role of law in an economic, political and social context.
CO4: To understand various negotiable instruments
CO5: To study consumer protection laws in India.
PAPER – IV E-COMMERCE
CO1: To make understand the concept of Electronic Commerce.
CO2: Student should know about the introduction to information systems for business and management.
CO3: It is designed to familiarize students with organizational and managerial foundations of systems, the technical foundation for understanding information systems
CO4: Student understand about the web Designing
CO5: Student should know how to create a Web site
PAPER – V HUMAN RESOURCE MANAGEMENT
CO1: Is to provide the students with a basic view of valuation and investment in financial assets.
CO2: To make understand the basic concepts of risk and return and various methods of analysis.
CO3: Student should know the concept of portfolio and the various portfolio theories and evaluation methods.
CO4: Student should understand the functions, systems, policies and applications of Human Resource Management in organizations.
CO5: HR skills and their ability to assess the constraints and opportunities associated with managing employees in different socio-economic and political context.


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PAPER-VI: FINANCIAL STATEMENT ANALYSIS

- CO1: Explain the concept of the Financial Statement Analysis.
CO2: Understand how to implement the free cash flows based valuation approaches by applying them to estimate share value.
CO3: Explain how changes in valuations of assets and liabilities on the balance sheet are recognized on the income statement and statement of comprehensive income.
CO4: Understand that financial reporting and tax reporting are two different systems, and are linked by permanent differences and deferred tax assets and liabilities.
CO5: Utilize an analytical framework to map business transactions and events to the balance sheet and income statement.

PAPER – VII: BUSINESS ETHICS - ADD ON

- CO1: To understand the Business Ethics and to provide best practices of business ethics .
CO2: To learn the values and implement in their careers to become a good managers.
CO3: To develop various corporate social Responsibilities and practice in their professional life
CO4: To imbibe the ethical issues in corporate governance and to adhere to the ethical codes.

SEMESTER –VI**PAPER - I : ENTREPRENEURSHIP DEVELOPMENT**

- CO1: To make the students learn the importance of Entrepreneurship
CO2: To motivate the students towards Entrepreneurship
CO3: To make them learn about entrepreneurial environment
CO4: To provide information about financial resources
CO5: To impart training to raise and establish enterprises

PAPER- II: BUSINESS COMMUNICATION

- CO1: To provide an overview of Prerequisites to Business Communication.
CO2: To put in use the basic mechanics of Grammar.
CO3: To provide an outline to effective Organizational Communication.
CO4: To underline the nuances of Business communication.
CO5: To impart the correct practices of the strategies of Effective Business writing.

PAPER – III : INDUSTRIAL RELATIONS MANAGEMENT

- CO1: To safeguard the interests of both workers and management.
CO2: To safeguard the workers economic and social interests.
CO3: To contribute to the economic development of the country through productivity.
CO4: To minimize strikes, lockout, Heroes, etc., by providing good working conditions and fair wages to the workers.
CO5: To minimize the labour turnover rate and absenteeism.

PAPER- IV : WEB TECHNOLOGIES

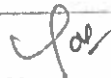
The student will be able to:

- CO1: Analyze a web page and identify its elements and attributes.
CO2: Create web pages using XHTML and Cascading Style Sheets.
CO3: Build dynamic web pages using JavaScript (Client side programming).
CO4: Create XML documents and Schemas.
CO5: Create web pages using tags


PAPER – V: INVESTMENT MANAGEMENT

The students will be able to:


- CO1: Understand different investment alternatives in the market
CO2: Understand how securities are traded in the market
CO3: analyze and price different securities
CO4: manage a portfolio
CO5: Understand basics in derivatives


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PAPER – VI: INTERNATIONAL FINANCE
CO1: To Gain understanding of the basic concepts and principles of International trade, role of the govt. through its policy, balance of payment accounts and BOP crisis.
CO2: To outline the historical perspective of globalization and Role of WTO, its functions and its implications on the world trade
CO3: To help in understanding EXIM policy, FDI regulations, role of trade credit agencies and FEMA.
CO4: To explicate the basics of International Financial markets such as Capital markets, Forex markets, Debt Instruments, Rupee convertibility etc.
CO5: To expound investment decisions, capital budgeting, risks reward linkage, risk factors and real options in Capital budgeting decisions.
SEMESTER – V
PAPER-I : COST ACCOUNTING
CO1: To define cost accounting and Distinguish between cost accounting, Management Accounting and Financial Accounting.
CO2: To understand the purposes of cost Accounting and explain the importance of contribution in Decision Making.
CO3: To describe the relationship between contribution and profit
CO4: To define Relevant and irrelevant costs and explain the elements of cost, cost Sheet, Methods of costing and the use of techniques of Costing.
CO5: To understand how to ascertain income from marginal costing and absorption costing.
PAPER-II: PRODUCTION AND OPERATIONAL MANAGEMENT
CO1: To Provide an introductory course in production and operations management.
CO2: Place the historical development of production and operations management.
CO3: Present the student with an overall view of decision making process as it relates to the major areas of production and operations management.
CO4: Know the techniques of production management.
CO5: To understand the techniques and benefits of Inventory Control in Stores Management
PAPER-III: BUSINESS LAW
CO1: Make a student aware about law.
CO2: Maintain business in legal ways & Secure business.
CO3: Aware of the legal issues involving businesses and how to deal with them.
CO4: Know the cases of Contract act and able to create a written contract.
CO5: To understand the various ways in which the parties may become discharged (released) from their contractual obligations.
PAPER- IV: E-COMMERCE
CO1: To introduce the students about on-line business using internet.
CO2: To provide the information about Application of E-Commerce and its various protocols for communication.
CO3: To impart the knowledge of E-Commerce payment systems.
CO4: To instruct the students about Electronic Data Interchange and its Applications.
CO5: To convey the working of how E-marketing works and its techniques.
PAPER-V: HUMAN RESOURCE MANGEMENT
CO1: Examine the historical steps in the development of the HRM function and the strategic role of HRM in contemporary Organizations
CO2: Evaluate the factors impacting on the strategic role of HRM and the processes that facilitate HRM contributing to the achievement of organizational goals and objectives.


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CO3: Apply the insights from relevant literature to the development and assessment of HRM policies and practices.
CO4: Assess the challenges facing HRM to ensure that policies, procedures and activities are consistent with the principles of ethics, good corporate governance and sustainability
CO5: To know the training process and objectives training and development programme
PAPER – VI: FINANCIAL STATEMENT ANALYSIS
CO1: To impart the knowledge of Financial Statement Analysis
CO2: Problem solving and decision making skill
CO3: To provide the knowledge of return on invested capital, Profitability, Analysis and Prospective analysis
CO4: Student able to understand the concepts of Equity Valuation
CO5: Leadership, Teamwork and Interpersonal Skill
SEMESTER – VI
PAPER – I: ENTREPRENEURSHIP DEVELOPMENT
CO1: Understand the concept of Entrepreneur and Entrepreneurship Development Programme.
CO2: Know the role of Entrepreneurship in Economic Development
CO3: Learn the selection and formulation of project
CO4: Know the types and sources of Finance
CO5: Understand the concept of Institutional Support Licenses and Clearances for New Entrepreneurs & Scheme of NSIC, SIDO, SSIB, SSICS, etc.
PAPER – II : BUSINESS COMMUNICATION
CO1: To acquaint the student with the knowledge of Business Communication
CO2: To provide an overview of Prerequisites to Business Communication.
CO3: Student should know the concepts of Verbal and Non-verbal Communications
CO4: To put in use the basic mechanics of Grammar
CO5: To provide an outline of Media communication & underline the nuances of Business communication.
PAPER – III: INDUSTRIAL RELATIONS MANAGEMENT
CO1: To understand the importance of healthy industrial relations
CO2: To know the Industrial conflicts and disputes
CO3: To know the role of Trade unions in Industry
CO4: To Learn the different act of wage payment and importance of social security
CO5: To know the objectives of labour welfare and statutory provisions for health of workers.
PAPER-IV: WEB TECHNOLOGIES
CO1: To gain skills of usage of Web Technologies to Design the Web Pages
CO2: To familiarize with scripting language
CO3: To learn JAVA script for creating Web Pages
CO4: To learn Events and Event Handlers
CO5: To make familiarize with Extensible Markup Language
PAPER- V: INVESTMENT MANAGEMENT
CO1: To understand the concepts of Investment Management,
CO2: To familiarize with concepts of risk and return relating to investment
CO3: To know the Time value of money
CO4: Learn about Financial Markets and Instruments & Investment strategies
CO5: To familiarize the concept of Portfolio Analysis
PAPER – VI: INTERNATIONAL FINANCE
CO1: To understand the theory of International Financial Environment
CO2: To familiarize with Balance of payment
CO3: To know the International Capital Markets



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CO4: Learn about the Derivatives Instruments
CO5: Student should know the concepts of Foreign Exchange
COURSE OUTCOMES:
SEMESTER – I
PAPER – I: PRINCIPLES OF MANAGEMENT
CO1: Students will be able to have clear understanding of managerial functions. CO2: Understand planning process in the organization CO3: Learn the principles of Organizing CO4: Understand the concept and process of Staffing CO5: Demonstrate the ability to directing, leadership and communicate effectively
PAPER- II : BASIC OF MARKETING
CO1: An awareness about the Marketing Concepts and Marketing Environment CO2: An understanding of the Bases for Market Segmentation CO3: An ability to formulate Strategies for Developing new Products, Concepts, goods and Services that respond to evolving Market needs. CO4: A capacity to develop Strategies for the efficient and effective placement distribution of Products, Concepts, goods, and Services that respond to evolving Markets. CO5: A competence to evaluate the impact of using different Marketing Strategies for a Product, Concept, good and/or service on the (i) Finances, (ii) Return on Investment (ROI), and (iii) the Business goals of an Organization
PAPER – III: BUSINESS ECONOMICS
CO1: Upon the Completion of the course, students will be able to have clear understanding of the concept of the various constituents of environment and their impact on businesses. CO2: Understand the concept Elasticity of derived. CO3: To draw ISO quant and ISO cost curves. CO4: Understand the concept of Budgeting in economics and TG hollies of scale CO5: Understand Perfect and Imperfect competitions in the market.
PAPER-IV AECC-1: ENVIRONMENTAL STUDIES
CO1: Understand the transactional character of the environmental problems and ways of addressing them, including the interaction across local and global scales. CO2: Appreciate the ethical, cross-cultural, and historical context of environmental issues and the links between human and natural systems. CO3: Understand the importance of sustainable development and modern approaches that enable humans to protect the environment.
SEMESTER – II
PAPER-I: ORGANIZATIONAL BEHAVIOUR
CO1: Upon the Completion of the course, students will be able to demonstrate the applicability of the concept of Organization behavior to understand the behavior of people in the organization. CO2: Demonstrate the applicability of analyzing the complexities associated with management of individual behavior in the organization.. CO3: Analyze the complexities associated with management of the group behavior in the organization. CO4: Demonstrate how the organizational behavior can integrate in understanding the motivation (why) behind behavior of people in the organization. CO5: Analyze the concepts of Organizational Culture, Conflict and effectiveness organizational culture and climate.
PAPER –II: BUSINESS STATISTICS

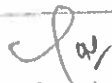
Joe

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<p>On completion of this course, the students will be able to:</p> <p>CO1:Describe and discuss the key terminology, concepts tools and techniques used in business statistical</p> <p>CO2:Critically evaluate the underlying assumptions of analysis tools</p> <p>CO3:Understand and critically discuss the issues surrounding sampling and significance</p> <p>CO4:Solve a range of problems using the techniques covered</p> <p>CO5:Conduct basic statistical analysis of data</p>
<p>PAPER – III: FINANCIAL ACCOUNTING</p> <p>On completion of this course, the students will be able to:</p> <p>CO1:Understand the Accounting Process</p> <p>CO2:Preparation of Journal, Ledger, Trial Balance and Final Accounts</p> <p>CO3:Analyze performance of companies using Ratio Analysis</p> <p>Co4:Understand the need and importance of Accounting Standards</p> <p>CO5: Analyze and interpret financial statements</p>
<p>PAPER- IV: BUSINESS CORRESPONDENCE AND COMMUNICATION</p> <p>Upon successful completion, students will have the knowledge and skills to:</p> <p>CO1:upon completion of the course, students are expected to be able to demonstrate a good understanding of: effective business writing</p> <p>CO2:effective business communications</p> <p>CO3:research approaches and information collection</p> <p>CO4:developing and delivering effective presentations, effective interpersonal communications skills that maximize team effectiveness</p> <p>CO5:good time management &effective problem solving</p>
<p>PAPER – V: AECC-2 BASIC COMPUTER SKILLS</p> <p>CO1:Show preparation for national exams/certifications.</p> <p>CO2:Comply with today's business, industry standards.</p> <p>CO3:Communicate effectively with clients, verbally, and in writing.</p> <p>CO4:Demonstrate critical thinking in problem solving.</p> <p>CO5:Compare and contrast techniques used for security management Work effectively in teams.</p>
<p>SEMESTER – III</p> <p>PAPER-I: HUMAN RESOURCE MANAGEMENT</p> <p>CO1: Integrated perspective on role of HRM in modern business.</p> <p>CO2:Ability to plan human resources and implement techniques of job design</p> <p>CO3: Competency to recruit, train, and appraise the performance of employees</p> <p>CO4: Rational design of compensation and salary administration</p> <p>CO5: Ability to handle employee issues and evaluate the new trends in HRM</p>
<p>PAPER – II : INFORMATION TECHNOLOGY FOR BUSINESS</p> <p>CO1:Demonstrate that they can use a personal computer or mobile device for accessing the internet and use basic computer applications such as e-mail, Power Point, Excel and common webpage creation TOOLS.</p> <p>CO2: Demonstrate that they can apply a variety of information technologies to their own work,</p> <p>CO3:demonstrating their competence in researching, creating, and presenting projects using a variety of digital information tools.</p> <p>CO4: Demonstrate that they can use digital technology in research, analysis, and critical inquiry.</p> <p>CO5: Demonstrate that they can evaluate and explain the on-going changes in digital technology and their impacts on society.</p>
<p>PAPER – III: FINANCIAL MANAGEMENT</p> <p>CO1:To apply project appraisal methods to cash flows.</p> <p>CO2:To understand the determinants of capital structure</p> <p>CO3:To learn about dividend practices of companies</p> <p>CO4:To calculate working capital requirements of firms</p> <p>CO5:Student can communicate standard business terminology</p>


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PAPER –IV : SEC-I ADVANCED COMPUTERS
CO1:Student will have knowledge of Data Analysis techniques CO2:Attain proficiency in MS-Excel CO3:Develop skills in application of MS Access
PAPER – V : SEC-II BUSINESS POLICY AND STRATEGY
CO1: Critically analyze the internal and external environments in which businesses operate and assess their significance for strategic planning. CO2: Apply understanding for the theories, concepts and tools that support strategic management in organizations. CO3: Build understanding of the nature and dynamics of strategy formulation and implementation processes at corporate and business level. CO4: Enhanced ability to identify strategic issues and design appropriate courses of action.
SEMESTER-IV
PAPER- I: BUSINESS LAW & ETHICS
CO1: Student understands the concepts of Contract. CO2: Students will have a clear understanding of the legal of Sales and Agreement. CO3: Students understand the concepts of Company Act 1956. CO4: Student able to understand the concept of Consumer awareness CO5: Student understand the concepts of Business ethics and efficiency & Social responsibility of business
PAPER – II: MARKET RESEARCH
CO1:Apply a range of Quantitative and/or Qualitative Research Techniques to business and Management problems / issues CO2:Necessary critical thinking skills in order to evaluate different Research Approaches utilized in the service Industries CO3: Identify the overall Process of designing a Research study from its inception to its Report. CO4: Define the Meaning of a variable, and to be able to identify independent, dependent, and mediating variables. CO5:Acquire familiarization with good practices in conducting a Qualitative Interview and observation
PAPER – III : MANGEMENT SCIENCE
CO1: Helps in formulating real life situations in organizations in Quantitative form. CO2: Helps in formulating strategies for optimal use of various resources within the organizations. CO3: Enables the students to understand the managerial applications of transportation problems. CO4: Students understand on the concepts of network fundamentals and resource analysis and allocations. CO5: Students get understand the use of Transportation Problem (TP) - Mathematical model, IBFS using North West Corner Rule, Least Cost Method (LCM) and Vogel's Approximation Method(VAM).
PAPER-IV: SEC-3 PERSONALITY AND DEVELOPMENT
CO1:A student learns the cues and motives of Entrepreneurship CO2:Students can learn more about types of Enterprises and growth CO3:Knowledge of entrepreneurship prepares the entrepreneurial bent of mind CO4:Problems and perspectives of the entrepreneurship can be understood CO5:It is also possible to students understand and comprehend on venture capital fund.
PAPER – V: SEC-4 BUSINESS INTELLIGENCE DATA VISUALIZATION
CO1:Synthesize knowledge of Business Intelligence CO2:Evaluate the impact of external market factors, including stakeholders and government's function in market activity
SEMESTER – V
PAPER-I: COST ACCOUNTING
CO1:Understand various costing systems and management systems


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CO2: Analyze and provide recommendations to improve the operations of organizations through the application of Cost and Management accounting techniques
CO3: Apply cost accounting methods for both manufacturing and service industry
CO4: Differentiate methods of schedule costs as per unit of production
CO5: Analyze cost-volume-profit techniques to determine optimal managerial decisions
PAPER-II: PRODUCTION AND OPERATIONS MANAGEMENT
CO1: The students can apply the concept of operations management in manufacturing and service sector and will be able to plan and implement production and service related decisions.
CO2: The student will be able to plan production schedules and plan resources (material and machine) required for production
CO3: The students can design maintenance schedules in manufacturing units, identify and propose material handling equipments and implement industrial safety rules
CO4: The students will be able to apply the concepts of purchase, stores and inventory management and analyze and evaluate material requirement decisions
CO5: The students can measure performance related to productivity and will be able to conduct basic industrial engineering study on men and machines.
PAPER-III: BUSINESS LAWS
CO1: Demonstrate an understanding of the Legal Environment of Business.
CO2: Communicate effectively using standard business and legal terminology.
CO3: Demonstrate recognition of transactions involving the Sales of Goods Act
CO4: Demonstrate recognition of consumer protection and intellectual property rights
CO5: Understand the various provisions of Company Law
PAPER-IV: E-COMMERCE
CO1: Understand the fundamental and importance of E-commerce • Analyze the impact of E-commerce on business models and strategy •
CO2: Be familiarize with E-Marketing & E-Advertising in E-commerce
CO3: Understand EDI as an exchange of business documents in a standard electronic format between business partners.
CO4: Know the legal issues and privacy in E-Commerce • Assess the electronic payment systems
CO5: Learn about the infrastructure for E-commerce and features of Internet, Intranets, Extranets and web technology and how they relate to each other.
PAPER-V: HUMAN RESOURCE MANAGEMENT
CO1: Critically assess existing theory and practice in the field of HRM
CO2: Apply knowledge about qualitative and quantitative research to an independently constructed piece of work
CO3: Be able to advance well-reasoned and factually supported arguments in both written work and oral presentations
CO4: Be able to evaluate HRM related social, cultural, ethical and environmental responsibilities and issues in a global context
CO5: Work effectively with colleagues with diverse skills, experience levels and way of thinking
PAPER-VI: FINANCIAL STATEMENT ANALYSIS
CO1: Students can pursue entry-level jobs in the accounting and finance fields upon graduation
CO2: To prepare the Accounting Option graduate with an in-depth course in the analysis of financial reports in order for students to provide much of the information users need to make economic decisions about businesses.
CO3: To interpret corporate annual reports and accompanying notes in addition to the management discussion and analysis as well as the independent auditor's report so that students are able to assess the efficiency and effectiveness of operations.


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CO4: To enhance analytical and critical thinking skills for Accounting and Managerial graduates so that students can apply financial statement analysis to assess the solvency, profitability, liquidity, and debt paying ability of a business.

CO5: To provide students with a comprehensive exposure to developing the meaning of financial reports in order for students to assess past performance and predict future results so that information and recommendations can be made to both internal and external users.

SEMESTER- VI

PAPER-I: ENTREPRENEURSHIP DEVELOPMENT

CO1: Understand the development of entrepreneurship as a field of study and as a profession.

CO2: Understand the creative process of opportunity identification and screening. • Understand the entrepreneurial process.

CO3: Analyze new concept/product/service ideas as an entrepreneur

CO4: Understand the business decisions involved in starting a new business venture

CO5: Understand the role of government in promoting entrepreneurship, need and importance of budgets in running of a firm & importance of building a support network for the new venture.

PAPER- II: BUSINESS COMMUNICATION

CO1: The students should be able to write correctly and properly with special reference to Letter writing.

CO2: Develop a resume for oneself

CO3: Ability to handle the interview process confidently

CO4: Communicate fluently and sustain comprehension of an extended discourse

CO5: Demonstrate ability to interpret texts and observe the rules of good writing

PAPER-III: INDUSTRIAL RELATIONS MANAGEMENT

CO1: Be aware of the present state of Industrial relations in India

CO2: Be acquainted with the concepts, principles and issues connected with trade unions,

CO3: Collective bargaining, workers participation, grievance redressal, and employee discipline and dispute resolution.

CO4: Understand the various processes and procedures of handling Employee Relations

CO5: Understand the payment of wages Act 1936 & payment of Bonus Act 1965

PAPER-IV: WEB TECHNOLOGIES

CO1: Students are able to develop a dynamic webpage by the use of java script and DHTML

CO2: Students will be able to write a well formed / valid XML document.

CO3: Students will be able to connect a java program to a DBMS and perform insert, update and delete operations on DBMS table

CO4: Students will be able to write a server side java application called Servlet to catch form data sent from client, process it and store it on database..

CO5: Students will be able to write a server side java application called JSP to catch form data sent from client and store it on database.

PAPER-V: INVESTMENT MANAGEMENT

CO1: Demonstrate a basic understanding of investments and the nuances of investing

CO2: Students will understand the benefit of diversification of holding a portfolio of assets, and the importance played by the market portfolio.

CO3: Exhibit the acquaintance of the securities market and its constituents

CO4: Apply knowledge gained to perform analysis of various securities


CO5: Analyze and apply models to securities performance and forecasting

PAPER-VI: INTERNATIONAL FINANCE

CO1: Student can demonstrate basic understanding of foreign exchange market and exchange rates .

CO2: Demonstrate basic understanding of how to use foreign exchange derivatives and other techniques to manage foreign exchange exposures of firms

CO3: Demonstrate basic understanding of the issues pertaining to multinational financing and investment decisions


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CO4: Demonstrate critical and analytical skills

CO5: they should be able to make sense out of a mass of information to address relevant issues pertaining to international finance theory.



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ANWARUL ULOOM COLLEGE (AUTONOMOUS)

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CHEMISTRY DEPARTMENT

Under Graduate - B.Sc. (M.P.C ** B.Z.C ** N.Z.C** & BT.M.C)

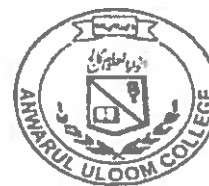


Program Educational Objectives - Outcomes (2020 - 2021)

Programme Objective: B.Sc.	
1. Read, understand and interpret physical and chemical information – verbal, mathematical and graphical, instrumental.	
2. Impart skills required to gather information from resources and use them.	
3. To give need based education in science of the highest quality at the undergraduate level.	
4. Perform experiments and interpret the results of observation, including making an assessment of experimental uncertainties.	
5. Provide an intellectually stimulating environment to develop skills and enthusiasms of students to the best of their potential.	

Programme Outcomes: B.Sc.	
PO-1. This course forms the basis of science and comprises of the subjects like Mathematics, Physics, Electronics, Chemistry, Biology and Zoology.	
PO-2. It helps to develop scientific temper and thus can prove to be more beneficial for the society as the scientific developments can make a nation or society to grow at a rapid pace	
PO-3. After the completion of this course students have the option to go for higher studies i.e. M.Sc. and then do some research for the welfare of mankind	
PO-4. After higher studies students can join as scientist and can even look for professional job oriented courses.	
PO-5. This course also offers opportunities for serving in Indian Army, Indian Navy, Indian Air Force as officers.	
PO-6. Students after this course have the the option to join Indian Civil Services as IAS, IFS etc..	
PO-7. Science graduates can go to serve in industries or may opt for establishing their own industrial unit.	
PO-8. Apart from the research jobs, students can also work or get jobs in Marketing, Business & Other technical fields	
PO-9. Science graduates also recruited in the bank sector to work as customer service executives. Students can also find employment in government sectors.	
PO-10. Often, in some reputed universities or colleges in India and abroad the students are recruited directly by big MNC's after their completion of the course.	

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What is Chemistry ?

Chemistry is the branch of science that deals with the properties, structure of elements and compounds, how they can be released or absorbed when they change, composition, and change, and the energy that is

Programme Specific Outcomes: B.Sc. (M.P.C ** B.Z.C ** N.Z.C**&BT.M.C.) - Chemistry

PSO - 1. To develop interest among students in various branches of chemistry.

PSO - 2. Help the students to impart a broad outline of the methodology of science in general and Chemistry in particular.

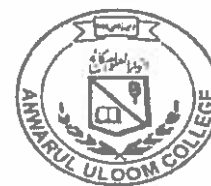
PSO - 3. Students will grasp fundamental insight into chemical compounds with applications ranging from medicine, catalysis and alternative energy sources.

PSO-4. Students will be able to know the needs and working methods for research industry, administrators and education.

PSO-5. The master's degree program in chemistry also forms the foundation for doctoral program in chemistry.

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**B.Sc. I year - Semester I
Paper - I
Code No. 6109
Subject - CHEMISTRY**



Course Objective: CHEMISTRY

1. The students will be able to understand the concept of chemical bonding and p- block elements.

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| 2. The students will learn the concept of Structural theory in organic chemistry, Acyclic Hydrocarbons & Aromatic Hydrocarbons. |
| 3. The students will be able to explain the concept of Atomic Structure And Elementary Quantum Mechanics, Gaseous state, Liquid state and Solutions. |
| 4. The student will be able to learn the concept of General Principles Of Inorganic Qualitative Analysis, Isomerism and Solid state chemistry. |

Course Outcomes: CHEMISTRY

CO-1. The student will be able to explain about The Lone pairs and Bond pairs. They can able to plot molecular orbital energy diagram of diatomic molecules & P-Block elements in terms of classification their reactivity and their applications.

CO-2. Students will able to explain about polarization, mesomeric effect difference between carbocations and carbanions and about hyperconjugation & certain rules mentioned in the chapter and chemical reactions for the synthesis of alkanes, alkenes and alkynes and their reactivity.

CO-3. The students will be able to explain about the principle of certain laws discussed in this Chapter & They will understand how to derive equations and relationship between the Constant. The intermolecular forces, viscosity and effect of temperature on solids, liquids and gases. They also know about fractional distillation and they will be knowing about the miscible and immiscible liquids.

CO-4. Students will be able to describe the complete group from I to VI cations as well as they will be having a knowledge of cation and anion analysis & different isomers, stereoisomers projection and conformational and configurational isomers analysis and they will be also able to explain derivations of equations and determine the structure of several molecules using some specific methods.

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**B.Sc. I year - Semester II
Paper - II
Code No. 6209
CHEMISTRY**



Course Objective: CHEMISTRY

1. The student will be able to describe P-block elements – II, Chemistry of Zero group Elements & Chemistry of d-Block Elements.

2. The student will be able to describe Halogen compounds, Hydroxy compounds and ethers & Carbonyl compounds.

3. Understand the relationship between E_{ocell} , $\Delta_r G^\circ$, and K for oxidation-reduction reactions and be able to calculate the parameters of Electrochemistry.

4. The student will be able to describe the theory of quantitative analysis, Stereoisomerism and Dilute Solutions and colligative properties.

Course Outcomes: CHEMISTRY

CO-1. Students will be able to describe Zero Group Elements, their reactivity and their applications, d-Block Elements with special reference to Electronic Configuration, Variable Valence, ability to form Complexes, Magnetic properties and Catalytic properties. Comparative treatment of second and third Transition series.

CO-2. Students will be able to tell about Halogen compounds-their classification and chemical reactivity. Able to plot energy profile diagram of SN1 and Sn2 reactions. Alcohol, Phenols and Ethers. Their physical and chemical properties and reactivity. Preparation of Aldehydes and Ketones, Physical properties, Chemical reactivity

CO-3. Students will be able to tell about Nernst Equations, Oxidation and reduction half reactions, Theories related to electrolytes and Applications of conductance and DMF values.

CO-4. Students will be able to tell about Various volumetric titrations, role of p^H Gravimetric nature of light, plane polarized light, optical rotation and specific rotation, chiral centers, Chiral molecules. R,S configuration, Molecules with constitutionally symmetrical chiral carbons. Prelog rules Analysis- filtration and washing, drying and incineration of precipitate. Laws measurements and derivations of relation between molecular weight and Elevation of Boiling Point and Depression of Freezing Point.



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B.Sc. II year - Semester III
Paper - III
Code No. 6309
CHEMISTRY

Course Objective: CHEMISTRY

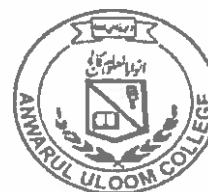
1. Students will be able to learn the concept of Chemistry Of F-Block Elements and Coordination Compounds-I.
2. To learn the concept of Carboxylic Acids and Derivatives, Nitro Hydrocarbons, Amines, Cyanides and Isocyanides.
3. To learn the concept of Thermodynamics I, Thermodynamics II.
4. To describe about the concept of Evaluation of analytical data, carbanions and Phase rule.

Course Outcomes: CHEMISTRY

- CO-1. Students will gain thorough knowledge regarding elements that come under f-Block of periodic table, coordination compounds present in the chapter.
- CO-2. The student will be able to tell about the properties and preparations of carboxylic acids and their derivatives, the nomenclature, classification of nitro hydrocarbons, their aromaticity, the physical and chemical properties and their reactivities. the nomenclature, classification, principles, preparations, properties of amines, cyanides and isocyanides.
- CO-3. The student will be able to tell about heat and energy, first and second law of thermodynamics, several equations and few theorems involved in thermodynamic studies. At the end of this unit the learners will be able to tell about Proton Magnetic resonance Spectroscopy, mass Spectroscopy, Thermodynamics and derivations and equations involved in Thermodynamics and determination of molecular formulas.
- CO-4. At the end of this unit the learners will be able to tell about how to evaluate the data, and Problems based on mean, median, range, standard deviation, the synthesis and application of carbanions and the knowledge about phases, one and two component system.

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**B.Sc. II year - Semester IV
Paper - IV
Code No. 6409
CHEMISTRY**



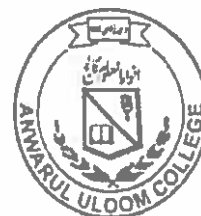
Course Objective: CHEMISTRY

1. To gain thorough knowledge about the concepts of Coordination Compounds- II Bioinorganic Chemistry.
2. To explain the concept of Carbohydrates, Amino Acids And Proteins and Heterocyclic Compounds.
3. To gain knowledge about Chemical Kinetics, Photochemistry
4. To impart knowledge about Theories of bonding in metals, Carbanions II And Colloids and Surface Chemistry.

Course Outcomes: CHEMISTRY

- CO-1. The student will be able to learn about thermodynamics and kinetic energies of complexes, CFT, Magnetic Susceptibility, Composition of complexes and Catalyst polymerization. biological significance of essential element, toxicity and about electron transport system.
- CO-2. The student will be able to learn about biological significance of essential element, toxicity and about electron transport system.
carbohydrates, protein and amino acids and their structure, classification, nomenclature and their properties and preparations. Importance of heterocyclic compounds, their structures, reactivity and their properties.
- CO-3. At the end of this chapter the students will be able to tell about Kinetic studies of chemicals, factors influencing the rate of reaction, few terminologies, order of reactions, equations and derivations, photo chemical combinations and fluorescence.
- CO-4. At the end of this unit the learner will be able to tell about theories involved in this chapter and regarding types of conductors and semiconductors. the carbanions-preparation and their applications. Also gain knowledge about named reactions, to explain about the equilibrium of component system and properties of colloids. They will know about different types of adsorption and its applications

B.Sc. III year - Semester V
Paper - V
Code No. 6509
CHEMISTRY



Course Objective: CHEMISTRY

1. To explain the concepts of CHROMATOGRAPHY I , CHROMATOGRAPHY II , COLORIMETRY AND SPECTROPHOTOMETRY, ELECTROANALYTICAL METHODS

2. To describe about the concept of CHROMATOGRAPHY II.

3. To impart the knowledge about COLORIMETRY

4. To explain about the concept of SPECTROPHOTOMETRY, ELECTROANALYTICAL METHODS

Course Outcomes: CHEMISTRY

CO-1. At the end of this unit the students will learn about the separation of compounds by various techniques of chromatography.

CO-2 At the end of this unit the student will be able to learn about separation of compounds by various techniques of chromatography their principles and instrumentation.

CO-3. The student will be able to describe about spectrophotometers, radiations and estimation of compounds using IR, UV spectrophotometer and colorimetry


CO-4. At the end of this unit the student will be able to learn about types of electro analytical methods, problems based on analytical methods and few estimation and determinations of compounds using the same methods

B.Sc. III year - Semester VI
Paper - VI
Code No.6609
CHEMISTRY



Course Objective: CHEMISTRY

1. To impart knowledge about the following key concepts of Medicinal Chemistry such as Pharmacology, pharmacophore
2. To understand the concept of ENZYMES AND RECEPTORS
- 3 To describe about the concept of SYNTHESIS AND THERAPEUTIC ACTIVITY OF DRUGS
4. To understand the concept of MOLECULAR MESSENGER AND HEALTH PROMOTING DRUGS.


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DEPARTMENT OF CHEMISTRY

M.Sc. ORGANIC CHEMISTRY



Program Educational Objectives-Outcomes (2020 - 2021)

Programme Objectives (General)


1. To provide students with broad theoretical and applied background all specialization of chemistry
2. To provide knowledge of interdisciplinary branches of chemistry such as Inorganic, organic, physical and Analytical
3. To make the students to carry out scientific experiments and research work
- 4.. To make the students to understand Patterns in shapes structure hybridizations, solubility activity
- 5.To help the student to explain the concept of. Organic chemical Structure and bonding and stability

Programme Outcome (General)

- PO-1. The students will have in-depth and detailed knowledge of fundamental theoretical and experimental methods of chemistry
- PO-2. The students will have well define knowledge in area of research chemistry
- PO-3. The students. Will have specific skills in planning and conducting advanced chemical experiments
- PO-4. The students will have knowledge in Structural chemical characterization techniques.
- PO-5. The students will able to innovate new applications of chemical research
- PO-6. Students after this course have the option to join Indian Civil Services as IAS, IFS etc.
- PO-7. Science graduates can go to serve in industries or may opt for establishing their own industrial unit.
- PO-8. Apart from the research jobs, students can also work or get jobs in Marketing, Business & Other technical fields
- PO-9. Science graduates are also recruited in the bank sector to work as customer service executives. Students can also find employment in government sectors.
- PO-10. Often, in some reputed universities or colleges in India and abroad the students are recruited directly by big MNC's after their completion of the course.

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Programme Specific Outcomes: M.Sc.

PSO-1. To explain students the role of chemistry in nature and in Society.

PSO-2. To explain to students to develop the concepts of chemistry and problem-solving skills.

PSO-3. To explain to students to develop the concepts of chemistry and problem-solving skills.

PSO-4. To help students to develop skills in the proper handling of apparatus and chemicals

PSO-5. To explain the basic facts and concepts in chemistry and applications in various spheres of Chemical Sciences.

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M.Sc. 1 Year- Semester 1
Paper- 1
Code No. - 511T
Subject - Inorganic Chemistry




Course Objective:

1. This Course will provide a foundation for further education in chemistry.
2. To explain to the students about the symmetry of molecules and arrange a set of Symmetry operations into classes.
3. To explain to the students about Bonding in metal complexes high spin and low spin complexes.
4. To make the students understand about coordination Equilibria, stability constant by P.H Metry
5. To explain the students ligational aspects of diatomic molecules

Course Outcomes:

- CO-1. The students will learn Symmetry of molecules.
- CO-2. The students will have knowledge in bonding in Metal complexes
- CO-3. The students will Learn coordination Equilibria.
- CO-4. The students will know Ligational Aspects of diatomic molecules.
- CO-5. The students will learn about the practicals in Inorganic Chemistry

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M.sc 1 year – semester 1
Paper-II
Code no.512 T
Subject: Organic chemistry



Course objective:

- 1.This course classify organic molecules by their functional groups.
- 2.To explain the students about stereochemistry.
- 3.To explain the students about reaction mechanisms.
- 4.To explain the students about conformational analysis recycling system.
- 5.To make the students understand about the heterocyclic compounds and Natural Product

Course outcome:

- CO-1. The students will learn about Stereochemistry
- CO-2. The students will learn about Reaction Mechanism
- CO-3. The students will learn about Conformational Analysis Recycling System.
- CO-4. The students will get to know about the Heterocyclic Compounds and Natural Products.

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M.SC 1 Year Semester I
Paper: III
Code No:513T
Subject: Physical Chemistry



Course Objective:

1. This course introduces students to the core area of chemistry.
2. To explain to the students about Thermodynamics.
3. To explain to the students about Electrochemistry I.
4. To acquire knowledge in Quantum chemistry.
5. To make the students understand Chemical Kinetics I.

Course Outcomes:

- CO-1. The students will learn about Thermodynamics.
- CO-2. The students will learn about Electrochemistry I.
- CO-3. The students will learn about Quantum chemistry.
- CO-4. The students will learn about Chemical Kinetics I.

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M.SC 1 Year Semester I
Paper: 1V
Code No:514T
Subject: Analytical Techniques and
Spectroscopy- 1



Course Objective:

1. This course explains basic concepts, principles and techniques of modern analytical chemistry.
2. To explain the students about the Techniques of chromatography.
3. To explain the students about the NMR Spectroscopy 1(HNMR).
4. To acquire knowledge in Rotational Vibrational and Raman Spectroscopy.
- 5.To make the students understand Electronic Spectroscopy.

Course Outcome:

- CO-1. The students will learn about the techniques of chromatography.
- CO-2. The students will learn about the NMR Spectroscopy 1 (HNMR).
- CO-3. The students will learn about Rotational, Vibrational and Raman Spectroscopy.
- CO-4. The students will learn about Electronic Spectroscopy.

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M.S.C I Year Semester II
Paper: I
Code No: 521T
Subject: Inorganic Chemistry



Course Objective:
1.This course explains the chemistry of organometallic compounds, metal carbonyl and metal Clusters
2.To explain to the students about Reaction Mechanism of transitions metal complexes.
3.To explain to the students about the bonding in Metal complexes II.
4.To explain to the students about the Metal clusters.
5.To make the students understand about the Bio Coordination Chemistry

Course outcomes:
CO-1. The students will learn about the Reaction Mechanism of Transitions Metal Complexes
CO-2. The students will learn about the bonding in Metal Complex II.
CO-3. The student will learn about Metal Clusters.
CO-4. The students will learn about Bio Coordination Chemistry

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M.sc 1 Year Semester II
Paper: II
Code No: 522 T
Subject: Organic Chemistry



Course Objective:

1. This course explain the fundamental reactions of alkane, halocarbons, alkenes, dienes
2. To explain the students about Reaction Mechanism II
3. To explain the students about the Pericyclic Reactions
4. To explain to the students about Photo Chemistry.
5. To make the students understand about the Reactive Intermediates and Molecular Rearrangement.

Course Outcomes:

- CO-1. The students will learn about Reaction Mechanism II.
- CO-2. The students will learn about Pericyclic Reactions.
- CO-3. The students will learn about Photo Chemistry.
- CO-4. The students will learn about Reactive Intermediates and Molecular Rearrangement.

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M.sc. 1 Year, Semester II
Paper: III
Code No: 523 T
Subject: Physical Chemistry



Course objectives:

1. This course explains the relationship between physical phenomena and molecular structure
2. To explain the students about Thermodynamics II and Statistical Thermodynamics.
3. To explain the students about the Photo chemistry I.
4. To explain the students about Quantum Chemistry.
5. To make the students understand Solid State Chemistry.

Course outcomes:

- CO-1. The students will learn about Thermodynamics II and Statistical Thermodynamics.
- CO-2. The students will learn about Photo chemistry I.
- CO-3. The students will learn about Quantum Chemistry.
- CO-4. The students will learn about the Solid-State Chemistry

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M.sc 1 Year Semester II
Paper: IV
Code No: 524 T
Subject: Analytical Techniques
and Spectroscopy



Course Objectives:

1. This course helps in understanding the range and uses of analytical methods in chemistry
2. To explain the students about the Electro and Thermal Analysis Techniques
3. To explain the students about the NMR Spectroscopy II (^1H , ^{19}F and ^{31}P NMR)
4. To explain the students about Mass Spectroscopy.
5. To make the students understand about the Photo electron and ESR Spectroscopy.

Course Outcomes:

- CO-1. The students will learn about the Electro and Thermal Analysis Techniques
- CO-2. The students will learn about the NMR Spectroscopy II (^1H , ^{19}F and ^{31}P NMR)
- CO-3. The students will learn about the Mass Spectroscopy
- CO-4. The students will learn about the Photo electron and ESR Spectroscopy

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M.sc II Year Semester III
Paper: I
Code No: 531 T
Subject: Synthetic Reagents, Advanced NMR, Conformational Analysis and Techniques and ORD Theory



Course Objectives:

1. To explain to the students about the Synthetic Reagents I
2. To explain the students about synthetic Reagents II
3. To explain the students about the ^{13}C NMR and 2D NMR Spectroscopy.
4. To make the students understand about the Conformational Analysis.

Course Outcomes:

- CO-1. The students will learn about Synthetic Reagents I.
- CO-2. The students will learn about Synthetic Reagents II.
- CO-3. The students will learn about the ^{13}C NMR and 2D NMR Spectroscopy.
- CO-4. The students will learn about Conformational Analysis.

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M.Sc. II Year, Semester III
Paper: 11
Code No: 532 T
Subject: Modern Organic Synthesis



Learning objectives:

1. To explain the students about Asymmetric Synthesis.
2. To explain the students about Synthetic Strategies.
3. To explain the students about the New Synthetic Reactions.
4. To make the students understand about the New Techniques and Concepts in Organic Synthesis.

Course Outcomes:

- CO-1. The students will learn about Asymmetric Synthesis.
- CO-2. The students will learn about Synthetic Strategies.
- CO-3. The students will learn about the New Synthetic Reactions.
- CO-5. The students will learn about the New Techniques and Concepts in Organic Synthesis.

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M.Sc. II Year, Semester III
Paper: III
Code No: 533 T
Subject: Bio Organic Chemistry



Course Objectives:

1. To explain the students about the Carbohydrates.
2. To explain the students about Nucleic acids and Lipids.
3. To explain the students about the Proteins and Enzymes
4. To make the students to understand about the Coenzymes and Vitamins.

Course Outcomes:

- CO-1. The students will learn about the Carbohydrates.
- CO-2. The students will learn about Nucleic acids and Lipids.
- CO-3. The students will learn about the Proteins and Enzymes.
- CO-4. The students will learn about the Coenzymes and Vitamins.

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M.Sc. II Year, Semester III
Paper: IV
Code No: 534 T
Subject: Green Chemistry and
Organic Materials



Course Objectives:

1. To explain the students about the Principles of Green Chemistry.
2. To explain to the students about the Green Synthesis.
3. To explain to the students about the Nanomaterials.
4. To make the students understand Supramolecular Chemistry.

Course Outcomes:

- CO-1. The students will learn about the Principles of Green Chemistry.
- CO-2. The students will learn about the Green Synthesis.
- CO-3. The students will learn about Nanomaterials.
- CO-4. The students will learn about the Nanomaterials.

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M.Sc. II Year, Semester IV
Paper: I
Code No: 541 T
Subject: Drug Design And Drug
Discovery



Course objectives:

1. To explain the students about the Principles of Drug Design and Drug Discovery.
2. To explain the students about the Lead Modification And SAR studies.
3. To explain the students about the QSAR Studies and Computer Aided Drug Design.
4. To explain the students about the QSAR Studies and Computer Aided Drug Design.

Course Outcomes:

- CO-1. The students will learn about the Principles of Drug Design and Drug Discovery
- CO-2. The students will learn about the Lead Modification And SAR studies.
- CO-3. The students will learn about QSAR Studies and Computer Aided Drug Design.
- CO-4. The students will learn about the Combinational Synthesis.

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M.Sc. II Year, Semester IV
Paper: II
Code No: 542 T
Subject: Drug Synthesis And
Mechanism of Action



Course Objectives:

1. To explain the students about the Drugs acting on metabolic process, cell wall and specific Enzymes.
2. To explain the students about the Drugs acting on genetic materials and Immune system.
3. To explain the students about the Action on receptors and ion channels.
4. To make the students to understand about the Chiral Drugs.

Course Outcomes:

- CO-1. The students will learn about the Drugs acting on metabolic process, cell wall and specific Enzymes.
- CO-2. The students will learn about the Drugs acting on genetic materials and Immune system.
- CO-3. The students will learn about the Action on receptors and ion channels.
- CO-4. The students will learn about the Chiral Drugs.

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M.Sc. II Year, Semester IV
Paper: III
Code No: 543 T
Subject: Advanced Heterocyclic
Chemistry [Elective 3A]



Course Objectives:

1. To explain the students about the Non-Aromatic Heterocyclic and Aromaticity.
2. To explain the students about the Five and Six membered Heterocyclics with Two Hetero Atoms.
3. To explain the students about the Heterocyclic with more than two Hetero Atoms.
4. To make the students to understand about the Large Ring and Other Heterocyclics.

Course Outcomes:

- CO-1. The students will learn about Non-Aromatic Heterocyclic and Aromaticity.
- CO-2. The students will learn about the Five and Six membered Heterocyclics with Two Hetero Atoms
- CO-3. The students will learn about the Heterocyclic with more than two Hetero Atoms.
- CO-4. The students will learn about the Large Ring and Other Heterocyclics.

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M.Sc. II Year, Semester IV
Paper: 111
Code No: 543 T
Subject: Organic Polymers Dyes And
Pigments [Elective 3B]



Course Objectives:

1. To explain the students about Organic Polymers.
2. To explain the students about Polymers 2.
3. To explain the students about Dyes-I.
4. To make the students to understand about the Dyes -II and Pigments.

Course outcomes:

- CO-1. The students will learn about the Organic Polymers.
- CO-2. The students will learn about the Polymers 2.
- CO-3. The students will learn about the Dyes-I.
- CO-4. The students will learn about Dyes -II and Pigments.

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M.Sc. II Year, Semester IV
Paper: IV
Code No: 544 T
Subject: Advanced Natural Products
[Elective 4A]



Course objectives:

1. To explain the students about the Biosynthesis of natural products.
2. To explain the students about the Structural Determination of natural products - I.
3. To explain the students about the Structural Determination of Natural Products - II.
4. To make the students to understand about the Total Stereo Selective Synthesis of Natural Products

Course Outcomes:

- CO-1. The students will learn about the Biosynthesis of natural products.
- CO-2. The students will learn about the Structural Determination of natural products - I.
- CO-3. The students will learn about the Structural Determination of Natural Products - II.
- CO-4. The students will learn about the Total Stereo Selective Synthesis of Natural Products.

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M.Sc. II Year, Semester IV
Paper: IV
Code No: 544 T
Subject: Pharmaceutics and
Pharmacodynamics [Elective 4B]



Course Objectives:

1. To explain the students about the Pharmacokinetics.
2. To explain the students about the Pharmacodynamics.
3. To explain the students about the Principles of Therapeutics.
4. To make the students to understand about the Drug Interactions.

Course Outcomes:

- CO-1. The students will learn about the Pharmacokinetics.
- CO-2. The students will learn about the Pharmacodynamics.
- CO-3. The students will learn about the Principles of Therapeutics.
- CO-4 The students will learn about the Drug Interactions.

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Anwarul Uloom Degree College (Autonomous)

(Affiliated to Osmania University)

Accredited with A Grade by NAAC

New Mallepally, Hyderabad-500001, T.S. India.

Department of Commerce

OBJECTIVES & OUTCOMES

For The Academic Year

2020 - 2021

ANWARUL ULOOM COLLEGE (AUTONOMOUS)

(Affiliated to Osmania University)

Accredited by NAAC with 'A' Grade

New Mallepally, Hyderabad – 500001, T.S, India

DEPARTMENT OF COMMERCE

Objectives & Outcomes

Academic year 2020-2021

FIRST YEAR

I-Semester

Sl. No.	Subjects	Objectives	Outcomes
1	Financial Accounting – I	1.The objective of this course is to introduce problems of financial accounting such as measuring and reporting issues related to assets and liabilities and preparing the financial statements. Students are expected to gain the ability of using accounting information as a tool in applying solutions for managerial problems, evaluating the financial performance, and interpreting the financial structure.	1. Acquire conceptual knowledge of basics of accounting. 2. Identify events that need to be recorded in the subsidiary books 3. Identify and analyze the reasons for the difference between cash book and pass book balances. 4. Recognize circumstances providing for increase exposures errors and frauds. 5. Equip with the knowledge of accounting process and preparation of final accounts of sole trader
2	Business Organization	1. To Understand the concepts related to Business. 2. To equip the knowledge about joint stock company. 3. Demonstrate the roles, skills and functions of management 4. Organise and present information to a satisfactory standard in oral presentations, essays and reports. 5. Understand the complexities associated with management	1. Identify the legal documents necessary to form a sole proprietorship, partnership, limited partnership and a limited liability. 2. To familiarize company and documents required to start a business. 3. To develop knowledge about evolution of management thoughts. 4. To understand better understanding the functions of management. 5. To give an idea about planning and organising logistics.
3	Foreign Trade	1. To equip the students with introduction to Foreign trade. 2. To impart knowledge about BOT & BOP. 3. To know about Indian Trade Policy. 4. To impart knowledge about foreign trade & trade blocs 5. To know about International Economic Institutions	1. To provide knowledge about foreign trade. 2. To provide knowledge about BOT & BOP. 3. To introduce about Indian trade policy. 4. To provide knowledge about trade blocs. 5. To gain knowledge about international economic institutions.
4	Information Technology	The objective is to introduce IT in a simple language to all undergraduate students, regardless of their specialization. It will help them to pursue specialized programs leading to technical and professional careers and certifications in the	1. Basic concepts and terminology of information technology. 2. Basic understanding of personal computers and their operations. 3. Basic understanding of using software's 4. Basic understanding of Operating systems 5. Basic understanding of Data

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		IT industry. The focus of the subject is on introducing skills relating to IT basics, computer applications, programming, interactive medias, Internet basics etc	Communication by using MS.DOS, MS.Excel, MS. Word and MS PowerPoint
	Introduction To International Business	<p>An understanding of international business is essential for students in today's interdependent global world.</p> <p>2. This course will provide students with the knowledge, skills, and abilities to understand the global economic, political, cultural and social environment within which firms operate. It will examine the strategies and structures of international business and assess the special roles of an international business's various functions. It will also prepare students to formulate and execute strategies, plans, and tactics to succeed in international business ventures.</p>	<p>1. Understand the most widely used international business terms and concepts.</p> <p>2. Identify the role and impact of political, economical, social and cultural variables in international business.</p> <p>3. Analyze international business from a multi-centric perspective, avoiding ethnocentric.</p>
	Marketing Management	<p>1. To understand the concepts of marketing management</p> <p>2. To learn about marketing process for different types of products and services</p> <p>3. To understand the tools used by marketing managers in decision situations</p> <p>4. To Understand the marketing environment.</p>	<p>1. Students will demonstrate strong conceptual knowledge in the functional areas of marketing.</p> <p>2. Students will demonstrate effective understanding of relevant topics related to consumer, product and application of computers in marketing management.</p> <p>3. Students will display analytical skills in identification and resolutions of problems pertaining to marketing management.</p>
7.	Income Tax -I	<p>1. To equip the students with introduction to income tax</p> <p>2. To impart knowledge about agricultural income</p> <p>3. To know about income from salaries & house property</p> <p>4. To impart knowledge about profits and gains of business or profession.</p>	<p>1. To provide knowledge about income tax.</p> <p>2. To provide knowledge about agricultural income</p> <p>3. To introduce about Income from salary & house property.</p> <p>4. To gain knowledge about profits and gains of business or profession.</p>

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FIRST YEAR

II-Semester

Sl. No.	Subjects	Objectives	Outcomes
1	Financial Accounting –II	The main objective of the course is to study in depth the rules for compiling the financial information reflected in the financial statements, so that they may become a useful tool for decision-making in business. In order to achieve this, students must dominate the methodological foundations of Accounting, the tools of technical accounting and elementary measurement standards.	<ol style="list-style-type: none"> 1. Appreciate the need for negotiable instruments and procedure of accounting for bills honored and dishonored. 2. Understand the concept of Consignment and learn the accounting treatment of the various aspects of consignment. 3. Distinguish Joint Venture and Partnership and to learn the methods of maintaining records under Joint Venture 4. Distinguish between Single Entry and Double Entry. 5. Understand the meaning and features of Non-Profit Organizations.
2	Business Laws	<ol style="list-style-type: none"> 1. To equip the students with introduction to Indian contract act. 2. To impart knowledge about sale of goods act and consumer protection act 3. To know about providing guidance on intellectual property rights 4. To enhance students determination in management of companies and meetings 5. To develop knowledge about winding up. 	<ol style="list-style-type: none"> 1. To provide knowledge about Indian contract act. 2. To provide knowledge about sale of goods act and consumer protection act. 3. To introduce about intellectual property rights 4. To provide knowledge about management of companies and meetings. 5. To gain knowledge about winding up of companies
3	Banking And Financial Services	<ol style="list-style-type: none"> 1. To equip the students with introduction to banking. 2. To enable the students about Banker And Customer Relationship 3. To provide knowledge about Negotiable Instruments: 4. To equip the students with Introduction To Financial Services 5. To gain knowledge about financial services. 	<ol style="list-style-type: none"> 1. To provide knowledge the students about the concepts of banking. 2. To know about banker and customer relationship. 3. Acquire the knowledge about negotiable instruments 4. Acquaint the students about Financial Services.

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4	Programming with C	This course is designed to provide complete knowledge of 'C' Language. Students will be able to learn and develop logics which will help them to create programs, applications in C	<p>Student will learn</p> <ol style="list-style-type: none"> 1. To create Flow chart basic structure of C program, Algorithms and basic programming skills 2. Control structures for looping in the programs. 3. Define functions and different types of functions 4. Developing programs using Arrays 5. Ability to develop programs using Pointers 6. Understand the difference between the top-down and bottom-up approach 7. Describe the object-oriented programming approach in connection with C++ 8. Illustrate the process of data file manipulations using C++
5.	Export Marketing	<ol style="list-style-type: none"> 1. To understand the basic concepts and features of Export Marketing. 2. To learn about the Marketing Environment Organization and policies are formulated for export. 3. To learn new product planning and pricing 4. To understand the different sources of Export Finance. 	<ol style="list-style-type: none"> 1. To display the ability to apply the fundamentals of marketing for Export Business and solve problems of Export Marketing. 2. To analyze the barriers and select the particular market for export business 3. To explore and select the best available distribution channel abroad.
6	Fundamentals of Advertising	<ol style="list-style-type: none"> 1. Understand what advertising is and its role in advertising and brand promotion and the direct marketing 2. Understand the structure of the advertising industry. 3. Be able to identify, analyze, and understand the advertising environment. 4. Be able to prepare the advertising message and fully integrate the creative process. 	<ol style="list-style-type: none"> 1. To understand and analyze the economic effects and social effects advertising. 2. Understand the importance of placing the message in conventional and "new" media. 3. Be able to identify, understand, and apply integrated brand promotion. 4. To understand the effects of Ethics in advertising.
7	Income Tax-II	<ol style="list-style-type: none"> 1. To equip the students with introduction to capital gains. 2. To impart knowledge about income from other sources. 3. To know about clubbing and aggregation of income. 4. To impart knowledge about assessment of individuals & assessment procedures. 	<ol style="list-style-type: none"> 1. To provide knowledge about capital gains. 2. To provide knowledge about income from other sources 3. To introduce about clubbing and aggregation of income. 4. To gain knowledge about assessment of individuals & assessment procedures.
8.		The student will be able to understand terms related to database design. Understanding the objectives of database development process. Define the	<ol style="list-style-type: none"> 1. Describe DBMS architecture, physical and logical database designs, database modeling, relational, hierarchical and network models. 2. Identify basic database storage

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	Relational Database Management System	relational model and relational database management system	structures and access techniques such as file organizations, indexing methods including B-tree, and hashing. 3. Learn and apply Structured query language (SQL) for database definition and database manipulation. d) Demonstrate an understanding of normalization theory and apply such knowledge to the normalization of a database. 4. Write sub queries and understand their purpose 5. Understand Data selection and operators used in queries and restrict data retrieval and control the display order
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SECOND YEAR- III Semester

Sl. No.	Subjects	Objectives	Outcomes
1.	Advanced Accounting	<ol style="list-style-type: none"> 1.To acquire accounting knowledge of partnership firms 2.To acquire accounting knowledge of Dissolution and Insolvency of Partnership firms 3.To acquire the knowledge of issue of shares and debentures 4.To acquire the accounting knowledge of company final accounts 5.To know the accounting knowledge of Goodwill and shares 	<ol style="list-style-type: none"> 1. The students are well equipped with partnership Accounts 2.The students are aware of issue of Shares Debentures 3.The students are well equipped with company final accounts 4.The students able to know valuation of Goodwill and Shares
2.	Business Statistics	<ol style="list-style-type: none"> 1.Student is able to describe methods of collection of data 2.Analyze Statistical Data Graphically using frequency distribution and cumulative frequency distribution. 3.Analyze statistical data using measures of central tendency 4.Understanding Concept of Symmetrical distribution 5.Understand the Concept of Correlation and the difference between positive and negative correlation 	<ol style="list-style-type: none"> 1. Students will able to do classification and tabulation of data. 2. Able to construct graphical presentation by using different techniques 3. Calculate and Interpret measures of central tendency(mean, median, mode) for set of data 4. Students will able to calculate and describe skewness and Kurtosis as measures of non symmetry and diverging from normality 5. Students will able to calculate correlation coefficient using different formulas to describe how two variables correlate with one another.
3	Financial Institution And Markets	<ol style="list-style-type: none"> 1. To enrich student's understanding of the fundamental concepts and working of Indian financial system. 2. To equip students with the knowledge of financial institutions. 3. To acquire the knowledge of money market. 4. To know about the debt Market, Government Securities, Bonds etc. 5. To acquire the knowledge about equity market. 	<ol style="list-style-type: none"> 1. To apply an economics perspective to the study of financial assets and institutions 2. Students will able to do to about Indian money market and debt market. 3. To acquire an understanding of various concepts related to equity market.
4.	Relational Database Management System	<ol style="list-style-type: none"> 1. Understand the Basic Concepts and Applications of Database System 2. Understand the Normalization 	<ol style="list-style-type: none"> 1.Demonstrate the Basic Elements of a Relational Database Management System 2.Extend Normalization for the

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		<p>Roles</p> <ol style="list-style-type: none"> 3. Master the Basics of SQL and Costraint Queries using SQL 4. Understand Relational Database Security and Recovery Issues 5. Familiar with Database Structures and Access Techniques 	<p>Development of Application Software.</p> <ol style="list-style-type: none"> 3.Design Entity Relationship and Convert Entity Relationship Diagrams into RDBMS and Formulate SQL Queries 4.Demonstrate the Understanding of blocking protocols 5.Students are able to Demonstrate Different Structures of Databases
5	International Business Procedures & Documentation	<ol style="list-style-type: none"> 1.To acquaint the students with the trade practices, procedures and documentation of International Trade. 2.To acquaint the students with International trade terms and Export payment terms 3.To know about sources and scheme of trade finance 4.To know about credit risk management 5.To know about central excise clearance 	<ol style="list-style-type: none"> 1.The students are well equipped with FEMA 2.The students are well equipped with sources and schemes of Trade finance 3.The students are aware with credit risk management and EIA
6	Media Management	<ol style="list-style-type: none"> 1. To know about the Importance of media management and cover new aspects of communication and media 2.To develop new insights in media research of mass media and Audit Bureau of Circulation 3. To understand different forms of media mix and media strategy. 4.To develop skills in media budgeting, buying & scheduling 5.To understand that how developments in international marketing in creating effective communication 	<ol style="list-style-type: none"> 1. The students were able to learn importance of media management, aspects of communication and media and its research. 2. The students were able to learn about media mix and its strategy . 3. The students were able to develop skills in media budgeting, buying & scheduling 4. The students were able to understand that how developments in international marketing in creating effective communication international marketing 5 Explain relationship and differences between marketing research and marketing information systems. 6. After completing the syllabus the students are confident about their employment opportunities to work at prestigious companies like JP MORGAN, AMAZON, APPLE, and much more.

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7	ASSESSMENT OF OTHER ENTITIES	<ol style="list-style-type: none"> 1. To explain Students to understand a concept of assessment of HUF 2. To prepare students to know about partnership firms and assessment u/s 184 and 185 <p>To provide knowledge to student how to treat a partnership firm as association of persons and how to assess them</p> <ol style="list-style-type: none"> 4. To provide knowledge to students regarding assessment of companies 5. To give information and knowledge to students how to assess co operative societies and trust 	<ol style="list-style-type: none"> 1. Student is able to compute HUF Tax liabilities 2. Students are able to understand how to compute partnership firms income u/s 184 & 185 3. Student know how to apply various provision while assessing a partnership firm as association of persons 4. Students are able to assess different types of companies 5. Students are able to assess co operative societies and trust.
8	PROGRAMMING WITH C	<ol style="list-style-type: none"> 1. Understand the concept of the programming, types of languages, structure of a c programme, variables and data types 2. Understand the concept of a loop – that is, a series of statements which is written once but executed repeatedly- and how to use it in a programming language 3. Be able to use an array to store multiple pieces of homogeneous data, and use a structure to store multiple pieces of heterogeneous data 4. Write and use functions, and understand how function calls are carried out, including passing parameters 5. Program effectively with pointers, arrays, structures, and dynamically allocated 	<ol style="list-style-type: none"> 1. Ability to define variables and data types and execute a c programme. 2. Ability to define loops in the programme. 3. Ability to work with arrays of complex objects. 4. Ability to write programmes using functions. 5. Ability to define and manage data structures based on problem subject domain.

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SECOND YEAR- FOURTH SEMESTER

Sl. No.	Subjects	Objectives	Outcomes
1.	Income Tax	<ol style="list-style-type: none"> 1.To know and understand the concept of Income Tax 2.To know about salary income and tax levy on it 3.To provide knowledge of income from various sources and its properties 4.To provide knowledge to students regarding income earned from business and profession and tax provision pertaining to it 5. To know information and knowledge on capital gains and other sources of income of an individual 	<ol style="list-style-type: none"> 1. The Students are able to understand the Incidence of taxes. 2. The Students are able to work out computation of tax under the head of salaries 3. The Students are able to know how to apply various provision while computing income from salaries. 4. Students are able to calculate income from business and profession and tax liabilities 5. Students are able to work out problems by computing capital gains and other sources of income and tax liabilities
2	Business Statistics-I	<ol style="list-style-type: none"> 1. Student is able to understand a simple linear regression and multiple linear regression 2. To define the index number and explain its uses and methods 3. Student will equip with various forecasting techniques and knowledge on modern statistical methods for analyzing time series data 4. Studying the theoretical foundation of probability theory 5. Able to solve problems related to discrete and continuous probability distribution. 	<ol style="list-style-type: none"> 1. Student is able to compute regression coefficient and fit a regression line to a set of data. 2. Students are able to construct index numbers 3. Student know how to apply various forecasting methods which includes obtaining the relevant data and carrying out the necessary computation 4. Students are able to calculate probabilities by applying probability loss and theoretical results. 5. Students can apply selected probability distribution to solve problems
3	Corporate Accounting	<ol style="list-style-type: none"> 1. To know and understand the concept of liquidation and solve problems 2. To know about amalgamation procedure and solve the problems 3. To know how companies reconstruct themselves and acquire other businesses, to solve the problems 4. To know regarding Banking business and maintaining the books of accounts 5. To know the information and knowledge to students how insurance business runs in India and maintain books of accounts 	<ol style="list-style-type: none"> 1.Students are able to understand the company's liquidation and solve problems of this unit. 2.Students are able to solve problems on amalgamation of this unit 3.Students know how to apply various provision while solving problems on these topics 4.Students are able to calculate profits of banking companies and maintain books of Accounts. 5.Students are able to learn the maintenance of insurance company's accounts
4	Web Technologies	<ol style="list-style-type: none"> 1. Introduction to basics of HTML. 2. Learn the language of the CSS and CSS grid layout. 3. Develop basic programming skills using 	<ol style="list-style-type: none"> 1 To learn technologies that makes the web pages and publishing them. 2. Make the web pages more

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		<p>Java script.</p> <ol style="list-style-type: none"> 4. To incorporate event handlers in a web page. 5. To understand the XML basics 	<p>dynamic and interactive using CSS</p> <ol style="list-style-type: none"> 3. Client side scripting likeHTML, JavaScript and server side scripting 4. The students can create dynamic web pages. 5. The students learn about XML basics and program the server side.
5	Marketing Research	<ol style="list-style-type: none"> 1.To know the marketing and its importance through research dynamics in Indian scenario. 2.To know. the research problem and purpose, be well balanced and the multiple interpretations, so that, researchshould be clear and focused. 3.To know the importance of collecting accurate information, define the type of information sought and understand the sources of gathering it 4.To know The Market Research Application (MRA) is an intuitive point-and-click interface that provides statistical and graphical techniques for market research data analysis. 5. To know how to identify emerging markets, why they're attractive to investors, and what to watch for. 	<ol style="list-style-type: none"> 1. Define the basic concepts related to marketing research and contemporary marketing research 2.Explain relationship and differences between marketing research and marketing information systems. 3. Interpret development of marketing research and process. 4. Evaluate the corporate public relations and tools and apply a research in the marketing area. 5. Code the data, Analyze the data and arrange a marketing research report.
6	Customs Procedure and Practice	<ol style="list-style-type: none"> 1. To explain Students about customs act and its important terms 2. To provide information to students of different types of duties and its procedure 3. To provide knowledge to student about goods and procedure of duty drawback 4. To provide knowledge to students regarding different customs officers penalties and exemption on different goods 5. To give information and knowledge to students about export policy and its promotion 	<ol style="list-style-type: none"> 1.Student is able to understand regarding customs act 2.Students are able to understand how the customs duty imposed 3.Student know regarding term goods and procedure of duty 4.Students gets knowledge of different customs officers their duties and how they imposes penalties and what are exempted goods 5.Students are able to know about Indian export policy and export promotion

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7	Object Oriented Programming with C++	<ol style="list-style-type: none"> 1. Understanding oops concepts. Structure vs Object oriented programming 2. Understand the concept of Constructors and Destructors 3. Understand the concept of overloading of functions derived classes and Reusability of functions 4. Define the concepts of Polymorphism virtual functions 5. Understand the concepts of exceptions in C++, lists and queues 	<ol style="list-style-type: none"> 1. Students are able to write c++ programmes using variables and data types 2. Students are able to write programmes using constructors and Destructors 3. Understanding the concepts of inheritance using this concepts including single and multiple inheritance in object oriented programmes. 4. Using virtual functions and file pointers able to write the C++ programmes 5. Demonstrate the programmes using exceptions, data structures ,list and queues
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THIRD YEAR- FIFTH SEMESTER

Sl. No.	Subjects	Objectives	Outcomes
1	Cost Accounting	<ol style="list-style-type: none"> 1. To enable students to explain the objectives and scope of Cost Accounting 2. To enable students to evaluate the material procurement procedure, inventory control techniques and inventory accounting 3. To enable students to evaluate the direct and Indirect labour Cost, Methods of Payment and Methods of Allocation 4. To enable students to evaluate unit and job costing 5. To enable students to explain contract and process costing. 	<ol style="list-style-type: none"> 1. Students would explain the objectives and scope of Cost Accounting . 2. To develop about direct and indirect material cost/ 3. To develop knowledge about labour and overheads. 4. Keep them aware about unit and job costing. 5. Keep them aware about contract and process costing.
2	COMPUTERIZED ACCOUNTING	<ol style="list-style-type: none"> 1. To introduce students basic knowledge of erp 2. To keep knowledge about inventory masters in erp. 3. To know about recording day-to-day transactions in erp 4. To keep knowledge about accounts receivable and payable management in erp 5. To enable the students about mis reports in erp 	<ol style="list-style-type: none"> 1. To provide knowledge about the basics of ERP 2. To provide knowledge about maintaining stock keeping units 3. To provide knowledge recording day-to-day transactions in ERP. 4. Enable the students to gain an idea of accounts receivable and payable management IN ERP. 5. Keep them aware about MIS reports.
3	Auditing	<ol style="list-style-type: none"> 1. Understand meaning, types of audit, and difference between auditing and book keeping. 2. Understand qualification, Duties, Rights, and different types of auditors 3 Know the meaning of internal control, internal check and audit. 4. Identify different types of vouchers 5. It helps management in detecting and preventing errors and frauds 	<ol style="list-style-type: none"> 1: Understand the environment and types relating to the auditing function 2: To ensure that all books of accounts are done in a fair manner 3: Identify the steps needed to prepare for an audit 4: To define the auditor's role and the terms of engagement which is usually in the form of a letter which is duly signed by the client 5: An auditor audits the accounts of a company, the findings are usually put out in a report or compiled in a systematic manner.
4	MANAGEMENT INFORMATION SYSTEMS	<p>Applying sound managerial concepts and principles in the development and operations of information system. Effectively apply system analysis information system design and project management concept. To provide information for decision making on Planning, Initiating, Organizing in the process. It facilitates the decision making process by furnishing information in the proper time frame.</p>	<p>Student will understand the organization structure and decision making process of the organization.</p> <p>Ability to analyze a complex computing problem and to apply principles to identify the solutions.</p> <ol style="list-style-type: none"> 2. Student will have an ability to design, implement and evaluate a computing based solution to meet a given set of requirement. 3. Student will have an ability to use tools and techniques for identification, evaluation and implementation of MIS in the Organization, using ERP System

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			<p>(Enterprise Resource Planning)</p> <p>4. Student will understand the need of the org. and finding solutions to complex problems in the org. Ability to use decision support system (DSS), business intelligence process management in the org.</p> <p>5. Student will learn the usage of web and social media and ability to find weakness in planning and design of business org.</p>
5	FUNDAMENTALS OF E-COMMERCE	<p>To impart knowledge about the relevance of E-Commerce in current competitive environment. To make the students aware about the common legal, ethical and tax issues involved in e-commerce. To develop understanding of the working of online shopping and e-payment. To enable the students how to use various tools to build a dynamic website.</p>	<p>1: Understand the E-Commerce and E- business infrastructure and trends</p> <p>2: Analyze different types of portal technologies and deployment methodologies commonly used in the industry.</p> <p>3: Analyze the effectiveness of network computing and cloud computing policies in a multi-location organization.</p> <p>4: Analyze real business cases regarding their e-business strategies and transformation processes and choices.</p> <p>5: Integrate theoretical frameworks with business strategies.</p>
6	Logistics Management	<p>1. To give knowledge and understand the importance of Water transport in logistics management.</p> <p>2. To provide the awareness of air transport and its role in logistics</p> <p>3. The provide knowledge and application of Insurance, marine and cargo insurance</p> <p>4. To know functions of warehousing.</p>	<p>1. To describe the increasing significance of logistics and its impact on both costs and service in business and commerce.</p> <p>2. To understand functions of shipping and different types of containers and ships.</p> <p>3. To understand role of Air Transport and its problem and prospects</p> <p>4. To understand the basics of risks and how to file a claim</p> <p>5. To able to design warehouse and its location strategies.</p>
7	International Advertising	<p>1. Knowledge of advertising and its classification and functions and its impact on marketing.</p> <p>2. Effects of advertising of advertising on sales promotion</p> <p>3. Role of advertising in planning .</p> <p>4. Impact of advertising on profit</p> <p>5. advertising regulating bodies in India as per Our ethics</p>	<p>1: Comprehending the its meaning, importance and nature and complexities of International advertising, International Communication model, Major international advertising decisions and influencing factors; Determination of target audience in international markets; Determining advertising budget.</p> <p>2: Determining international advertising message and copy - Headline, body copy, logo, illustration and layout; Creative styles and advertising appeals; International Media planning –</p>

Dr. J. S. Reddy

			<p>Types of media, media selection and scheduling Advertising through Internet.</p> <p>3: Developing an understanding about In-house arrangements; Using advertising agencies – selection, compensation and appraisal of advertising agency; Evaluating Advertising Effectiveness - Before and after advertising tests and techniques.</p> <p>4: Enabling the students to have a handle on Complexities and issues; Ethical issues in international advertising; Integrated international marketing communications.</p>
8	TAX PLANNING & MANAGEMENT	<ol style="list-style-type: none"> 1. To impart knowledge about tax planning, tax management, tax evasion, tax avoidance. 2. To provide the knowledge about tax planning with reference to setting up of new business. 3. To impart the knowledge about tax planning with reference to specific management decisions. 4. To know about tax planning in respect of non residents. 5. To develop partial knowledge about planning with reference to all five heads of income for individuals. 	<ol style="list-style-type: none"> 1. To provide knowledge about tax planning, tax management, tax evasion, tax avoidance. 2. Gain the knowledge of tax planning with reference to setting up of new business & specific management decisions. 3. To learn about tax planning in respect of non-residents. 4. To give knowledge about planning with reference to all five heads of incomes.

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THIRD YEAR – SIXTH SEMESTER

Sl. No.	Subjects	Objectives	Outcomes
1.	Cost Control and Management	<p>To introduce the students about management accounting and marginal costing</p> <p>2. To aware the students about budgetary control and standard costing.</p> <p>3.To provide knowledge about techniques of financial statement analysis</p> <p>4. To enable the students about funds flow analysis</p> <p>5. To enable the students about cash flow analysis</p>	<p>To provide knowledge about management accounting and marginal costing.</p> <p>2. Gain the knowledge of budgetary control and standard costing.</p> <p>3. To evaluate techniques of financial statement analysis.</p> <p>4. To learn about funds flow analysis.</p> <p>5. To give knowledge about cash flow analysis.</p>
2	THEORY AND PRACTICE OF GST	<p>1. To equip the students with introduction to GST</p> <p>2.To impart knowledge about enabling GST and intrastate supply, sales of goods.</p> <p>3.To know about GST advancedment and return filing.</p> <p>4. To enhance students determination of supply of services and defining tax rates</p> <p>5. To develop practical knowledge about recording advance entries and migration to ERP.</p>	<p>1. To provide knowledge about goods service tax</p> <p>2. To provide knowledge about getting started with GST.</p> <p>3.To introduce recording advanced entries, GST adjustments and return file</p> <p>4. To provide knowledge about determination of supply of services.</p> <p>5. To understand recording advanced entries and migration to ERP.</p>
3	Accounting Standards	<p>1. To equip the students with introducing to Accounting standards.</p> <p>2. To impart knowledge about enabling standards relationg to financial reporting disclosure.</p> <p>3. To know about providing guidance on financial statement items.</p> <p>4. To enchancestudents determination of standards relating to business acquisitions.</p> <p>5. To develop knowledge about financial reporting.</p>	<p>1. To provide the knowledge about Accounting standards.</p> <p>2. Gain the knowledge of standards relating to financial reporting & disclosure, standards providing guidance on financial statement items & standards relating to business acquisitions and consolidations</p> <p>3. To learn about financial reporting.</p>
4	Multimedia Systems	<p>Using different types of media, which can be processed and presented by computers. Multimedia can be used in various application areas in business environment. Evaluate the appropriate multimedia systems and develop effective multimedia applications</p>	<p>1. Learning of implementation of digital interfaces</p> <p>2. Learning of video presentation and digitalization transmission</p> <p>3. Learning of Data storage concepts and devices</p> <p>4. Learning of multimedia communications and synchronization of data</p> <p>5. Learning of multimedia application and integrating with other systems.</p>
5	MANAGEMENT	Applying sound managerial concepts and	Students will understand the

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	<p>INFORMATION SYSTEMS</p>	<p>principles in the development and operations of information system. Effectively apply system analysis information system design and project management concept. To provide information for decision making on Planning, Initiating, Organizing in the process. It facilitates the decision making process by furnishing information in the proper time frame</p>	<p>organization structure and decision making process of the organization.</p> <p>Ability to analyze a complex computing problem and to apply principles to identify the solutions.</p> <p>2. Students will have an ability to design, implement and evaluate a computing based solution to meet a given set of requirement.</p> <p>3. Students will have an ability to use tools and techniques for identification, evaluation and implementation of MIS in the Organization, using ERP System (Enterprise Resource Planning)</p> <p>4. Students will understand the need of the org. and finding solutions to complex problems in the org. Ability to use decision support system (DSS), business intelligence process management in the organization.</p> <p>5. Students will learn the usage of web and social media and ability to find weakness in planning and design of business organization.</p>
6	<p>Cross-Cultural Consumer & Industrial Buyer Behaviour</p>	<p>1. To Equip the students with introduction to consumer behavior.</p> <p>2. To impart knowledge about internal & external determinants of buying behavior.</p> <p>3. To know about providing guidance on consumer and industrial buying behavior.</p> <p>4. To develop knowledge about innovation, diffusion and consumer adoption process.</p>	<p>1. To develop basic understanding related to the concept of "Consumer Behavior" and "consumer buying behavior"</p> <p>2. To understand how the needs of consumer are formed, how they are motivated to buy goods, how consumer perceives the marketing initiatives of marketers, how attitudes and beliefs are formed and how they influence consumer buying behavior.</p> <p>3. To understand the various social factors responsible in developing consumer tastes and preferences; how family, friends, neighborhood, acquaintances influences consumer buying behavior.</p> <p>4. To understand the consumer behaviour across various cultures and identifying the marketers strategies for each of the different culture consumers.</p> <p>5. To study the issues related to Consumer research i.e. how the primary and secondary research is conducted in order to understand the consumers psychology; to study the innovation adoption.</p>

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7	Brand Management	<ol style="list-style-type: none"> 1. Analyze the fundamental principles involved in managing products and their brands; 2. Explain the critical importance of branding for superior business performance; 3. Apply branding principles by conducting an in-depth brand management project using a real-world company as an example. 	<ol style="list-style-type: none"> 1. To expose the students to the concepts, principles, techniques and application of contemporary branding. 2. To provide the students with insights into the design and implementation of branding strategies 3. To help the students to build, measure and manage brand-equity
8	International Tax and Regulation	<ol style="list-style-type: none"> 1. To give knowledge on the computation of Incomes and submission Income tax Return 2. The student will get thorough knowledge on the tax practice prevailing in Heads of Incomes. 3. The students will learn about application of statutory regulations 4. To know about how to create and defend and principled and ethical argument. 	<ol style="list-style-type: none"> 1. To understand the objectives of tax treaties. 2. To understand and apply method for application of tax treaties to present, orally as well as in writing, complicated problems and arguments for objective-oriented solutions. 3. To understand the relationship between tax treaties and (strictly) internal laws. 4. To a knowledge of the methods for interpretation of tax treaties.



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Accredited by NAAC with 'A' Grade
New Mallepally, Hyderabad – 500001, T.S, India

DEPARTMENT OF COMMERCE

M.COM SYLLABUS

2020-21

Objective of the Program

The main objective of this program is to train the students to develop conceptual, applied and research skills as well as competencies required for effective problem solving and right a decision making in routine and special activities relevant to financial management , Investment management, Security market transactions and Tax planning

Program Outcome

- To provide a systematic and rigorous learning and exposure to Accounting and Finance related disciplines
- To train the students to develop conceptual , applied and research skills as well as competencies require for effective problem solving and right decision making in routine and special activities relevant to financial management and business transactions
- To acquaint a student with conventional as well as contemporary areas in the discipline of Commerce.
- To enable a student well versed in national as well as international trends.
- To facilitate the students for conducting business, accounting practices, role of regulatory bodies in corporate and financial sectors
- To provide in depth understanding of all core areas specifically managerial accounting, cost accounting and control, financial management, marketing management, business environment, research methodology and tax planning

Program Specific Outcome

- After completing Masters in Commerce students are able to develop and apply knowledge in different areas of Financial Management, Management Accounting and Tax Planning
- To develop the decision making skill through costing methods and practical application of management accounting principles
- To enhance the computer skills and its applicability in business through latest version on Tally and E-Commerce principles.
- Able to work in teams with enhanced interpersonal skills and communication.
- Students can work in different domains like Accounting, Taxation, HRM, Banking and Administration.

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DEPARTMENT OF COMMERCE

Objectives & Outcomes of M.Com Course

Academic year 2020- 2021

I-Semester

Sl. No.	Subjects	Objectives	Outcomes
1	Managerial Economics	<ul style="list-style-type: none">• To help the students form a clear idea of Managerial Economics.• To enable the students understand determination of demand analysis.• To enable the students understand about production analysis.• To describe the concept of cost analysis including practical knowledge.• To illustrate the calculation of market structure.	<ol style="list-style-type: none">1. To equipt the knowledge about nature & scope of managerial economics.2: Ability to forecast demand in light of changing circumstances and to formulate business plans3: To gain knowledge for students about production analysis..4: To gain practical Knowledge on cost analysis.5: To integrate the concept of Perfect and Imperfect market condition& monopoly, oligopoly.
2	Principles of Marketing	<ul style="list-style-type: none">• To understand the concepts of marketing.• To learn about marketing environment & international marketing.• To understand the tools used by marketing segments, targeting & positioning.• To understand about consume behavior.• To impart knowledge on issues related to marketing planning & strategy.	<ol style="list-style-type: none">1. Students will demonstrate strong conceptual knowledge in the functional area of marketing management.2. Students will demonstrate effective understanding of marketing environment & international marketing.3: Students will demonstrate analytical skills in market segmentating, targeting & positioning.4 Students will able to understand about consumer behavior.5: Students will able to know about marketing planning & strategy
3	OT & OB	<p>To help the students to develop the basic conceptional knowledge of organizational behaquiour.</p> <ul style="list-style-type: none">• To enable the students describe how people behave under different conditions• To provide the students to analyse motivation morale & culture.• To enable students to understand the influence of organisationalpower,politics,conflict &stressmanagement• To provide knowledge of leadership,	<ol style="list-style-type: none">1: Demonstrate the applicability of the basic concepts of organizational behavior to understand the behavior of people in the organization.2: Demonstrate the applicability of analyzing the complexities associated with management of individual & group behavior in the organization.3: Demonstrate how the organizational behavior can

		communication & change.	integrate in understanding the motivation, morale & culture behind behavior of people in the organization 4: Students will be able to know about organisational power, power, politics, conflict & stress management. 5: Analyse the organizational leadership, communication & change.
4	Financial Management	<p>1. To introduce the students about the importance of Finance Management for a business.</p> <ul style="list-style-type: none"> • To enable them to understand the various modes of capital budgeting techniques. • To acquaint the students regarding working capital management. • To acquaint the students regarding the various types of decisions taken by financial managers in current competitive environment. • To know about the various dividend decisions. 	<p>1. Demonstrate the applicability of the concept of Financial Management to understand the Managerial decisions and to understand time value of money.</p> <p>2. Apply the Capital Budgeting techniques and to find out risk analysis in capital budgeting decisions</p> <p>3. Analyse working capital requirements and Cash management, Accounts receivable management .</p> <p>4. To acquaint with cost of capital, leverages. and capital structure</p> <p>5. Demonstrate with dividend policy and Dividend theories.</p>
5.	Indian Accounting Standards	<ul style="list-style-type: none"> • To provide a standard for the diverse accounting policies and principles • To provide standards which are transparent for users • To define the standards which are comparable over all periods presented. • To provide a suitable starting point for accounting. 	<p>1. To introduce and develop knowledge of Indian Accounting Principles.</p> <p>2: To make them aware about Indian Accounting Standards.(1 to 21)</p> <p>3: Keep them aware about Indian Accounting Standards (23 to 41)</p> <p>4: To make the students aware about Indian Accounting Standards (101 to 106)</p> <p>5: To develop knowledge of Indian Accounting Standards (107 to 115)</p>

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II-Semester

Sl. No.	Subjects	Objectives	Outcomes
1	International Business and Business Environment	<ol style="list-style-type: none"> 1. To equip the students with the knowledge business environment. 2. To equip the students about liberalization. 3. To make the students aware about privatization & globalization. 4. To provide knowledge of foreign direct investment. 5. To know the ledge of WTO & trade policy. 	<ol style="list-style-type: none"> 1. Students will able to know the basic concepts of business environment. 2. Students will able to know about liberalization. 3. Students will able to know about privatization and globalisation: 4. Students will able to know about foreign direct investment. 5. Students will able to know about WTO & trade policy
2	Marketing Management	<ul style="list-style-type: none"> • To understand about the product management. • To understand about price management. • To familiarize the students about the techniques of , Promotion management. • To sensitize the students about channel management and retailing. • To equip the students about digital marketing, marketing information system & marketing research. 	<ol style="list-style-type: none"> 1: To understand the concepts of product management. 2: To understand the concepts of pricing management. 3: Students will able to know about promotional management. 4: To understand the channels of distribution and retailing 5: To understand tge knowledge of digital marketing, marketing information system and marketing research
3	Human Resource Management	<ul style="list-style-type: none"> • To enable students the role of HRM & HRD in an organisation. • To learn about acquisition of human resource. • To design and development of different methods for training of human resources • To study about maintainance of human resource. • To evaluate recent trends in HRM. 	<ol style="list-style-type: none"> 1. To develop the understanding of the concept of human resource management and to understand Human resource development. 2. To understand Job design, Human planning, recruitment and selection p 3 To know methods and evaluation of training and development and performance Management and concept of empowerment. 4 .To acquaint with compensation management, employe relations and industrial relation system. 5. To understand HRM in the knowledge Era and virtual

			organisation and learning organisations.
4	Investment Management	<ul style="list-style-type: none"> To familiarize the students with principles of investment management. To equip about Indian capital markets. To know about risk and return analysis. To study in detail about Portfolio analysis and Markowitz model. To help the students understand about Portfolio selection and sharpe single index model. 	<ol style="list-style-type: none"> Students will able to know the basic concepts, principles of investment and financial assets. Analyze and evaluate indian capital markets. Students will able to know risk and retuen analysis. Students will able to know portfolio analysis and Markowitz model. To know about portfolio slection and sharpe single index model.
5.	Advanced Managerial Accounting	<ul style="list-style-type: none"> To develop students about analysis of financial statement. To impart knowledge on Human Resource Accounting and Resposibilty accounting. To know about inflation accounting and income measurement . To equant the students about financial measures of performance. To sensitize the students about contemporary issues in management accounting. 	<ol style="list-style-type: none"> Students will able to understand analysis of financial statement. Develop knowledge on human resource accounting & responsibility accounting Students will able to know about inflationaccountingandincomemeasurement. Develop the skills in financialmeasuresofperformance To understand various contemporary issues in management accouting.

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III SEMSTER

Sl. No.	Subjects	Objectives	Outcomes
1	Research Methodology & Statistical Analysis	<ol style="list-style-type: none"> 1. To enable the students to understand the Quantitative and Qualitative Methods for conducting research. 2. Describe data analysis planning processes, Understand appropriate statistical measures, Understand data management approaches Appreciate the importance of tailored / audience sensitive data presentation 3. To Guide To The Methods, Benefits & Problems of the Interpretation of Data 4. Estimation is the computation of a statistic from sample data, often yielding a value that is an approximation 5. Sampling is the most common and widely used method of collecting information 	<ol style="list-style-type: none"> 1. Understanding of the Quantitative and Qualitative Methods of research 2. Data analysis plan Quantitative data analysis Data management 3. The students are able to interpret the data analyse the same and able to do a report writing 4. Inference statistics involves testing a hypothesis, specifically 5. To measure activities and delays while a man is working and percentage of that he is not working
2	E-Commerce	<ol style="list-style-type: none"> 1. Introduction to Fundamentals of E-Commerce 2. Students will gain knowledge of about EDI and E-Commerce business models. 3. Students will get awareness about Electronic payments systems 4. Introduction Tally Accounting Software. 5. Students will learn about the statements generated in Tally. 	<p>After Completion of the subject student should able To:</p> <ol style="list-style-type: none"> 1. Know the basic concepts and technologies used in the field E-commerce. 2. Understand the working EDI and Internet 3. Will be able to create a Static web page using HTML. 4. Can generate the account groups and ledgers. 5. Generate Profit & Loss Account Balance sheet and Other MIS reports.
3	Cost Accounting and Control	<ol style="list-style-type: none"> 1. To explain Students to understand a concept of cost accounting and its basics 2. To provide information to students how to maintain accounts when a product passes through different processes 3. To provide knowledge to student about marginal absorption and differential costing 4. To provide knowledge to students regarding budgets and its controls 5. To give information and knowledge to students about standard costing 	<ol style="list-style-type: none"> 1. Student will be able to know what is cost accounting and how its is implemented in manufacturing concerns. 2. Students are able to understand how to maintain books of accounts in process costing 3. Student know how to apply different costing techniques 4. Students are able to prepare different types of budgets 5. Students are able to know about standard costing

4	International Financial Management	<ol style="list-style-type: none"> 1. To Explore the complexities of corporate financial management in an international setting. The course emphasis on the drawing of balance of payments, 2. Determination of exchange rates and their relationship. Different types of foreign exchange risk face by MNC. 3. Different types of foreign risks face by the MNC. Identification and measurement of these risks. 4. To explain about international investment decision, FDI and international capital budgeting <p>To explain the scope and structure of international financial market</p>	<ol style="list-style-type: none"> 1. To recognize the difference in the operations in international and domestic financial market To analyse and prepare the balance of payment for a country. 2. To explain the various ways the exchange rate prevailed over the years in the international market. 3. To recognize the operations in the currency market and solve exchange rate determination in spot and forward market. 4. Able to do problems on capital budgeting decisions, discounting and non discounting methods. 5. Give broad view about selection of sources of funds in international financial market.
5.	Security Analysis and Portfolio Management	<ol style="list-style-type: none"> 1. To analyse various fundamental basic factors that affect the risk-return of the securities 2. To provide insight about the relationship of the risk and return. 3. To acquaint the students with latest concepts and trends in the securities market. 4. Portfolio management practices in India. 5. To familiarize the students with the fundamental and technical analysis of the diverse investment avenues. 	<ol style="list-style-type: none"> 1. To understand different investment alternatives in the market. 2. To understand how securities are traded in the market. 3. To able to manage a portfolio 4. To understand basics in the derivatives

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IV-Semester

Sl. No.	Subjects	Objectives	Outcomes
1	Quantitative Techniques for Business Decisions	<ol style="list-style-type: none"> 1. To understand quantitative skills that are required to make business decision. 2. To understand of role of between – group and within group variability in testing difference between group of means. 3. To understand the calculation of Chi square test. 4. To understand non-parametric tests. 5. Identify the one best decision alternative for decision situations of uncertainty. 	<ol style="list-style-type: none"> 1. Able to interpret the results from a one- way ANOVA test and a two-way tests. 2. Accurately interpret results from a Chi square test. 3. Able to characterize, compare and contrast different non-parametric test: 4. Able to identify decision alternatives.
2	Business and Corporate Taxation	<ol style="list-style-type: none"> 1. To prepare students to know about partnership firms and assessment u/s 184 and 185. To provide knowledge to student how to treat a partnership firm as association of persons and how to assess them. 2. To provide knowledge to students regarding assessment of companies. 3. To provide knowledge to students regarding assessment of companies and how corporate tax be imposed. 4. To give information and knowledge to students how to assess co operative societies and trust. 5. To provide students knowledge of GST and customs act its implementation 	<ol style="list-style-type: none"> 1. Student know how to apply various provision while assessing a partnership firm as association of persons 2. Students are able to assess different types of companies. 3. Students are able to assess different types of companies compute tax liability. 4. Students are able to assess co operative societies and trust. 5. Students are able to assess GST and customs duty.
3	Strategic Management	<ol style="list-style-type: none"> 1. Introduction to essentials of strategic management 2. Students are introduced to SWOT Analysis and PEST Analysis. 3. Students will learn about 	<p>After Completion of the subject student should able:</p> <ol style="list-style-type: none"> 1. Strategic Management Process and Corporate Governance 2. To evaluate environmental analysis.

		<p>Merges and Acquisitions</p> <p>4. Students gain knowledge of Organizational issues</p> <p>5. Students are introduced to Evaluation strategy.</p>	<p>3. To design vision and mission of the organization.</p> <p>4. To Performance Evaluating (ROI, EVA, and MVA)- Balanced Score</p> <p>To Control Evaluation techniques for strategic and operational control</p>
4	Financial Services	<p>1.To know the fundamental of Financial services</p> <p>2.To know about Leasing, Hire purchase and House finance</p> <p>3.To know about Mutual funds</p> <p>4.To know about Discounting, Factoring and forfeiting</p> <p>5.To know about Securitisation of Deb.</p>	<p>1.The students are able to know the fundamentals of financial services</p> <p>2.The students are know about Lease,Hirepurchase and House purchase</p> <p>3.The students are able to know about Mutual fund</p> <p>4.The students able to know Discounting factoring and forfeiting</p> <p>5.To know about Seturitisation of debt</p>
5	Financial Derivatives	<p>1. Understand the meaning and Evaluation of derivatives. Describe the features and types of financial derivatives</p> <p>2. Distinguish between futures and forward contract</p> <p>3. Understand the concept of options</p> <p>4. Understand the basic concepts of swaps and types of swaps.</p> <p>5. Explain the basics of stock index features.</p>	<p>1. Understand the concept of various derivatives products such as futures, options and swaps. Analyse and price diverse derivatives products to generate an optimal risk management strategy.</p> <p>2. Demonstrate the features of forward and futures market. Demonstrate critical thinking, analytical and problem solving skills in the context of derivatives pricing and hedging practices</p> <p>3. Explain black schole trading model and binomial trading model</p> <p>4. Able to solve the problems of pricing of currency swaps and interest rate swaps</p> <p>5. Able to solve the problems of pricing of currency swaps and interest rate swaps</p>

For
Shobha Rao
 HEAD
 Department of Commerce
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 (AUTONOMOUS)
 New Mallepally, Hyderabad-T.S. India.

ANWARUL ULOOM COLLEGE

DEPARTMENT OF BIOTECHNOLOGY


B.Sc. (BT.MC) 2020- 2021

- **Programme Outcomes (General)**

PO1.	Critical Thinking: Apply critical thinking and enhance learning in the three major subjects of their choice with scientific reasoning and analytical skills.
PO2.	Problem solving: Think logically and organize task into a structured form for problem solving by applying the knowledge of basic science.
PO3.	Effective communication: To develop the ability of effective communication of scientific information in written and oral format.
PO4.	Individual and team work: Function effectively as an individual and as a member or leader in diverse teams and in multi-disciplinary settings.
PO5	Ethics: Apply ethical, moral and social values in personal and professional life leading to holistic development of the individual.
PO6.	Environment and sustainability: Develop interdisciplinary approach to provide better solution and innovative ideas for sustainable development and conservation of natural resources.
PO7.	Self-directed and lifelong learning: Recognize the need for and have the ability to engage in independent, lifelong learning and adapt to technological changes to be globally competent.


- **Programme Objective (General)**

PO1	To make our students competent in the field of biotechnology and its allied areas.
PO2	To inculcate the capability to work as entrepreneurs and techno managers with strong ethics and communication skills.
PO3	To equip the students to pursue higher education and research in reputed institutes at national and international level
PO4	. To develop a working knowledge of biotechnology product and processes.


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• Programme Specific Outcome (General)

PSO -1	Student is empowered with knowledge of disciplinary and interdisciplinary aspects of Biotechnology.
PSO - 2	Develops critical thinking and is able to apply appropriate tools and techniques in Biotechnological manipulation.
PSO - 3	Develops an ability to justify social, health, safety, legal issues and understand the responsibility towards ethical practices in biotechnology
PSO - 4	Acquire laboratory skills necessary for Biotechnology research, gains practical and theoretical knowledge in Biological chemistry, Structure and functions of carbohydrates, proteins and lipids.
PSO - 5	Acquires knowledge on fundamentals of Microbiology, basic concepts of Prokaryotes, Eukaryotes and different branches of Microbiology.
PSO - 6	Gains an insight into various aspects of Immunology, Virology and realizes the principles of prevention and treatment of microbial diseases
PSO - 7	Grasps the fundamental aspects in the field of Environmental Microbiology and Quality sustenance in industry.
PSO - 8	Understands the concepts and application aspects of Microbiology in Food and Dairy industry, production of metabolites and bioinoculants
PSO - 9	Students can effectively translate the metabolic processes in biological Research
PSO - 10	Acquire methodical and logical understanding of the fundamental concepts in Physical, Organic, Inorganic, Analytical and all other integrated Chemistry subjects
PSO - 11	Achieve the ability to synthesize, separate, estimate and characterize compounds using experimental and instrumentation techniques
PSO - 12	Develop critical thinking and problem solving skills through solving by adopting research based pedagogical tools


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• **Course Objective (B.Sc. Biotechnology)**

1	Semester I Cell Biology and Genetics	To comprehend the Mendelian Genetics principles in human, plants and animals. Understand the basic aspects of intracellular organization of Eukaryotic cell.
2	Semester II Nucleic acid, Biochemistry	To understand the structure of Nucleic acid. To comprehend metabolism of lipids, nucleic acid and amino acids.
3	Semester III Molecular Biology & rDNA	Deals with nucleic acids and proteins and how these molecules interact. To know the technologies-cloning and DNA sequencing. It is used to identify, map and sequence genes.
4	Semester IV Biostatistics & bioinformatics	To understand the significance of sampling and data alignment and to deal with computational Biology.
5	Semester VA - Molecular Biology	Deals with nucleic acids and proteins and how these molecules interact. It emphasizes the molecular mechanism of DNA replication, repair and protein synthesis.
6	Semester VB- r.DNA Technology	To know the technologies-cloning and DNA sequencing. It is used to identify, map and sequence genes.
7	Semester VI A and B- Microbial Technology	It imparts fundamental knowledge of metabolic reactions in Bacterial cell; their growth and development and relevance to applied microbiology.


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• **Course Outcome (B.Sc. Biotechnology)**

CO - 1	Semester I Cell Biology and Genetics	Ability to apply Mendelian inheritance principles to humans, plants and animals
CO - 2	Semester II Nucleic acid, Biochemistry	Understanding the basics of enzymology. To comprehend metabolism of lipids, nucleic acid and amino acids.
CO-3	Semester III Molecular Biology & rDNA	Deals with nucleic acids and proteins and how these molecules interact. To know the technologies-cloning and DNA sequencing. It is used to identify, map and sequence genes.
CO - 4	Semester IV Biostatistics & bioinformatics	To understand the significance of sampling and data alignment and to deal with computational Biology.
CO - 5	Semester VA - Molecular Biology	To provide with core principles of molecular biology. It gives the student deep knowledge of biological and medicinal processes through the investigation of underlying molecular mechanisms.
CO - 6	Semester VB- r.DNA Technology	To learn the application of recombinant DNA in basic research. To learn about medicinally useful recombinant products
CO - 7	Semester VI A and B- Microbial Technology	Illustrate basic techniques in microbiology and microbial physiology.


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DEPARTMENT: ECONOMICS

PROGRAMME: BA [EPP]

2020-2021

Each degree program in economics contains a core group of theory courses, a series of quantitative skills courses, and field specialization courses that involve the applications of economic theory and quantitative analysis to major areas of study within the discipline.

The teacher may have the important aims of teaching economics in his mind to make his students able to understand the application of economics in their daily lives and the whole economic structure of the country.

PROGRAMME OBJECTIVES GENERAL:

OBJECTIVES

1. To make the students able to know the impact and consequences of British rule on the Indian→ Economy.
2. To make the students able to acquire knowledge of various economic terms like various→ definitions of economics and economy, capitalistic, socialistic and mixed economy, developed and developing economy.
3. To make the students able to understand the various causes of population explosion,→ consequences and its various remedial measure in India.
4. To make the students aware about institutional set-up and main sectors of the Indian economy→ like private and public sectors.
5. To make the students able to understand the various causes of poverty, unemployment, price→ rise, inflation and their remedial measures.
6. To make the students able to understand the economic explosion of consumers, rights of→ consumers in the society.
7. To make the students able to understand the complete infrastructure of the Indian economy, like→ transport and communication network, power and irrigation and various monetary and financial institutions.
8. To make the students able to understand the significant contribution of agriculture to national→ income, employment, state revenues, industries, food, equipment and trade.
9. To make the students able to understand the mutual relationship of agriculture and industry and→ a balanced industrial structure, the importance of small and large-

scale industries and its various regional disparities and future aspects of industrial developments.

PROGRAMME OUTCOME GENERAL:

1. Understand the fundamental basic concepts of economics and the dynamic working of different economies of the world.
2. The course is tailor-made for young aspirants in the domain of economics by drawing rich academic inputs from contemporary syllabus reflecting recent developments.
3. The under-graduate economics programmes help students to establish in-depth understanding of the functioning of domestic and global economies and to develop the necessary and portable skills to perform economic analysis for both public and private sector positions as well as for graduate studies in related fields
4. The graduate students also possess knowledge about a special bond between environment economy and sustainable development.
5. Graduates of Economics are given priority in getting employment in economic related jobs owing to having had better exposure in under graduation programme with economic curriculum.
6. Students are equipped with knowledge require for qualifying in various competitive examinations like Planning and economic service, Finance and account service, banking and insurance, real estate dealings etc, Higher education prospect is also positive.

PROGRAMME SPECIFIC OUTCOME (PSO)

1. Students will learn the basic concept of economics, how markets organised core economic activities such as production, distribution, consumption and the growth of productive resources.
2. Students will learn about the determinants of macro-economic conditions (national output, employment and inflation), causes of business cycles, and interactions of monetary and fiscal policy.



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3. Students will learn to apply economic theories and methodologies in analysing economic issues in various sub-fields of applied micro-economics and international economics.
4. Students will Be able to conduct economic analysis using equations and graphs. Assess the role of domestic and international institutions and norms in shaping economies.
5. Students will be able to explain, graph, and analyze key economics models.
6. Students will be able to analyze the economics and institutional arrangements of specific regions, countries, organizations, localities, industries or firms.
7. Students are expected to be able to deduce reasonable predictions about possible economic outcomes based on economic conditions and economic theories.
8. Students are expected to understand how to collect and analyse data and use empirical evidence to evaluate the validity of an economic argument, use statistical methodology, interpret statistical results and conduct appropriate statistical analysis of data.
9. Students are expected to be able to apply economic analysis to everyday problems in real world situations, to understand current events and evaluate specific policy proposals. Students will be able to effectively communicate economic ideas.

B. Sridhara
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CORE OBJECTIVES

BA FIRST YEAR SEMESTER –I MICRO ECONOMICS

OBJECTIVES

1. To develop critical understandings of consumer behavior that will hold relevance both inside and outside the domain of marketing practice.
2. To explain the basic concepts and theories of the production.
3. To understand the concepts of cost, nature of production and its relationship to business operations.
4. To integrate the concept of price and output decisions of firms under various market structure.
5. To analyze the causes and consequences of different market conditions.
6. To make students understand the sellers' objectives in making pricing decisions.

OUTCOMES

Students will be able to :

1. Assess and evaluate the factors, internally and externally, through which we understand consumer behavior.
2. Apply relevant consumer behavior theories in understanding the impact of marketing strategies.
3. Develop critical and reflexive understandings of the nature of consumption, markets and culture.
4. Appreciate the complexity of consumer behavior.
5. Gaining knowledge about managing production process.
6. Better understanding of modern production techniques.
7. Students will be familiar with the production and cost structure under different stages of production.
8. Students will understand and apply the various decision tools to understand the market structure.
9. Students will be able to apply marginal analysis to the "firm" under different market conditions.

B. Sudhakar

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**BA FIRST YEAR
SEMESTER –II
MACRO ECONOMICS**


OBJECTIVES

1. To understand the functioning of economy at the macro level.
2. To Understand how the economy is regulated through monetary and fiscal policies.
3. To study the important indicators of the economy and their significance.
4. To explain determination of equilibrium level of income and employment: and to make students aware about and with Aggregate Supply/ Demand/ Employment etc. to explain difference between Classical and Neo-Classical Economy and economists, mainly Keynesian Economics.
5. To explain the concept of money and differentiate between classical theory and theory of Cambridge version.
6. To explain different types of inflation, causes, and measurements including their uses and limitations.
7. To explain different types of trade cycles.

OUTCOMES

Students will be able to:

1. To explain the concept of macroeconomics.
2. To integrate the role of fiscal and monetary policies in regulating economy.
3. Students will be able to relate individual concepts with aggregate concepts i.e. To merge micro and macro.
4. Students will be able to answer the questions related to equilibrium level of income and employment (output). Students will be able to explain the meaning of consumption function, relationship between APC and MPC, consumption and income, concept of multiplier.
5. To analyze the income determination through classical and Keynesian economics and Understand the relationship between investment and savings, demonstrate investment multiplier.
6. Students will be able to define different types of inflation and could compare inflation measures.


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**BA SECOND YEAR
SEMESTER –III
STATISTICS OF ECONOMICS**

OBJECTIVES

1. To develop the students ability to deal with numerical and quantitative issues in business.
2. To enable the use of statistical, graphical and algebraic techniques wherever relevant.
3. To have a proper understanding of Statistical applications in Economics and Management.
4. To review measures of central tendency and dispersion.
5. To Interpret and use a range of index numbers commonly used in the business sector, to define an index number and explain its use, to Perform calculations involving simple, composite and weighted index numbers.
6. To Understand the basic structure of the consumer price index (CPI) and perform calculations involving its use. Demonstrate advanced understanding of the concepts of time series Demonstrate an advanced understanding the underlying concepts in the time series and frequencydomains.

OUTCOMES

Students will be able to:

1. Describe and discuss the key terminology, concepts tools and techniques used in business statistical analysis.
2. Critically evaluate the underlying assumptions of analysis tools.
3. Understand and critically discuss the issues surrounding sampling and significance.
4. Discuss critically the uses and limitations of statistical analysis.
5. Students will be able to Recognize and apply the concepts of mean, median, and mode in real-life problems.
6. Understand the fundamental statistic concepts and some of their application and to organize, and present data, Know different methods of finding average, its calculation, merits and demerits, Identify the appropriate regression and correlation analysis to an economic set of data.

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HEAD

**BA SECOND YEAR
SEMESTER -IV
INDIAN ECONOMY**

OBJECTIVES

1. To make students learn through the study of various concepts in economics, like Economic growth and development, GDP, GEM, etc.
2. To explain the meaning of Balanced Growth Strategy.
3. To explain Understand the concept of Unbalanced Growth Strategy.
4. To describe changes in the composition of national income and employment.
5. To explain the importance of natural resources.

6. To explain the flow of money between households and between firms.
7. To explain the difference between the definitions and components of GNI and GDP and understand GNI and GDP as measures of national income, understand the difference between nominal (money) GNI/GDP and real GNI/GDP.
8. To make student understand the importance of planning for the development of the economy.

OUTCOMES

Student were able to:

1. Define the concept of economic growth and development and answer questions related to the topics.
2. They will understand the importance of empowering a women.
3. They will practically understood the role of state in the process of development.
4. To know the Merits of Balanced Growth Strategy. Know the demerits of Balanced Growth Strategy.
5. To understand the concept of Unbalanced Growth Strategy.
6. To Know the demerits of Unbalanced Growth Strategy.
7. Develop ideas of the basic characteristics of Indian economy, its potential on natural resources.
8. To define different types of planning, need of planning and about the trends in planning commission of India.

Baidigaa
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**BA THIRD YEAR
SEMESTER –V A
DEVELOPMENT ECONOMICS**

OBJECTIVES

1. To make students learn through the study of various concepts in economics, liked Economic growth and development, GDP, GEM, etc.
2. To make the students able to understand the various causes of population explosion, consequences and its various remedial measure in India.
3. To explain the importance of learning both traditional and modern theory of economic development.
4. To increase students knowledge through the study of various economic theories, important principles, laws and generalization.

OUTCOMES

Student were able to:

1. Define the concept of economic growth and development and answer questions related to the topics.
2. They will practically understood the role of state in the process of development.
3. It enables the students to appreciate the fact that for preserving the health & welfare of the family, to ensure economic stability of the family and to assure good prospects of the younger generation.
4. Students got accurate information about the effect of changes in family size and in national population on the individual.
5. The students came to know the importance of innovation in the present market.
6. Students became aware about most of the interesting and logical facts, laws and also about the changes in behavior of human beings.

B. Siddiqui
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**BA THIRD YEAR
SEMESTER -V B
INDIAN ECONOMICS**

OBJECTIVES

1. To describe changes in the composition of national income and employment.
2. To explain the importance of natural resources.
3. The prime objective of the course is to provide the students with basic knowledge of agriculture with special soil and agronomic factors that governs environmental stability.
4. To identify the economic activities into three sectors of the economy.
5. To Distinguish between intermediate and final goods. Compare the role of various sectors in total production of a country.
6. To make student understand the importance of planning for the development of the economy.

OUTCOMES

With successful completion of the course the students are expected:

1. To develop basic aptitude to apply scientific know-how in addressing environmental problems related to agriculture.
2. Realise the importance of economic activities in the growth and development of a country.
3. Develop critical understanding about relevant contribution of the various sectors of the economy. Students were able to distinguish between the organized and unorganized sectors of the Indian economy.
4. Students will be aware of different measures taken by country to improve the education system, especially learning outcomes for effective implementation of National Education Policy.
5. Student will understand the importance of service sector as with the shift to market economies, the service sectors have grown rapidly to meet the rising needs of the emerging private sectors.

B. S. Dique

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**BA THIRD YEAR
SEMESTER –VI A
INTERNATIONAL ECONOMICS**

OBJECTIVES

1. To explain difference between absolute and comparative advantages in trade. Define international trade and describe how it impacts various countries.
2. To introduce the concept of gains from trade through voluntary exchanges and clarify misconceptions among students concerning trade.
3. to review the trade policy of India to explain the trends in India's balance of payment.
4. To discuss the role of invisibles in BOP, to explain the recent policy measures.
5. To Gain understanding of the basic concepts and principles of International trade, role of the government through its policy, balance of payment accounts and BOP crisis.
6. To outline the historical perspective of globalization and Role of WTO, its functions and its implications on the world trade.

OUTCOMES

1. It enables the Students to understand and defend the economic importance of international trade.
2. To familiarise students with the theoretical foundation of trade.
3. students should be able to identify and define the following vocabulary terms: tariffs, trade barrier, globalization, World Trade Organization.
4. This realization prepares them to objectively describe what is meant by a trade deficit, helping to prepare them for current events discussions that consider the questions of "What's good?" and "What's bad?" about a deficit or surplus in our balance of payments accounts.
5. Students will be able to apply functions, provisions of international trade system and functions to facilitate the global trade.
6. Students will be able analyze impact of WTO on current global trade in detail.


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**BA THIRD YEAR
SEMESTER –VI B
ECONOMICS OF INSURANCE**

OBJECTIVES

1. To Describe basic types of insurance available to consumers, and determine likely use cases.
2. To discuss the importance of personal financial planning.
3. To identify and explain the steps in the financial planning process. To define and identify opportunity costs.
4. To analyze the risks and consequences associated with various types of plans.
5. Students will gain an understanding of the risk management concept.
6. They will read and analyze different investment institutions.
7. To explain the concept of insurance , How does it works what is the need of insurance and most importantly how the insurance helps the economic development of the country.

OUTCOMES

Students will be able to:

1. Illustrate how everyone take risks , financial loss, and how insurance shares that risk. Help students prepare for financial success.
2. Students will set goals and analyze risk as they read a lesson and complete an activity.
3. Students will know how to make connections among apparently disparate forms of knowledge regarding different investment institutions.
4. Student realized that at younger age the necessity may not be felt but as the man grows old it starts feeling the responsibility towards his family.


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ANWARUL ULOOM COLLEGE

DEPARTMENT OF BIOTECHNOLOGY

M.Sc. Biotechnology 2020-2021

- Programme Outcomes (General)

PO – 1	Develops an understanding of scientific theory principles and perspectives in sciences by critical thinking.
PO – 2	Develops problem solving skills and is able to design and carry out innovative research projects.
PO – 3	Communicates effectively, comprehends knowledge, writes effective reports, designs documentation and makes effective presentations.
PO – 4	Functions effectively as an individual, as a member and leader of diverse teams in multidisciplinary settings for Holistic development.
PO – 5	Applies ethical principles and is committed to professional ethics, responsibilities in the field of research, is able to design, analyse, interpret data and find solutions for complex problems by applying the right tools. This study provides an excellent bridge between undergraduate study and Ph.D research.
PO – 6	Realizes and promotes environmental sustainability through various eco-friendly measures that encourage judicious use of resources.
PO – 7	Postgraduate studies boosts the self directed career progress and outline the career paths. It improves the ability to tackle complex and challenging assessment tasks and helps in lifelong learning to be globally competent.
PO - 8	Takes up responsibilities in production, quality testing, designing and marketing which contribute to the growth of industry and thus increases employability.




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- **Programme Objective (General)**

1	Recapitulate the previous knowledge of cell biology and to establish thorough understanding of various cell structure and function at molecular level.
2	Provide a thorough understanding of the various molecular biology concepts in study of cell biology and to study the different tools and techniques used to study the biology of cell at molecular level
3	Provide students with a deep insight about the motility of the cell with emphasis on the molecular motors, cell adhesions, molecular biology involved in the movement process involved in movement of Cilia and Flagella.
4	Teach our students to have a concrete knowledge about cell to cell communication in animals as well as plants and to study about the basis of the interaction as well as the genes involved in it.
5	Acquire in-depth knowledge of the molecular events involved in cell division which includes mitosis, meiosis, cell cycle and its regulation. Including. To provide wider and global perspective of cell cycle regulation and cancer, with an ability to discriminate, evaluate, analyse and synthesise existing and new knowledge, and integration of the same for enhancement of knowledge.

- **Programme Specific Outcome (General)**

PSO 1	Acquires and demonstrates competency in laboratory safety. Develops routine and specialized microbiological laboratory skills applicable to research, hospitals and industries
PSO 2	Applies statistical and bioinformatics tools for interpretation of biological data and gains expertise in Computational Biology.
PSO 3	Acquires knowledge of structural and enzymatic properties of microbes and fermentation engineering, to develop human / environment friendly products or processes.
PSO 4	Gets familiarized with principles and techniques of various basic and analytical instruments used in laboratories
PSO 5	Recognizes the importance of IPR and Patenting. Gain Entrepreneurial skills to initiate StartUp.
PSO 6	Gets trained in biomolecular mechanisms involved in life processes, health and diseases.
PSO 7	Gains proficiency in related disciplines such as Molecular Biology, Pharmaceutical Sciences, Nan biotechnology and Immunology.
PSO 8	Explores the life forms at cellular, molecular and nano levels. Understands amazing properties of microbial world and appreciates the beauty of microbial life forms.
PSO 9	Assesses the role of microbes in improving soil quality and agricultural output through sustainable microbiological applications.
PSO 10	Work as Health care professionals in the fields of laboratory management, hospital and community services, in development & preparation of Study material for visually challenged


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• **Course Objective (M.Sc. Biotechnology)**


SEMESTER - I		
1	Cell Biology and Genetics	<ul style="list-style-type: none"> • Obtain basic knowledge of hierarchical structure and organization of chromosomes, insight into chromosomal anomalies and learn the science behind genemapping in eukaryotes.
		<ul style="list-style-type: none"> • To comprehend the biochemical and molecular processes of cell division and cell death.
2	Biological Chemistry	<ul style="list-style-type: none"> • To learn the cellular signalling processes.
		<ul style="list-style-type: none"> • To understand the carbohydrates classification and metabolism.
		<ul style="list-style-type: none"> • To comprehend metabolism of Lipids, Nucleic acids and Amino acids.
3	Microbiology	<ul style="list-style-type: none"> • To learn about general characteristics of Bacteria: Bacterial isolation, growth, culturing and preservation, isolation.
		<ul style="list-style-type: none"> • to learn about general characteristics of microorganisms, microscopy, sterilization, containment.
4	Statistics, laboratory management and safety, entrepreneurship	<ul style="list-style-type: none"> • To understand the concept of applying appropriate test statistics
		<ul style="list-style-type: none"> • to know the importance of entrepreneurship.
		<ul style="list-style-type: none"> • To learn laboratory management and safety.



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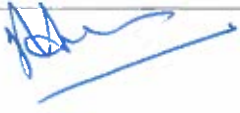
SEMESTER – II		
1	Molecular Biology- The Genome	It is the study of cell, their structure, function, growth and chemical process. It helps in depicting genomic organization.
2	Molecular Biology- Genes to Protein	It helps in determining the function of genes and elements that regulate genes throughout the genome.
3	Immunology	It helps in studying important factors related with the treatment of many diseases. Development of auto antibodies against self antigens of various diseases
4	Microbial Techniques	To study the growth phases of micro-organisms and different types of growth media available to culture them. It helps to study about the preparation of pure culture.

Semester - III		
1.	r.DNA Technology	It helps to identify, map and sequence genes and to determine their function. It is used for different purposes like in research, medical, agriculture and industry.
2.	Bioinformatics	It helps to deal with computational management and analysis of biological information.
3.	Food Biotechnology	To study the fundamental, Physical, Chemical and Biochemical nature of foods. To study about principles of food processing.
4.	Animal Biotechnology	To study about the set of Biological tools and techniques used in animals for the development of products of commercial value.


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SEMESTER - IV

1.	Bioprocess Engineering	It deals with design and development of equipments and processes for the manufacture of products like agriculture, food, pharmaceuticals etc...
2.	Medical Biotechnology	To study how living cells are used for research and production of pharmaceutical and diagnostic products that can treat and prevent human diseases.
3.	Environmental Biotechnology	To study about conservation of rareness by recycling of wastes. To study about environmental problems like detection of pollutants, elimination and detection of wastes.
4.	Project Work	To demonstrate the personal skills required to produce and present an extended piece of work. The students learn to choose relevant techniques.



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• **Course OUTCOMES (M.Sc. Biotechnology)**

SEMESTER - I		
1.	Cell Biology and Genetics	<ul style="list-style-type: none"> • Comprehend the cellular architecture and processes. • Ability to apply Mendelian inheritance principles to humans, plants, animals. • Knowledge regarding the basic mechanisms underlying cell division and cell death.
2.	Biological Chemistry	<ul style="list-style-type: none"> • Understanding of how cells communicate and carry out Physiological processes. • Understanding the basics about bimolecular ,Bioenergetics and enzymology
3.	Microbiology	<ul style="list-style-type: none"> • To culture different bacteria and know how to preserve them. • Understanding the basics of Microbiology and Microbial classification.
4.	biostatistics, laboratory management and safety ,entrepreneurship .	<ul style="list-style-type: none"> • Good Laboratory Practices • How to be a successful entrepreneur • Learn to estimate appropriate descriptive measures for a date in a given study design.

SEMESTER - II

1.	Molecular Biology- The Genome	The subject gives in depth; knowledge of biological process through the investigation of molecular mechanism.
2.	Molecular Biology- Genes to Protein	The subject helps to form a research career in Molecular Biology or related areas
3.	Immunology	Students can learn about the latest research and development being carried out in Biotechnology and related areas.
4.	Microbial Techniques	Students can use micro-organisms to produce products of economic value and to decompose municipal and industrial wastes.


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Department of Biotechnology
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Mallepally, Hyderabad-500 001.

SEMESTER - III		
1.	r.DNA Technology	It enables the creation of multiple copies of genes and gene manipulation.
2.	Bioinformatics	It helps the student to understand and organize the information associated with molecules on a large scale
3.	Food Biotechnology	Students learn about preservation, processing, packaging and distribution of food. Individuals can learn about sensory properties of food.
4.	Animal Biotechnology	Students can learn about Animal cell, tissue and organ culture techniques like IVF and Embryo transfer.

SEMESTER - IV		
1.	Bioprocess Engineering	Students learn to evaluate the cultivation, enrichment and growth prevention method of microbes. They can learn to judge how microbes and enzymes could be applied in industry.
2.	Medical Biotechnology	Students can learn about genetic disease and relate them to medical experience. They learn of gene therapy.
3.	Environmental Biotechnology	Students learn to keep the environment clean, to develop environmental friendly products and improve energy sources.
4.	Project Work	Students learn to show enthusiasm and commitment to the task. They learn to show overall perspective related to chosen topic.



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Department of Botany
 Programme: B.Sc., BZC
 Year: 2020-2021

Program Objective
1. The student will recognize and be able to apply basic ethical principles to basic and applied biological/biomedical practice.
2. They will understand the role of chemical /biological /biomedical Science, scientists, and practitioners in society
3. Bachelor of Science (B.Sc.) proposes theoretical and practical knowledge about diverse subject areas
4. This program is beneficial for students with a strong interest and back ground in Science.
5. The course also benefits students pursuing future multi-and interdisciplinary science careers.
Program Outcomes
PO1. It helps develop scientific temper and can prove to be more beneficial for society as the scientific developments can make a nation or society snowball
PO2. After completing this course, students can go for higher studies, i.e. M.Sc. and then do some research for humanity's welfare.
PO3. After higher studies, students can join as scientists and even look for professional job-oriented courses.
PO4. Science graduates can go to serve in industries or may opt for establishing the industrial unit
PO5. Recognize the need for and have the ability to engage in independent, lifelong learning and adapt to technological changes to be globally competent
Program-specific outcomes (BZC)
PSO1. The course aims to build the student's understanding of the diversity among algae, fungi, bryophytes, and Pteridophytes. The course is a plan to familiarize the students with microbes and cryptogams.
PSO2. The course helps to acquire knowledge and skill in the fundamentals of plants sciences and understand complex interactions among various living organisms
PSO3. The course introduces the methodology and principles of plant systematics and patterns and origin of seed plant diversity. Lectures and practicals provide skills to recognize and characterize several plant families and higher taxa essential ecosystem elements
PSO4. This course intends to convey an insight into the internal structure and reproduction of the most evolved group of plants, the angiosperms
PSO5. This course deals with plant processes like photosynthesis (with particular emphasis on light and dark reactions), respiration, and translocation, absorption and nitrogen metabolism. The students also get an insight into the various types of plant movements.
Course objective
1. Students learn about the various microorganisms that are beneficial and threatening to humans and the diseases such microorganisms can cause.
2. Identification, characterization, classification, and naming of all living things according to their traits are taxonomy's key objectives.

4. Additionally, it aids in illuminating the connections between developmental genetics and taxonomy, ecology, and structure.

5. Students comprehend Tissue culture and seed technology significance and its applications in various fields of life.

Course outcomes

CO1. Students will learn the application of morphology in plant identification, classification and nomenclature

CO2. Students learn Plant collection, preservation techniques and can identify plant in field

CO3. Students get aware about various recent computerized tools used in plant research

CO4. Students will know how the vegetation pattern change in different ecosystem

CO5. Students will learn the techniques of vegetation studies and its application

Chairperson



BOS

Head Department of Botany
Anwar-ul-Uloom College
New Mallepally, Hyderabad.

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Affiliated to Osmania University

Department of Telugu

2020-21 Departmental

Programme Objectives and Outcomes.

(పాఠ్యాంశాల ఉద్దేశ్యాలు మరియు సాధించినవి)

Degree 1st year (డీగ్రీ మొదటి సంవత్సరం)


Programme Objectives

(పాఠ్యాంశాల ఆధారంగా ఉద్దేశ్యాలు)

1. ప్రాచీన సాహిత్యంలో భాగంగా శకుంతలలో పాఖ్యానము, గొడగూచి కథ, సువర్చుడి రచనము, గజింద్రమోక్షము, హనుమత్ సందేశము, సుబాపితములు అనే పాఠ్యాంశాల ఆధారంగా వాటి సాహిత్య విలువలు తెలుసుకుంటారు.
2. ఆధునిక కవిత్వంలో కాసులు రాజు కవి గంగిరెడ్డు జయదీరి అంతర్భాదము ప్రపంచ పదులు అర్విదా పాఠ్యాంశాల ఆధారంగా ఆధునిక కవిత చోకడలను మరియు కవుల గురించి తెలుసుకుంటారు.
3. వచన విభాగంలో యుగాంతము వెంకన్న మామిడిపండు మా ఊరు పోయింది ఇది ఒక కళ పేర్లు గుర్తుంచుకోవడం అనే పాఠ్యాంశాల ఆధారంగా కథానిక ప్రక్రియను వ్యాస ప్రక్రియను గురించి తెలుసుకుంటారు.
4. రుద్రమదీవి నవల ఆపవాచకంలో చరిత్ర గురించి తెలుగు వారి సంస్కృతి గురించి తెలుసుకుంటారు.
5. భాషాభాగాలలో పర్యాయపదాలు నానార్థాలు భాగంగా సందులు సమాసాలు తెలుగు వాక్యము గురించి అధ్యయనం చేసి భాష నిర్మాణాన్ని తెలుసుకోవడం 'ఇక్కడ ఉద్దేశం గా ఉన్నది.

Out comes. (సాధించిన ఫలితాలు)

1. నన్నయ పాల్కురికి సోమనాధుడు కఠవి గోపరాజు పోతన మల్ల వసుగు లక్ష్మణ కవి మొదలైన కవుల కవి శైలులను మరియు నాటి బాష నిర్మాణాన్ని తెలుసుకుంటారు.
2. ఆధునిక కవిత్వంలో గురజాడ ప్రవేశపెట్టిన నూతన సాహిత్య చోకడలను అర్థం చేసుకుంటారు. జాషువా విశ్వ మానవ తత్వాన్ని గురించి అవగాహన చేసుకుంటారు. కృష్ణమాచార్యులు వారి సాహితీ ప్రస్థానం గురించి, సురవరం ప్రతాపరెడ్డి సాహిత్య సేవ గురించి, నారాయణరెడ్డి మానవత్వం గురించి తెలుసుకుంటారు.
3. వచన విభాగం చదవడం వలన వచన ప్రక్రియలైన కదానిక శిల్ప నిర్మాణాన్ని గురించి, పరిణామక్రమాన్ని కదానిక లో ఉండి మెలకువలను వ్యాసం రాసి విదానాన్ని తెలుసుకుంటారు. తెలంగాణకు చెందిన స్త్రీ రచయితుల గురించి తెలుసుకుంటారు.
4. ఉపవాచకం రుద్రమదేవి చదవడం వలన తెలుగువారి ఔరుషము పాలనా సామర్థ్యం అవగతం అవుతుంది. ప్రజల కోసం ఆనాడు ముఖ్యంగా కాకరీయ ప్రధాను చేసిన సేవలు ఆనాటి శిల్ప సంపద గురించి తెలుసుకుంటారు.
5. బాష యొక్క నిర్మాణాన్ని తెలుసుకోవాలంటే బాషా పరిజ్ఞానము పెరగాలంటే ఏ బాషకైనా వ్యాకరణం తెలిసి ఉండాలి. పదాల మధ్య కలయికను కొత్త పదాల ఏర్పాటును సందులు సమాసాలు ద్వారా తెలుసుకుంటారు. మరియు పదాలను జాతీయాలను తెలుసుకోవడం వల్ల బాషా సుపద పెరుగుతుంది.


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Department of Telugu
2020-21 Departmental

Programme Objectives and Outcomes
(పాఠ్యాంశాల ఉద్దేశ్యాలు మరియు సాధించినవి)
Degree 2nd year (డీగ్రీ రెండవ సంవత్సరం)

Departmental Program Objective's and Outcomes

డీగ్రీ రెండవ సంవత్సరం తెలుగు ద్వితీయ భాష పాఠ్య

ప్రణాళికల ఆధారంగా ఉద్దేశ్యాలు పలికాలు.

Program objectives: (ఉద్దేశ్యాలు):-

1. విద్యార్థులు చక్కని సంభాషణ నైపుణ్యాన్ని పెంపొందించుకోవడం గురించి. తెక్కని గోనలుద్దారెడ్డి క్రిత నాడుడు పేరికి సూరన ల గురించి తెలుసుకోవడం.
2. విద్యార్థులు చెడు లక్షణాలకు దూరంగా ఉండడం, మరియు ఆధునిక కవిత్వపు విషయ అవగాహన కలిగి ఉండడం.
3. విద్యార్థులకు వ్యవసాయ ప్రాధాన్యతను తెలియజేయడం, తెలుగు భాష గొప్పతనాన్ని గురించి దానికోసం ఆంగ్లేయులు చేసిన పాపాలు తెలుసుకోవడం.
4. ప్రాచీన మన వారసత్వ సంపదను సంరక్షించుకోవడం, గ్రామ నామాల ఏర్పాటు గురించి విద్యార్థులకు అవగాహన కల్పించడం
5. నాటక ప్రక్రియ గురించి తెలుసుకోవడం మరియు వచన రచనల పట్ల అభిరుచిని పెంచుకోవడం.

Program outcomes: లక్ష్యాల సాధన :-

1 క్రిత్యస్తుని సంది కి పంపి సందర్భంలో దర్మరాజు మాటలలో చక్కని నైపుణ్య నైన సంభాషణ దారుర్యం కనిపిస్తోంది. ఎవరి పట్ల నైనా ద్వేషము, కోపము, అసహనము, పగ అని విషయాలు. మంచిని కావు అని

చెప్పడం. ముఖ్యంగా శత్రువుల తో సంది చేసుకునే సందర్భంలో హింసాత్మకమైన చూటలు చేయటం సరైనవి కావు అని దర్మరాజు చెబుకుంటాడు ఈ లక్షణాలు విద్యార్థుల్లో కాబట్టవచ్చు.


2. గుణవిధి కాగుడు, జాతిము, వృద్ధిదారము, దొంగరసం మొదలైనవి చెడు వ్యసనాలకు గురి క్రమమై, జీవితాన్ని సర్వ వాశినం చేసుకునే, కుటుంబాన్ని తల్లిదండ్రులను కూడా క్రమం పట్టించిన అరివి జీవితాన్ని తెలుసుకున్న విద్యార్థులు, అటువంటి చెడు అలవాట్లకు వ్యసనాలకు దూరంగా ఉండి, మంచి జీవితాన్ని కొనసాగుస్తారు.

3. బారతి దేశము వ్యవసాయాదారితో దేశం అట్టి వ్యవసాయాన్ని అదారంగా చేసుకుని సాగరయ్య అనే కాపు రైతు ఒక గ్రామంలో ఉంటాడు. ఆతను కష్టపడి పంట పండించి గౌరవ ప్రదమైన జీవితాన్ని గడుపుతుంటాడు. తన కూతురు చేసిన అప్పును తీరుస్తాడు. ఆ గ్రామంలో రైతులకు జరుగుతున్న అన్యాయాలను తోలు చేస్తున్న దోపిడీని వ్యతిరేకిస్తూ ప్రజల్లో ధైర్యం, ఆత్మస్థైర్యాన్ని నెలకొల్పాడు. తన వద్ద దనరాశులు తెలుచి లేక పోయినప్పటికీ ఉన్నంతలోనే జీవితాన్ని కొనసాగిస్తూ ఎవరిని దోపి అని అడగడు, విద్యార్థులు ఈ సాగరయ్య పాల్గొన్నా వ్యవసాయ ప్రాధాన్యతను గౌరవ ప్రదమైన జీవితాన్ని అర్థం చేసుకునే అటువంటి జీవితాన్ని అలవర్చుకుంటారు.

4. బారతి దేశము ప్రాచీన వారసత్వ సంపదకు పుట్టినిల్లు ఇక్కడ అనేకమైన కట్టడాలు, కోట దుర్గాలు పూర్వం రాజులు నిర్మించారు. ఇవి నాటి రాజరిక చైతన్యాన్ని ఆనాటి సంస్కృతిని తెలియజేస్తాయి. అట్టి చాటిలో దేవరకొండ దుర్గం ఒకటి, దీనిని వెలమ రాజులు నిర్మించారు వారు పాలించిన కాలంలో ఈ కోట గొప్ప బిన్నాల్లాన్ని పొందింది. ఆనాటి ఏరుల శత్రు ప్రతాపాలు, అంతఃపుర స్త్రీల అందవందాలు మొదలైనవి విద్యార్థులు తెలుసుకోవడం వలన నాటి మన పూర్వ గొప్ప సంస్కృతిని తెలుసుకుని దానిని గౌరవిస్తూ పరిరక్షించడానికి పూనుకుంటారు.

5. తెలుగు సాహిత్యం చేసుకున్న అద్భుతం విమోచనం విదేశీయులు కూడా ఈ బాషా సాహిత్యాలను అధ్యయనం చేసి దీనికి ముగ్ధులై ఈ బాష అభివృద్ధికి సహాయ శక్తుల కృషి చేశారు. అట్టివారిలో ప్రధానంగా చెప్పుకోదగిన వారు సి.పి.బ్రౌన్ ఒకరు ఇతను ఈస్టిండియా కంపెనీ లో ఉద్యోగిగా పనిచేస్తూ పరిపాలన అవసరాల కోరకు తెలుగు నేర్చుకుని తెలుగు గొప్పతనాన్ని తెలుసుకొని తెలుగు బాషా సాహిత్య అభివృద్ధికి తన కాలాన్ని కాలాన్ని దానాన్ని వినియోగించాడు. పండితులకు తన పొంత బిరుదులలో జీతాలు ఇస్తూ ప్రాచీన రాశపత్ర గ్రంథాలను పూర్వ కావ్యాలను పరిష్కరించి చేసి ముద్రించి తెలుగులోకి తీసుకొచ్చాడు. ముఖ్యంగా "తెలుగు- ఆంగ్లము" ఉదయ బాషా నిఘంటువులను రచించారు చేశాడు. తెలుగు బాషా సాహిత్యాల అభివృద్ధికి విశేష కృషి చేసి చిరస్మరణీయమైన కీర్తిని సంపాదించాడు. మన విద్యార్థులు తెలుగు బాషకు విదేశీయులు

తేదీని పేరును గుర్తించి మార్కాబాష డెస్క్‌లోనికి తెలుసుకుని దీని పట్ల గాఢ బావాన్ని కలిగి యు వారు
పాత్ర గా బాపా సాహిత్యాల అభివృద్ధిలో పాటుపండుకుంటారు.


CHAIRMAN
BOARD OF STUDIES
DEPARTMENT OF TELUGU
ANWARUL ULOOMI COLLEGE
HYDERABAD-500004

Department of Botany

M.Sc.. (2020-2021)

Program Outcomes

Programme Outcomes ./ M.Sc. Botany 2020-21
Programme Objectives (General)
1. To enable the students understand new concepts in the Field of M.Sc. Botany.
2 To inculcate Scientific temperament among the students.
3 Skillbased Knowledge , in Theory and Practicals, to be provided in the Course.
4 Exposure to New developments in the field of Cytogenetics and Genetics.
5 Study of plants diversity in various groups of plant kingdom.
(Programme Outcomes) (General)
PO- 1. This program is based on Project based Learning and is Research oriented. The topics in Cytogenetics are based on Recent and high level Research. Students will learn and acquire knowledge of Recent Developments , in the Field of Botany.
PO -2 They understand the topics in Genetics at Molecular level of DNA .Gene sequencing Mutation Breeding and Bioinformatics.
PO- 3 Horticulture Techniques and Environmental Sciences also provide basis for learning and Application of Knowledge.
PO- 4 Enhances skills in Handling Scientific instruments . learns planning and executing Plant based Research.
PO -5 Knowledge about grouping, categorization and identification of plants .using the Flora books.
(Programme Specific Outcomes) PSO: The student can understand the basic concepts of various subjects and their applications in real life situations.
PSO-1 The Students will be qualified to appear for CSIR-NET , SLET, GATE and also eligible for teaching at School level and Junior College.
PSO -2 Stewardship responsibility. Students can join Bioinformatics Lab for Drug designing Research.
PSO -3 Students can apply the knowledge of Horticulture for propagation of plants and

CO-5 Origin of Angiosperms and evolutionary significance of Pro-Angiosperms can be traced out. Phenetic classification can be emphasized for morphological features

APG System of Classification can be studied based on phylogeny.

Students can differentiate between Phenetic and Phylogenetic Systems.

CO-6 Students learn new techniques in Horticulture and they are exposed to New methods in Plant Breeding.

CO-7 Students understand the reason behind classification of plants and systematic position, based upon identifying salient features of the different Families. Economic importance and phylogeny of Dicots and Monocots can be enumerated.

CO-8 Students can go for Research in the Field of Taxonomy. They can enumerate the plants based on medicinal importance and Economic utility. They can apply the branch of Taxonomy to various fields of Botany like Palynology, Embryology, Evolution, Anatomy etc.



Chairperson

BOS

Head Department of Botany
Anwar-ul-Uloom College
New Mallepally, Hyderabad.


ANWAR UL ULOOM DEGREE COLLEGE
DEPARTMENT OF COMPUTER SCIENCE
B.Sc. (MECS and MPCS)
Academic Year 2020-21

COURSE OBJECTIVES:

- | |
|--|
| 1. To develop competencies and skills needed for becoming an effective Computer Programmer. |
| 2. To familiarize the students with various approaches, methods and techniques of |
| 3. Information Technology. |
| 4. Exploring different approaches in computer programming and problem solving skills. |
| 5. To enable students to manage Software Projects from its Conceptual Stage to the final product creation. |
| 6. To train students in logical thinking and problem solving skills so as to solve real world problems. |
| 7. To develop expertise in Database Management and Digital Content management techniques. |

COURSE OUTCOMES:

- | |
|--|
| 1. Understand basic concepts of Computer Systems its hardware and software |
| 2. Learn various programming languages such as C, C++, Java, Python, HTML, PHP, XML etc. |
| 3. Awareness of Computer Viruses and Hackers |
| 4. Learn and understand Cyber Security |
| 5. understand and used computer networks and Internet |


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COMPUTER SCIENCE
ANWARUL ULOOM COLLEGE

B.Sc. (MECS & MPCS)

SEMESTER: FIRST

SUBJECT: PROGRAMMING IN C

Course Objective:-

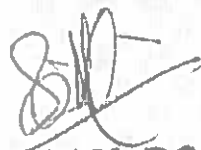
1. Learn fundamental concepts of computer system
2. Learn various types of computer memories and its purpose
3. Learn basic concepts of programming languages (data types, constants, variables, operators, control constructs.
4. Learn arrays, functions, structures, union and file handling concepts with practically implementing these concepts in a C program.

Unit	Unit – Objective	Learning Outcomes
1	Learn fundamentals of concepts of Computer System, functions, types, generations of computer. Input, output devices. Memory and its types	Understand basic concepts of programming language such as token, identifier, data types, constants and variables
2	Learn Data types, keywords, tokens, identifiers and control structures	Analyze a given problem and develop simple programs to solve the problem
3	Learn Programming features of C such as arrays and user defined functions	Improve upon a solution to a problem. Use the 'C' language constructs in the right way to solve critical problems
4	Learn string handling functions and function calls, function recursion	Using various function develop solutions for various problems
5	To Understands and learn data files and handling data files for databases	Working with data files in developing small c projects

COURSE OUTCOMES:

Upon successful completion of the course, a student will be able to:

1. Appreciate and understand the working of a digital computer
2. Analyze a given problem and develop an algorithm to solve the problem
3. Improve upon a solution to a problem
4. Use the 'C' language constructs in the right way
5. Design, develop and test programs written in 'C'



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COMPUTER SCIENCE
ANWARUL ULOOM COLLEGE**

SEMESTER: SECOND

SUBJECT: PROGRAMMING IN C++

Course Objective:-


4. Learn fundamental concepts of object oriented programming.
5. Learn various operations that can be performed on different data structures.
6. Learn to sort and search within the data structures.
5. Learn to implement and use data structures using C++ programming languages.

Unit	Unit – Objective	Learning Outcomes
1	Learn fundamentals of C++ Programming language such as tokens, keywords, identifiers, constants, variables and data types in C++	Appreciate and understand the basic concepts C++ Programming languages
2	Learn control structures, basic concepts of object oriented programming such as class, object, encapsulation, inheritance	Analyze a given problem and develop simple programs using OOP features in C++
3	Learn Programming features of C++ such as arrays and functions, inheritance and interface	Improve upon a solution to a problem. Use the 'C++' language constructs in the right way to solve critical problems
4	Learn dynamic memory allocation and exception handling features and functions in C++	Using various try, catch and throw and final develop error handling solutions for various problems
5	To Understands and learn stream classes and handling data-files for databases	Working with data files in projects using stream classes and their respective objects and member functions.

COURSE OUTCOMES

Upon successful completion of the course, a student will be able to:

1. Analyze a given problem and develop C++ program to solve the problem
2. Improve upon a solution to a problem using object oriented features
3. Appreciate and understand the working of a classes and objects
4. Use the 'C++' language constructs in the right way to understand object oriented programming features and improve skills in OOP
5. Design, develop and test programs written in 'C++' using OOP


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ANWARUL ULOOM COLLEGE**

SEMESTER: THIRD

SUBJECT: DATA STRUCTURES

COURSE OBJECTIVE:

- ❖ Learn fundamental concepts of linear and non-linear data structures.
- ❖ Learn various operations that can be performed on different data structures.
- ❖ Learn to sort and search within the data structures.
- ❖ Learn to implement and use data structures using C++ programming languages.

Unit	Unit – Objective	Learning Outcomes
1	Learn fundamental concepts of linear and non-linear data structures, Classification of data structures and operations on data structures	Appreciate and understand the working of a linear and non-linear data structures and their features
2	Learn Array, Queues and Stack data structures with their representation in the computer memory.	Analyze a given problem and develop simple programs to solve the problem using Arrays, Queue and Stack
3	Learn linked list, its types and features of single, double, priority and circular linked list.	Improve upon a solution to a problem. Use linear list variations, constructs in the right way to solve critical problems
4	Learn to understand basic concepts of Tree and Graph data structures and their representation in memory.	Using binary tree and graph traverse in the database and develop solutions for various expressions
5	To Understands and learn Searching and Sorting with in the databases using various sorting techniques.	Implement sorting techniques to organize and search database. Working with data files in projects.

COURSE OUTCOMES

Upon successful completion of the course, a student will be able to:

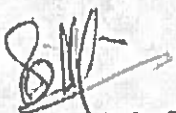
- ✓ To understand the concepts of various data structures and their use in the real world applications
- ✓ Analyze a given problem and develop an algorithm to solve the problem
- ✓ Improve upon a solution to a problem
- ✓ Use various data structures to implement in the software project
- ✓ Use data structures to develop and test data files and databases in a software project



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COMPUTER SCIENCE
ANWARUL ULOOM COLLEGE**

COURSE OBJECTIVE:

This subject is introduced to understand the various database technologies used in software industries, this subject gives inside into the database management system used in variety of applications on servers, this skill in the students empower them to handle the various databases manage them effectively with specialized skills, knowledge and attitude to work in Computer Industry.

Unit	Unit – Objective	Learning Outcomes
I	Students will learn: <ol style="list-style-type: none"> 1. The fundamentals of dbms and file system. 2. Database approaches and roles. 3. Advantages and disadvantages 4. Architecture of dbms. 5. Dbms languages. 6. RDBMS models and other models. 7. Views Implementation 8. The relational algebra 	Students will be able <ol style="list-style-type: none"> 1. To recognize the difference between dbms and file oriented systems. 2. To identify the various roles and users of dbms. 3. To recognize the advantages and disadvantages of dbms. 4. To see inside the various architectures of the dbms. 5. To use structured query language. 6. To understand importance of data model. 7. To use views for various purposes. 8. To use of relational algebra.
II	Students will learn: <ol style="list-style-type: none"> 1. Sql data manipulation. 2. Aggregate functions. 3. Grouping functions 4. Joining table 5. Data types in sql. 6. Constraints in the dbms. 7. Data definition languages. 8. Views, view materialization, 9. Transactions, discretionary access control-granting. 10. Privileges to other users, revoking privileges from users. 11. advanced sql:  <p style="text-align: center;">CHAIRMAN, BOS COMPUTER SCIENCE ANWARUL ULOOM COLLEGE</p>	Students will be able to <ol style="list-style-type: none"> 1. Use dml commands update, delete, insert commands. 2. Use aggregate functions 3. Use order by group by functions. 4. Use inner join, outer join equi joins full joins etc. 5. Handle the various data types. 6. Apply the constraints on the filed and on the table. 7. Use ddl command to create objects such as user, table etc. 8. Use transaction commands commit and rollback. 9. Use the view and materialization views for various purpose. 10. Grant the privileges and revoke the privileges. 11. Use the advanced sql to write exceptions, cursors, subprograms, stored procedures, functions, and packages, triggers, recursion.
III	Students will learn: <ol style="list-style-type: none"> 1. Entity-relationship modeling and enhanced entity-relationship modeling: specialization/generalization, aggregation, composition. 2. Functional-dependencies. 	students will be able <ol style="list-style-type: none"> 1. To create entity types, relationship types, attributes, keys, strong and weak entity types, attributes on relationships and able to create er diagrams using

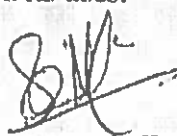
	3. Normalization how normalization supports database design.	specialization/generalization, aggregation. 2. To recognize the anomalies, partial functional dependency, transitive functional dependency, multi-valued dependency, join dependency. 3. To do Normalization on tables in 1nf, 2nf, 3nf, BCNF.
IV	Students will to learn: 1. Transaction Management. 2. Concurrency Control. 3. Deadlock & Time Stamping Methods, 4. Granularity of Data Items, 5. Database Recovery= 6. Security: Database Security= 7. Backup and Recovery..	Students will be able to 1. Understand properties of transactions, database architecture, 2. Recognize the need for concurrency control, serializability and recoverability, locking methods. 3. Use deadlock, multi-version timestamp ordering, optimistic techniques. 4. Understand the granularity of data items. 5. To recognize the need for recovery, recovery facilities, Recovery techniques. 6. To recognize the security-threats, authorization, access controls, views, 7. Use the backup and recovery of databases



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ANWARUL ULOOM COLLEGE**

Course Objective:-

This subject is introduced to understand the basic concepts of java programming language and also use object oriented methodologies in java. Java is extensively used in the software industries, this subject gives insight into the java programming fundamentals and apply these concepts to develop the software. This skill in the students empowers them to become software developers with specialized skills, knowledge and attitude to work in Computer Industry.

Unit	Unit – Objective	Learning Outcomes
1	<p>Students will try to learn:</p> <ol style="list-style-type: none"> 1. Java Essentials, Features, creation and Execution of Programs, 2. Data Types, Type Conversion, Casting, Conditional Statements, Loops, Branching Mechanism, 3. Classes, Objects, Class Declaration, Creating Objects, Method Declaration and Invocation, Method Overloading, 4. Constructors and its types. 5. Methods-static Keyword, this Keyword. 6. One-Dimensional Arrays, Two-Dimensional Arrays, Command-Line Arguments, Inner Class. 7. Inheritance abstract classes and interface and its applications 	<p>Students will be able</p> <ol style="list-style-type: none"> 1. To run java programs and understand JVM, Features 2. To differentiate between Data Types, Type Conversion, Casting, Conditional Statements, Loops, Branching Mechanism. 3. Classes, Objects, Class Declaration, Creating Objects, Method Declaration and Invocation, Method Overloading. 4. To use Parameterized Constructors, Constructor Overloading, Cleaning-up unused Objects, Class Variables 5. To use Methods-static Keyword, this Keyword, 6. Solve the problems on One-Dimensional Arrays, Two-Dimensional Arrays, Command-Line Arguments, Inner Class. 7. Use Inheritance Types of Inheritance, extends Keyword, Abstract classes, Interfaces, Abstract Classes Verses Interfaces.
2	<p>Students will try to learn:</p> <ol style="list-style-type: none"> 1. Packages ,Wrapper Classes, String Class. 2. Exception handling. 3. Multithreading and its implementation. 4. Input/Output using java.io and Package. File handling mechanism. 5. Stream Class and its uses. <div style="text-align: center;">  CHAIRMAN, BOS COMPUTER SCIENCE </div>	<p>Students will be able to</p> <ol style="list-style-type: none"> 1. Create and Using Packages, Wrapper Classes, and String Class 2. handle various types of Exceptions. 3. to create Threads using Thread Class or using Runnable Interface, and use Thread Priority and Synchronize them. 4. to use java.io Package and File Class. 5. To use File Input Stream Class, File Output Stream Class, Scanner Class, Buffered Input Stream class, Buffered Output Stream Class, Random Access File Class.
	<p>Students will try to learn:</p> <p>1. Applets and its uses.</p> <ol style="list-style-type: none"> 1. Event Handling: Introduction, Types of Events, Example. 	<p>Students will be able</p> <ol style="list-style-type: none"> 1. To use Applets class in the programs and use the Common

3	<ol style="list-style-type: none"> 2. AWT and swing components. 3. Database Handling Using JDBC and Developing a JDDBS Application. 	<p>Methods Used in Displaying the Output</p> <ol style="list-style-type: none"> 2. To understand Types of Events and use in the programs. 3. To use AWT Components like Containers, Button, Label, Checkbox, Radio Buttons, Container Class, Layouts. And Swing component, Differentiate between Swing and AWT. 4. To use JDBC classes to Database Handling also understand how to use JDBC Drivers. And able to Develop a JDDBS Application.
4	<p>Students will try to learn:</p> <ol style="list-style-type: none"> 1. Packages ,Wrapper Classes, String Class. 2. Exception handling. 3. Multithreading and its implementation. 4. Input/Output using java.io and Package.File handling mechanism. 5. Stream Class and its uses. 	<p>Students will be able to</p> <ol style="list-style-type: none"> 1. to create Threads using Thread Class or using Runnable Interface, and use Thread Priority and Synchronize them. 2. to use java.io Package and File Class. 3. to use FileInputStream Class, FileOutputStream Class, Scanner Class, BufferedInputStream Class, BufferedOutputStream Class, RandomAccessFile Class.



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COMPUTER SCIENCE
ANWARUL ULOOM COLLEGE**

SEMESTER: FIFTH

SUBJECT: OPERATING SYSTEM (V – B)

Course Objective:-

This subject is introduced to understand the various operating systems used in software industries, this subject gives inside into the operating system used on the various computers like desktop and servers, this skill in the students empower them to become software developer with specialized skills, knowledge and attitude to work in Computer Industry.

Unit	Unit – Objective	Learning Outcomes
1	<p>Students will try to learn:</p> <ol style="list-style-type: none"> 1. The fundamentals computers operating system, architecture and computing environment 2. The operating system services 3. The various user interfaces 4. System calls and their usage. 5. The process structure and process management. 6. The ipc and synchronization 7. Critical-section problem. 	<p>Students will be able</p> <ol style="list-style-type: none"> 4. To classify the computer architecture and environments. 5. To understand services offered by various OS. 6. To use the various interface. 7. To use system calls. 8. To manage the process using system calls & analyze the various scheduling algorithms. 9. To find the problems inter process communication, and able to solve the producer-consumer 10. To analyze the peterson's solution, semaphores. Monitors and their usage.
2	<p>Students will try to learn:</p> <ol style="list-style-type: none"> 1. CPU scheduling and scheduling criteria, scheduling algorithms. 2. Deadlocks: system model, deadlock characterization. 3. Methods for handling deadlocks, deadlock prevention, deadlock avoidance, deadlock detection, 4. Recovery from deadlock. 	<p>Students will be able</p> <ol style="list-style-type: none"> 12. To analyze the various scheduling algorithms and solve the problems to optimize the use of CPU. 13. To understand the deadlock and necessary conditions for deadlock. 14. To handle deadlocks and able to detect the deadlock in the system and also avoid the deadlock. 15. To recover the system form deadlock.
3	<p>Students will try to learn:</p> <ol style="list-style-type: none"> 1. Various memory management techniques. 2. Virtual memory 3. Various mass storage structures. 4. Disk scheduling. 5. File and directory structures. 6. Free space management. 	<p>Students will be able</p> <ol style="list-style-type: none"> 1. To understand swapping, contiguous memory allocation, segmentation. 2. To recognize the virtual memory like paging, demand paging, page replacement, allocation of frames. 3. To understand the mass-storage structure raid and it's level. 4. To analyze various disk scheduling algorithms. 5. To implement the file and directory and mounting file. 6. To manage the free-space.



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COMPUTER SCIENCE
ANWARUL ULOOM COLLEGE

SEMESTER: SIXTH

SUBJECT: WEB TECHNOLOGIES (VI-A)

Course Objective:-

This subject is introduced to understand the various technologies used in web development, this subject gives insight into the web technologies used in client server programming in computer industries, this skill in the students empowers them to handle the various web development technologies and markup languages effectively, with specialized skills, knowledge and attitude students can work in Computer Industry.

Unit	Unit – Objective	Learning Outcomes
I	Students will try to learn: 1. Structuring Documents for the Web: 2. Links and Navigation tags: 3. Images, Audio, and Video tags 4. List and Table tags	Students will be able 1. To do Basic Text Formatting and Editing Text, Core Elements and Attributes, Attribute Groups. 2. To create Links with the <a> Element, Advanced E- mail Links. And navigation. 3. To Add Images Using the Element, Use Images as Links Image , Add Flash, Video and Audio to your web 4. To create various types of List Hyperlinking list elements, and able to create table and Nested Tables,
II	Students will try to learn: 1. Frames creation in html 2. Forms creation in html 3. Cascading Style Sheets and it's types	Students will be able 1. To create use Frames using Frameset, <frame> Element, Creating Links Between Frames, , Nested Framesets, <iframe>. 2. To create Forms and Form Controls, also Sending Form Data to the Server 3. To create various CSS and Rules, Properties and also Positioning and Layout with CSS.
III	Students will try to learn: 1. Web Technologies used to Develop application for Mobile Devices. 2. JavaScript code and uses. Working with JavaScript:	Students will be able 1. To understand the web application for Mobile Devices such as Design Issues: Typography, Navigation, Tables, Forms. 2. To create and use JavaScript feature for web development.
IV	Students will try to learn: 1. PHP Language Basics 2. Protocols used in web development 3. Latest Web Development Trends	Students will be able 1. To understand and use PHP script for web development. 2. To understand the various protocols used in web development such as TCP/IP, HTTP, S-HTTP, SMTP, Wireless Protocols, IMAP. 3. To understand Latest Web Development Trends such as AI or Bots, Progressive Web App, Mobile-Friendly Website, Motion UI, Web Development Frameworks. Etc.


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COMPUTER SCIENCE

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SEMESTER: SIXTH

SUBJECT: COMPUTER NETWORK (VI – B)

Course Objective:-

This subject is introduced to understand the various networking technologies used in industries, this subject gives inside into the networks configuration and administration used in variety of computer industries, this skill in the students empower them to manage and handle the various networks effectively, with specialized skills, knowledge and attitude students can work in Computer Industry.

Unit	Unit – Objective	Learning Outcomes
I	Students will try to learn: 1. Data Communication Components, 2. Line Configuration, Topologies, Transmission Mode. 3. Categories of Networks, ISO Reference Model. 4. Guided Media Unguided Media.	Students will be able 1.To understand the Data Communication Components. 2.To recognize the Topologies, Transmission Mode. 3.To understand the Layered Architecture, Functions of Layers In TCP/IP. 4.To distinguish between guided media and unguided media.
II	Students will try to learn: 1.Multplexing FDM and TDM 2. Data Link Layer and its various algorithms and its uses.	Students will be able 1. To understand the FDM and TDM and its application. 2. To recognize various algorithm and used in data link layer and what are advantages and disadvantages of various algorithms.
III	Students will try to learn: 1.Local Area Networks and its standards and its implementation 2.Networking and Internetworking Devices used to implement the network.	Students will be able 1.To understand the IEEE standards in Local Area Networks and its Implementation. 2.To understand the use of various Devices such as Repeaters, Bridges, Routers, Gateways, and Routing Algorithm.
IV	Students will try to learn: 1.Medium Access Sub Layer. 2.Internet Working 3.Transport Layer function and working .	Students will be able 1.To understand the ALOHA, MAC addresses, CSMA, IEEE, 802.x Standard Ethernet, Wireless LANS, Bridges. 2.To Understand The Network Layer in the Internet and in ATM Networks 3.To Understand the Transport Layer algorithm and Duties of Transport Layer,



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ANWARUL ULOOM COLLEGE (AUTONOMOUS)

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(Affiliated to Osmania University, Hyderabad)

Ref. No. _____

Date: _____

Department Name:-**B.Sc. (COMPUTER SCIENCE & ENGINEERING)**
(2020-21)

Program Objective B.Sc.(Computer Science and Engineering) prepare Graduates to:

1. Work effectively as successful Computer professionals in diverse career paths including supportive and leadership roles on multidisciplinary teams or be active in higher studies,
2. Communicate effectively, analyze, recognize and incorporate societal needs and constraints in their professional endeavors, and practice their profession with high regard to ethical responsibilities,
3. Engage in life-long learning and to remain current in their profession to foster personal and organizational growth.

Program Outcomes B.Sc.(Computer Science and Engineering)

PO1 - Engineering knowledge: Apply the knowledge of Computer Science, mathematics, and electronics and an engineering specialization to the solution of complex engineering problems.

PO2 - Problem analysis: Identify, analyze, formulate complex computer Science and engineering problems reaching substantiated conclusions using first principles of mathematics and Computer Science.

PO3 - Design/development of solutions: Design solutions for complex Computer Science engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and considerations.

PO4 - Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

PO6 - Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO7 - Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO8 - Project management: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO9 - Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Program Specific Outcomes : On completion of the B.Sc. (CSE) degree the graduates will be able to

- POS -1.** To find the successful careers in Software or Information Technology field or will be able to successfully pursue advanced degrees.
- POS -2.** Apply standard Software Engineering practices and strategies in real-time software project development using open-source programming environment or commercial environment to deliver quality product for the organization success
- POS -3.** Design and develop computer programs/computer-based systems in the areas related to algorithms, networking, web design, databases, IoT and data Science of varying complexity
- POS -4.** Acquaint with the contemporary trends in industrial/research settings and thereby innovate novel solutions to existing problems

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Ref. No. _____

Date: _____

Mathematics – I

The objective of this course is to introduce:

1. Qualitative problems based on vector analysis and matrix analysis such as linear independence and dependence of vectors, rank etc.
2. Concepts of limit theory, nth order differential equations and their applications to our daily life
3. Problems of differentiation of functions of two variables and the maximization and minimization of functions of several variables.
4. Applications of double and triple integration in finding the area and volume
5. Applications of Gauss, Stoke's and Green's theorem

Course outcomes: At the end of course students will be able:

- CO-1. To solve qualitative problems based on vector & matrix analysis such as linear independence & dependence of vectors, rank etc.
- CO -2. To understand the concepts of limit theory and nth order differential equations and their applications to our daily life
- CO -3. To solve the problems of differentiation of functions of 2 variables and the maximization & minimization of functions of several variables.
- CO -4. To know the applications of double and triple integration in finding the area and volume
- CO -5. To Know about qualitative applications of Gauss , Stoke's and Green's theorem

Electrical Circuits & Machines (E C M)

Course objectives: The objective of this course is:

1. To introduces the basic concepts of network and circuit analysis which is the foundation of the Electrical Engineering discipline.
2. To introduces the basic analysis of circuits, network analysis, 1-phase ac circuits, and magnetic circuits.
3. To introduces knowledge of mathematics, science, & engineering to the analysis & design of electrical circuits.
4. To introduces circuit theorems to simplify and solve complex DC and AC electric networks.

Course outcomes: At the end of course students will be able:

- CO -1. Able to realize the working principles of electrical circuits and measuring instruments
- CO -2. Able to analyze linear electric circuits to determine DC response.
- CO -3. Able to analyze linear electric circuits to determine AC response.
- CO -4. Able to identify the type of electrical machine used for that particular application.
- CO -5. To apply knowledge of mathematics, science, & engineering to the analysis and design of electrical circuits.

ECM Lab

Course objectives: The objective of this course is:

1. Expose to the characteristic of control of a D C shunt motor
2. Introduce Load test on a D C Shunt Generator
3. Introduce Fields Test . Hopkinson Test
4. Introduce Swinburne's Test
5. Expose to MAT lab Software.

Course outcomes: At the end of course students will be able:

1. Able to understand Speed control of a D C shunt motor
2. Able to understand Load test on a D C Shunt Generator
3. Able to understand Fields Test and Hopkinson Test
4. Able to understand swinburne's Test
5. Able to understand use of MAT lab.


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Int. to Information Technology (IIT)

Course objectives: The objective of this course is:

1. To introduce the fundamental of computer software, hardware and data processing.
2. To introduce various operating system.
3. To acquire knowledge of MS-Word.
4. To familiarize MS-Excel.
5. To introduce various operators of Ms-Access, MS Power Point

Course outcomes: At the end of course students will be able:

- CO -1. To understand the computer components, hardware and software concepts of data processing
CO -2. To understand the different OS, DOS, UNIX, OS Commands, windows explorer, Accessories.
CO -3. To understand features and use of MS-Word,
CO -4. To understand features and use of MS-EXCEL,
CO -5. To understand features and use of M S – PowerPoint – MS Access & Types of Networks.

IITLab

Course objectives: The objective of this course is:

1. To design a visiting card, creating letter head, Bio data using Ms –Word.
2. To make a power point presentation.
3. To create a Database using Ms-Access.
4. To understand various operators of Ms-Access.
5. To create an electronic spreadsheet using Ms-Excel.

Course outcomes: At the end of course students will be able:

- CO -1. to create letter head, visiting card using Ms-word.
CO -2. to create presentation on Current Affairs, College profile, books details.
CO -3. to create Database using M S Access, the relationship between tables and creating report.
CO -4. to create MS-EXCEL Spread Sheet, formatting, apply formula on spread sheet.
CO -5. To Create column Chart, 3 D – Column and Bar Chart for representing in Ms-Excel .

Programming in C

Course objectives: The objective of this course is:

1. To introduce the fundamental concepts of c language , program, tools ,flowcharts ,algorithms
2. To introduce various looping and decision making statement , io statements, arrays .
3. To introduce the functions and its types, structure and union.
4. To familiarize various Storage classes, dynamic memory mgmt.
5. To introduce the concepts of pointers and files.

Course outcomes: At the end of course students will be able:

- CO -1. Understand the fundamental concepts of c language, program, tools flowcharts, algorithms
CO -2. able to Use various looping and decision making statement , io statements, arrays .
CO -3. Able to Use the functions and its types , structure and union
CO -4. Able to Select Storage classes, dynamic memory mgmt.
CO -5. able to understand the concepts of pointers and files

Programming in C Lab

Course objectives: The objective of this course is:

1. To write programs for solving real world problems using c.
2. To introduce use of various decision making statements.
3. To write programs using arrays .
4. To write programs using structures
5. To write real world applications using c

Course outcomes: At the end of course students will be able:

- CO -1. To write programs for solving real world problems using c language
CO -2. To write program using decision statements.
CO -3. To write programs for sorting and searching and matrix operations using array.
CO -4. To use structures in real time applications.
CO -5. To use c language in real world applications.

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ENVIRONMENTAL STUDIES

Objective: student try to learn

1. Ecosystem biodiversity and natural resources
2. Environment pollution, global issues and legislation.

Outcome: Student are able to 1. Define Eco system, biodiversity and natural resources.

2. Understand the environment pollution global issues and legislation

Mathematics – II

Course objectives: The objective of this course is to introduce:

1. Basics of matrices, complex numbers, and differential calculus.
2. The concepts of The Bisection false position, the Iteration & Newton – Raphson method
3. Taylor's series, Picord's method, Euler's method, Rung – Kutta methods
4. Eigen values & vectors, Cayley – Hamilton theorem, Inverse and powers of a matrix by Cayley
5. The problems fourier series, even & odd functions, period continuation Half range Fourier Sine & Cosine expansions.

Course outcomes: At the end of course students will be able:

- CO -1. To recall and remember basics of matrices, complex numbers, and differential calculus.
- CO -2. to understand the Bisection false position, the Iteration Newton – Raphson method
- CO -3. To apply solution by Taylor's series, Picord's, Euler's method, Rung – Kutta methods
- CO -4. To analyze Eigen values & vectors, Cayley – Hamilton theorem, Inverse & powers of a matrix.
- CO -5. To solve and evaluate the problems Fourier series, even & odd functions, period continuation Half range Fourier Sine and Cosine expansions.

Physics

Course objectives: The objective of this course is to introduce :

1. Different types of matter depending on nature chemical bonds and their properties
2. Concept of wave function, physical significance and its applications to quantum mechanical problems.
3. Concepts of semiconductor physics
4. The idea of superconductivity and importance in advancement of technologies
5. Principle, properties and applications of Lasers and optical fibres

Course outcomes: At the end of course students will be able:

- CO -1: Analyze the crystal structures by applying crystallographic parameters.
- CO -2: Learn and to apply concepts learnt in Quantum mechanics to one dimensional problems
- CO -3: Write down the concepts related to solid state physics and material science.
- CO -4: Understand application of Lasers in Medicine, Industry etc.,
- CO -5: Understand applications of optical fibres in Medicine and Sensors.

Electronic Devices & Circuits

Course objectives: The objective of this course is:

1. Outline the operation of PN junction diode and its characteristics.
2. Illustrate the operation of Bipolar Junction Transistor and its characteristics.
3. Demonstrate the operation of JFET and MOSFET and their characteristics.
4. Introduce extend the operation of semiconductor devices.
5. Introduce the feedback amplifier Concept, classification, characteristics, feedback effect.

Course outcomes: At the end of course students will be able:

- CO -1. To describe the behaviour and purpose of various diodes.
- CO -2. To Understand and analyze bipolar junction transistor (BJT).
- CO -3. To demonstrate the switching & amplification of the semiconductor devices (FET).
- CO -4. To understand Extend the operation of semiconductor devices.
- CO -5. Able to understand the feedback amplifier Concept, classification, characteristics and effects.

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Electronic Devices & Circuits Lab

Course objectives: The objective of this course is:

1. To be exposed to the characteristics of basic electronic devices
2. To be exposed to the characteristics of Transistor
3. To be exposed to the characteristics various types of Diodes
4. To be exposed to the various types of rectifiers.
5. To be exposed to the characteristics FET and BJT

Course outcomes: At the end of course students will be able:

- CO -1. To understand the characteristics of basic electronic devices.
- CO -2. To understand the Characteristics of P-N diode, zener diode.
- CO -3. To understand the various types of rectifiers & amplifiers.
- CO -4. To understand the Characteristics of Transistor.
- CO -5. To understand FET and BJT uses

UNIX Programming

Course objectives: The objective of this course is:

1. To introduce UNIX file system, Utilities, vi editor ,file, process & disk handling commands
2. To introduces problem solving using shell scripts ,born shells, commands ,pipes, scripts & variables etc.
3. To familiarize the students to Low level file access and system calls.
4. To equip the students with Unix io, formatted commands.
5. To equip the students file and directory handling commands.

Course outcomes: At the end of course students will be able:

- CO -1. To understand the UNIX file system, Utilities commands for vi, file, process & disk handling commands .
- CO -2. To solve the problems using shell scripts, born shells, various commands ,pipes, scripts & variables etc.
- CO -3. To know the Low level file access and system calls.
- CO -4. To use Unix io commands ,formatted io commands and directory handling commands.
- CO -5. To use file and directory handling commands

UNIX Programming Lab

Course objectives: The objective of this course is:

1. To write programs for solving real world problems using shell scripts.
2. To Familiar with vi editor commands.
3. To introduce Unix shell commands.
4. To write programs using system calls .
5. To introduce grep and other pattern matching commands

Course outcomes: At the end of course students will be able:

- CO -1. To write programs for solving real world problems using shell scripts.
- CO -2. To work with vi editor commands.
- CO -3. To use Unix shell commands.
- CO -4. To write programs using system calls.
- CO -5. To use pattern matching commands.

BASIC COMPUTER SKILLS

Objective: student try to learn

1. The concept of computer and word processing
2. The basics of operating computer using G U I based operating system.

Outcome: Student are able to understand

1. The concept of computer and word processing and its uses
2. various operating system CUI and G U I based


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Mathematics – III

Course objectives: The objective of this course is to introduce:

1. Gamma function and beta function and their Recurrence relations, complex integration
2. Finite and Infinite Fourier Transforms and applications.
3. Concept of analytic function, C-R equations and its uses.
4. Cauchy's theorem and its uses in complex integration, Taylor's and Laurent's series in complex form.
5. Learn about Cauchy Residues theorem and contour integrations.

Course outcomes: At the end of course students will be able:

- CO -1. To solve Gamma function and beta function and their Recurrence relations, complex integration
- CO -2. To gain knowledge of Finite and Infinite Fourier Transforms and applications.
- CO -3. Familiarize with the concept of analytic function, C-R equations and its uses.
- CO -4. To use about Cauchy's theorem & its uses in complex integration. Taylor's & Laurent's series in complex form.
- CO -5. To know about Cauchy Residues theorem and contour integrations

Digital Logic Design

Course objectives: The objective of this course is:

1. To identify and use Number Systems.
2. To learn about Basic Gates and Universal Gate.
3. To learn about Full and Half Adder using Gates.
4. To learn about Sequential Logic Circuits.
5. To learn about Register and Counters.

Course outcomes: At the end of course students will be able:

- CO -1. To recognize different types of number system related to computers.
- CO -2. To use Logic Gates and Universal Gates.
- CO -3. To construct half and full adder using gates.
- CO -4. To design and analyze Sequential Logic Circuits
- CO -5. To Gain Knowledge about Registers, Multiplexer and counters

Digital Logic Design Lab

Course objectives: The objective of this course is:

1. To become familiar with basic logic gates and their functions.
2. To implement a Half and Full adder circuit.
3. To implement Registers, Multiplexer and counters
4. To implement use of mux, demux .
5. To learn Encoder and Decoder by implementing a counter using 7 segment display & keypad.

Course outcomes: At the end of course students will be able:

- CO -1. To use Logic Gates and Universal Gates
- CO -2. To design Full and Half Adder and Subtract or Using various Gates.
- CO -3. To design Shift Registers and Counters.
- CO -4. To get pulse generator for Output Broadband Connector and frequency.
- CO -5. To design Binary Static Switches.


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Date: _____

Operating System

Course objectives: The objective of this course is:

1. Provide an introduction to operating system concepts (processes, threads, scheduling,)
2. To introduce Inter process communication.
3. To introduce synchronization, deadlocks.
4. To introduce memory management techniques.
5. To introduce file and directory structure and protection

Course outcomes: At the end of course students will be able:

- CO-1. To gain the knowledge of process thread and scheduling.
- CO-2. To understand the concepts of inter process communication.
- CO-3. To gain the knowledge of the deadlocks and it's handling.
- CO-4. To understand the various memory management techniques
- CO-5. To gain practical knowledge of file and directory structure and protection.

Operating System Lab

Course objectives: The objective of this course is:

1. To use dos and unix os commands.
2. To write program for CPU scheduling algorithms.
3. To write program for bankers algorithm for deadlock avoidance.
4. To write program for memory management.
5. To write program for FIFO page replacement algorithm.

Course outcomes: At the end of course students will be able:

- CO -1. To use dos and unix os commands.
- CO -2. To write program using CPU scheduling algorithms.
- CO -3. To write program using bankers algorithm for deadlock avoidance.
- CO -4. To write program using memory management.
- CO -5. To write program using FIFO page replacement algorithm

OOP Through C++

Course objectives: The objective of this course is:

1. Introduces Object Oriented Programming concepts using the C++ language
2. Introduces the principles of data abstraction, inheritance and polymorphism;
3. Introduces the functions and arrays
4. Introduces the principles of virtual functions and polymorphism
5. Introduces exception handling

Course outcomes: At the end of course students will be able:

- CO -1. To understand the OOP concepts.
- CO -2. To develop programs with reusability
- CO -3. To develop programs with array, functions and polymorphism.
- CO -4. To handle exceptions in programming
- CO -5. To develop applications for a range of problems using OOP programming techniques


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Date: _____

OOP Through C++

Course objectives: The objective of this course is:

1. To introduce Object Oriented Programming concepts using the C++ language
2. To introduce the principles of data abstraction, inheritance and polymorphism;
3. To introduce the functions and arrays
4. To introduce exception handling & virtual functions
5. To introduce various applications using OOP concepts.

Course outcomes: At the end of course students will be able:

- CO-1. To analyze and solve the programs in C++ programs .
- CO-2. To develop programs with reusability in C ++
- CO-3. To Develop programs with array , functions and polymorphism.
- CO-4. To Develop programs to handle exceptions in programming
- CO-5. To Develop applications for a range of problems using OOP techniques.

M – Commerce

Course objectives: The objective of this course is introduce :

1. what are the benefits of M-commerce.
2. what problems are going to face by M-commerce.
3. How M-commerce can be grown.
4. the banking services of the consumers.
5. Business-to-consumer transactions conducted from a mobile devices.

Course outcomes: At the end of course students will be able:

- POS-1. To understand what are the benefits of M-commerce.
- POS-2. To know the problems are faced by M-commerce.
- POS-3. To understand how M-commerce can be grown.
- POS-4. To understand the banking services of the consumers.
- POS-5. To understand Business-to-consumer transactions conducted from mobile devices.

Probability & Statistics

Course objectives: The objective of this course is:

1. To introduce of probability Also measures of central tendency
2. To introduce binomial, Poisson and normal distributions and their applications in different engineering, science and social science fields etc.
3. To introduce sampling distribution and point and interval estimation using z and t.
4. To introduce Statistical model with different statistical techniques like chi square distribution.
5. To introduce the problems with correlation and regression analysis

Course outcomes: At the end of course students will be able:

- CO-1. To understand the problems of probability and measures of central tendency
- CO-2. To know about binomial, Poisson, normal distributions and their applications in different engg., science & social science fields etc.
- CO-3. To know about sampling distribution and point and interval estimation using z and t
- CO-4. To solve the statistical model with different statistical techniques like chi square distribution.
- CO-5. To understand the problems and solve them with correlation and regression analysis


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Micro Processor 8086 and Interfacing

Course objectives: The objective of this course is:

1. Introduce the architecture of 8086 microprocessors.
2. Introduce microprocessors and microcontrollers
3. Introduce programs for microprocessor and microcontrollers
4. Introduce 8051 microcontroller concepts, architecture and programming
5. Introduce Peripherals of Micro Computer System.

Course outcomes: At the end of course students will be able:

- CO -1. To know about architecture of 8086 microprocessors.
- CO -2. To understand the basics of microprocessors and microcontrollers arch. & its functionalities.
- CO -3. To understanding machine language programming & interfacing techniques.
- CO -4. To design and develop microcontroller based real time applications using ALP.
- CO -5. Understand the concepts of ARM processor

Micro Processor 8086 & Interfacing LAB

Course objectives: The objective of this course is:

1. To learn about Assemble Language Programming (ALP).
2. To write ALP for Arithmetic operation on 16 Bit Unsigned numbers
3. To write ALP for Sorting of an Array of Number
4. To write ALP for finding the median from the list of numbers and length of given String
5. To write ALP for displaying the Character on Led and Number on 7-Segment Display.

Course outcomes: At the end of course students will be able:

- CO -1. Able to write ALP programs using Microsoft Macro Assembler 8.0 (MASM) tool.
- CO -2. Able to write ALP for addition, subtraction, Multiplication and Division unsigned 16 bits nos.
- CO -3. Able to write ALP for arrays and for Rotating of Stepper Motor
- CO -4. Able to write ALP for median from list, length of string and Reversing of a given string.
- CO -5. Able to write ALP for displaying the Character on Led and Number on 7-Segment Display.

Data Structure

Course objectives: The objective of this course is:

1. Exploring data structures such as stacks and queues.
2. Introduces various types of linked lists.
3. Introduces a variety of data structures such as tree, graphs
4. Introduces sorting algorithms
5. Introduces searching algorithms

Course outcomes: At the end of course students will be able:

- CO -1. To select the data structures (stack, queue etc) that model the problems in real world.
- CO -2. To use the linked list to model the information in a problem.
- CO -3. To know the use of tree and graph in applications.
- CO -4. To Implement sorting algorithms(bubble sort quick sort etc.)
- CO -5. To Implement searching algorithms(linear, binary search) and assess efficiency trade-offs among different algorithms.


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Data Structure LAB

Course objectives: The objective of this course is:

1. To introduces searching and sorting algorithms
2. To introduces linked list and its operations
3. To provides an understanding and programs on stacks and queues.
4. To introduces programs on graphs.
5. To introduces programs on trees.

Course outcomes: At the end of course students will be able:

- CO -1. To understand and implement searching and sorting algorithms
- CO -2. To understand and implement linked list and its operations
- CO -3. To develop programs for computing and real-life applications using stacks, queues.
- CO -4. To write programs using graphs and assess efficiency trade-offs among different algorithms.
- CO -5. To write programs using trees and assess efficiency trade-offs among different algorithms.

Programming in Java

Course objectives: The objective of this course is:

- 1.To introduce the object oriented programming concepts.
- 2.To introduce java programming in solving problems.
- 3.To introduce the principles of inheritance and polymorphism
- 4.To introduce the implementation of packages and interfaces
- 5.To introduce the concepts of exception handling and multithreading.

Course outcomes: At the end of course students will be able:

- CO -1. To solve real world problems using OOP techniques
- CO -2. To solve problems using java collection framework and I/O classes.
- CO -3. To develop multithreaded applications with synchronization.
- CO -4. To develop applications using packages and interface
- CO -5. To design programs using exception handling and multithreading.

JAVA Programming LAB

Course objectives: The objective of this course is:

1. To introduce java compiler and eclipse platform.
2. To write programs for solving real world problems using java collection frame work.
3. To write multithreaded programs.
4. To write programs to handle the exceptions.
5. To write programs to using packages.

Course outcomes: At the end of course students will be:

- CO -1. Familiar with java compiler and eclipse platform.
- CO -2. Able to write programs for solving real world problems using java collection frame work.
- CO -3. Able to write multithreaded programs.
- CO -4. Able to handle the exceptions in java programs.
- CO -5. Able to write programs using packages.

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Software Engineering

Course objectives: The objective of this course is:

1. Be successful professionals in the field with solid fundamental knowledge of software engineering
2. Utilize and exhibit strong communication and interpersonal skills, as well as professional and ethical principles when functioning as members and leaders of multi-disciplinary teams
3. Apply their foundations in software engineering to adapt to readily changing environments using the appropriate theory, principles and processes.
4. To provide an idea of using various process models in the software industry according to given circumstances.
5. To gain the knowledge of how Analysis, Design, Implementation, Testing and Maintenance processes are conducted in a software project.

Course outcomes: At the end of course students will be:

- CO -1. Able to work in one or more significant application domains
- CO -2. Able to work as an individual and as part of a multidisciplinary team to develop and deliver quality software
- CO -3. Demonstrate an understanding of and apply current theories, models, and techniques that provide a basis for the software lifecycle
- CO -4. Demonstrate an ability to use the techniques and tools necessary for engineering practice.
- CO -5. able to decomposing the given problem into Analysis, Design, Implementation, Testing and Maintenance phases.

Computer Networks

Course objectives: The objective of this course is:

1. To equip the students with overview & concepts of fundamentals of computer networks.
2. To familiarize the students with the standard models for the layered approach to communication between machines in a network.
3. To introduce various layers, functions of each layers.
4. To introduce the routing algorithms.
5. To introduce varies protocols in application layers.

Course outcomes: At the end of course students will be able:

- CO -1. To know of the basic computer network technology.
- CO -2. To gain the knowledge of the functions of each layer in the OSI and TCP/IP reference model.
- CO -3. To gain the knowledge in network design and implementation.
- CO -4. To obtain the skills of sub-netting and routing mechanisms.
- CO -5. Familiarity with the essential protocols of computer networks in application layer.

Compiler Construction

Course objectives: The objective of this course is to:

1. Provide an understanding of the fundamental principles in compiler design and it phases.
2. Introduce finite state machine and the scanning process in compiler.
3. Introduce top down and bottom up parsing
4. Introduce the various optimization methods.
5. Learn the process of translating a modern high-level language to executable code required for compiler construction.

Course outcomes: At the end of course students will be able to:

- CO -1. Understand fundamentals of compiler and identify the relationships among different phases of the compiler.
- CO -2. Understand the application of finite state machines and scanning.
- CO -3. Understand the top down and bottom up parsing methods.
- CO -4. Understand the various tools for optimization.
- CO -5. Use modern tools and technologies for designing new compiler.

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Object Oriented Analysis And Design

Course objectives: The objective of this course is:

1. introduce Objects and Classes of the software system.
2. introduce construct object model using object types, attributes, structures and associations.
3. introduce Object-Oriented Methodologies ,Analyze Functional and Dynamic Modelling.
4. introduce interaction diagrams
5. introduce Use case Diagrams, Activity Diagrams .

Course outcomes: At the end of course students will be :

- CO -1. Able to analyze the problem and apply to real world problems.
- CO -2. Able to construct object-oriented system , modelling objects, relationships and interactions.
- CO -3. Able to discuss software design in an object-oriented manner.
- CO -4. Able to draw Interaction diagrams
- CO -5. Able to draw and analyse Use case Diagrams, Activity Diagrams.

OOAD-LAB

Course objectives: The objective of this course is to introduce:

1. The Object-based view of Systems
2. Software specifications, analysis and design in solving complex problems.
3. The analysis and design the use case driven requirements for a particular system.
4. The model the event driven state of object and transform them into implementation specific layouts.
5. the subsystems, various components and collaborate them interchangeably.

Course outcomes: At the end of course students will be able:

- CO -1. Understand the object-based models for Systems.
- CO -2. Analyze and handle complex software design.
- CO -3. Analyze and design the use cases.
- CO -4. Understand abstract object-based views for generic software systems.
- CO -5. Deliver robust software components

Modern Data Base Management System

Course objectives: The objective of this course is to introduce:

1. The basic concepts and the applications of database systems.
2. Data models, database design, relational model, relational algebra,
3. The basics of SQL and construct queries using SQL
4. The normalization techniques.
5. The storage structures & access, distributed database systems.

Course outcomes: At the end of course students will be able:

- CO -1. To Gain knowledge of fundamentals of DBMS and its uses,
- CO -2. To design logical database using data models.
- CO -3. To design Physical database and master in SQL commands
- CO -4. To apply the normal forms
- CO -5. To familiarity with database storage structures and access techniques


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MDBMS LAB

Course objectives: The objective of this course is to:

1. Introduce the basics of SQL Queries.
2. Introduce DDL , DML commands
3. Introduce Construction of queries using SQL
4. Introduce Database design and ER data model,.
5. Introduce PL sql programs.

Course outcomes: At the end of course students will be able:

- CO -1. To write the basics of SQL Queries.
- CO -2. To use DDL , DML commands
- CO -3. Construct of queries using SQL
- CO -4. Design database and ER data model.
- CO -5. To write PL sql programs.

GE-1 INFORMATION TECHNOLOGIES

Objective: Introduce the computer characteristics, generation of computers classifications, algorithms, databases, network media devices ,and protocols and models

Outcome: students are able to understand the computer characteristics, generation of computers classifications, algorithms, databases, network media devices ,and protocols and models

PHP and MySQL

The objective of this course is to:

1. Provide an understanding PHP development environment.
2. Introduce the various php programming constructs decision making ,loops etc.
3. Introduce the arrays & strings concepts in php.
4. Provide syntax used with MySQL and methods for retrieve and manipulate data from one or more tables
5. learn real time application using php and mysql.

At the end of course students will be able to:

- CO -1. 1. Work with PHP development environment.
- CO -2. 2. Use various php programming constructs decision making ,loops etc.
- CO -3. 3. Introduce the arrays & strings concepts in php.
- CO -4. 4. Use MySQL and methods for retrieve and manipulate data from one or more tables
- CO -5. 5. Develop real time application using php and mysql

Internet of Things

Course objectives: The objective of this course is to:

1. Provide an understanding what IoT is and how it works today
2. Introduce the factors that contributed to the emergence of IoT
3. Introduce Internet and communication technologies for IOT.
4. Provide Prototyping and programming for IoT
5. Introduce Cloud computing and Data analytics.

Course outcomes: At the end of course students will be able to:

- CO -1. Understand what IoT is and how it works today.
- CO -2. Understand the factors that contributed to the emergence of IoT
- CO -3. Understand the Internet and communication technologies for IOT.
- CO -4. Understand prototyping and programming for IoT
- CO -5. Understand the Cloud computing and Data analytics.

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Web Programming

Course objectives: The objective of this course is:

- 1.To introduce HTML & DHTML language for client –sides cripting
- 2.To introduce Cascading style sheets and layers
- 3.To introduce with Java scripts and it's objects
- 4.To introduce Server-side programming with ASP
- 5.To introduce the XML.

Course outcomes: At the end of course students will be able:

- CO -1. 1.Gain knowledge of client-side scripting, validation of forms.
- CO -2. 2.Understand the use of css and layers
- CO -3. 3.Understand Java scripts and it's objects
- CO -4. 4.Understand server-side scripting with ASP.
- CO -5. 5.Understand what is XML and how to parse and use XMLData

Web Programming LAB

Course objectives: The objective of this course is:

1. To write programs using html.
2. To write programs for solving real world problems using java Scripts.
3. To write programs using html,css and java scrips.
4. To write programs to handle various data validation.
5. To impart hands on experience on real time websites.

Course outcomes: At the end of course students will be:

- CO -1. Able to write html programs.
- CO -2. Able to solve real world problems using java scripts.
- CO -3. Able to write programs for solving real using java scripts.
- CO -4. Able to write handle the data validation.
- CO -5. Able to design web sites.

Introduction to Data science & Python Programming

Course objectives: The objective of this course is:

1. To introduce the concept of data science and its fundamentals.
2. To introduce various machine learning algorithms.
3. To acquire programming skills in core Python.
4. To familiarize data types in python.
5. To understand various operators and control statements and Arrays

Course outcomes: At the end of course students will be able:

- CO -1. 1. To understand data science phases of data science process and its role.
- CO -2. 2. To understand various algorithms in machine learning.
- CO -3. 3. To understand python programming and data types.
- CO -4. To understand Operators in Python, input and output statements, Control Statements.
- CO -5. 5. To understand the concept of arrays in python.


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Python Programming LAB

The objective of this course is to introduce:

1. Use of operators, Arrays in python.
2. Application of dictionaries in python
3. Uses of Strings and characters.
4. Use of lists, tuples, and dictionaries in Python programs.
5. Creation of module in python.

At the end of course students will be able:

- CO -1. To write program using Operators, Arrays in Python
- CO -2. To write program using dictionaries in python.
- CO -3. To write program using Strings and Characters
- CO -4. To write program using lists, tuples, and dictionaries in Python programs.
- CO -5. To write applications using function in python.

SCILAB

The objective of this course is to:

1. Provide an understanding Scilab environment and setup.
2. Introduce the menus ,commands and operations on vectors.
3. Introduce Scalars & Vectors.
4. Introduce Programming in scilab
5. Introduce string functions, 2d and 3d plotting.

At the end of course students will be able to:

- CO -1. Install and familiarize the scilab environment.
- CO -2. Understand the menus,commands and operations on vectors.
- CO -3. Understand the various operations on Scalars & Vectors.
- CO -4. Familiarize the programming in scilab
- CO -5. Process the string and plot 2d and 3d graph.


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DEPARTMENT: ECONOMICS
PROGRAMME: MA ECONOMICS
2020-2021

Each Master of Arts programme in Economics contains a core group of theory courses, a series of quantitative skills courses, and field specialization courses that involve the applications of economic theory and quantitative analysis to major areas of study within the discipline.

The teacher may have the important aims of teaching economics in his mind to make his students able to understand the application of economics in their daily lives and the whole economic structure of the country.

PROGRAMME OBJECTIVES GENERAL:

OBJECTIVES

The Master of Arts programme in Economics has been designed with the objective to develop in-depth knowledge of students in frontier areas of economic theory and methods, so that they are able to use the knowledge to study real world economic problems.

The course has a strong focus on theoretical and quantitative skills and train students in the collection and analysis of the data using their software skills. The programme offers specialised optional courses, which allow student to pursue their studies in their area of interest. The students are required to submit report and present their findings of field-study. Besides, to hone the student's writing and analytical skills they are required to submit a term paper on current economic problem.

Thus, the Masters in Economics programme seek to:

- Prepare students to develop critical thinking to carry out investigation about various socio-economic issues objectively while bridging the gap between theory and practice.
- Equip the student with skills to analyze problems, formulate an hypothesis, evaluate and validate results and draw reasonable conclusions thereof.
- Prepare students for pursuing research or careers that provide employment through entrepreneurship and innovative methods. Because today's unemployment problem can also be solved by developing the micro and small entrepreneurship.
- Prepare students to develop own thinking /opinion regarding current national or international policies and issues.
- Create awareness to become a rational and an enlightened citizen so that they can take the responsibility to spread the governments' initiatives/schemes to the rural areas for the upliftment of the poor or vulnerable section of the society for inclusive growth.

OUTCOME:

At the end of the programme, the students will have adequate competency in the frontier areas of economic theory and methods. The students will acquire additional specialisation through optional courses. They will be able to use common software for analysis of economic data. Besides, students will be able to execute in-depth analysis of economic issues based on their understanding of economic theory, which will not only widen their opportunities for employment, but also help them to pursue their doctoral studies. Keeping the programme objectives in view, the specific learning outcomes of Masters in Economics are:

- Understanding the basic assumptions in various economic theories and enhance capabilities of developing ideas based on them
- Prepare and motivate students for research studies in Economics especially by developing questionnaire, collecting primary data through field surveys

- Provide knowledge of a wide range of econometric techniques using excel or other statistical software
- Motivate students to extract or utilize different websites for secondary data collection, generating concepts for various facets of economic studies and gather latest informations provided by various Universities, UGC, or ICSSR
- Motivate students in preparing for various competitive examinations, NET, SET, Indian Economic Service etc., by developing or gaining value addition day by day by giving assignments, by following a routine or developing discipline / concentration etc.

PROGRAMME SPECIFIC OUTCOME (PSO)

1. To impart in depth knowledge to students about economic theory regarding utilization and allocation of resources including labour, natural resources and capital.
2. To develop students understanding about how market for goods and services function and how income is generated and distributed.
3. To give students in depth knowledge into special fields of choice like agricultural economics, industrial economics, financial market, development economics, international trade, urban economics econometrics, mathematical economics etc.
4. To make students familiar with economic theories and their relevance, econometrics, quantitative techniques and applied research in a wide variety of fields within economics.
5. Students would know how the economy is influenced by economic policy, technological advances and demographic conditions

B. Siddique

Mrs. Bushra Siddique

Head Department of Economics

HEAD

**Department of Economics
Anwarul Uloom College (Autonomous)
New Mallepally, Hyderabad.**

CORE OBJECTIVES

MA FIRST YEAR SEMESTER -I MICRO ECONOMICS-1

OBJECTIVES

1. To have a theoretical understanding of consumer behavior and decision-making
2. To get acquainted with recent advances in microeconomic theory and acquire the skills to apply the theoretical knowledge in research
3. To learn about theory of demand, Utility Functions - types and properties; Consumers' choice involving risk and uncertainty; Production function - types and properties; Theories of Cost and general equilibrium theory - An overview.

OUTCOMES:

On successful completion of this course students will be able to:

1. have an understanding of the basic reasoning of Economics and understand the consumption; production and cost concepts in an analytical way;
2. apply mathematical tools and techniques to study behavior of economic agents;
3. understand the basic principles of General equilibrium theory

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**MA FIRST YEAR
SEMESTER -I
MACRO ECONOMICS-I**

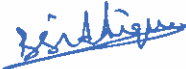
OBJECTIVES

1. To analyse and establish the functional relationship between economy level/aggregates.
2. To have a proper understanding of macroeconomic theoretical structure
3. To educate the students on different terms and concepts in macroeconomics like national income accounting, Circular flows, consumption function, investment function, supply and demand for money.

OUTCOMES

On successful completion of this course students will be able to:

1. apply the subject knowledge in understanding the working of the economy as well as the macroeconomic issues and policies; and
2. understand systemic facts and theoretical developments.


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**MA FIRST YEAR
SEMESTER -I
QUANTITATIVE METHODS-I**

OBJECTIVES

1. To train the students to use the techniques of mathematical and statistical analysis, which are commonly applied to understand and analyze economic problems
2. To emphasize the mathematical methods rather than learning mathematics itself, which are usually used for understanding economic concepts
3. To learn about the classical techniques involving functions and calculus
4. To gain knowledge about the elements of Game Theory as applicable to real life economic analysis. Course Outcome

OUTCOMES

1. Express relationship between economic variables mathematically, analyze, optimize and interpret them.
2. Use appropriate techniques to solve problems with calculus and linear algebra.
3. Understand the basics of game theory to resolve economic issues.


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**MA FIRST YEAR
SEMESTER -I
AGRICULTURAL ECONOMICS-I**

OBJECTIVES

1. To impart knowledge on applications of economic theories in agricultural sector
2. To make students understand the linkage between agriculture and other sectors of the economy.
3. To impart knowledge on new developments in the policy paradigms related to agricultural sector.

OUTCOMES

1. Deeper knowledge on different theories related to economic development and the agricultural sector; and
2. Increased interest to undertake research activities related to aspects of agricultural sector in India.


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**MA FIRST YEAR
SEMESTER -I
FINANCIAL ECONOMICS-I**

OBJECTIVES

1. It introduces the students to the financial decision making process: essentials of firms' investment decisions, risk-and-return trade-off, investors' portfolio choices, and theoretical basis of asset pricing.
2. In doing so, the class covers fundamental theories of financial economics.
3. Seeks to provide a solid knowledge of finance that is needed for future finance courses.

OUTCOMES

1. The principles of project selection and investments by corporations
2. The risk and return trade-off in financial markets
3. Fundamental theories of financial economics


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**MA FIRST YEAR
SEMESTER -II
MICRO ECONOMICS-II**


OBJECTIVES

1. To impart theoretical knowledge on theories of firm
2. To impart theoretical knowledge on distribution.
3. To explain equilibrium analysis and welfare economics

OUTCOMES

Student will be having:

1. Deeper knowledge on decision making under different firms
2. Deeper knowledge of theories of interest, wages and profit.
3. Deeper knowledge about distributional and welfare aspects of economic activities.


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**MA FIRST YEAR
SEMESTER -II
MACRO ECONOMICS-II**

OBJECTIVES

1. To make the students understand the different terms and concepts in macroeconomics like Money market and real market, inflation in developing countries, causes of occurrence of business cycle in a market economy and ways to control them.
2. To expose the students to open economy macro economics and the dynamics there in.
Course

OUTCOMES

1. Apply the subject knowledge in understanding the macroeconomic dynamics both in a closed and an open economy;
2. Understand the functioning of a market economy and the ways and means to keep such an economy functioning properly

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**MA FIRST YEAR
SEMESTER -II
QUANTITATIVE METHODS -II**

OBJECTIVES

1. To train the students to use the techniques of probability theory and statistical analysis, which are commonly applied to understand and analyze economic problems
2. To deals with simple tools and techniques, which will help in sampling theory and designs, data collection, analysis, theory of estimation and hypothesis testing
3. To initiates the correlation analysis - simple, multiple and partial, and regression analysis - linear and nonlinear.

OUTCOMES

1. Have fair idea about probability theory which forms the foundation of inferential statistics.
2. Understand theoretical distributions and their significance.
3. Understand sampling and sampling designs, theory of estimation and hypothesis testing procedure.
4. Fit a linear and some commonly used non-linear curves.


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**MA FIRST YEAR
SEMESTER -II
AGRICULTURAL ECONOMICS -II**

OBJECTIVES

- 1.To study the significance of agriculture in economic development.
- 2.To provide information to students about various modern technology and ideas adopted in the agriculture sector.

OUTCOMES

- 1.Students will obtain information regarding various agricultural issues in India and remedies for it.
- 2.Students also can get information about co-operative movement in India and its performance and role in rural development.
- 3.Making awareness about selfemployment through various local business like agrotourism, travel agents, horticulture, floriculture, fishery and animal husbandry.

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**MA FIRST YEAR
SEMESTER -II
FINANCIAL ECONOMICS -II**

OBJECTIVES

1. To educate the students on different terms and concepts in financial institutions and market like commercial and central bank, monetary policy, money and capital market.
2. To enhance the understanding of the students about organisation, operation and growth of financial systems.

OUTCOMES

1. Understand the financial system: its structure and functions and equilibrium
2. Understand the way the different rates of interests are determined;
3. Appreciate the functioning and importance of different banking and non-banking financial institutions and their role in a developing economy
4. Explain the role and structure of money and capital markets


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Department of Economics
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New Mallepally, Hyderabad.

**MA SECOND YEAR
SEMESTER -III
ECONOMETRICS-I**

OBJECTIVES

1. To introduce the relevant econometric theory and explaining the theory with examples
2. To understand Classical Linear Regression Models and regression diagnostics
3. To develop an intuitive understanding of the material that will allow these econometric tools to be utilized effectively and creatively.

OUTCOMES

1. Learn various basic econometric methods, estimation methods and related econometric theories.
2. Apply these methods to data or econometric modeling techniques.

Bsiddique

HEAD
Department of Economics
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New Mallepally, Hyderabad.

**MA SECOND YEAR
SEMESTER -III
INTERNATIONAL ECONOMICS-I**

OBJECTIVES

1. The theories of international trade, gains from trade and its distribution.
2. Effects of trade policy and regional trading blocs.
3. Bops and its adjustments.

OUTCOMES

1. Analyse and apply the trade theories and theories of tariff.
2. Apply and analyze the different policies for bops adjustments of developing countries like India.
3. Comment critically on and participate in current debates on international economic policy.

B. Siddique
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**MA SECOND YEAR
SEMESTER -III
PUBLIC ECONOMICS-I**

OBJECTIVES

1. To provide the students with thorough analytical understanding to analyze public goods, externalities, market failures; economics of government expenditure, taxation and public borrowing.
2. To critically analyze fiscal policies/finance and its implication in Indian Economy.

OUTCOMES

1. Have conceptual clarity on the theories of public goods, public expenditure, public revenue and public borrowing.
2. Apply the principles of public economics in analyzing various government policies.

B. Sridhar

HEAD
Department of Economics
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**MA SECOND YEAR
SEMESTER –III
INDUSTRIAL ECONOMICS-I**

OBJECTIVES

1. To explain why industries are composed of a few large firms instead of many small ones.
2. Looking at the strategic interactions between firms in a market,
3. Analyzing such market phenomena as price discrimination, product differentiation, price wars, mergers, vertical relationships between firms, advertising, entry and exit, and research and development.
4. To study real-world applications of the theories that is learnt in a class.

OUTCOMES

1. Explain and analyze the main issues and debates in the field of industrial economics
2. Describe the workings of different market structures
3. Critically evaluate different policy approaches to industry
4. Analyze the value and the limitations of existing theory in the area of industry economics
5. Explain the economic behavior of different industries, firms and markets in relation to their output and pricing decisions
6. Analyze and provide policy recommendations about monopolies, cartels, non-cooperative oligopolies and other forms of imperfect competition
7. Critically evaluate the relationship between industrial structure and performance and the various approaches to innovation, entrepreneurship and industry policy

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**MA SECOND YEAR
SEMESTER –III
DEVELOPMENT ECONOMICS–I**

OBJECTIVES

1. To make students learn through the study of various concepts in economics, like Economic growth and development, GDP, GEM, etc.
2. To make the students able to understand the various causes of population explosion, consequences and its various remedial measure in India.
3. To explain the importance of learning both traditional and modern theory of economic development.
4. To increase students knowledge through the study of various economic theories, important principles, laws and generalization.

OUTCOMES

Student were able to:

1. Define the concept of economic growth and development and answer questions related to the topics.
2. They will practically understand the role of state in the process of development.
3. It enables the students to appreciate the fact that for preserving the health & welfare of the family, to ensure economic stability of the family and to assure good prospects of the younger generation.
4. Students got accurate information about the effect of changes in family size and in national population on the individual.
5. The students came to know the importance of innovation in the present market.
6. Students became aware about most of the interesting and logical facts, laws and also about the changes in behavior of human beings.



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**MA SECOND YEAR
SEMESTER -IV
ECONOMETRICS-II**

OBJECTIVES

- 1.To provide the students with some useful tools for his/her future research.
2. To help the student to develop a way of thinking in quantitative terms.

OUTCOMES

- 1.Understand maximum likelihood estimation and identify what is common and what not with respect to least squares estimation.
2. Apply maximum likelihood estimation and likelihood ratio testing in specific models.
- 3.Estimate and test regression models for binomial, multinomial, ordinal and count data.
- 4.. Estimate and test regression models for censored data.
5. Estimate and test sample selection models.


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**MA SECOND YEAR
SEMESTER -IV
INDIAN ECONOMY**

OBJECTIVES

1. To make students learn through the study of various concepts in economics, liked Economic growth and development, GDP, GEM, etc.
2. To explain the meaning of Balanced and unbalanced Growth Strategy.
3. To describe changes in the composition of national income and employment.
4. To explain the importance of natural resources.
5. To explain the difference between the definitions and components of GNI and GDP and understand GNI and GDP as measures of national income, understand the difference between nominal (money) GNI/GDP and real GNI/GDP.
6. To make student understand the importance of planning for the development of the economy.

OUTCOMES

Student were able to:

1. Define the concept of economic growth and development and answer questions related to the topics.
2. They will understand the importance of empowering a women.
3. They will practically understand the role of state in the process of development. Students will be able to know the Merits of Balanced Growth Strategy.
4. To Know the demerits of Balanced Growth Strategy.
5. Students will be able to understand the concept of Unbalanced Growth Strategy. Know the demerits of Unbalanced Growth Strategy.
6. Develop ideas of the basic characteristics of Indian economy, its potential on natural resources.


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**MA SECOND YEAR
SEMESTER -IV
ENVIRONMENTAL ECONOMICS**

OBJECTIVES

1. Application of economic theories for environmental issues; global environmental externalities and climatic change.
2. Valuation of environmental goods; economics natural resources.

OUTCOMES

1. Apply economic principles for applied environmental issues.
2. Select and apply appropriate economic techniques to solve environmental problems and measure value of environmental goods.

B. Siddiqua
HEAD
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New Mallepally, Hyderabad.

**MA SECOND YEAR
SEMESTER -IV
INDUSTRIAL ECONOMICS**

OBJECTIVES

1. To examine the internal structure of firms.
2. To analysis of various aspects of strategic interaction between firms and the determinants of industrial structure.
3. To discusses the role of policy in the context of competition and industrial policies and regulation.
4. How To use theoretical tools can be used to analyse real world issues.
5. To confront against empirical evidence, and its implications for public policy and business strategy will be discussed.

OUTCOMES

Students will be able to:

1. Describe and explain the determinants of the size and structure of firms and the implications of the separation of ownership and control
2. Describe and explain the pricing behavior by firms with market power and its welfare implications
3. Apply analytical models of firm behavior and strategic interaction to evaluate various business practices, including tacit collusion, entry deterrence, product differentiation, price discrimination and vertical restraints
4. Recognize and explain the basic determinants of market structure and the key issues in competition policy and regulation.


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**MA SECOND YEAR
SEMESTER -IV
ECONOMICS OF INSURANCE**

OBJECTIVES

1. students will be having basic knowledge that is needed to deal with insurance markets and household finance problems.

OUTCOMES

1. The student will come to understand risk, uncertainty, insurance and the role of financial markets in a modern economy.
2. Students will be able to understand the basic concepts and methods for the design of financial portfolios under uncertainty.


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DEPARTMENT **OF** **ELECTRONICS**

OBJECTIVES & OUTCOMES

For The Academic Year

2020 - 2021

2020-2021

**B.Sc. I year - Semester I
Paper - I
Code No. 6112
Circuit Analysis**

Course Objective: Circuit Analysis

To develop problem solving skills and understanding of circuit theory through the application of techniques and principles of electrical circuit analysis to common circuit problems.

1. To develop an understanding of the fundamental laws and elements of electric circuits.
2. To learn the energy properties of electric elements and the techniques to measure voltage and current.
3. To understand waveforms, signals, and transient, and steady-state responses of RLC circuits.
4. To develop the ability to apply circuit analysis to DC and AC circuits.
5. To understand advanced mathematical methods such as Laplace and Fourier transforms along with linear algebra and differential equations techniques for solving circuits problems.

Course Outcomes: Circuit Analysis

- CO-1. Determine parameters such as node voltages, branch currents, and electric power in electric circuits using Ohm's law and Kirchhoff's current and voltage laws.
- CO-2. Analyze AC and DC circuit using mesh analysis, nodal analysis, superposition, Thevenin, Norton, and source transformation techniques.
- CO-3. Determine natural and step responses of RC, RL, and RLC circuits.
- CO-4. Identify appropriate circuit analysis techniques for analyzing DC/AC circuits.
- CO-5. Analyze AC circuits using the frequency domain approach.
- CO-6. Calculate AC powers in ac circuits.
- CO-7. Use Laboratory instruments such as multimeters, oscilloscope, function generators, power supplies, etc.
- CO-8. Perform experiments to validate the fundamentals of electric circuit theory.

Learning Outcomes: Circuit Analysis

- LO-1. To be able to understand basic electrical properties.
- LO-2. To be able to analyze electrical circuits.

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M. Zahoor
**Head of the Dept of Electronics,
Anwar-ul-uloom College, Mallepally
Hyderabad.**

2020 - 2021

B.Sc. I year - Semester II
Paper - II
Code No. 6212
Electronic Devices

An electronic device is a device made by utilizing and controlling the laws of electron motion in a vacuum, gas or solid. Divided into electric vacuum devices, gas tube devices and solid state electronics.

Course Objective: Electronic Devices

1. To learn to analyze the PN junction behavior at the circuit level and its role in the operation of diodes and active device.
2. Basics of junction diode, rectifying action of a diode, regulated power supplies and wave shaping circuits.
3. To analyze different types of semiconductor devices.
4. To understand the operation and design of multistage amplifier.
5. Transistor and its three modes of operation, h-parameter model of a transistor and the frequency response of an amplifier.

Course Outcomes: Electronic Devices

- CO-1. Describe the behavior of semiconductor materials.
- CO-2. Reproduce the I-V characteristics of diode/BJT/MOSFET devices.
- CO-3. Reproduce the I-V characteristics of diode/BJT/MOSFET devices.
- CO-4. Apply standard device models to explain/calculate critical internal parameters of semiconductor devices.
- CO-5. Explain the behavior and characteristics of power devices such as SCR/UJT etc.
- CO-7. Design and analyze the basic operations of BJT, FET and MOSFET.
- CO-8. Know about the multistage amplifier using BJT and FET in various configuration.

M. Bahameed
Head of the Dept of Electronics
Anwar-ul-Uloom College, Mallepally
Hyderabad.

Dayanand
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2020-2021

**B.Sc. II year - Semester III
Paper - III
Code No. 6312
Power Supplies And Analog Circuits**

Course Objective: Power Supplies and Analog Circuits

1. Familiarized with basic integrated circuit components, its designing & packaging.
2. To understand operational amplifier and its applications.
3. Understand various operating modes of Op-amp and its linear/non-linear applications.
4. To understand differential amplifiers using BJT and MOSFET.
5. Transistor

Course Outcomes: Power Supplies and Analog Circuits

- CO-1. Students can demonstrate ability to identify, formulate and solve engineering problems in the field of analog devices.
- CO-2. Equip the skill to design and develop a regulated power supply.
- CO-3. Develop analytical capability to analyze feedback in amplifiers.
- CO-4. Understanding and designing of multi-vibrator and power supply circuits.
- CO-5. Acquire knowledge on commonly used linear and non-linear applications of Op amps and Comparators.
- CO-6. Students can show ability to participate and succeed in project contests.

M. Sahane
Head of the Dept of Electronics,
Anwar-ul-Uloom College, Mallepally
Hyderabad.

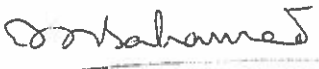
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2020 - 2021

**B.Sc. II year - Semester IV
Paper - IV
Code No. 6412
Applications of Operational
Amplifier and Communication**

Course Objective: Applications of Operational Amplifier and Communication
1. Familiarized with basic integrated circuit components, its designing & packaging.
2. To understand operational amplifier and its applications.
3. Understand various operating modes of Op-amp and its linear/non-linear applications.
4. This paper aims to describe the concepts of electronics in communication and communication techniques based on Analog Modulation, Analog and digital Pulse Modulation.
5. He / she shall develop an understanding of various aspects of harmonics.
6. Gain an insight on the use of different modulation and demodulation techniques used in analog communication.

Course Outcomes: Applications of Operational Amplifier and Communication
CO-1. Students can demonstrate ability to identify, formulate and solve engineering problems in the field of analog devices.
CO-2. Acquire knowledge on commonly used linear and non-linear applications of Op amps and Comparators.
CO-3. Students will be able to understand and design circuits using 555 Timer.
CO-4. Design and test PLL (Phase-Locked Loop) application circuits including FM Demodulation.
CO-5. The students will get basic idea about the op amp. The students can design an analog system using Op amp.
CO-6. Students can show ability to participate and succeed in project contests.


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2020 - 2021

B.Sc. III year - Semester V (A)
 Paper - V (A)
 Code No. 6512
 Digital Electronics

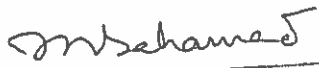
Course Objective: Digital Electronics

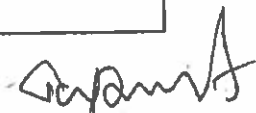
1. To acquire the basic knowledge of digital logic levels and application of knowledge to understand digital electronics circuits.
2. To prepare students to perform the analysis and design of various digital electronic circuits.
3. To Work with a variety of number systems and numeric representations, including signed and unsigned binary, hexadecimal, 2's complement.
4. To introduce the methods for simplifying Boolean expressions. To introduce basic postulates of Boolean algebra and show the correlation between Boolean expression.
5. To outline the formal procedures for the analysis and design of combinational circuits and sequential circuits.

Course Outcomes: Digital Electronics

After studying this course the students would gain enough knowledge

- CO-1. Have a thorough understanding of the fundamental concepts and techniques used in digital electronics.
- CO-2. Solve Boolean expressions using the theorems and postulates of Boolean algebra and to minimize combinational functions.
- CO-3. Ability to understand the principles of digital circuits.
- CO-4. Design and analyze combinational circuits and to use standard combinational functions/building blocks to build larger more complex circuits.
- CO-5. Ability to understand the logic behind the operation of counters.
- CO-6. To develop skill to build, and troubleshoot digital circuits.


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B.Sc. III year - Semester V (B)
Paper - V (B)
Code No. 6513
Microprocessor- Intel 8085


Course Objective: Microprocessor - Intel 8085


1. The paper aims at the functional operations of microprocessor.
2. To understand need of Microprocessors in computer system.
3. To understand architecture and features of typical Microprocessors.
4. To learn interfacing of real world input and output devices.
5. To study various hardware & software tools for developing applications.

Course Outcomes: Microprocessor - Intel 8085

Upon completion of this course, the students shall be able to:

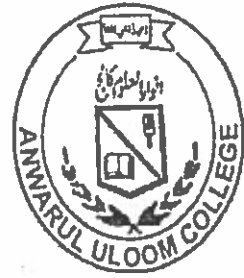
- CO-1. Learn importance of Microprocessors in designing real time applications.
- CO-2. Understand function of Microprocessor.
- CO-3. Describe the 8085 Microprocessors architectures and its feature. .
- CO-4. Develop interfacing to real world devices.
- CO-5. Organization of intel microprocessor 8085, its architecture, pin diagram, timing diagram, instruction set and programming in assembly language.
- CO-5. Learn use of hardware & software tools.


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2017-2018

B.Sc. III year - Semester VI
Paper - VI (a)
Code No. 6612
Fundamental of Embedded Systems
and Applications (Elective - I)



Course Objective: Fundamental of Embedded Systems and Applications

1. Learn the architecture of embedded systems, their classification and application.
2. To have knowledge about the basic working of a microcontroller system and its programming in assembly language.
3. To provide experience to integrate hardware and software for microcontroller applications systems.
4. To study various hardware & software tools for developing applications.

Course Outcomes: Fundamental of Embedded Systems and Applications

To acquire knowledge about microcontrollers embedded processors and their applications.

- CO-1. Embedded systems including its generic architecture, design and classifications, Embedded processors and microcontrollers.
- CO-2. Foster ability to understand the internal architecture and interfacing of different peripheral devices with Microcontrollers.
- CO-3. Foster ability to write the programs for microcontroller.
- CO-4. Foster ability to understand the role of embedded systems in industry.
- CO-5. Foster ability to understand the design concept of embedded systems.

Signature

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Anwar-ul-Uloom College, Mallepally
Hyderabad.

B.Sc. III year - Semester VI (b)
 Paper - VI (-)
 Code No. 6613
 Microcontroller - 8051


Course Objective: Microcontroller - 8051


1. The paper aims at the functional operations of microcontroller - 8051
2. Learn about the microprocessors and the organization of microprocessor based systems.
3. Learn the architecture the 8051 is it's simplified architecture and instruction set.
4. Design and implement 8051 microcontroller based systems.
5. To learn interfacing of real world input and output devices.
6. To study various hardware & software tools for developing applications.

Course Outcomes: Microcontroller - 8051

Upon completion of this course, the students are able to:

- CO-1. Learn importance of Microcontroller in designing real time applications.
- CO-2. Understand function of Microcontroller.
- CO-3. Describe the architecture and instruction set of ARM microcontroller.
- CO-4. Organization of Intel 8051 microcontroller, its architecture, instruction set, programming and its memory organization, timing diagram
- CO-5. Design Memory Interfacing circuits.
- CO-6. Design and implement 8051 microcontroller based systems.


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ANWARUL ULOOM COLLEGE (AUTONOMOUS)

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(Affiliated to Osmania University, Hyderabad)

Department: English 2020-2021 Semester- I

Programme: Eg. BA/B.Com/ B.Sc./BBA

Programme Objective (General)

- 1 Strengthening their grammar and vocabulary.
- 2 Improving their listening and speaking skills.
- 3 Imparting to them important life skills and human values.
- 4 Encouraging them to think creatively and critically.
- 5 Expanding their emotional intelligence.

Programme Outcomes (General)

- PO- 1 Read, understand, interpret a variety of written texts.
- PO- 2 Undertake guided and extended writing using appropriate vocabulary and correct grammar.
- PO- 3 Listen with comprehension and speak with confidence in both formal and informal contexts with reasonable fluency and acceptable pronunciation.
- PO- 4 Become employable with requisite professional skills, ethics and values.
- PO -5 Students will improve their reading fluency skills through extensive reading.

(Programme Specific Outcomes)

1. Develop student's ability to use English in day -to- day life and real life situation.
2. Develop the student's communication skills necessary for further language learning, and for study, work and leisure in a range of authentic contexts and for a variety of audiences and purposes.
3. To understand the written text and able to use skimming, scanning skills.
4. To write simple English to express ideas etc.
5. Enable the student to recognize and use language as a vehicle of thought, reflection, self- expression and learning in other subjects, and as a tool for enhancing literacy.
6. Enable the students comprehend the spoken form.
7. Enable the student to develop

Course Objectives:

1. Students will learn Literary Genre- Fiction . Prose, Drama and Poetry.
2. Students will comprehend the correct uses of Punctuation marks.
3. Students will build self- esteem by discovering their unique abilities and characteristic.
4. Students will learn techniques of writing Descriptive Passage.
5. Students will develop vocabulary through collocations.


Capt. Dr. Kausar Begum Khan
Head Department of English
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<u>COURSE OUTCOME</u>
CO1: Students are able to understand and cognize the contextual language learning through The genres of Short Fiction, Prose, Poetry and Drama.
CO 2: Students hone their skills in listening. speaking. reading and writing.
CO 3: Student gets familiar with various aspects of Telangana State.
CO 4: Student understands the role of Soft skills in personal and professional life.
CO 5: Students learn to channel their energy in a position direction through thought-provoking Value Orientation.
CO 6: Students develop basic communication skills which are for employability.
CO 7: Students develop aesthetic feelings for the understanding of poetry.
CO8: Students develop imaginative thinking through writings and literary collection of genre- Fiction.
CO 9: Students acquire to sequence sentences into paragraph develop Self - Confidence.
CO 10: Students acquire various techniques of Writings.


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(Affiliated to Osmania University, Hyderabad)

Department: English 2020-2021 Semester- II

Programme: Eg. BA/B.Com/ B.Sc./BBA

Programme Objective (General)
1 Strengthening their grammar and vocabulary.
2 Improving their listening and speaking skills.
3 Imparting to them important life skills and human values.
4 Encouraging them to think creatively and critically.
5 Expanding their emotional intelligence.
(Programme Outcomes) (General)
PO- 1 Read, understand, interpret a variety of written texts.
PO – 2 Undertake guided and extended writing using appropriate vocabulary and correct grammar.
PO- 3 Listen with comprehension and speak with confidence in both formal and informal contexts with reasonable fluency and acceptable pronunciation.
PO- 4 Become employable with requisite professional skills, ethics and values.
PO -5 Students will improve their reading fluency skills through extensive reading.
(Programme Specific Outcomes)
1. Develop student's ability to use English in day –to- day life and real life situation.
2. Develop the student's communication skills necessary for further language learning, and for study, work and leisure in a range of authentic contexts and for a variety of audiences and purposes.
3. To understand the written text and able to use skimming, scanning skills.
4. To write simple English to express ideas etc.
5. Enable the student to recognize and use language as a vehicle of thought, reflection, self- expression and learning in other subjects, and as a tool for enhancing literacy.
6. Enable the students comprehend the spoken form.
7. Enable the student to develop
Course Objectives:
1. Students will understand Literary Genres: Fiction, Prose, Poetry and Drama
2. Students will understand Plosives and Fricative sounds.
3. Students will learn the correct uses Articles.
4. Students will understand Adverbs and types of Adverbs.
5. Students will be able to write formal letters


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SEMESTER: 2
CO 1: Student achieve are understanding into the use of in different genres of writing.
CO 2: Students develop fluency get familiar and accuracy in speaking and written English.
CO 3: Students get familiar to some historical and cultural aspects of Telangana state.
CO 4: Students improve their skills in the area of Grammar and Vocabulary.
CO 5: Students sharpen/ hone their soft skills value orientation for better interpersonal relations.
CO 6: Learner performs all the LSRW skills in the class that ensures language competence.
CO7: Students understand the proper pronunciation techniques.
CO8: Students develop Leadership qualities through Value Orientation.
CO9: Students acquire Stress Management techniques.
CO10: Students understand Communication through different ways of Communication


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Department: English 2020-2021 Semester- III

Programme: Eg. BA/B.Com/ B.Sc./BBA

Programme Objective (General)

- 1 Strengthening their grammar and vocabulary.
- 2 Improving their listening and speaking skills.
- 3 Imparting to them important life skills and human values.
- 4 Encouraging them to think creatively and critically.
- 5 Expanding their emotional intelligence.

Programme Outcomes (General)

- PO- 1 Read, understand, interpret a variety of written texts.
- PO – 2 Undertake guided and extended writing using appropriate vocabulary and correct grammar.
- PO- 3 Listen with comprehension and speak with confidence in both formal and informal contexts with reasonable fluency and acceptable pronunciation.
- PO- 4 Become employable with requisite professional skills, ethics and values.
- PO -5 Students will improve their reading fluency skills through extensive reading.

(Programme Specific Outcomes)

1. Develop student's ability to use English in day –to- day life and real life situation.
2. Develop the student's communication skills necessary for further language learning, and for study, work and leisure in a range of authentic contexts and for a variety of audiences and purposes.
3. To understand the written text and able to use skimming, scanning skills.
4. To write simple English to express ideas etc.
5. Enable the student to recognize and use language as a vehicle of thought, reflection, self- expression and learning in other subjects, and as a tool for enhancing literacy.
6. Enable the students comprehend the spoken form.
7. Enable the student to develop

Course Objectives:

1. Students will learn Literary Genre Poetry.
2. Students will understand the various prepositional phrases like adjective phrases and adverb Phrases
3. To enable students different between American English and British English.
4. Students will be able to understand when to use Passive form of verb.

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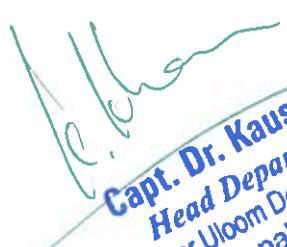


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SEMESTER: 3
CO 1: Students utilize critical thinking capability to using in English in different context.
CO 2: Students use English efficiently in real life communication.
CO 3: Students exhibit the ability to draft different kinds of regards and letters.
CO 4: Students develop their practical, emotional, intellectual and creative aspects of language By integrating knowledge and skill
CO 5: Students learn different aspects of language by integrating knowledge and skills.
CO6: Students learn to Distinguish between Literal and Figurative Language.
CO7: Students learn difference in Meaning through various Accents.
CO8: Students learn to script different types of essays.
CO9: Students get connected through comparing, contrasting.
CO10: Students acquire Language proficiency through various channels.


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Department: English 2020-2021 Semester- IV

Programme: Eg. BA/B.Com/ B.Sc./BBA

Programme Objective (General)

- 1 Strengthening their grammar and vocabulary.
- 2 Improving their listening and speaking skills.
- 3 Imparting to them important life skills and human values.
- 4 Encouraging them to think creatively and critically.
- 5 Expanding their emotional intelligence.

(Programme Outcomes) (General)

- PO- 1 Read, understand, interpret a variety of written texts.
- PO – 2 Undertake guided and extended writing using appropriate vocabulary and correct grammar.
- PO- 3 Listen with comprehension and speak with confidence in both formal and informal contexts with reasonable fluency and acceptable pronunciation.
- PO- 4 Become employable with requisite professional skills, ethics and values.
- PO -5 Students will improve their reading fluency skills through extensive reading.

(Programme Specific Outcomes)

8. Develop student's ability to use English in day –to- day life and real life situation.
9. Develop the student's communication skills necessary for further language learning, and for study, work and leisure in a range of authentic contexts and for a variety of audiences and purposes.
10. To understand the written text and able to use skimming, scanning skills.
11. To write simple English to express ideas etc.
12. Enable the student to recognize and use language as a vehicle of thought, reflection, self- expression and learning in other subjects, and as a tool for enhancing literacy.
13. Enable the students comprehend the spoken form.
14. Enable the student to develop

Course Objectives:

1. To aware students racial discrimination in America during the poet's life
2. Students will learn phrasal verbs and their different type.
3. Students will identify the number and person of the subject (Singular/ Plural Subject)
4. Students will understand Commonly confused words (Homonyms, Homophones and Homographs)

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SEMESTER: 4
CO 1: Students learn to use English skillfully in real life contexts.
CO 2: Students develop their rational to analyze, evaluation and review films and books.
CO 3: Students apply critical thinking to use English for personal and professional growth.
CO 4: Students learn to draft formal and informal letters and resume applying for job.
CO5: Students develop Concentration and speak with Confidence.
CO6: Students understand the message through poems and stories.
CO7: Students acquire knowledge of Grammar concord and Vocabulary.
CO8: Students Identify Commonly confused words in Vocabulary.
CO9: Students learn to write Report Formats of Business and Media reports.
CO10: Students develops Technical understanding of the English Language.


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DEPARTMENT OF ENGLISH

(PG) SEMESTER-I:

M.A ENGLISH (PREVIOUS) COURSE OUTCOME

[2020-2021]

PAPER-I (101):- English Language: History, Description and Practice

CO 1: The learners acquire great deal of information and knowledge about the structure and History of English language and its social and geographical variation.

CO 2: Students are prepared for the various career paths.

CO 3: Students are able to appreciate the history of English language, insights, theoretical Approach, the changes and employability demand of the English Language.

CO 4: Students hone the LSRW skills and further analytical and interpretive arguments

PAPER: II (102) English Poetry

CO 1: Students learn and appreciate poetry from different Cultures, Language and Historic Periods.

CO 2: Students develop understanding of various elements and poetic devices.

CO 3: Students familiar with elements like diction, tone, form, genres, image, and figures of speech Symbolism, theme etc.

CO 4: Students learn and recognize the rhythms, metrics and other musical aspects of poetry.

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PAPER-III (103) English Drama
CO 1: Students are exposed to the origin and development of English Drama.
CO 2: Students acquire knowledge of various themes and form of different ages and stages.
CO 3: Students are able to understand the insights, genres, conventions interpretation and Experimental associated with English Drama.
CO 4: Students acquire knowledge of historical, socio-political and religious trends in the plays.
CO 5: Students learn to explore writer's perception and how writers use the language resources Creatively.
CO 6: Students explore and understand the entire range of human experience through drama as a literary form.

PAPER: IV (104) English Language and Phonetics
CO 1: Students gain knowledge on basis information about English sounds and phonetics Transcriptions in British English (R.P).
CO 2: Students become aware of English speech sounds, word accent, intonation and rhythm.
CO 3: Students learn about the core components of Linguistic like phonology, morphology Syntax, Discourse and Pragmatics.
CO 4: Students are able to identify the symbols of all the 44 English sounds.
CO 5: Students are able to produce Received Pronunciation and transcription of the sound.
CO 6: Students develop /improve the fluency in spoken English and neutralize mother tongue influence.

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PAPER: V (105) (Modern Indian Literature in Translation)

CO 1: Students gain insight to the polyphony of modern Indian Writing in Translation.

CO 2: Students understand the multifaceted nature of culture identities in the various Indian Literature in digamous literary traditions.

CO 3: Students learn to complex literary texts produced across Indian regional landscape to seek Similarities and difference in thematic and cultural perspective.

CO 4: Students explore images in literary production that express the writers sense of their Society.

CO 5: Students are encourage to explore texts outside the suggested readings lists to realize the Immense treasure trove of translated Indian literary work.

CO 6: Students understand the concept of Sahitya , Indian concept of translation , Tradition- Modernity and Indian Dramatic tradition.

CO 7: Students acquire the knowledge about Progressive Writers Movement and Dalith Aesthetics.

SEMESTER :II

PAPER :I(201) English Language Teaching: History, Approach and Methods.

CO 1: Students get familiar with the theories, approaches, methods and techniques concerning The teaching of English Language.

CO 2: Students are able to perceive and perpetuate a model of classroom interaction and Effective teaching.

CO 3: Students learn to use innovative teaching techniques and digital learning tools to read

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Fluently, to enrich their vocabulary and to enjoy reading, writing and further teaching.

PAPER-II (202) English Prose

CO 1: Students learn and understand origin and development of English Essay.

CO 2: Students acquire knowledge about different topics like Utopia, Translation of the Bible
Allegory Satire with appropriate writers and their contribution.

CO 3: Students learn recognize and discuss selected literary text in terms of genres and the canon.

CO 4: Students are able to comprehend a literary text in different context.

CO 5: Students learn about become aware of Socio-Political and economic conditions of the
Society from different periods.

CO 6: Students learn to write accurately and with concision.

PAPER:III (203) English Fiction

CO 1: Students gain an understanding to analyze literature and fiction using relevant theoretical
Historical and cultural framework.

CO 2: Students become familiar about various cultures, nation, race and construction of gender
Through the history.

CO 3: Students learn human values and the behavioral patterns from great works of art.

CO 4: Students develop the ability to understand human race.

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PAPER: IV (204) Women's Writing
CO 1: Students acquire basic understanding of concepts like sex and gender , women's Liberation Movement, Women and the canon and Gyno criticism with reference To the appropriate texts.
CO 2: Students learn about women's lives and reflect on what it means to be a feminist From various racial, sexual, class and narrative strategies of women writing.
CO 3: Students gain knowledge of the developments, themes and narrative strategies of women's Writing.
CO 4: Students learn to analyze literary text through the perspective of gender.

PAPER : V (205) (A) Twentieth Century Literary Criticism and Theory
CO 1: Students gain knowledge about literary theories such as New Criticism, New Historicism Structuralism and Post-Structuralism, Reader , Response theories and Psychoanalytical Criticism.
CO 2: Students will be familiar with the analytical tools of the field through a number of Contemporary and historical schools of literary world.
CO 3: Students sensitize the importance of feministic movement and its impact on society.
CO 4: Students learn the scope of orientalism and its importance.
CO 5: Students understand the factors involved in criticism like interpretation, elucidation

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Judgment and appreciation.

CO 6: Students develop their own critical view on the theorists and their work.

SEMESTER –III

PAPER-I (301) : English Language Teaching: Classroom Techniques and Practical

CO 1: Students are able to comprehend classroom techniques such as Team Teaching and Teaching large classes using Teaching aids

CO 2: Students learn and understand essential of Presentation skills.

CO 3: Students skillfully learn to draft Inter office Memos, Business letters.

CO 4: Students gain knowledge about Important Techniques and Stylistic Approach to the Teaching of Literature.

CO 5: Students will be skill full in a wide range of instructional material, approaches and Methods for learners at different stages of development and from various culture and Linguistic background.

PAPER-II-(302) : American Literature


CO 1: Students understand various concepts like Antebellum and Postbellum ,American, Puritanism , Transcendentalism, The American Romantics and American Frontier.

CO 2: Students are introduced to the period of American Literature.

CO 3: Students learn poems, plays & fiction written by American authors and the trend of these from time to time.

CO 4: Students appreciate and various texts and authors from American Literature.

CO 5: Students compare and contrast the socio-political, religious and cultural difference And transformation as it is found in literature of different periods in America.


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CO 6: Students develop critical and analytical perspective with regard to American texts
and authors.
PAPER:III (303) Indian Writing in English
CO 1: Students get familiarized with major Indian Writers , Writings in English.
CO 2: Students are able to comprehend the historical, culture and social context in Indian
English Literature.
CO 3 : Students identify the unique features of Indian Writing in English.
CO 4: Students are able to discuss major class/caste issues in the context of Indian Literature.
CO 5: Students understand the role of English as a medium for political awakening and the use
of English in India for creative writing.
CO 6: Students are familiarized with the theatrical concern, genres and trends of Indian Writing
in English.
PAPER: VI (304) (A) : Postcolonial Literature
CO 1: Students understand the culture legacy of colonialism and imperialism.
CO 2: Students get acquainted with the key terms like, Assimilation, Ambivalence, Mimicry,
Hybridity , other, Discourse etc.
CO 3: Students develop aesthetic and critical awareness of diverse culture and literary creation.
CO 4: Students realize the human consequences of the control and exploitation of colonized
People and their lands.
CO 5: Students explore and understand ways in which literary theory applies to their own lives
And culture in Postcolonial literature.

CO 6: Students get familiar with African Literature written in English looking into African's Past and present and its literary engagement with the themes of colonialism, liberation Independence , tradition, modernity , individualism, community, socialism and capitalism.
PAPER: V (305) (INTER-DISCIPLINARY)-Literature And Film
CO 1: Students gain knowledge about various theories about film and literature.
CO 2: Students get inspired to watch the prescribed films from the perspective of the studied Theories.
CO 3: Students will get the knowledge of the medium that allow them to contextualize and Judge contemporary literature or film in a long continuum to describe literature film terms of major period practices, and/or genres.
CO 4: Students comprehend to interpret the films on the basis of the theories.
CO 5: Students learn hoe narratives change across media and history.

SEMESTER -IV

PAPER-I (401): ENGLISH LANGUAGE TEACHING: MAJOR DEVELOPMENT IN L1 & L2

CO 1: Students will be able to comprehend Teaching English as a second language and the Principle of Language testing besides Social psychology.
CO 2: Students learns about Human Brain and its function and about learning Disabialities with Special focus on Aphasia.
CO3: Students get knowledge of new linguistic varieties in English language teaching, approaches, methods and techniques act as guide and develop learner's responsibility.
CO4: Students are exposed to major findings in L2 research and different models of L2


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Acquisition.
CO5: Students are aware of relationship between language, society and culture to know the
Current trends of World English.
CO6: Students learn standard designs for conducting test and learn the principles of designing
ESP courses and also study the samples of Competitive Tests like TOEFL and IELTS.
PAPER- (402): AMERICAN LITERATURE
CO1: Students acquire knowledge of American history, major literary events of America and
read many authors under five genres.
CO2: Students will develop a rhetorical approach to the literary study of American texts and also
the conception , generalization, myth and beliefs about American cultural history.
CO3: Students learn to decode and describe the evolution, development and body of the
Literature over time from pre-colonial to the present time.
CO4: Students develop a broader knowledge on human ideas, beliefs and social values.
CO5: Students comprehend the different styles of American writing and ideology.
PAPER- (403): INDIAN WRITINGS IN ENGLISH
CO1: Students read Literary Movements and special qualities of Indian English Writings
beside many significant texts of the Indian writers.
CO2: Students are familiarized with the emergence and growth of Indian Writings in English in
the context of colonial experience.
CO3: Students will appreciate partition literature, Nation-Nationalism, Counter Discourse,
Subalternity and Identity movements.
CO4: Students learn about the issues concerning Indian Writing in English such as the

representation of culture, identity, history, construction of nation, (post) national and gender politics.
CO5: Students get a deeper understanding of the major traditions and values of the Ancient Indians.

PAPER- (404): ACADEMIC WRITING AND RESEARCH METHODOLOGY
CO1: Students acquire researching skills such as collecting primary material, secondary material, writing Bibliography and writing critical articles.
CO2: Students are trained to write effectively by studying the factors like cohesion, coherence, accuracy, appropriacy, management of tone and tenor, etc. that effect writing.
CO3: Students are well trained in writing effective reports, essay, book review and film review.
CO4: Students learn to avoid plagiarism and also trained to analyse and interpret data collection.
CO5: Students will be able to identify topics and formulate questions for productive enquiry.
CO6: Students will identify appropriate methods and sources of research.
CO7: Students get familiar to the two formats of documentation-APA(Language) and MLA (Literature) style.
CO8: Students are trained to prepare an outline for research, articles and thesis.


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representation of culture, identity, history, construction of nation, (post) national and
gender politics.
CO5: Students get a deeper understanding of the major traditions and values of the Ancient
Indians.

**PAPER- (404): ACADEMIC WRITING AND RESEARCH
METHODOLOGY**

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CO7: Students get familiar to the two formats of documentation-APA(Language) and MLA (Literature) style.
CO8: Students are trained to prepare an outline for research, articles and thesis.

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PAPER- (405) (A): PROJECT WORK

CO1: Students take up the topic from their syllabus and write a critical document of 100 pages.

CO2: Students demonstrate advanced writing, critical thinking and research skills.

CO3: Students acquire and practice methods of literary criticism necessary for understanding research.

CO4: Students learn to perform close textual analysis as a means of identifying and deciphering the aesthetics, political and cultural importance of literature as a means of cultural production.

CO5: Students learn to analyse the importance of literature and art as they relate to their socio-cultural context and to their "Universal" appeal.

PAPER- (405) (B): SOUTH ASIAN LITERATURE

CO1: Students get knowledge about South Asian History and Geography.

CO2: Students understand the concepts like Diaspora, Migration, Exile, Ethnicity-Gender related to South Asian Literature.

CO3: Students are exposed to different literary strategies and devices deployed in South Asian Literature in English.

CO4: Students develop the critical understanding of South Asian Literary texts in their precise

historical and cultural context.

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2020-2021

Subject - Hindi

Class - 1st Year (1st Sem)

Name: **Mohi Fatima**

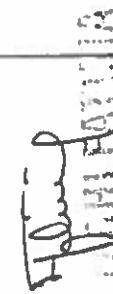
LESSON	OBJECTIVES	OUTCOMES
1. अ-याद नया धरण	प्रस्तुत विषय में लेखक के माध्यम से उपलब्ध उत्साह जागरण प्राप्त की जायगी।	छात्रों को विषय, संवाद, शारांग, एच इत्यादि सिखाने की क्षमता
2. परिचय संवाद	लेखक के अनुवाद मूल्य जल्दी परिणत के कारण समाज में विशेष स्थान रखता है।	सुझावना उपलब्ध करने का प्रयास करना।
3. वाक्यांश	वाक्यांश के कारण से वाक्यांश को दोहोराते दोषण पर इस में ध्यान दिया जाता है।	छात्रों में भाषा को अधिक से अधिक जटिल करने की प्रेरणा उपलब्ध करना।
4. भाषा	लेखक से भाषागत समाज में विषय की जो टकनीक विद्यार्थी को संजीव विज्ञान प्रिया नया है।	छात्रों में ज्ञाने विद्यार्थी को मौखिक एवं लिखित रूप में अभिव्यक्त करने की क्षमता।
5. भाषा में संस्कृति संख्या	भाषागत संस्कृति की उत्पत्ति/विकास और विभिन्नता का इसमें परिचाय प्राप्त होता है।	छात्रों में छुट्टा भाषा के भाषाओं को अभिव्यक्त करने की क्षमता का विकास करना।
6. अ-याद	लेखक के अ-याद को जनों के माध्यम से ही राष्ट्र को संस्था पर विचार दिया है।	छात्रों को शौरिक और विचार को साथ रखना/भाषा शरीरों से संस्था में प्रयोग करना।
1. सूर्य	दरिद्रता को शोषण की अमानवीय व्यवस्था और दरिद्रता की जादगीत वास्तविकताओं का संजीव विज्ञान प्रिया नया है।	छात्रों को कठोर/दरिद्रता से निराशा/दरिद्रता को शौरिक भाषा उपलब्ध करना।
2. छोटा अ-याद	छोटा अ-याद को इस मानवीय युग का उदात्त रूप मानवीयता और दक्षिण धर्म का संदेश देना ही उद्देश्य है।	छात्रों में छुट्टा एवं विचार भाषा शौरिक भाषा इन तीनों सामान्य आलोकनी प्राप्त करने की क्षमता का विकास करना।
3. नया का सौंदर्य	इस कठोरता के अ-याद का संदेश दिया गया है कि जीवन में धर्म एवं नया के अर्थ का अनुसरण करना चाहिए।	छात्रों में कठोरता की उदात्त/दरिद्रता का विकास करना।
4. प्रार्थना	प्रार्थना कठोरता में परिष्कृत रूपों पर ध्यान दिया गया है।	छात्रों को कठोरता में लिखित भाषा, विचार, नैतिक मूल्यों को बढाने की क्षमता विकसित करना।
5. परत	इस कठोरता से नवजात/नव जन्म के विद्यार्थियों को अंतराल की शिक्षा दी जाती है।	छात्रों को संस्कृति से वास्तविकता को विचार प्रेरित करना।
6. शोषण की क्षमता	शोषण की क्षमता नवजात/नव जन्म में आ रहे विद्यार्थियों को अंतराल की शिक्षा दी जाती है।	

Mohi Fatima
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 H.O.D Dept of HINDI
 ANWAR-UL-ULOOM COLLEGE
 NEW MALLEPALLY, HYD.



Class - 2nd Year (4th Semester)

LESSON	OBJECTIVES	OUTCOMES
1. काल की कविता	प्रस्तुत कविता में काल की शक्ति का वर्णन है।	काल की शक्ति का वर्णन है।
2. काल की शक्ति	काल की शक्ति का वर्णन है।	काल की शक्ति का वर्णन है।
3. काल की शक्ति	काल की शक्ति का वर्णन है।	काल की शक्ति का वर्णन है।
4. काल की शक्ति	काल की शक्ति का वर्णन है।	काल की शक्ति का वर्णन है।
5. काल की शक्ति	काल की शक्ति का वर्णन है।	काल की शक्ति का वर्णन है।
6. काल की शक्ति	काल की शक्ति का वर्णन है।	काल की शक्ति का वर्णन है।
7. काल की शक्ति	काल की शक्ति का वर्णन है।	काल की शक्ति का वर्णन है।
8. काल की शक्ति	काल की शक्ति का वर्णन है।	काल की शक्ति का वर्णन है।
9. काल की शक्ति	काल की शक्ति का वर्णन है।	काल की शक्ति का वर्णन है।
10. काल की शक्ति	काल की शक्ति का वर्णन है।	काल की शक्ति का वर्णन है।


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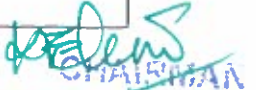
(Affiliated to Osmania University, Hyderabad)

Department: **HISTORY**

COURSE: **BA**

2020-21

Programme Objective (General)
1. Students will be able to demonstrate broad knowledge of Historical events and periods and their significance
2. Students will be able to explain and critique the Historical schools of thought that have shaped scholarly understanding of their fields of study
3. Students will be able to formulate historical arguments and communicate those arguments in clear and persuasive prose.
4. Students will be able to demonstrate a breadth of training across Historical time and space.
5. Students will be able to demonstrate a Historical awareness of the diversity of the Human experience across time and space.
(Programme Outcomes) (General)
PO- 1. Students will be able to demonstrate knowledge of the Chronology, narrative major events, personalities and turning points of the History of India.
PO -2. Provide multi-causal explanation of major Historical developments based on a centralized analysis of Modern World History
PO- 3. The B A graduates will be acquainted with the Social, Economical, Historical, Geographical, Ideological and Philosophical traditions and thinking.
PO- 4. The Program also improves the graduates to appear for various competitive examinations or choose the Post Graduate Programme of their choice.
PO -5. Programme provides the base to be the responsible Citizen.
(Programme Specific Outcomes)
PSO-1. Understand background of our religion, customs institutions, administration and so on.


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PSO -2. Understand the present existing social, political, religious and economic conditions of the people.

PSO -3. Analyze relationship between the past and the present is lively presented in the history.

PSO -4. Develop practical skills helpful in the study and understanding of historical events.

They:

- (a) Draw historical maps, charts, diagrams etc.
- (b) Prepare historical models, tools etc.

PSO -5. Develop interests in the study of history and activities relating to history. They:

- (a) Collect ancient arts, old coins and other historical material.
- (b) Participate in historical drama and historical occasions;
- (c) Visit places of historical interests, archaeological sites, museums and archives;
- (d) Read historical documents, maps, charts etc.
- (e) Play active roles in activities of the historical organizations and associations.

Course Objective- Paper- I HISTORY OF INDIA {from earliest times to 700 CE}

1. Students will be able to explain the Socio – Economic, Cultural and Political background, nature and scope of History.
2. Students will be able to demonstrate by analyzing and evaluating Historical information from multiple sources of Ancient History.
3. Students will be able to identify the gaps in Historical and Archeological evidence.
4. Students will be able to identify the Geographical features and sites of Indus Valley.
5. Students will be able to describe the three great Emperors of Mauryan Empire.


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Course Objective- Paper- II HISTORY OF INDIA {from 700 CE to 1526 CE}
1. After the completion of this course students will be able to identify and describe the subsequent rise of Regional States – Pallavas, Chalukyas of Badami, Rashtrakutas, Cholas.
2. Students will be able to explain local self Government under Cholas, Society, Economy, Literature and the Bhakti movement in South India.
3. Students will be able to explain the conquest of Sindh by Arabs, about the Ghaznavids and Ghoris
4. Students will understand the Administrative reforms done under different rulers of Delhi Sultanate, understand strategies, Military control and development of Political institutions and relationships amongst rulers.
5. Students will be able to understand the Caste system was condemned by the Bhakti saints, the lower classes were raised to a position of great importance.
Course Objective- Paper- III HISTORY OF INDIA {from 1526 CE to 1857CE}
1. Explain the foundation of the Mughal Empire, the qualities of Babur and Akbar that made them great successful Kings.
2. Evaluate the achievements of the rulers about their conquests and their Administration.
3. Acquire knowledge about the rise of Marathas and the life and achievements of Shivaji the great and his Administration.
4. Demonstrate by analyzing and evaluating Historical information from multiple sources of Maratha History.
5. Learn about the Qutub Shahi dynasty ruled the Golconda Sultanate, were great builders whose structures included Charminar, as well as patrons of Learning.
Course Objective- Paper- IV HISTORY OF INDIA {from 1858 CE to 1964 CE}


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1. Explain about the Revolt of 1857, its causes, nature importance and results.
2. It united, though in a limited way, many sections of Indian Society for common cause.
3. Understand about Lord Rippon's repeal of the Vernacular press and Lord Curzon's appointment of Police Commission and Partition of Bengal (1905).
4. Discuss about the Minto – Morley reforms (1909) and 1919 Act of the parliament of U K to expand participation of Indians in the Government of India and Act 1935.
5. Factors for Social change during Indian Renaissance, it is a new awakening, exposure to Scientific thoughts.
Course Objective- Paper- V A HISTORY OF MODERN WORLD {From 1453 CE to 1815 CE}
1. The decline of Medieval, Socio – Political, Religious and Economic conditions.
2. Assess the American Colonial experience under English domination through the Political, Social, Economical forces that shaped the development.
3. The reformation in England and the Reformers, Zwengli, Luthers, Calvin etc.
4. Industrialization and transformation of Society, there emerged a middle-class consisting of Businessmen working professionals, industrialists, labourers and working class people.
5. The characteristic features of Renaissance and various Geographical discoveries and rise of Colonialism.
Course Objective- Paper- V B ISLAMIC HISTORY AND CULTURE {From earliest times to fall of Ummayyads}
1. Understand better the broad spectrum of Social and Cultural diversity across humanity and exposure to different cultures and value system.
2. Explain Geographical and Physical conditions of Arabs before Islam and the prevailing religion.

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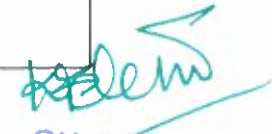
3. Understand by 630 he had unified most of Arabia under a single Religion Islam, his Migration from Mecca to Madina.
4. Understand the Arab Polytheism was based on the belief in deities and other supernatural beings such as Djina, Gods and Goddesses were worshipped at local shrines such as the Kaaba in Mecca.
5. Prophet Muhammed (P B U H) he was a man of high spirits, respectful, loving, founder of Islam. At 40 he got revelations from Allah.

Course Objective- Paper- VI A WORLD HISTORY {From 1815CE to 1950CE}

1. Identify the technological advances that made the Industrial Revolution is possible in both Europe and the United States.
2. Students gather information about the emergence of Japan as a powerful State and understand the Political History.
3. Understand the Capitalism which became the World's dominant Economic power, individual capitalists are typically wealthy people who benefits from the system of Capitalism by making increased profits.
4. Learn Chinese Revolution, nationalist democratic revolt that over threw the Manchu dynasty and created a Republic and Mao's divided land among the local farmers to gain support of Peasants.
5. Learn about the causes, course and results of First World War [1914 – 18].

Course Objective- Paper- VI B ISLAMIC HISTORY AND CULTURE {From rise of Abbasids to Crusades }

1. Understand the Umayyads expansion of territory extending as far West as Spain and as far East as India, allowing both Islam and the Arabic language to spread over a vast area.
2. About the great Umayyads their Political, Economic and Social conditions about the transformation of Caliphate from a religious institution to a dynastic one.
3. About the constructions of Umayyads famous buildings mosque of Damascus and the reasons for the fall of the Empire.


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4. Discuss the spread of Islam and identify how the Caliphs maintained authority over the conquered territories.

5. The Abbasids Caliphate rule was a time of peace and prosperity.

Course Outcome- Paper- I HISTORY OF INDIA {from earliest times to 700 CE}

1. Students will be able to explain Mauryan Government, Economy and Religion.

1. Students will be able to describe King Asoka, the greatest Mauryan King and his war Kalinga.

2. Students will acquire the knowledge about the sources for the study of Guptas.

3. Students will be able to describe Samudragupta's and Chadragupta's achievements.

4. Students will be able to explain the importance of Fahien's visit to India and Gupta's Administration, Society and Econoy and the Scientific development during the Gupta period.

Course Outcome- Paper- II HISTORY OF INDIA {from 700 CE to 1526 CE}

1. Students will be able to understand the impact on Religious, Cultural and Social life in South Asia that Sufism has left


2. Students will be able to Sufi Scholars made an instrumental and influential development in Social, Economic and Philosophical culture.

3. Students will be able to explain the Kakatiya dynasty that ruled most of the Eastern Deccan region, their great King Ganapatideva, who expanded the Kingdom.

4. Students will be able to about Marcopole's visit to India and made note of Rudrama Devi's rule and nature in flattering terms and her success.

5. Students will be able to learn about the Vijayanagara Empire that had left lasting legacy of Architecture, Sculpture and Painting.

Course Outcome- Paper- III HISTORY OF INDIA {from 1526 CE to 1857 CE}


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1. Explain the advent of Europeans to India, the settlement of Anglo – French rivalry.
2. Formation, Expansion and consolidation of British Empire in India under East India Company.
3. Learn the two objectives of East India Company to permanently rule in India was trade and ambition for Political power.
4. Explain about the various reforms made by British Generals – Warren Hastings, Lord Cornwallis, Lord William Bentinck and Lord Dalhousie.
5. Understand the rise of Sikhs in the Punjab about the Sikh Gurus, Ranjit Singh and their Administration.
Course Outcome- Paper- IV HISTORY OF INDIA {from 1858 CE to 1964 CE}
1. New discoveries and free thinking and religious reform movements were formed.
2. Learn about Mahatma Gandhi, the development of non – violent mass action and the Indian movement for Independence.
3. Explain the rise of Nationalism, identify the various phases of National movement.
4. Interpret the results of Salt March and Quit India Movement, express their views on Independence and Partition.
5. Understand the foundation of Independent India.
Course Outcome- Paper- V A HISTORY OF MODERN WORLD {From 1453 CE to 1815 CE}
1. Nation States – Spain, France, England, Russia, Austria, Italy and Prussia emergence.
2. Enlightened despots – Fredrick the Great, Peter the Great and Joseph – II.
3. The glorious Revolution its causes and effects.
4. The peace of Paris, a collection of treaties signed by both sides ended the war. Britain recognized the United States of America as an independent country and the reforms made by Napoleaon – introduced


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civil codes in 1804, it established equality before the law and simplified Administrative divisions and abolished Feudal system.
5. The Feudalism in Europe and Asia.
Course Outcome- Paper- V B ISLAMIC HISTORY AND CULTURE {From earliest times to fall of Ummayyads}
1. Explain battles of Islam, Battle of Badr, Major Military Victory led by Prophet Muhammed, battle of Ditch, which ultimately forced the Meccans to recognize the Political and Religious strength of Muslim Community in Madina.
2. To understand the essential teachings of Islam and Islamic sacred sources.
3. To learn about the Historical development of Islam from the time of the Prophet Muhammed to the present.
4. Explain about the lifes, teachings, preachings, expansions, conquests, Administration of the four Kalifas – Hazrath Abu Bakr, Hazrath Omar, Hazrath Osman and Hazrath Ali.
5. Understand the conditions of Arabs and the struggle for the power between Syria, Al Iraq and al Hijaz
Course Outcome- Paper- VI A WORLD HISTORY {From 1815 CE to 1950 CE}
1. The aim of League of Nation – to preserve peace and security in the world, to promote just and honorable relations among the nations of the world.
2. During Great Depression G D P declined by 30% and unemployment reached more than 20%, home lessness increased.
3. Japan joint Germany and Italy in the Tripartite pact agreeing to help each other and the rise of Turkey and Mustafa Kamal Pasha.
4. Students understand the Military operations that led to the defeat of Nazi regime and their allies in Europe and Japanese surrender in the Second World War (1939-45) and its causes and results.


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5. Students get familiarize with the formation of U N O, its contribution to the World peace, its organs, aims and importance.

Course Outcome- Paper- VI B ISLAMIC HISTORY AND CULTURE {From rise of Abbasids to Crusades}

1. Great advances were made in many areas of Science, Mathematics and Medicines. The Abbasids ruled the Muslim world as an absolute hereditary monarchy between 750 and 258 CE

2. The Social and Economic life of Abbasids and the development of fine Arts, Education, Philosophy and Literature.

3. Abbasids cultural contribution, Baghdad was centrally located between Europe and Asia and was important area for Trade and Exchange of ideas.

4. Understand about the wars of Crusades, their impact and results and the fall of the Abbasids.

5. Learn about the Political, Economic and Educational institutions. Learn about Fine Arts, Literature and general Culture.

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DEPARTMENT: MATHEMATICS
2020-2021


PROGRAM OUTCOMES, PROGRAM SPECIFIC OUTCOMES AND COURSE OUTCOMES

PROGRAM OBJECTIVES: B Sc I YEAR 1st SEMESTER
PREPARE STUDENTS FOR PURSUING RESEARCH OR CAREERS IN INDUSTRY IN MATHEMATICAL SCIENCE.

SUBJECTNAME: DIFFERENTIAL AND INTEGRAL CALCULUS

COURSE OBJECTIVE: UNDERSTAND THE GENESIS OF DIFFERENTIAL AND INTEGRALS CALCULUS

PROGRAM	PROGRAM OBJECTIVES	PROGRAM SPECIFIC OBJECTIVES
BSC MATHEMATICS	PO1: PROMOTION OF SELF STUDY PO2: PROMOTION OF THINKING PO3: CONFIDENCE PO4: CREATIVITY PO5: UNDERSTANDING CONCEPTS PO7: DEVELOPMENT OF WRITING, LISTENING AND TEACHING SKILLS PO8: GROUP DISCUSSION (SKILL OF TEAM WORK, INTERPERSONAL SKILL) PO9: SOCIAL VALUES, UNITY IN DIVERSITY	PSO1: TO ENABLE THE STUDENT TO CULTIVATE A MATHEMATICAL WAY OF THINKING I.E. MAKING CONJECTURES, VERIFYING THEM WITH FURTHER OBSERVATIONS, GENERALIZING THEM, TRYING TO FIND PROOFS AND MAKING OBSERVATIONS. PSO2: TO ENABLE THE STUDENTS TO QUANTIFY THEIR EXPERIENCES IN OTHER SUBJECTS THEY STUDY, PSO3: TO ENABLE THE STUDENTS TO LEARN THE BASIC STRUCTURES OF MATHEMATICS THROUGH UNIFYING CONCEPTS AND TO MOTIVATE THESE STRUCTURES THROUGH APPLICATIONS. PSO4: TO PROVIDE HIGH QUALITY MATHEMATICAL FOR THEMSELVES. PSO5: TO PROVIDE HIGH QUALITY MATHEMATICAL EDUCATION AT ALL LEVELS THAT WILL BE VITAL FOR SCIENTIFIC AND TECHNOLOGICAL DEVELOPMENTS.

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B Sc I YEAR SEMESTER -I PAPER I

COURSE TITLE:DIFFERENTIAL

AND INTEGRAL CALCULUS

COURSE LEARNING OUTCOMES :THIS COURSE WILL ENABLE THE STUDENTS TO:

- 1.GET THE KNOWLEDGE OF PARTIAL DIFFERENTIATION .
- 2.GET THE KNOWLEDGE OF THEOREMS ON TOTAL DIFFERENTIALS.
- 3.GET THE COMPLETE INFORMATION OF MAXIMA AND MINIMA OF FUNCTIONS OF TWO VARIABLES.
- 4.GET THE KNOWLEDGE OF EVOLUTES.
- 5.GET THE KNOWLEDGE OF LENGTH OF PLANE CURVES .

AFTER SUCCESSFUL COMPLETION OF THE COURSE ,STUDENTS WILL BE ABLE TO

- 1.The concept of partial integration.
- 2.To get the knowledge of theorems of total differentials
3. students are able to solve the problems of differentiation and integration
4. can solve any problem of minima and maxima of two variables
- 5.solving the problems using length of plane curve.

B,SC I YEAR SEMESTER II PAPER II

COURSE TITLE:DIFFERENTIAL

EQUATIONS

COURSE LEARNING OUTCOMES :THIS COURSE WILL ENABLE THE STUDENTS TO:

1. TO GET THE KNOWLEDGE OF DIFFERENTIAL EQUATION OF FIRST ORDER AND FIRST DEGREE.
2. COMPLETE INFORMATION OF HIGHER ORDER DIFFERENTIAL EQUATION
3. METHOD OF UNDETERMINED COEFFICIENT
4. PARTIAL DIFFERENTIAL EQUATION

ON SUCCESSFUL COMPLETION OF THE COURSE ,STUDENTS WILL BE ABLE TO

1. The main aim of the course is to introduce the students to the technique of solving various problems of engineering and science
2. Distinguish between linear, nonlinear, partial and ordinary differential equations.
3. Solve basic application problems described by second order linear differential equations with constant coefficients.
4. Find power series solutions about ordinary points and singular points.
5. Find the transforms of derivatives and integrals.

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6. Obtain an approximate set of solution function values to a second order boundary value problem using a finite difference equation.
7. Solve a homogeneous linear system by the eigenvalue method.
8. Obtain an approximate set of solution function values to a second order boundary value problem using a finite difference equation.

B.Sc II-YEAR SEMESTER-III PAPER-III Code Course Title Real Analysis 5T

COURSE LEARNING OUTCOMES :THIS COURSE WILL ENABLE THE STUDENTS TO:

1. TO GET THE KNOWLEDGE OF SEQUENCE
2. GET THE KNOWLEDGE OF CONTINUITY
3. GET THE COMPLETE INFORMATION OF DIFFERENTIATION
4. GET THE INFORMATION OF INTEGRATION
5. SEQUENCE OF SERIES OF FUNCTION

After completing the course students are expected to be able to:

1. Describe the basic difference between the sequence and subsequence
2. the definition of concepts related to as continuity, compactness, convergent etc.
3. Give the essence of the proof of bolzano weirestrass theorem the contraction theorem as well as existence of convergent subsequence using equicontinuity.
4. Evaluate the limits of wide class of real sequences.
5. Determine whether or not real series are convergent by comparison with standard series or using the ratio test. Understand and perform simple proofs.
6. Students will be able to demonstrate basic knowledge of key topics in classical real analysis.

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7. The course previous the basic for further studies with in function analysis, topology & function Theory.


B.Sc II-YEAR SEMESTER-IV PAPER-III Code Course Title ALGEBRA 5T

COURSE LEARNING OUTCOMES :THIS COURSE WILL ENABLE THE STUDENTS TO:

1. GET THE COMPLETE KNOWLEDGE OF GROUPS.
2. GET THE KNOWLEDGE OF ISOMORPHISMS.
3. GET THE INFORMATION OF RINGS.
4. GET THE KNOWLEDGE OF RING HOMOMORPHISMS.

After completing the course students are expected to be able to:

- €On completion of this unit successful students will be able to:
- €Demonstrate when a binary algebraic structure forms a group.
- €Construct Cayley tables.
- €Determine possible subgroups of a group.
- €Identify normal subgroups of a group.
- €Examine symmetric and permutation groups.
- €Explain group and subgroup orders using Lagrange's theorem.
- €Identify cyclic subgroups and their generators.

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- €Identify factor group. Implement group axioms.
 - €Group Homomorphism and isomorphism
 - €Rings and subrings, integral domains
 - €Ideals and Factor Rings , Prime and Maximal Ideals, Ring Homomorphism and properties
-


B.Sc III-YEAR SEMESTER V Course title code...LINEAR ALGEBRA (va) code... (5T each)

COURSE LEARNING OUTCOMES :THIS COURSE WILL ENABLE THE STUDENTS TO:

1. TO GET THE KNOWLEDGE OF VECTOR SPACES.
2. TO GET THE KNOWLEDGE OF RANK ,EIGENVALUES AND EIGENVECTORS.
3. TO GET THE KNOWLEDGE OF DIAGONALIZATION.
4. ORTHOGONALITY AND LEAST SQUARE.

After completing the course students are expected to be able to:

1. Understand the combination of two important aspects of modern mathematics via Linear Algebra and Vector Calculus.
2. Linear Algebra emphasizes the concept of vector spaces and linear transformations which are essential in simplifying various scientific problems.
3. It aims at inculcating problem solving skills within students to enable them compute large linear systems.
4. The practical applications of "Linear Algebra" are in demography, archaeology, electrical engineering, fractal geometry and traffic analysis.


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5. Vector calculus motivates the study of vector differentiation and integration in two and three dimensional spaces.
6. It is widely accepted as a prerequisite in various fields of science and engineering, It offers important tools for understanding functions (both real & complex) non-Euclidean geometry and topology.
7. These tools are employed successfully in different branches of engineering and physics (such as electromagnetic fields, fluid flow and gravitational fields).

**B. Sc III-YEAR SEMESTER V Course title code...SOLID GEOMETRY (Vb)
code... (5T**


1. TO GET THE KNOWLEDGE OF SPHERE.
2. TO GET THE KNOWLEDGE OF CONE.
3. TO GET THE KNOWLEDGE OF THE CYLINDER.
4. TO GET THE KNOWLEDGE OF THE CONICOID.

After completing the course students are expected to be able to:

1. The students are able to find the solutions of area of sphere
2. The students can solve any problems of cone and condition that the general equations of second degree intersection of a line with a conicoid .
3. Equations of circle
4. Intersection of a line with a cone and the right circular cone .

After completing the course students are expected to be able to:

1. Understand the combination of two important aspects of modern mathematics via Linear Algebra and Vector Calculus.
2. Linear Algebra emphasizes the concept of vector spaces and linear transformations which are essential in simplifying various scientific problems.
3. It aims at inculcating problem solving skills within students to enable them compute large linear systems.


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4. The practical applications of "Linear Algebra" are in demography, archaeology, electrical engineering, fractal geometry and traffic analysis.
5. Vector calculus motivates the study of vector differentiation and integration in two and three dimensional spaces.
6. It is widely accepted as a prerequisite in various fields of science and engineering, It offers important tools for understanding functions (both real & complex) non-Euclidean geometry and topology.
7. These tools are employed successfully in different branches of engineering and physics (such as electromagnetic fields, fluid flow and gravitational fields).

B.Sc III-YEAR SEMESTER-VI Numerical Analysis Paper VI a subject Code:


COURSE LEARNING OUTCOMES :THIS COURSE WILL ENABLE THE STUDENTS TO:

1. GET THE KNOWLEDGE OF ERRORS IN NUMERICAL COMPUTATION.
2. GET THE COMPLETE KNOWLEDGE OF INTERPOLATION.
3. GET THE COMPLETE KNOWLEDGE OF CURVE FITTING.
4. GET THE COMPLETE KNOWLEDGE OF SOLUTION OF LINEAR SYSTEM

After completing the course students are expected to be able to:

1. TO GET THE KNOWLEDGE OF LINE INTEGRALS
2. TO GET THE KNOWLEDGE OF VOLUME INTEGRALS.
3. TO GET THE KNOWLEDGE OF DIVERGENCE OF A VECTOR FIELD.
4. TO GET THE KNOWLEDGE OF RELETION BETWEEN CURL AND ROTATION.

5. **After completing the course students are expected to be able to:**


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1. The course will also develop an understanding of the elements of error analysis for numerical methods and certain proofs.
2. The main objective of this course is to provide students with an introduction to the field of numerical analysis.
3. Derive appropriate numerical methods to solve interpolation based problems.
4. Derive appropriate numerical methods to solve probability based problems.
5. Prove results for various numerical root finding methods

Learning Outcomes: After the completion of the course, Students will be able to

1. Understand the theoretical and practical aspects of the use of numerical analysis.
2. Proficient in implementing numerical methods for a variety of multidisciplinary applications
3. Establish the limitations, advantages, and disadvantages of numerical analysis.
4. Derive numerical methods for various mathematical operations and tasks, such as interpolation, differentiation, integration, the solution of linear and nonlinear equations, and the solution of differential equations.
5. Understand of common numerical analysis and how they are used to obtain approximate solutions to otherwise intractable mathematical problems.

B.Sc III-YEAR SEMESTER-VI vector calculus Paper VI b subject Code:

COURSE LEARNING OUTCOMES :THIS COURSE WILL ENABLE THE STUDENTS TO:

1. TO GET THE KNOWLEDGE OF LINE INTEGRALS
2. TO GET THE KNOWLEDGE OF VOLUME INTEGRALS.
3. TO GET THE KNOWLEDGE OF DIVERGENCE OF A VECTOR FIELD.
4. TO GET THE KNOWLEDGE OF RELATION BETWEEN CURL AND ROTATION.

After completing the course students are expected to be able to:

1. Students can do evaluation of line integrals .
2. Students can solve the problems of gradient ,divergence and curl,
3. Students can understand the methods and solving of problems using the laplacian of a scalar field.

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5. Students can get the solution of curl of a vector field.

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Head Department
Auwarul-Uloom College
New Mahepally
HYDERABAD-1, A.P

YEAR 2020-2021


DEPARTMENT NAME : MATHEMATICS (M.SC. APPLIED MATHS) PROGRAM OBJECTIVE: Prepare students for pursuing research or careers in industry, mathematical sciences and allied field. **SUBJECT NAME:**

ABSTRACT ALGEBRA :

SEMESTER – I
about group actions

PAPER – I COURSE OBJECTIVE: Concept of group action and theorems

UNIT	UNIT –OBJECTIVE	LEARNING OUTCOMES
I	ALGEBRAIC EXTENSION OF FIELD	GOLOIS THEORY ALLOWS THE STUDENT TO DEAL WITH EFFECTIVE COMPUTATION IN ALGEBRAIC EXTENSION OF FIELD
II	NORMAL AND SEPARABLE EXTENSION	STUDENT ARE EXPECTED TO BE PROFICIENT IN SOLVING BASIC ORDINARY AND PARTIAL DIFFERENTIAL EQUATION
III	GALOIS THEORY	FACILITY WITH FIELDS AND THEIR EXTENSIONS INCLUDING EXPERTISE IN EXPLICIT CALCULATIONS WITH AND CONSTRUCTIONS OF EXAMPLES
IV	APPLICATION OF GALOIS THEORY TO CLASSICAL PROBLEM	THE MAIN OBJECTIVES OF THIS APPLICATION IS TO DEVELOP NOTIONS OF GALOIS THEORY AND THEIR AOOICATIONS TO CLASSICAL PROBLEMS


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SUBJECT NAME: MATHEMATICAL ANALYSIS

SEMESTER-I

PAPER –II

COURSE OBJECTIVE: Understand and ability to handle convergence of series and sequence of function.

*Ability to differentiate function in R_n .

UNIT	UNIT-OBJECTIVE	LEARNING OUTCOMES.
1	Metric, compact sets, perfect sets-connected sets.	Basic definition of metric space, nonlinear space and inner product space.
2	Limits, continuous, discontinues mono tone functions.	Series and sequence of Continuous function.
3	Rie mann- steiltjes integral (R.S.I), Rectifiable curves.	Definition of R.S.I and existence of integral and Its properties.
4	Sequence and series of function approximation of continuous function.	Equi continuous families and stone-weierstrass theorem.


DEPATMENT NAME: MATHEMATICS(2020-2021)

SUBJECT NAME: ORDINARY AND PARTIAL DIFFERENTIAL EQUATION

SEMESTER -I PAPER-III

COURSE OBJECTIVE: Understand the genesis of ordinary and partial differential equation

unit	TOPICS	Learning outcomes
I	Existence and Uniqueness of solution, Picard's theorem, Linear PDE	Know Picard's method of successive approximation of solutions of first order differential equation and learn to get exact solution
II	P.D.E of order two with variable coefficients, classification, Solution of one dimensional heat, wave equation and Laplace equation	Learn various techniques of getting exact solutions of solvable first order differential equation ad linear differential equation


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		order
III	Power series of O.D.E , Legendre Polynomial	Power series method for higher order linear equations especially in cases when there is no method available
IV	Bessel's functions , Hermite Polynomials	Formulate mathematical models in the form of O.D.E to suggest possible solutions

SUBJECT NAME:

MECHANICS

SEMESTER -I

PAPER-IV

COURSE OBJECTIVE: : Understanding of the fundamental axioms in mathematics and capability of developing ideas based on them.

unit	Topics	Learning outcomes
I	Equilibrium in a uniform Gravitational field.	Determine the centre of gravity of materialistic systems Discuss the Equilibrium of a uniform cable hanging under its own weight.
II	Rotation of a rigid body about a fixed axis, moment of inertia.	Familiarize with subject matter which has been the single Centre to which were drawn Mathematicians, physicists, Astronomers and Engineers together.
III	Rotational Kinetic energy. Rigid body.	Deals with the Kinetics and Kinetics of the rectilinear Rigid body and planar motion of a particle including the Constrained of particles.
IV	Lagrange's Equation and Their applications. Generalized Momentum.	Understand necessary conditions for the equilibrium of Particle acted upon by various force and learn the principle of vertical work for a system of coplanar Forces acting on a particle.

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SEMESTER –I PAPER-V

SUBJECT NAME: INTEGRAL TRANSFORMS

PROGRAM OBJECTIVES: Prepare student for pursuing research or careers in industry in mathematical sciences and allied fields

COURSE OBJECTIVE: To make strong foundation of the integral transforms and their inverses and to create zeal of working with higher mathematics.

unit	TOPICS	Learning outcomes
I	Laplace Transforms, Application to ordinary and partial differential equation, Inverse transformation.	Apply Laplace Transforms and its inverse to solve initial value and other related problems
II	Fourier Transforms ,Inverse Fourier Transforms , Application to Ordinary and partial differential equation	Use Fourier transform and its inverse in partial application
III	Hankel Transform, Application in BVP	Understand different components involved in Hankel Transform and its application.
IV	Mellin Transforms, Convolution theorem	Learn Mellin Transforms and various components on it.

MATHS 2020 -21 SEMESTER II ALL PAPERS

SUBJECT NAME : GALOIS THEORY
and theorems about group actions

SEMESTER –II PAPER – ICOURSE OBJECTIVE: Concept of group action

UNI T	UNIT –OBJECTIVE	LEARNING OUTCOMES
I	ALGEBRAIC EXTENSION OF FIELD	GOLOIS THEORY ALLOWS THE STUDENT TO DEAL WITH EFFECTIVE COMPUTATION IN ALGEBRAIC EXTENSION OF FIELD
II	NORMAL AND SEPARABLE EXTENSION	STUDENT ARE EXPECTED TO BE PROFICIENT IN SOLVING BASIC ORDINARY AND PARTIAL DIFFERENTIAL EQUATION
III	GALOIS THEORY	FACILITY WITH FIELDS AND THEIR EXTENSIONS INCLUDING EXPERTISE IN EXPLICIT CALCULATIONS WITH Ahead

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		CONSTRUCTIONS OF EXAMPLES
IV	APPLICATION OF GALOIS THEORY TO CLASSICAL PROBLEM	THE MAIN OBJECTIVES OF THIS APPLICATION IS TO DEVELOP NOTIONS OF GALOIS THEORY AND THEIR APPLICATIONS TO CLASSICAL PROBLEMS

SUBJECT NAME: **LEBESGUE MEASURE AND INTEGRATION**
SEMISTER-II PAPER-II

COURSE OBJECTIVE: Ability to handle ordinary differential equation and solve them under appropriate assumption.

UNIT	UNIT-OBJECTIVE	LEARNING OUTCOMES.
2	Riemann integral, integral of a non-negative function.	The notion of convergence in $C[0,1]$ and related theorems.
3	Convergence in measure, function of bounded variation.	Apply implicit and inverse function theorem.
4	Differentiation of an integral convergence and completeness.	Apply minkowski and Holders in equalities.

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SUBJECT NAME:
SEMESTER –II

COMPLEX ANALYSIS
PAPER-III

COURSE OBJECTIVE: This course will enable the students to visualize complex numbers as points and stereographic projection complex plane on the Riemann sphere

unit	TOPICS	Learning outcomes
I	Cauchy-Riemann equation – Complex exponents , Exponential function and trigonometric ,hyperbolic ,logarithmic function	Understand the significance of differentiability and analyticity of complex function leading to Cauchy-Riemann equations
II	Definite integrals of functions , Contour Integrals , Cauchy Integral formula ,Liouville's theorem , Fundamental theorem of Algebra	Learn the role of Cauchy integral formula in evaluation of contour integrals .Apply Liouville's theorem in Fundamental theorem of Algebra
III	Convergence of series , Taylor's series , Laurent's series , Singular points ,Zeroes of Analytic function , Cauchy Gourshat theorem	Learn Taylor and Laurent series expansion of analytic function , classify the nature of singularity ,poles and residues and application of Cauchy –Residue theorem
IV	Evaluation of Improper Integrals , Rouche's theorem , Augment principle, Jordan's Lemma , Definite integrals involving sine's and cosines	Learn various method to find contour integrals

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YEAR(2020-21)

SUBJECT NAME FLUID MECHANICS

SEMESTER -II PAPER-IV

COURSE OBJECTIVE : Understand the reduction of force system in three dimensions to a resultant force acting at a base point and a reluctant couple, which is independent of the choice of base of reduction.

unit	objective	Learning outcomes
I	The equation of continuity.	Learn about a null point and a null line (vector and Cartesian form) and a null plane with respect to a system of force acting on a Rigid body together with the idea of central axis.
II	Motion in two dimension, Velocity potential stream function.	Know the inertia constants for a rigid body and the equation of momental Ellipsoid together with the idea of principle and principle moments of inertia and to drive Euler's equation of Motion of a rigid body moving about a point which is kept
III	Milne Thompson circle Theorem. Euler's equation Bernoulli's equation.	Study the kinetics and kinetics of fluid motion to understand The equation of continuity in Cartesian cylinder polar and Bernoulli's equation. spherical polar coordinates which are used to drive Euler's and Bernoulli's equation
IV	Elliptic coordinate Motion of an Elliptic Cylinder.	Deal with two dimensional fluid motion using the complex Potential and also to understand the concept of sources sinks Doublets and the image systems of these with regard to along a circle.

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YEAR(2020-21)

SUBJECT NAME: THEORY OF ORDINARY DIFFERENTIAL EQUATION

SEMESTER –II PAPER-V

COURSE OBJECTIVE: Distinguish between linear, non linear, partial and ordinary differential equation. Recognize and solve the problems of different types.

unit	TOPICS	Learning outcomes
I	Linear differential equation of higher order- Variation of parameters –Equation with constant coefficient - Wronskion	Use the existence theorem to determine uniqueness of solution Use the wronskion to determine if a set of functions is linearly independent
II	Successive approximation –Picard's theorem – Existence of solution In the large – Continuation and dependence – Fixed point method	Understand the successive approximations using Picard's theorem
III	Analysis and methods of non-linear differential equation –Bihari's inequality and its application	Solve non linear differential equation and also understand the Bihari's inequality
IV	Oscillation theory for linear differential equation of second order – Abel's formula- The sturm separation theorem and Comparison theorem- Bocher and Osgod theorem	Obtain solution to second order differential equation

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YEAR(2020-21)

	Partial differential Equation.	Algebraic equation.
III	Difference Methods for hyperbolic. Partial differential equation.	The resulting Algebraic Equation or finite difference Equation
IV	Numerical Methods for Elliptic Partial differential equation	Understand the propositional logic and basic theorem like compactness Theorem and numerical methods For Elliptic Partial differential Equation

SUBJECT NAME:

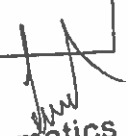
LINEAR ALGEBRA

SEMISTER- III

PAPER-III

COURSE OBJECTIVE: *Ability to go abstract from concrete notion of solution space to vector spaces.

UNIT	UNIT-OBJECTIVE	LEARNING OUTCOMES.
1	Characteristics value, annihilating polynomials.	Solving system of linear equations.
2	Direct sum decomposition, the primary decomposition theorem.	Qualitative analysis of system of linear equations.
3	Cyclicde composition the Jordan forms.	Handling of system of L.E's.
4	Bilinear forms, skew-symmetric bilinear forms.	Vector spaces, linear independence and foundations of abstract algebraic thinking.


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SEMESTER IV

SUBJECT NAME: INTEGRAL EQUATION & CALCULUS OF VARIATION
SEMESTER-IV PAPER-I

COURSE OBJECTIVE: Ability to solve and apply various numerical methods in real life problems.

UNIT	UNIT-OBJECTIVE	LEARNING OUTCOMES.
1	Euler integrals, Abel's problem.	Assimilate the notions of limits of a sequence and series.
2	Fredholm integral equation, green's Function.	Calculate the limit and examine the equations.
3	Euler's equation, euler poison equation.	Understand the consequences of various mean value theorem for differentiable functions.
4	Language' sequeation, hamilton's equations.	Sketch curves in Cartesian and polar co-ordinate systems.

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YEAR(2020-21)

SEMESTER –IV PAPER-II

YEAR(2020-21)

SUBJECT NAME: FINITE ELEMENT METHODS

PROGRAM OBJECTIVES: Prepare student for pursuing research or careers in industry in mathematical sciences and allied fields

COURSE OBJECTIVE: Understand the general steps of finite element methods

Unit	TOPICS	Learning outcomes
I	Weighted residual methods- Least Square method- Partition method-Galerkin method-Collocation method-Moment method-Ritz method	Understand the basic finite element methods
II	Finite element – Line segment elements-Triangular elements-Rectangular elements with examples	Learn the different polynomial involved in each segment
III	F.E.M –Ritz F.E.M-Least square f.e.m –Galerkin f.e.m ,B.V.P	Be able to drive equations in finite element method
IV	Eigen value problems Error analysis, Approximation errors –Convergence and accuracy of solution with examples	Understand the different factors that effect the convergence of solution

SUBJECT NAME : FUNCTIONAL ANALYSIS.

SEMESTER- IV

PAPER- III

COURSE OBJECTIVE: *Concept of normal linear space and inner product spaces.


*Analyzing the structure of the spectrum of the spectrum of certain operations.

UNIT	UNIT – OBJECTIVE	LEARNING OUTCOMES.
I	Normed spaces, banach, bounded and continuous linear operators.	Comparing the difference between banach and Hilbert spaces.
II	Linear functional, properties of inner product space, orthogonal compliment and direct sums.	Working with a complete orthogonal set, schauder basis in a Hilbert space.
III	Hilbert space Hilbert – adjoint operation self-adjoint , unitary and normal operators.	Concept of compact, self-adjoint and normal operators.

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YEAR(2020-21)		
IV	Hahn- banach theorem, open mapping theorem, closed linear operators, closed graph theorem.	Investigating the best approximation of a given vector by vector in a given subspace.

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YEAR(2020-21)

SUBJECT NAME _____ :

MAGNETO HYDRO DYNAMICS

SEMESTER : IV

PAPER : IV

COURSE OBJECTIVE : This course which enables the students to visualise complex numbers as points and stereographic projection complex plane on the Riemann sphere

UNIT	UNIT OBJECTIVE	LEARNING OUTCOMES
I	A brief reminder of the laws. electro dynamics governing. Equations of electro hydro dynamics	Understand the properties vortices Of And different types of dynamics
II	Transport equation for imposed. field (B) an important Kinetic equation.	Learn different components of fields Magnetic
III	Advection and diffusion of. Kevin's theorem, Helmholtz. Law and helicity.	Understand different types of laws and Vorticity Understand different conditions
IV	Kinematics. Of MHD analogy to Vorticity, diffusion of a magnetic field. Advection in ideal conductors.	Be able to derive equation in magneto Hydro dynamics.

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YEAR(2020-21)

SUBJECT NAME : ADVANCE OPERATION RESEARCH

SEMESTER : IV

2021-2022

PAPER:V

COURSE OBJECTIVE : understand the genesis of Advance Operation Research

UNIT	UNIT OBJECTIVE	LEARNING OUTCOMES
I	characteristics of game theory . (Min – Max) criterion and optimal. Strategy saddle point slution of games with saddle point.	Understand different fields And extensions
II	inventory problems: analytical. Structure of inventory problem, ABC analysis. EOQ problem with and with Shortage.	Facility in working with the Fields
III	Non-linear programming unconstrained Maxima And Minima constrained problem of Maxima and Minima	Apply implicit and inverse problem of function theorem
IV	Quadratic programming –kuhn. Tucker conditions – Non – negative. Constraints, General Quadratic. programming problem	Understanding the Successive approximations Richard Method



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Date: _____

B. Sc Microbiology

Academic year 2020-2021

Course: B.Sc. Microbiology (Duration: 3 Years)

Programme Mission and Objective:

Microbiology is study of the world of organisms that are too small to be seen with the naked eye. Some of these microorganisms are infectious agents to humans, animals, or plants. Many of these microorganisms, however, carry out important functions in their niches that are essential for all life on earth. Microbiologists study the interaction of microorganisms with people and how they affect their lives, as well as the roles these organisms play in the environment. Microbiologists work in hospitals, universities, medical schools, government laboratories, and almost every industry, specializing in a variety of areas, from agriculture to the space industry. In fact, study of microorganisms has become of global importance.

BSc in Microbiology is a unique, interesting and leading course designed to encourage aspiring students with a cutting-edge training to young minds power of thinking, provide them apt practical training and making them industry ready for a rewarding professional career.

This programme will enable the young minds to adopt to both theoretical and practical exposure, parallel to any other conventional Universities. Moreover, innovative learner centric innovative teaching practices will be adopted to ensure parity in terms of academic excellence.

Goals and objectives

- To provide cutting edge education in Microbiology to aspiring learners.
- The crux of the course is to ensure that the students at the end of the programme are able to acquire higher education further leading to prospective career.

Programme Outcome

The programme aims to cater learners to acquire and demonstrate competency in Microbiology skills, making them knowledgeable and competent to make a prospective career in industry as well as in research in the area of Microbiology.

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DEPARTMENT OF MICROBIOLOGY

PROGRAM SPECIFIC OUTCOMES (PSO) MICROBIOLOGY

At the time of graduation, the students will be able to

PSO1: Understand fundamental principles involved in Microbiology

PSO2: Acquire detail knowledge of microorganisms present in air, water and their types and significance

PSO3: Understand aspects of food microbiology, food quality control and food borne diseases, microorganisms as food

PSO4: Acquaint with concepts of Immunity, Antigen, Antibody and Immune System and diagnostic labelled techniques

PSO5: Understand importance and applications of soil microorganisms as biofertilizers

PSO6: Acquire detail knowledge of medical microbiology with reference to viral diseases, insect borne diseases

COURSE OUTCOMES:

Semester - I

General Microbiology

At the end of the course, the students will be able to-

CO1: Describe meaning, definition and scope of Microbiology

CO2: Outline the History of Microbiology

CO3: Describes the microbiological techniques for sterilization and disinfection

CO4: Explain the principle of microscopy

CO5: Explain the principle and types of stains

CO6: Explain classification of living organisms

CO7: Understand the differentiation of prokaryotes and eukaryotes

CO8: Discuss the use of different techniques for isolation of pure cultures

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CO9: Describes various methods of preservation of pure culture

CO10: Explain general characteristic of prokaryotes, virus and eukaryotic microorganisms

Semester –II

Microbial Physiology and Biochemistry

At the end of the course, the students will be able to

CO1: Explain various nutritional groups in microorganisms

CO2: Explain various methods of measuring microbial growth

CO3: Describe the oxygenic and anoxygenic photosynthesis in bacteria

CO4: Describe structure, types, physical, chemical properties and functions of proteins, carbohydrates, fatty acids and amino acids

CO5: Describe the general characteristics and classification of enzymes

CO6: Explains various methods proposed for enzyme biocatalyst

CO7: Describes potentiometric pH meter

CO8: Explain different types of buffers that have an important role in functioning of human body

CO9: Discuss principle and application of colorimeter, chromatography, and electrophoresis

SEMESTER III

Food and Environmental Microbiology

At the end of the course, the students will be able to

CO1: Discuss mechanism of preparation of fermented foods and diary microbiology

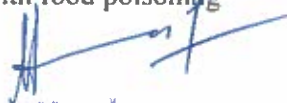
CO2: Describe role of Microorganisms as food, edible mushrooms and concept of probiotics, prebiotics

CO3: Understand the concept of Food spoilage and poisoning

CO4: Discuss Food and Microorganisms, source of food contamination and food preservation

CO5: Describe Food borne diseases and Intoxication also Pathogen associated with food poisoning

CO6: Understand concept of food quality and assessment methods


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CO7: Describe processes involved in purification of sewage and portable water, Concept of Sewage treatment

CO8: Describe solid waste disposal methods

CO9: Discuss microbial interactions and classify nitrogen fixation

CO10: Describe microorganisms of soil, water, air and various nutrient cycles (carbon, nitrogen, sulphur)

SEMESTER IV

MEDICAL MICROBIOLOGY AND IMMUNOLOGY

At the end of the course, the students will be able to

CO1: Outline the history of medical microbiology

CO2: Identify the normal microflora of human body

CO3: Define infection, non-specific defence, mechanical indigenous flora

CO4: Understand the concept of Antibacterial substances like lysozyme, complement, antivirals, phagocytosis

CO5: Describe the concept of host-pathogen interactions, airborne diseases, food and water borne diseases, insect borne and viral diseases

CO6: Explain concept of Immunity and its types, Antigen, Antibody, Immune system

CO7: Describe primary and secondary organs and cells of immune system with their identification and functions, Describe Lymphocytes (T and B cell)

CO8: Describe structure, types of antigens and antibodies and their diversity

CO9: Discuss Diagnostic application of immunology, Antigen-Antibody Interaction and types: Precipitation and Agglutination, Blood groups, neutralization, concept of complement system

CO10: Concept of labelled antibody techniques -ELISA, RIA and immunofluorescence, Understand concept of hypersensitivity and its types, Autoimmunity, polyclonal and monoclonal antibodies

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Date: _____

SEMESTER V-A

Applied Microbiology-A

At the end of the course, the students will be able to

CO1: Understand the role of microbes in agriculture with reference to physical and chemical characteristics of soil

CO2: Importance of plant growth promoting microorganisms

CO3: Application of microorganisms as biofertilizers

CO4: To learn the concept of plant diseases and biocontrol using biopesticides

CO5: Discuss Food and Microorganisms, source of food contamination and food preservation

CO6: Describe Food born disease and Intoxication and Pathogen associated with food poisoning

CO7: Discuss mechanism of preparation of fermented foods and microorganisms as food SCP, edible mushrooms and concept of probiotics with the help of microorganisms

SEMESTER V-B

Applied Microbiology-B

CO1: Discuss microbial interactions and classify nitrogen fixation

CO2: Describe microorganisms of soil, water, air and various nutrient cycles (Carbon, nitrogen, sulphur)

CO3: Describe processes involved in purification of sewage and portable water, Concept of Sewage treatment

CO4: Describe coliform- test- technique used to determine water potability

CO5: Describe solid waste disposal methods

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CO6: Outline of biodegradation of environmental pollutants

CO7: Describes the characteristic features of industrially important microorganisms (yeast, molds, bacteria, actinomycete)

CO8: Outline of strain improvement

CO9: Describe various types of fermentation and the roles of media in fermentation

CO10: Describe the history, design, size, and construction of fermentors (bioreactors)

CO11: Describe the commercial production of industrial alcohol, beer, enzyme, antibiotic, amino acid, organic acid, vitamin and biofuel

SEMESTER VI-A

Immunology- A

At the end of the course, the students will be able to-

CO1: Understand the development of immunology and its scope

CO2: Explain concept of Immunity and its types, Antigen, Antibody, Immune system

CO3: Describe the concept of immunological tolerance and surveillance

CO4: Describe primary and secondary organs and cells of immune system with their identification and functions, Describe Lymphocytes (T and B cell)

CO5: Describe structure, types of antigens and antibodies and their diversity

CO6: Describe the concept of complement system-properties, activation, regulation, biological effects, deficiencies

CO7: Discuss Diagnostic application of immunology: Practical aspects of

Antigen-Antibody Interaction and types: Precipitation and Agglutination, Perform Blood grouping

CO8: Concept of labelled antibody techniques -ELISA, RIA and immunofluorescence

CO9: Understand concept of hypersensitivity and its types, Autoimmunity, polyclonal and monoclonal antibodies

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Date: _____

SEMESTER VI-B

Medical Microbiology- B

CO1: Outline the history of medical microbiology

CO2: Identify the normal microflora of human body

CO3: Define infection, non-specific defence, mechanical indigenous flora

CO4: Understand the concept of Antibacterial substances like lysozyme, complement, antivirals, phagocytosis

CO5: Describe various methods involved in collection, transport and processing of clinical samples

CO6: Explains the general methods of laboratory diagnosis

CO7: Describe the test for antimicrobial susceptibility

CO8: Discuss the antiviral agents

CO9: Describe the general characteristics of therapeutic drugs and mechanism of drug resistance

CO10: Describe the structure, mode of action clinical uses of penicillin and sulpha drug

CO11: Define vaccine and describe the various types of vaccines

CO12: Describe the causal organism, pathogenesis, diagnosis, prevention and control of airborne diseases, food and water borne diseases, insect borne and viral diseases

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DEPARTMENT: NUTRITION AND DIETETICS
PROGRAMME: B.SC. NUTRITION AND DIETETICS
ACADEMIC YEAR-(2020-2021)

PROGRAMME OBJECTIVE (GENERAL)

- 1 Students are able to grab a chance for entrance in various competitive exams at state/national levels
- 2 They can hold on opportunity for post graduate level related to their specialization at graduation level
- 3 They can even opt for diplomas, vocational courses related to medical field
- 4 Perform food management functions in business, health-care, community and institutional areas.
- 5 They can even opt for internship at hospitals level, enter as nutritionist at factories after internship

(PROGRAMME OUTCOMES) (GENERAL)

- PO- 1 The students can get accepted in post graduation programs and can enroll for various entrance exams
- PO - 2 after completion of graduation program students will gain a chance to work in hospitals at interns
- PO- 3 they attain the skills to work in various field like food factories, health care at community and institutional levels, work in food service industry
- PO- 4 the students will gain insight about the role of nutrition in overcoming various health diseases and disorders, their treatment, prevention and cure.
- PO -5 The course will help students grasp different aspects and fulfill requirement needed in aiding future career choices

(PROGRAMME SPECIFIC OUTCOMES)

Fig. B. Com. PSO: The student can understand the basic concepts of various subjects viz. BOM, FA, B. Economics, etc. and its application in real life situations.

PSO-1 SEM I: Introduction to Foods and nutrition: To familiarise the students with the various food groups, the nutritive values an effective processing on the nutritive values of the food.

PRACTICAL:

The students learn about the standardisation, preparation an you didn't value calculations of recipes based on the food groups an combinations, methods of preservation of fruits and vegetables, determination of the quality of the egg and detection of the adulterants.

PSO -2 SEM II: Nutritional biochemistry and human Physiology: To understand the sources of macro and micro nutrients.

To become proficient for specialization in nutrition

To develop competence to carry out investigations in nutrition.

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HEAD

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To understand the Physiology of the human body

PRACTICAL:

The students learn about the various qualitative and quantitative analysis techniques for nutrients like carbohydrates, fat, ascorbic acid, proteins and amino acids, estimation of haemoglobin, blood glucose.

PSO -3 SEM III: Introduction to food technology: To impart a systematic knowledge of basic and applied aspects of food processing and technology.

PRACTICAL: The students will understand the various methods of cooking they learn about different techniques of estimation of gluten content gelatinization of starches, I din values of oils, malting and popping value of the millets and different stages of sugar cookery.

PSO -4 SEM IV: Food science: To impart a systematic knowledge of basic and applied aspects of food processing and technology.

Knowledge of potential use of various by products of food industry.

PRACTICAL:

They learn different cookery preparations of different food groups

PSO -5 SEM V(A): Diet therapy-I: To understand the importance of diet in health and disease condition.

To modify the diet as per the disease condition

To enlighten on the dietary modification

PRACTICAL:

The students are unable to understand the planning preparation and calculation of the various therapeutic diets and we need to modify the diets according to the needs of the patient.

PSO -5 SEM V(B): Public health/ community nutrition and health education: To understand the Nutritional problems of community.

To provide students with an understanding of the scope of the public health issue with regard to communicable disease and non-communicable diseases in India.

PRACTICAL:

The students will understand the various nutrition assessment techniques to analyse the present health status of the community.

PSO -6 SEM VI(A): Diet THERAPY-II: To understand the importance of diet in health and disease condition.

To modify the diet as per the disease condition

To enlighten on the dietary modification

PSO -6 SEM VI(B): Food preservation/ maternal and child nutrition: To familiarize students with the nutritional needs of the pregnant, lactating mother, infancy and nutritional policies and statistics.

To enable students to gain knowledge on preservation techniques and Food contamination.

PRACTICAL:

The students prepare Different reservations of fruits and vegetables and conduct a market

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survey.

The students prepare charts, models and posters for Imparting nutritional education and counsel the mothers of infants unimportance of breast feeding and conduct a diet survey for 24 hour dietary recall of infant zero to 12 months and assessing the nutritional status of the mothers using diet survey and anthropometry.

Course Objective (Subjects Objectives subject wise): Eg. Financial Accounting/ Cell Biology/ Physical Chemistry

1 Introduction to Foods and nutrition: To familiarise the students with the various food groups, the nutritive values and effective processing on the nutritive values of the food.
PRACTICAL:

The students learn about the standardisation, preparation and you didn't value calculations of recipes based on the food groups and combinations, methods of preservation of fruits and vegetables, determination of the quality of the egg and detection of the adulterants.

2 Nutritional biochemistry and human Physiology: To understand the sources of macro and micro nutrients.

To become proficient for specialization in nutrition

To develop competence to carry out investigations in nutrition.

To understand the Physiology of the human body

PRACTICAL:

The students learn about the various qualitative and quantitative analysis techniques for nutrients like carbohydrates, fat, ascorbic acid, proteins and amino acids, estimation of haemoglobin, blood glucose.

3 Introduction to food technology: To impart a systematic knowledge of basic and applied aspects of food processing and technology.

PRACTICAL:

The students learn about the various methods of cooking, they learn the technique for estimation of gluten content in wheat, they learn about the gelatinization of different starches, they gain an understanding about the different stages of sugar cookery.

4 Food science: To impart a systematic knowledge of basic and applied aspects of food processing and technology.

Knowledge of potential use of various by products of food industry.

PRACTICAL: They learn about the different cooking methods for cereals pulses millets legumes and different stages of sugar cookery.

5 Diet therapy- I: To understand the importance of diet in health and disease condition.

To modify the diet as per the disease condition

To enlighten on the dietary modification.

PRACTICAL: I

The students are unable to understand the planning preparation and calculation of the various therapeutic diets and we need to modify the diets according to the needs of the patient.

6 Public health/ community nutrition: To understand the Nutritional problems of

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community.

To provide students with an understanding of the scope of the public health issue with regard to communicable disease and non-communicable diseases in India.

PRACTICAL:

These students will understand the various nutrition assessment techniques to analyse the present health status of the community.

7 Diet Therapy- II: To understand the importance of diet in health and disease condition.

To modify the diet as per the disease condition

To enlighten on the dietary modification

PRACTICAL:

It helps in planning and preparation of the diets for various conditions and the need for the modification in the diet according to the needs of the patient and the condition that he is suffering with.

8 Food preservation / Maternal and child nutrition: To familiarize students with the basics of food microbiology.

To enable students to gain knowledge on preservation techniques and Food contamination.

PRACTICAL:

These students examine the various micro organisms under the microscope And they learn the staining techniques and the preparation of this common culture media. they identify the different adult trends that are present in various food commodities.

COURSE OUTCOMES

(SUBJECT OUTCOMES SUBJECT WISE)

EACH UNIT ONE OUTCOME

- CO -I SEM I: Introduction to Foods and nutrition:
- The students learn in detail about the definition of food, nutrition common nutrients, food groups based on their functions, origin and nutritive value they learn about the different food groups like cereals and millets, sugars and Jaggery, what are the compositions and nutritive values and nutritive losses during processing.
- The students learn in detail about decomposition, nutritive value of pulses and legumes common nuts and oilseeds, fats and oils and they learn about the rancidity of oils what are the different types of rancidity and how to prevent rancidity.
- The students learn in detail about the classification, composition, nutritive value of vegetables and fruits, enzymatic Browning and its prevention. They learn about the principles of food preservation and the methods.
- The students learn in detail about decomposition, nutritive value of milk, eggs and meat and the food adulteration
- **PRACTICAL:**
- The students learn in detail about the standardisation, composition and nutritive value calculations of recipes based on the food groups and the combinations they learn about the methods of preparation of fruits and vegetables

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reservations all fruits and vegetable reservations an detection Of adulterants present in milk, butter, ghee.

CO-2 SEM-II: Nutritional Biochemistry and human Physiology:

- The students will understand the definition, composition, Classification, metabolism involved, the dietary sources and the recommended dietary allowances, the digestion, absorption, the deficiency and the abundance of the carbohydrates, proteins and the lipids present in the body of the human.
- The students will understand the different vitamins, minerals their types, sources, functions, RDA, and their deficiencies, water functions, distribution, sources and water and electrolytes balance and enzymes in detail.
- PRACTICAL:
- The students learn the various qualitative and quantitative estimation techniques for analysis of various nutrients present in the food commodities and in blood

CO-3 SEM-III: Introduction to Food technology:

- This course is enabling the students to gain an insight about the importance, principles and objectives of food technology.
- They will understand the composition, nutritive value and processing techniques of cereals, millets and sugars.
- They will understand the composition, nutritive value and processing techniques of pulses legumes and nuts and oil seeds.
- They will understand the composition, nutritive value and processing techniques of fats and oils and about spices and condiments and what is the importance of beverages.
- PRACTICAL:
- The students will learn about the various methods of cooking they learn how to estimate the amount of gluten that is present in the wheat sample they learn about the different gelatinization rates of various touches and different stages of sugar cookery they learn about the various techniques of enhancing the nutritive value of millets, pulses and legumes.

CO-4 SEM- IV: Food science

- They will understand the composition, nutritive value and processing techniques of vegetables and fruits.
- They will understand the composition, nutritive value and processing techniques of milk and milk products.
- They will understand the composition, nutritive value and processing techniques of poultry, meat and fish.
- They will understand the emerging new technologies in the food industry like production of designer foods, Organic foods, GMF and about extrusion technology.
- PRACTICAL:

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- The students will learn about the various preservation techniques to preserve fruits and vegetables they learn how to tenderize meat they learn the determination technique of BHI in milk and milk products, determination of butter content in milk and determination of quality of egg.

CO-5 SEM V(A): Diet therapy I:

- The students understood the role of dietitian in Hospital and the therapeutic dietary modifications of food and special feeding methods.
- They learnt about the dietary modifications in gastrointestinal, liver and gall bladder diseases.
- They understood the role of nutrition in malnutrition, febrile conditions and genetic disorders.
- They learnt about the role of nutrition in the cardiovascular diseases, diabetes and renal diseases.
- PRACTICAL:
- The students will understand how to prepare calculate and plan a diet for various therapeutic conditions and how to modify a normal diet according to the needs of the patient.

CO-6 SEM V(B): Public health/ community nutrition:

- the students learn about communication its definition types processes and barriers and health education what are the aims of this types of approaches and principles of health education, they learn about the different practices about health education, school health services and schedule for immunization of school children and school Health Administration.
- They learned about anthropometry, diet service and the types and different clinical assessment and biochemical assessment methods to understand the present health status of the community.
- The Students gained an insight about the Prevalence of malnutrition in India what are the factors contributing to malnutrition, protein energy nutrition Vitamin A deficiency common nutritional anaemia, Iodine deficiency disorders and endemic fluorosis.
- The students learnt in detail about the different, types of communicable diseases their causes, symptoms, treatment and control measures.
- PRACTICAL:
- The students will learn the various assessment techniques to identify the nutritional status of the community by applying methods like anthropometry, diet survey, biochemical method.

CO-6 SEM VI(A): Diet therapy-II:

- The students understood the role of dietitian in Hospital and the therapeutic dietary modifications of food and special feeding methods.
- They learnt about the dietary modifications in gastrointestinal, liver and gall bladder

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diseases.

- They understood the role of nutrition in malnutrition, febrile conditions and genetic disorders.
- They learnt about the role of nutrition in the cardiovascular diseases, diabetes and renal diseases.
- PRACTICAL:
- Students understood the planning, calculation and the preparation of the diets for various therapeutic conditions and how to fulfil the needs of the patient by modifying the diet according to the needs and requirements.

CO-6 SEM VI(B): Food preservation/ maternal and child care:

- The students learn about the food spoilage and the nutrition losses during storage and food borne illnesses and the control of food borne illnesses
- The methods of food preservation and the principles of food preservation I discussed in detail.
- They learn about the Commercial methods of food preservation and preservation by high temperature, low temperature, dehydration, high concentration of salt, food irradiation and chemicals
- They learned about the nutritional leavening provisions in existing food laws and recent developments in food labelling from India and food laws and regulations and standards followed in India.
- the students learn about the nutritional needs during the pregnancy common disorders of the pregnancy and the relationship between the maternal diet and the birth outcome.
- the students learn about the nutritional needs of a nursing mother and the infants and the detriments of the birth weight and the consequences of the low birth weight and the need of the breastfeeding and the support and counselling.
- the need for the proper feeding practises and the nutritional concerns in the infants and young children and the guidelines for their feeding and complementary feeding.
- The students learn in detail about the child health and mobility, neonatal, infant and child mortality and the link between mortality and malnutrition and the overview of maternal and child nutrition policies and programmes.
- PRACTICAL:
- The students learn how to use microscope and visualize the microorganisms underneath the microscope and prepare the simple staining and gram staining slide and learnt the various culture media preparation techniques, and understood the procedure to a simple test to identify the various adult trends that might be present in the different food commodities.

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DEPARTMENT: NUTRITION AND DIETETICS
PROGRAMME: M.SC. NUTRITION AND DIETETICS
ACADEMIC YEAR-(2020-2021)

PROGRAMME OBJECTIVE (GENERAL)

- 1 They can even opt for diplomas, vocational courses related to medical field.
- 2 Perform food management functions in business, healthcare, in community and institutional areas
- 3 They can opt for further academic education and can become researchers, enroll in doctorate programs
- 4 They can opt for working as a dietitian at the hospital or as a nutritionist at the community level.
- 5 They can explore the field of healthcare by becoming registered dietitian, enter into the field of teaching, scientific research and other professions.

(PROGRAMME OUTCOMES) **(GENERAL)**

- PO- 1 At the end of the course these students will be qualified as the post graduate students in nutrition and dietetics.
- PO – 2 The course will enable the students to get jobs at reputed organisations with a major scope in different aspects of the profession of healthcare.
- PO- 3 These students can offer the further studies by enrolling themselves into the doctorate programmes.
- PO- 4 The students can start working in the hospitals as dietitian I can also work as a nutritionist at the community level they can associate with the various organisations health and help in the improvement of the health status of the community.
- PO -5 They can start their own business, enter into the field of food service management, work into the food factories and then also enter into the various government programmes and jobs for improving the health status of the nation.

(PROGRAMME SPECIFIC OUTCOMES)

PSO-1 SEM I: PAPER-I: Human nutrition:

It has the students to understand the role of adequate nutrition in different stages of life cycle. It enables the students to know the nutritional requirements and the meeting management of the athletes.

PRACTICAL:

To familiarise the students with the raw and cooked quantities of the food and to the plan diet for various age groups.


PAPER-II: Nutritional biochemistry – I:

This will enable the students to understand the role of nutrients in the body.

It also helps these students to understand the classification, functions and the metabolism of nutrients like carbohydrates, amino acids, proteins and nucleic acids

PRACTICAL:

This will help the students to get acquainted with the principles, techniques and applications of various methods of food analysis.


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PAPER-III: Human Physiology:

this will enable the students to understand the functions of various systems in the body. It helps in getting the students acquainted with the abnormalities of the endocrine system

PRACTICAL:

The course will help the students to get acquainted with the principles common techniques and application of different methods of analysis for various components in blood. full

PAPER-IV: Principles of dietetics:

This will help in imparting in depth knowledge regarding the prevalence, aetiology, diagnosis common diet and lifestyle management in different diseases.

It helps the students to gain knowledge on the methods of assessment of nutritional status among the individuals and the interaction of their drugs and nutrients

PRACTICAL:

This will help in familiarising the students with newer concepts in the dietary management of various diseases and disorders

PSO -2 SEM II: PAPER-I: principles of food:

It provides understanding of composition of various foodstuffs to the students.

It helps in familiarising these students with the changes occurring in the foodstuff as a result of the processing an cooking.

PRACTICAL:

The students gets familiarised with the changes that are occurring in the various foodstuffs as the result of processing an cooking

PAPER-II: nutritional biochemistry – I I:

it enables the students to understand the role of the different nutrients in the body.

It helps in understanding the classification, functions and the metabolism of dilip it's, vitamins and the minerals.

PRACTICAL:

It helps the students to get familiarised with the changes occurring in their various foodstuffs as a result of the processing an cooking.

PAPER-III: research methodology:

It helps the students to understand the importance of the research design.

do impart in depth knowledge on collection compilation an analysis of the data.

PRACTICAL:

This will help these students for understanding newer concepts in their research.

It also enables the students to analyse the data for the project work with the satistical techniques.

The application of the status tickle methods related to the community nutrition and the sensory evaluation techniques.

PAPER-IV: died in disease:

this will help in imparting in depth knowledge regarding prevalence, aetiology, diagnosis, diet and lifestyle management in acute and chronic diseases.


It helps students to gain knowledge to recommend an provide appropriate nutritional care for prevention and or treatment of various diseases.

PRACTICAL:

This will help the students to get familiarised with the newer concepts in the dietary management of various diseases and disorders.

PSO -3 SEM III: PAPER-I: Community nutrition:

it helps the students to understand the causes slash detriments and consequences of nutritional


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problems in the community.

It helps to familiarise the students with various approaches to nutrition and health interventions, programmes and policies.

PRACTICAL:

It helps to give an insight into the various locust ingredients available in the market and to develop a low cost nutritious recipes for the vulnerable segments of the community. It helps the students to develop teaching aids for imparting the nutrition and health education

PAPER-II: food microbiology

it helps to familiarise the students with the basics of food microbiology.

it enables the students to gain knowledge on preservation techniques and food contamination

PRACTICAL:

It helps the students to familiarise with the sterilisation techniques, inoculation techniques.

It helps in developing a skill in preparation of the various media preparations and solutions

PAPER-III: food service management:

It helps the students to gain knowledge on requirement an management of various food service establishments.

it helps the students to know the different types of the food cost involved and the methods to control them.

PRACTICAL:

It helps the students to gain knowledge on quantity food production.

It helps the students to learn about the various different menus and we need to standardise the recipe for the recipe conversion and to develop a HA CCP plan for Indian recipes.

PAPER- IV: Food hygiene and sanitation

it helps the students to make an understanding about the environmental sanitation and the link between environmental sanitation and health.

it is to make students understand the importance of the personal hygiene and the environmental sanitation

it helps the students to understand an assist and practise controlling factors in the environment that can potentially affect public health.

PRACTICAL:

it helps to understand the principle of food hygiene and sanitation necessary for the food handlers add both household and the food service establishment's levels.

PSO -4 SEM IV: PAPER-I: Advanced nutrition:

It helps to familiarise the students with the recent advances in the nutrition field

It helps to impart the knowledge on the bioavailability of the various nutrients.

PAPER-II: Paediatric nutrition:

It helps to understand the growth common development an nutritional requirements of the children.

it helps the students to gain an insight knowledge an inborn errors of metabolism man the paediatric critical care


PAPER-III: Nutraceuticals and functional foods:

It helps to familiarise students with the recent advances in the nutraceuticals.

It helps to impart knowledge on the health benefits of the nutraceuticals and functional foods

PAPER-IV: Diet and psychology counselling skills:

It helps to familiarise these students with diet counselling skills an to acquaint them with basic principles of psychology.


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PRACTICAL:

PAPER-I: Hospital internship in nutrition and dietetics :

Internship is a phase of training where a graduate is expected to conduct actual practices of diet management and healthcare and acquire skills under supervision of a practising dietitian so that he or she may become capable of functioning independently.

PAPER-II: Internship- case studies presentation:

the students are expected to submit a bound copy of the word processed, printed internship report to the programming in charge for necessary action after the internship these students shall give a presentation on their internship.

PAPER-III: Project work – collection of data:

it is to continue the project work initiated and to submit dissertation at the end of the semester the students will be guided and supervised by the member of the teaching faculty.

PAPER-IV: Project work- report writing and presentation of the project seminar:

The presentation of the work in front of the faculty of the department has to be done and practical performance in the laboratory, interpretation of the result obtained, regularity and any other criteria relevant to these studies are concerned.

COURSE OBJECTIVE

(SUBJECTS OBJECTIVES SUBJECT WISE)

: Eg. Financial Accounting/ Cell Biology/ Physical Chemistry

I SEM I: PAPER-I: Human nutrition:

It has the students to understand the role of adequate nutrition in different stages of life cycle. It enables the students to know the nutritional requirements and the meeting management of the athletes.

PRACTICAL:

To familiarise the students with the raw and cooked quantities of the food and to plan diet for various age groups.

PAPER-II: Nutritional biochemistry – I:

This will enable the students to understand the role of nutrients in the body. It also helps these students to understand the classification, functions and the metabolism of nutrients like carbohydrates, amino acids, proteins and nucleic acids

PRACTICAL:

This will help the students to get acquainted with the principles, techniques and applications of various methods of food analysis.

PAPER-III: Human Physiology:

this will enable the students to understand the functions of various systems in the body. It helps in getting the students acquainted with the abnormalities of the endocrine system

PRACTICAL:


The course will help the students to get acquainted with the principles, common techniques and application of different methods of analysis for various components in blood. full

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This will help in imparting in depth knowledge regarding the prevalence, aetiology, diagnosis common diet and lifestyle management in different diseases.

It helps the students to gain knowledge on the methods of assessment of nutritional status among the individuals and the interaction of their drugs and nutrients

PRACTICAL:


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This will help in familiarising the students with newer concepts in the dietary management of various diseases and disorders

2SEM II PAPER-I: principles of food:

It provides understanding of composition of various foodstuffs to the students.

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PRACTICAL:

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do impart in depth knowledge on collection compilation an analysis of the data.

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It helps students to gain knowledge to recommend an provide appropriate nutritional care for prevention and or treatment of various diseases.

PRACTICAL:

This will help the students to get familiarised with the newer concepts in the dietary management of various diseases and disorders

3 SEM III: PAPER-I: Community nutrition:

it helps the students to understand the causes slash detriments and consequences of nutritional problems in the community.

It helps to familiarise the students with various approaches to nutrition and health interventions, programmes and policies.

PRACTICAL:

It helps to give an insight into the various locust ingredients available in the market and to develop a low cost nutritious recipes for the vulnerable segments of the community. It helps the students to develop teaching aids for imparting the nutrition and health education


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It helps in developing a skill in preparation of the various media preparations and solutions

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it helps the students to know the different types of the food cost involved and the methods to control them.

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PRACTICAL:

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PAPER-IV: Project work- report writing and presentation of the project seminar:

The presentation of the work in front of the faculty of the department has to be done And any practical performance in the laboratory, interpretation of the result obtained calmer regularity and any other criteria relevant to these studies are concerned.

COURSE OUTCOMES

(SUBJECT OUTCOMES SUBJECT WISE)

CO -1 SEM-I:

PAPER-I: Human nutrition:

The students learnt about the principles of nutrition what are the steps required in meal planning and the nutritional requirements of adult man an adult woman.

The students learned in detail about the nutritional support during pregnancy and lactation. Anne the need of nutrition during infancy and the importance of Weaning.

The students understood the need of supplementations of proper nutrition for preschoolers, schoolgoing children and adolescence.

The students understood in detail about the nutritional requirements of old age an athletes.

PRACTICAL: The students God acquainted with the row an cook quantities of different food commodities an how to prepare, plan, calculate the nutritive value for various life stages.

PAPER-II: nutritional biochemistry – I:

The students understood the classification, sources, function and requirements, digestion and absorption of the carbohydrate and the metabolism and the inborn errors of the carbohydrate metabolism.

The students understood the classification and the functions and the sources of the amino acids and proteins and types, components and structure of nucleic acids.

The students learned in detail about the amino acid metabolism, balance, imbalance and toxicity of amino acids and inborn errors of amino acid metabolism.

The students learnt in detail about the synthesis of pure enson pyramids Anne their degradation, protein synthesis.

PRACTICAL:

the students got acquainted with the principles, techniques an application off various qualitative and quantitative analysis off various nutrients like proteins carbohydrates, fatty acids, amino acids.

PAPER-III: Human Physiology:

the students learnt about the structure and functions of the gastrointestinal tract and the excretory system in detail.

The students got well acquainted with the structure and functions and the mechanism of the respiratory system and the abnormalities associated with the respiratory system and the mechanics a man the classification structure and function of the parts of the nervous system.

The students were able to gain knowledge about the structure and function of the circulatory system and decomposition of the blood and blood coagulation.

The students were able to learn in detail about the endocrine glands, the formation and the secretion of the hormones and the various different glance and their functions and deficiency's off their hormones

PRACTICAL:

These students got acquainted with the different principles, techniques all methods of analysis for various components of blood

PAPER-IV: Principles of dietetics:

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the students understood the role and responsibilities of dietitian, the interpersonal relationship with the patient and they need of nutritional counselling and nutritional assessment, you modifications of the normal diet and the need for the modification of the diet.

These students understood what is enteral nutrition, parental nutrition and the need of the nutritional support before and after the operative conditions and the need of the nutritional support in the person suffering with burns.

The students understood the provision of the proper nutrition in energy imbalances and gastrointestinal disorders.

The students gained a inside about the need of the nutrition in febrile conditions, the emphasis on the drug and nutrient interaction.

PRACTICAL:

The students understood the preparation, planning and calculation of the nutritive values for various diseases and disorders.

CO-2 SEM-II:

PAPER-I: Principles of food:

the students learn about the different cereals and pulses what are the compositions off cereals and pulses and what are the different processing an cooking techniques used.

The students will understand in detail the composition and the nutritive value of milk,egg, meat, poultry and fish.

The students understood in detail about facts an oil Anne sugars what are the different types of sugars what are the stages of sugar cookery and the factors affecting crystallisation.

These students understood the various plant pigments what are the factors affecting plant pigments on cooking, what is sensory evaluation and the types of evaluation techniques. Xhamster

PRACTICAL:

These students learn in detail what is gelatinization an factors affecting gelatinization, how to estimate the amount of alkaline phosphate present in the milk and prepared mayonnaise, understand the various stages of sugar cookery and conduct the sensory evaluation

PAPER-II: Nutritional biochemistry-II:

The students understood the classification, sources, function, digestion and absorption of the lipid's and the metabolism involved in it.

The students understood the imbalances of the lipid's and the fat soluble vitamins in detail.

The students understood the functions, distribution, requirements, disturbance in fluid balance and the role of salutes, what are the different water soluble vitamins their physiological action, transport, utilisation, storage, sources, functions and deficiencies.

The students understood about the various different minerals and trace elements what are their Physiology, sources, functions and deficiencies.

PRACTICAL:


The students learn in detail the quantitative estimations of various vitamins and minerals.

PAPER-III: Research methodology:

the students understood what is the definition of the research what is the characteristic of research, fried area of the good research merits and demerits of the research, they learn definition, parts, steps in writing thesis.

The students learned in detail about the sampling design and the types of sampling.

The students learnt about the various methods of data collection and compilation and what are the different types of the data and the criteria for evaluation of instruments they learn about the graphical representation of the data an also the tabulation of the data.


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The students learn various different statistical methods like mean, median, common mode, analysis of variance, T test, F Test, contingency tables and chi square test.

PRACTICAL:

The students gained knowledge on how to analyse the techniques to collect and compile the data and apply the statistical techniques to tabulate the data, and interpret the data.

PAPER-IV: Diet in disease:

the students learned about the dietary management of hepatic disorders.

The students understand the dietary management of renal disorders.

The students learned in detail about the role of nutrition in balancing the hormonal disturbances.

The students understood in detail about the role of nutrition in the disorders of circulatory system, disorders of musculoskeletal system, cancer and AIDS.

PRACTICAL:

The students will understand the newer concepts in the dietary management of various diseases and disorders affecting the humans.

CO-3 SEM III:

PAPER-I: Community nutrition:

the students understand the need of anthropometric measurements and the various different diet services their uses and limitations.

The students learn the importance of the nutrition and health education and what are the tools and techniques of health education and Health Administration at the various levels.

the students learn and understand the nutrition and the health interventions at the national level and the programmes that are organised by the government to prevent various deficiencies and to come back the malnutrition in the nation.

the students will understand in detail what are the vital statistics, the occupational Hazards and the need of the protection of the health and nutritional status of the workers and the management during calamities and emergencies.

PRACTICAL:

The students are expected to develop a nutritious recipe which is standardised and calculate the cost and the nutritive value of the recipe. The students learn to prepare a diet survey and collect the data and compile it also the students are expected to develop various audio visual aids.

PAPER-II: Food microbiology:


These students learn in detail about the scope of the microbiology and the importance of the microbiology in different areas and what are the different types of the microorganisms and what are the factors affecting their growth.

The students learn what is food preservation what are the principles of the food preservation and the methods of the food preservation in detail.

The students understand the classification of the food by ease of this spoilage, what are the causes of this spoilage in different types of the foods, what are the sources of the contamination, this spoilage in different food groups.

The students learn in detail the definition of the fermentation what is the history of the fermented foods, the benefits of the fermentation and what are the different types of the fermentation, the different foods that are fermented.

PRACTICAL: The students get familiar with the different sterilisation techniques and the methods of media preparation and solutions. They learn about the different inoculation techniques and prepare bacterial staining.


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PAPER-III: food service management:

The students learn about the management of the food service establishment, what are the functions of the management, the principles involved in the management and the types of the food service establishments.

the students learn about the organisation of these spaces and the equipments in the food service establishment.

The students understand in detail the characteristics of the food what are their sensory qualities and the nutritional qualities, Huawei food purchasing is important and what are the different types of food purchasing sources, they learn about the importance of the menu planning and the types of the menu plans.

The students understand how to formulate and standardise the different recipes and learn the steps involved in the formulation and standardisation of the recipes, they learn the importance of the food product labelling and their regulations.

PRACTICAL:

the students prepare different menus for quantity food production and standardise the recipes for the recipe conversion factor and the nutritive values the develop HACCP plan for an Indian recipe.

PAPER-IV: Food hygiene and sanitation:

The students understand the definition of hygiene, food hygiene and the need of the sanitation and what are the basic aspects of the personal hygiene.

the students understand the classification of the pest and the ways to control the household pest by the utilisation of pesticides and insecticides and they understand the need for personal hygiene.

the students learn about the uses of the water what are the sources of the water and the contamination of the water what are the hazards of the water pollution and the purification of the water at both large scale and small scale.

the students learn about the environmental pollution and the prevention of the different environmental pollutions.

PRACTICAL:

The students understand the principles of the food hygiene and sanitation by preparing an inventory list to check the personal hygiene of the food handlers there hand hygiene and wash hand technique, how do they take care of the skin hair, hand, feet, nails and the mouth and by running an estimation of hardness of water and microbial contamination of the water

CO-4 SEM IV: PAPER-I: advanced nutrition:

the students get familiar to the current trends in the field of the nutrition they learn about the designer foods, genetically modified foods and novel proteins.

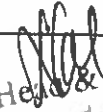
The students learn about the bio availability of the nutrients in performing the various bodily functions.

These students learn about the nutrition which is associated with the immunity and the gene expression and principles of gene expression.

The students understand the importance of the food packaging and labelling of the food what are the different types of the packaging material, the packages with the special features and the principles and codex guidelines and the labelling provisions in the existing food loss

PAPER-II: Paediatric nutrition:

the students learn about the normal growth pattern in the children and the nutritional assessment methods for understanding the health status of the children and the nutritional support in the critically ill children and the diary management of PEM.


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These students learn in detail about the dry tree management in the gastrointestinal track, liver and kidney diseases.

the students learn in detail about the role of the nutrition in the management of diabetes, cardiovascular diseases and aids in the paediatrics.

The students learn about the dairy management in the special conditions like in allergies and intolerances an inborn errors an nutrition for children with special needs which include ketogenic diet for epilepsy neutropenic diet for marro transplants an autism

PAPER-III: Neutraceuticals Ann functional foods:

The students learn about the definition, history common market trends and sources, classification of the new rescue tickles how why do chemicals can be considered as neutraceuticals and what are the significances and revalence of neutraceuticals in the management of the diseases and disorders.

the students learn about the evolution and definition of the functional foods water the legal status is a functional foods in different countries and the types of the foods which can be categorised as the function foods.

The students learn about the probiotics and prebiotics what are the health benefits and what are the recent advances in both pre and probiotics.

the students learn about the definition common mode of action and classification of the fighter chemicals and the classification, mechanism of action of the antioxidants

PAPER-IV: Diet and psychology counselling skills :

the students learn the meaning significances, processes, types of diet counselling, what is the goal of the counselling an it sequence they understand the material needed for the counselling and what role does a counsellor place in effective counselling

the students learn about the diet counselling at the hospital and the community level how to organizing health camps and patient feedback at both hospital and community level they learn to deliver an effective counselling for various health conditions.

The students learn the definition, the nature and scope of psychology they learn about the nature and the goals of the counselling, the principles of the counselling, the characteristics of a good counsellor and this special areas of counselling.

The students learn about the different approaches of counselling and what are the different stages of skills required to deliver an effective counselling session

PRACTICAL:

PAPER-I: Hospital internship in nutrition and dietics:

the students get an opportunity to complete an internship in a multi speciality hospital which enables them to get trained to manage a die prescription in dependently for clinically common disease conditions encountered at a higher level they can use parental feeds an nasal tube feedings, they can manage the medical commerce surgical, obstructive, new needle and paediatric specialties an monitor the National Health programmes and schemes, they develop a leadership quality to function effectively as the leader of the dietetics department organise to deliver be health and family welfare services in existing social economic, political and cultural environment. By the end of the hospital internship they will be able to perform and complete their work in dependently.

PAPER-II: Internship- case study presentation

the students gets an opportunity to display a presentation and give a viral under internship and they have to submit a bound copy of the word processed, printed internship report to the programme in charge for necessary action after their internship

[Signature]
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PAPER-III: project work- collection of the data:

The students gets in oppourtunity to be guided and supervised by the teaching faculty and perform an independent research work which can be a survey or a laboratory oriented research an you students are required to submit the research copy at the end of the semester in the form of a thesis.

PAPER-IV: Project work- report writing and presentation of the project seminar:

These students work is analysed at the time of the presentation of the work in front of the faculty of the department at these two times during this project work by discussing in detail the project and state-of-the-art of the presentation and the discussion of the material and the methods and the protocol that is being followed to perform the study and the presentation of the obtained results which will enablethe students to work in a very professional manner and to present their work systematically at there viva.


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ANWARUL ULOOM COLLEGE (AUTONOMOUS)



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PHYSICS DEPARTMENT

Under Graduate - B.Sc. (M.P.C ** M.P.E ** M.P.Cs.)

Program Educational Objectives - Outcomes (2020 - 2021)

Programme Objective: B.Sc.
1. Read, understand and interpret physical information – verbal, mathematical and graphical.
2. Impart skills required to gather information from resources and use them.
3. To give need based education in science of the highest quality at the undergraduate level.
4. Perform experiments and interpret the results of observation, including making an assessment of experimental uncertainties.
5. Provide an intellectually stimulating environment to develop skills and enthusiasms of students to the best of their potential.

Programme Outcomes: B.Sc.
PO-1. This course forms the basis of science and comprises of the subjects like Mathematics, Physics, Electronics, Chemistry, Biology and Zoology.
PO-2. It helps to develop scientific temper and thus can prove to be more beneficial for the society as the scientific developments can make a nation or society to grow at a rapid pace
PO-3. After the completion of this course students have the option to go for higher studies i.e. M.Sc. and then do some research for the welfare of mankind
PO-4. After higher studies students can join as scientist and can even look for professional job oriented courses.
PO-5. This course also offers opportunities for serving in Indian Army, Indian Navy, Indian Air Force as officers.
PO-6. Students after this course have the the option to join Indian Civil Services as IAS, IFS etc..
PO-7. Science graduates can go to serve in industries or may opt for establishing their own industrial unit.
PO-8. Apart from the research jobs, students can also work or get jobs in Marketing, Business & Other technical fields
PO-9. Science graduates also recruited in the bank sector to work as customer service executives. Students can also find employment in government sectors.
PO-10. Often, in some reputed universities or colleges in India and abroad the students are recruited directly by big MNC's after their completion of the course.

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ANWARUL ULOOM COLLEGE (AUTONOMOUS)

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PHYSICS DEPARTMENT

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What is Physics ?

Physics is the study of matter and energy.

Physics has many subcategories:

Mechanics- the study of motion.

Dynamics- the study of causes of motion.

Thermodynamics- heat behaviors. Waves, Sound, Light, Optics.

Programme Specific Outcomes: B.Sc. (M.P.C ** M.P.E ** M.P.Cs.) - Physics
PSO-1. Provide students with a broad understanding and appreciation of the physical principles and laws governing the universe.
PSO-2. Prepare students for success in their chosen careers by emphasizing critical thinking and scientific reasoning through an inquiry-based curriculum.
PSO-3. Develop quantitative, analytical and problem-solving skills in majors and non-majors to ensure that students emerging from the coursework/program are equipped with the set of competencies required in the STEM (Science, Technology, Engineering and Mathematics) workplace.
PSO-4. Students will demonstrate proficiency in analyzing and solving problems in physics and related STEM field.
PSO-5. After the completion of this course students have the option to go for higher studies i.e. M. Sc and then do some research for the welfare of mankind.

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**B.Sc. I year - Semester I
Paper - I
Code No. 6118
Subject - Mechanics**



Course Objective: Mechanics

1. This course would empower the student to acquire engineering skills and practical knowledge, which help the student in their everyday life.
2. Learn basics of the kinematics and dynamics linear and rotational motion.
3. Develop skills to understand and solve the equations of Newtonian Gravity and central force problem.
4. This syllabus will cater the basic requirements for their higher studies.
5. This course will provide a theoretical basis for doing experiments in related areas.

Course Outcomes: Mechanics

- CO-1. Evaluate line, surface and volume integrals.
- CO-2. Learned conservation laws of energy and linear and angular momentum and apply them to solve problems.
- CO-3. Equation of continuity- Euler Equation.
- CO-4. Apply Kepler's law to describe the motion of planets and satellite in circular orbit, through the study of law of Gravitation.
- CO-5. Fundamental ideas of special theory of relativity such as length contraction and time dilation and mass –energy invariance.

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B.Sc. I year - Semester II
Paper - II
Code No. 6218
Thermal Physics



Course Objective: Thermal Physics

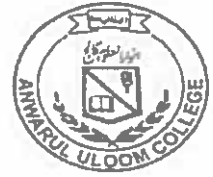
1. This basic course in thermodynamics will enable the student to understand various thermo dynamical concepts, principles.
2. This course is to develop a working knowledge of statistical mechanic and to use this knowledge to explore various applications related to topics in material science and the physics of condensed matter.
3. To understand the applications of the laws of thermodynamics.
4. Measurement of Planck's constant using black body radiation.
5. To determine Stefan's Constant.

Course Outcomes: Thermal Physics

- CO-1. Define postulates of kinetic theory of gases
- CO-2. Differentiate the terms heat and temperature and measure temperature using thermometer and convert one scale of temperature to another scale.
- CO-3. Define different thermal processes and understand laws of thermodynamics and identify its outcomes.
- CO-4. Realize the importance of Thermo dynamical functions and applications of Maxwell's relations.
- CO-5. Differentiate between principles and methods to produce low temperature, liquefy air, helium and hydrogen
- CO-6. Familiarize in depth about statistical distribution and have basic Ideas about Maxwell-Boltzman, Bose-Einstein and Fermi Dirac Statistics and their applications.

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B.Sc. II year - Semester III
Paper - III
Code No. 6318
Electromagnetic Theory

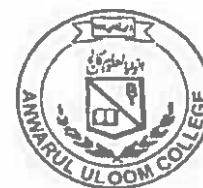


Course Objective: Electromagnetic Theory
1. This course will help in understanding basic concepts of electricity and magnetism and their applications.
2. A course in electricity and electrodynamics is thus an essential component of physics programme at graduate level.
3. This course is expected to provide a sound foundation in electricity and electrodynamics.
4. Study in depth about Polarization, bound charges and boundary condition.
5. Solve complex problems involving linear electrical networks employing the symmetry concepts together with various network theorems.

Course Outcomes: Electromagnetic Theory
CO-1. Have gained elaborated knowledge about electrostatics and laws governing the charge distribution.
CO-2. To understand the relevance of different magnetization and the boundary condition of magnetic field.
CO-3. To realize the importance of application of Biot Savarts Law and Amperes law.
CO-4. Be able to solve a variety of problems related to Faraday's law of induction and Maxwell's equations. Student is expected to explain term displacement current as well.
CO-5. Understand the relevance of displacement current in the context of electromagnetic wave propagation.
CO-6. Study in depth the transient current response of CR, LC, CR and LCR circuits, which is essential in designing as well as understanding the working of electronic circuits.

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B.Sc. II year - Semester IV
Paper - IV
Code No. 6418
Waves and Optics



Course Objective: Waves and Optics

1. This course aims to provide necessary foundation in waves and optics which prepare the students for an intensive study of advanced topics at a later stage.
2. To acquire skills allowing the student to identify and apply formulas of optics and wave physics using course literature.
3. To illustrate the wave characteristic of light.
4. Fresnel diffraction and Fraunhofer diffraction, Plane diffraction grating, Resolving power of grating.
5. Brewster's law, Nicol prism, Double refraction, Polaroid, optical activity, Laurent's Half shade Polarimeter.
6. Describe and discuss technical applications of simple optical instruments.

Course Outcomes: Waves and Optics

- CO-1. Use the principles of wave motion and superposition to explain the physics of polarisation, interference and diffraction.
- CO-2. Explain certain phenomena related to wave nature of light.
- CO-3. Calculate wavelength difference and fringe width from the interference pattern.
- CO-4. Understand the properties of light like reflection, refraction, interference, diffraction etc..
- CO-5. Explain diffraction pattern and calculate dispersive power of the grating.
- CO-6. Analyze different types of polarized light.

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B.Sc. III year - Semester V
Paper - VA
Code No. 6518A
Electricity and Magnetism



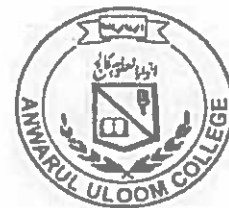
Course Objective: Electricity and Magnetism
1. This course will help in understanding basic concepts of electricity and magnetism and their applications.
2. A course in electricity and electrodynamics is thus an essential component of physics programme at graduate level.
3. Study and explore the dielectric properties of matter.
4. This course is expected to provide a sound foundation in electricity and electrodynamics.
5. Study in depth about Polarization, bound charges and boundary condition.
6. Solve complex problems involving linear electrical networks employing the symmetry concepts together with various network theorems.

Course Outcomes: Electricity and Magnetism
CO-1. Have gained elaborated knowledge about electrostatics and laws governing the charge distribution.
CO-2. To understand the relevance of different magnetization and the boundary condition of magnetic field.
CO-3. Understand the behavior and use of dielectrics.
CO-4. To realize the importance of application of Biot Savarts Law and Amperes law.
CO-5. Be able to solve a variety of problems related to Faraday's law of induction and Maxwell's equations. Student is expected to explain term displacement current as well.
CO-6. Understand the relevance of displacement current in the context of electromagnetic wave propagation.
CO-7. Understand electricity and magnetism on a level that uses standard mathematical tools.

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B.Sc. III year - Semester V
Paper - VB
Code No. 6518B
Maxwell's Equations and Electronics



Course Objective: Maxwell's Equations and Electronics

1. Examine the basics of electromagnetics and introduce Maxwell's equations to establish the link between the fields and sources.
2. The students would gain the knowledge of Basic Electronics circuits, network theorems and measuring instruments.
3. They would know about common solid state devices, Semiconductor diodes and transistors
4. This course comprises of basics understanding of power amplifiers, feedback amplifiers, operational amplifiers and optoelectronic devices.
5. The course includes the study of number systems, Boolean algebra, logic gates, combinational circuits, sequential circuits, memory devices and IC technology.
6. The topics also include the Rectifiers, Filters and their applications, number systems and logic gates which are foundation blocks of digital electronics.

Course Outcomes: Maxwell's Equations and Electronics

- CO-1. Study in depth the transient current response of CR, LC, CR and LCR circuits, which is essential in designing as well as understanding the working of electronic circuits.
- CO-1. This course helps the students to gain basic ideas of the construction and working of electronic devices and circuits and to understand the fundamentals of communication systems.
- CO-2. The in depth understanding of electronics at post graduate level opens scope for the students to work in private and public sector enterprises.
- CO-3. The digital electronics has wide applications in computing, process control, signal processing, communication systems, digital instruments etc.
- CO-4. The course is of much practical purpose for the students to learn basics of digital electronics.
- CO-5. This course is helpful for the students seeking job opportunities in government, corporate and private sectors. It is also helpful for the students to find opportunities research & development (R & D).

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B.Sc. III year - Semester VI
Paper - VI
Code No. 6618 A
Modern Physics



Course Objective: Modern Physics

1. Define the major 20th century developments in Physics.
2. Comprehension of the current basis of broad knowledge in Modern physics.
3. To understand the difference between Atomic and Molecular spectroscopies.
4. Understand the intuitive ideas of the Quantum physics.
5. To understand dual nature of matter.
6. Derive Schrodinger time dependent and time independent wave equations.

Course Outcomes: Modern Physics

- CO-1. Compare and contrast Modern Physics with Classical Physics.
- CO-2. Describe the atomic spectra of one and two valance electron atoms.
- CO-3. Explain rotational, vibrational, electronic and Raman spectra of molecules.
- CO-4. Understand historical basis of quantum mechanics.
- CO-5. Explain how quantum mechanical concepts answer some of unanswered questions of Classical mechanics such as photoelectric effect, Compton scattering etc.
- CO-6. Understand the theory of quantum measurements, wave packets and uncertainty principle.
- CO-7. Understand the central concepts of quantum mechanics: wave functions, momentum and energy operator, the Schrodinger equation, time dependent and time independent cases, probability density and the normalization techniques.

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B.Sc. III year - Semester VI B
Paper - VI B
Code No. 6618 B
Nuclear Physics, Solid State Physics



Course Objective: Nuclear Physics, Solid State Physics

1. To impart the knowledge regarding the fundamental and basics of Nucleus and its models.
2. To provide the knowledge of the Two-nucleus problem, concept of nuclear force.
3. To have a good understanding of interaction of charged particles with matter.
4. To relate crystal structure to symmetry, recognize the correspondence between real and reciprocal space.
5. To develop an understanding of the dielectric properties and ordering of dipoles in ferroelectrics
6. To get familiarized with the different parameters associated with superconductivity and the theory of superconductivity.

Course Outcomes: Nuclear Physics, Solid State Physics

- CO-1. Know the properties of nucleus like binding energy, magnetic dipole moment and electric quadrupole moment.
- CO-2. To understand the concept of radioactivity and decay law.
- CO-3. To study achievement of Nuclear Models of Physics and its limitations.
- CO-4. To familiarize the student with the fundamental concepts of basic radiation detectors.
- CO-5. Understand the properties of x-rays, Crystal structure & types of crystal systems.
- CO-6. To become familiar with the different types of magnetism and magnetism based phenomenon.
- CO-7. Able to differentiate between type-I and type-II superconductors and their theories.

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ANWARUL ULOOM COLLEGE (AUTONOMOUS)

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PHYSICS DEPARTMENT

Post Graduate - M.Sc.

Program Educational Objectives - Outcomes (2020 - 2021)

Programme Objective: M.Sc.

1. Read, understand and interpret physical information – verbal, mathematical and graphical.
2. Impart skills required to gather information from resources and use them.
3. To give need based education in science of the highest quality at the undergraduate level.
4. Perform experiments and interpret the results of observation, including making an assessment of experimental uncertainties.
5. Provide an intellectually stimulating environment to develop skills and enthusiasms of students to the best of their potential.

Programme Outcomes: M.Sc.

- PO-1. This course forms the basis of science and comprises of the subjects like Mathematics, Physics, Chemistry, Electronics and Computer Science.
- PO-2. It helps to develop scientific temper and thus can prove to be more beneficial for the society as the scientific developments can make a nation or society to grow at a rapid pace
- PO-3. After the completion of this course students have the option to go for higher studies i.e. PhD and then do some research for the welfare of mankind
- PO-4. After higher studies students can join as scientist and can even look for professional job oriented courses.
- PO-5. This course also offers opportunities for serving in Indian Army, Indian Navy, Indian Air Force as officers.
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Thermodynamics- heat behaviors, Waves, Sound, Light, Optics.

OBJECTIVE OF THE PROGRAMME:

The major objective of the programme is to nurture the students for careers in teaching, research, etc. It also aims to develop thorough and in-depth knowledge of various core subjects in Physics such as Mathematical Physics, Electronics, Quantum Mechanics, Nuclear Physics, Condensed Matter Physics, Classical Mechanics, Electromagnetic theory, Atomic and Molecular physics, etc.

The M.Sc. Physics programme will also inculcate strong student competencies in Physics and its applications in a technology-rich, interactive environment through elective and value added skill based courses.

M.Sc Physics postgraduate course syllabus and subjects prepare students to become research analysts or to work in healthcare, pharmaceutical companies, government hospitals, medical research labs, and environment protection companies.

The M.Sc. Physics curriculum includes topics such as mathematical methods, quantum mechanics, solid-state physics, atomic spectroscopy, relativity and cosmology, radiation theory, statistical mechanics, computer application in physics, astrophysics, and classical mechanics.

Programme Specific Outcomes: M.Sc. - Physics

PSO-1. Provide students with a broad understanding and appreciation of the physical principles and laws governing the universe.

PSO-2. Prepare students for success in their chosen careers by emphasizing critical thinking and scientific reasoning through an inquiry-based curriculum.

PSO-3. Develop quantitative, analytical and problem-solving skills in majors and non-majors to ensure that students emerging from the coursework/program are equipped with the set of competencies required in the STEM (Science, Technology, Engineering and Mathematics) workplace.

PSO-4. Students will demonstrate proficiency in analyzing and solving problems in physics and related STEM field.

PSO-5. After the completion of this course students have the option to go for higher studies i.e. PhD and then do some research for the welfare of mankind.

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M.Sc. I year - Semester I
Paper - I
Code No. P 101
Subject - Mathematical Physics



Course Objective: Mathematical Physics

1. To impart knowledge about various mathematical tools employed to study physics problems.
2. The purpose of the course is to introduce students to methods of mathematical physics and to develop required mathematical skills to solve problems in quantum mechanics, electrodynamics and other fields of theoretical physics.
3. The objective of this course is to provide a strong mathematical foundation in vector calculus, matrices and differential equations.
4. To enhance problem solving skills and to give the ability to formulate, interpret and draw inferences from the mathematical solutions.

Course Outcomes: Mathematical Physics

The students will have understanding of:

- CO-1. Basic and advanced mathematical tools required for Physics Problems.
- CO-2. Different Techniques to solve differential and integral equations.
- CO-3. Various special functions and important transforms and their applications.
- CO-4. Solve transfer functions in Instrumentation using Laplace transforms.
- CO-5. Apply Matrices in the study of electrical circuits, Quantum Mechanics and Optics.

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**M.Sc. I year - Semester I
Paper - II
Code No. P 102
Classical Mechanics**



Course Objective: Classical Mechanics

1. This course is an essential one designed to provide the foundations of the advanced level mechanics.
2. The course aims to develop an understanding of Lagrangian and Hamiltonian formulation which allow for simplified treatments of many complex problems in classical mechanics and provides the foundation for the modern understanding of dynamics.
3. To learn Lagrangian and Hamiltonian mechanics, systems with constraints, rigid body dynamics, vibrations, central forces, Hamilton-Jacobi theory, action-angle variables, and continuous systems.
4. This course also provides an introduction to classical field theory and relativistic mechanics.

Course Outcomes: Classical Mechanics

The students will have understanding of:

- CO-1. Idea and concepts in classical physics.
- CO-2. Basic concepts in Variational principle and Principle of Least Actions.
- CO-3. Derivations, necessity and applications of Lagrangian and Hamiltonian formulations.
- CO-4. Central force problems, theory of small oscillations and its applications.
- CO-5. Explore the application of Hamilton's equations in solving the equation of motion of a particle in a central field, projectile motion of a body.

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M.Sc. I year - Semester I
Paper - III
Code No. P 103
Quantum Mechanics - I



The aim of the course on Quantum Mechanics-I is to enable the students to understand the basic techniques & methods of quantum mechanics so that they may apply these methods in various other fields of physical science and in research and development.

Course Objective: Quantum Mechanics - I

1. The course is on the fundamental topics of quantum mechanics.
2. The course starts with the introduction of postulates of quantum mechanics, operator formalism. The topics covered range from exactly solvable systems, time-independent and time-dependent perturbation theories, orbital and spin angular momenta and relativistic quantum mechanics.
3. The skill for solving simple systems is cultivated.
4. The primary objective of this course is to develop familiarity with the physical concepts and facility with the mathematical methods of quantum mechanics. A secondary, but still very important objective is to cultivate your skills at formulating and solving physics problems.

Course Outcomes: Quantum Mechanics - I

The students will have understanding of

- CO-1. Difference between classical and quantum mechanical theory and approach.
- CO-2. Linear Vector Space, operators and tools to calculate eigen values.
- CO-3. Various techniques to solve time dependent and time independent Schrodinger equations using different coordinate systems.
- CO-4. Connection between symmetry and conservation laws, commutation relations, tools to calculate components and total angular momentum.
- CO-5. Various approximation methods utilized in Quantum Mechanics.
- CO-6. Evaluate the eigen values of L and J vectors.

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M.Sc. I year - Semester I
Paper - IV
Code No. P 104
Solid State Physics



The main objective of this course is to provide the fundamental knowledge in solid state physics and then study their physical properties. It covers crystal structures, binding and their defects, elastic properties, effect of temperatures on metals, basic of dielectrics, semiconductor phenomena and magnetic field effects.

Course Objective: Solid State Physics

1. The aim of this course is to provide an extended knowledge of the principles and techniques of solid state physics.
2. The course covers the physical understanding of matter from an atomic view point.
3. Topics covered include the structure, thermal, electrical, magnetic and superconductivity properties of matter.
4. The course has a theoretical lecture component and makes extensive use of examples and exercises to demonstrate the material properties.

Course Outcomes: Solid State Physics

On Successful completion of course student will:

- CO-1. Understand different types of crystal structures in terms of the crystal lattice and the basis of constituent atoms.
- CO-2. Understand the theory of X-ray diffraction in the reciprocal lattice (k-space)
- CO-3. Apply the theory of lattice vibrations (phonons) to determine thermal properties of solids.
- CO-4. Study the problem of electrons in periodic potential, examine its consequence on the band-structure of the solids.
- CO-5. Gain knowledge about the experimental techniques for crystal growth from solution and melt.

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M.Sc. I year - Semester II
Paper - I
Code No. P 201
Electromagnetic Theory



The course will enable the students to understand various laws of Electrostatics and Magnetostatics including boundary value problems. Maxwell Equations for understanding propagation of electromagnetic waves in various media. It will also help the student to understand the origin of the electromagnetic radiations from an accelerating charge particle.

Course Objective: Electromagnetic Theory

The course on electromagnetic theory is framed

1. To understand the fundamental theories that explain electrostatics and magnetostatics.
2. To illustrate the application of electrostatics in macroscopic media.
3. To couple the electrostatics and magnetostatics phenomena and explain the elementary ideas of electromagnetic theory.
4. To extend the electrodynamics principle for explaining the electromagnetic optical wave propagation.

Course Outcomes: Electromagnetic Theory

On Successful completion of course student will:

- CO-1. Acquire knowledge on general wave equation using Maxwell's equations and able to derive Laplace equations for electrostatic potential in Cartesian, spherical and cylindrical coordinates.
- CO-2. Analyze scalar and vector magnetic potentials and the propagation of EM waves in different media.
- CO-3. Understand the propagation of EM waves in bounded and unbounded media and boundary conditions for EDB and H.
- CO-4. Understand Poynting theorem and its physical significance.
- CO-5. Analyze Fresnel relations-Reflection (R) and Transmission (T) coefficients. Brewster's angle.
- CO-6. Have an idea on the concept of EM radiation of Inhomogeneous wave equation, harmonically oscillating source.

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M.Sc. I year - Semester II
Paper - II
Code No. P 202
Statistical Mechanics



Course Objective: Statistical Mechanics

The aim of the course "Statistical Physics" is to train the students in the methods of Statistical Physics.

1. The objective of the course is to understand what is temperature and how to calculate it?
2. To acquire the knowledge of various statistical distributions and their applications in physics.
3. To comprehend the concepts of phase transitions and thermodynamic functions.
4. Student will learn the various fundamentals and applications of classical and quantum statistical methods and phase transition theory.

Course Outcomes: Statistical Mechanics

On Successful completion of course student will:

- CO-1. Gain knowledge about classical and quantum statistical mechanics, including Boltzmann, Fermi-Dirac, and Bose-Einstein statistics.
- CO-2. Apply the formalism of statistical mechanics and probability theory to derive relations between thermo dynamical quantities.
- CO-3. Broad understanding of statistical mechanics, and show a critical awareness of the significance and importance of the topics, methods and techniques.
- CO-4. Understand the physical statistics and its relation to information theory and able to solve statistical mechanics problems for simple non-interacting systems.
- CO-5. Understand the phase transitions and universality in second order phase transitions.

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M.Sc. I year - Semester II
Paper - III
Code No. P 203
Quantum Mechanics - II



Course Objective: Quantum Mechanics - II

1. The aim of the course on Quantum Mechanics-II is to enable the students to understand the basic techniques & methods of quantum mechanics so that they may apply these methods in various fields of research and development.
2. Introduction to methods of quantum mechanics, including Schrödinger equation and its solutions as applied to simple physical problems, elementary approximate methods, and scattering theory.
3. Student will be made familiar with, scattering theory, perturbation theory and relativistic quantum mechanics.
4. This course will provide the necessary knowledge and skills to apply advanced techniques in quantum mechanics throughout the students' careers.

Course Outcomes: Quantum Mechanics - II

On Successful completion of course student will:

- CO-1. Understand the kinematics of scattering process.
- CO-2. Evaluate the partial wave analysis using Born approximation method.
- CO-3. Apply time Independent perturbation theory for non degenerate case.
- CO-4. Gain knowledge on WKB approximation method to study alpha decay.
- CO-5. Remember time dependent perturbation theory.
- CO-6. Analyze the interaction of an atom with electromagnetic radiation and the relativistic quantum mechanics using Klein Gordon equation.
- CO-7. Explore the properties of gamma matrices.

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M.Sc. I year - Semester II
Paper - IV
Code No. P 204
Electronics



Course Objective: Electronics

1. This course provides the student with the fundamental skills to understand the basic of semiconductor and components like diode, transistor, FET, MOSFET and operational amplifier It will build mathematical and numerical background for design of electronics circuit & component value.
2. To develop an understanding of fundamentals of electronics in order to deepen the understanding of electronic devices that is part of the technologies.
3. To acquaint the students with the theory, construction and operation of electronic devices.
4. To introduce the basics of digital communication methods.
5. To introduce the construction and working of nonlinear electronic circuits.

Course Outcomes: Electronics

On Successful completion of course student will:

- CO-1. Acquire knowledge of operational amplifier circuits and their applications.
- CO-2. Gain knowledge and evaluate the Boolean expressions, combinational logic circuits and simplifications using karnaugh maps.
- CO-3. Analyze the operation of decoders, encoders, multiplexers, adders and subtractors.
- CO-4. Understand the working of latches, flip-flops, designing registers, counters, a/d and d/a converters.
- CO-5. Design and Analyze synchronous and asynchronous sequential circuits.
- CO-6. Interpret the architecture, instruction set and also practice the basic programs of 8085 microprocessor.

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M.Sc. II year - Semester III
Paper - I
Code No. P 301
Subject - Modern Optics



Course Objective: Modern Optics

On Successful completion of course student will:

1. To study the key concepts used in optics.
2. The main aims of this course are to develop a working knowledge and conceptual understanding of important topics in contemporary laser physics at a quantitative level.
3. Information processing using optical techniques such as holography and Fourier transform is an important area of Modern Optics.
4. In this course the fundamentals, techniques and applications of holography and Fourier optics will be provided.

Course Outcomes: Modern Optics

On Successful completion of course student will:

- CO-1. Gain knowledge on laser rate equations for Two, Three, Four-level laser systems.
- CO-2. Understand Einstein relations for emission and absorption of radiation.
- CO-3. Gain knowledge on classification of laser systems.
- CO-4. Gain knowledge on application of various laser systems.
- CO-5. Understand basic principles of holography and its applications.
- CO-6. Understand the concept of recording and reconstruction of a hologram.
- CO-7. Understand the fourier transforming properties of lenses.
- CO-8. Understand the applications of non-linear optics.

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M.Sc. II year - Semester III
Paper - II
Code No. P 302
Advanced Solid State Physics



Course Objective: Advanced Solid State Physics

1. The aim of the course on advanced solid state physics is to enable the students to understand the physics of magnetic and superconducting, ferro & antiferromagnetic materials and behaviour of these materials under temperature and external fields.
2. Students may also be able to understand the optical behaviour of materials and various ordered phases of matters. The study of this course enables the students to extend his knowledge for research work in the condensed matter physics and material science.
3. Understand the relation between the electron structure of crystalline solids and their dielectric, magnetic and superconducting properties.
4. The course conveys an understanding of how solid state physics has contributed to the existence of a number of important technological developments of importance in our lives now and in the future.

Course Outcomes: Advanced Solid State Physics

On Successful completion of course student will:

- CO-1. Acquire knowledge about different experimental approaches in the study of Fermi surfaces in different materials.
- CO-2. Understand piezo, pyro and Ferro electricity, ferroelectric domains and hysteresis.
- CO-3. Understand basic theories of magnetic materials like ferromagnetism, ferrimagnetism, anti-ferromagnetism.
- CO-4. Acquire basic knowledge on (low temperature) superconductivity in type I and type II superconductors, and also different theoretical approaches to super conductivity (BCS).
- CO-5. Understanding of various phenomena related to super conductivity, such as the Meissner effect, flux quantization, Giæver- and Josephson tunneling.

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M.Sc. II year - Semester III
Paper - III
Code No. PEI 303
Digital Logic Circuits



This class is an introduction to the basic concepts, analysis, and design of digital systems. This consists of both combinational and sequential logic. Lectures will enable students to experience with several levels of digital systems.

Course Objective: Digital Logic Circuits

1. Design methodologies for electronic circuits, to use mathematical expressions to describe the functions of simple combinational and sequential circuits.
2. Understand Boolean algebra, basic laws and rules in logic design, DeMorgan's theorem, Karnaugh map, and approaches to simplifying logic circuits.
3. Understand systematical design methodology for combinational logic circuits and build this kind of digital systems by using some IC devices.
4. Understand systematical design methodology for sequential logic circuits.

Course Outcomes: Digital Logic Circuits

On Successful completion of course student will:

- CO-1. Acquire the basic knowledge of digital logic levels and its application.
- CO-2. Gain knowledge on digital arithmetic operations for algebraic simplification.
- CO-3. Understand digital IC terminology and characteristics of TTL, MOS, ECL families.
- CO-4. Design Decoders, Encoders, Digital multiplexers, Adders and Subtractors, Binary comparators, Latches and Flip-Flops.
- CO-5. Design registers and Counters, A/D and D/A converters.
- CO-6. Understand, analyze and design of programmable logic devices and VHDL.
- CO-7. Identify basic requirements for a designing a combinational logic circuit.
- CO-8. Identify and prevent various hazards and timing problems in a digital circuit.

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**M.Sc. II year - Semester III
Paper - IV
Code No. PEI 304
Microprocessors, DSPs & Interfacing**



Course Objective: Microprocessors, DSPs & Interfacing

1. To familiarize the architecture of microprocessors and micro controllers.
2. To introduce the basic architecture of Pentium family of processors.
3. To provide the knowledge about interfacing techniques of bus & memory.
4. To know about the connectivity of interfacing devices with processors.
5. Introduction of the architecture of DSP processors.

Course Outcomes: Microprocessors, DSPs & Interfacing

On Successful completion of course student will:

- CO-1. Understands the internal architecture, organization and assembly language programming of 8086 processors.
- CO-2. Write simple assembly language programs.
- CO-3. Explain the architecture of generic advanced microprocessor and features of advanced microprocessors.
- CO-4. Understand the various processing operations on Digital signals.
- CO-5. Know the architecture of DSP Processors TMS320C54XX Processor.

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**M.Sc. II year - Semester III
Paper - V
Code No. PEI 305
Electronic Instrumentation**



Course Objective: Electronic Instrumentation

1. To provide the necessary foundation and advanced techniques on computational and software platforms related to the field of Electronics and Instrumentation.
2. Develop an ability to design an intelligent system for industrial automation.
3. To be successful in their respective professional careers in the field of Electronics & Instrumentation.
4. To engross in life long process of learning that keep themselves abreast of new developments in the field of Electronics & Instrumentation.

Course Outcomes: Electronic Instrumentation

On Successful completion of course student will:

- CO-1. Measure various electrical parameters with accuracy, precision, resolution.
- CO-2. Design different types of amplifiers and filters.
- CO-3. Select specific instrument for specific measurement function.
- CO-4. Understand principle of operation, working of different electronic instruments like digital multi meter, vector voltmeter, and power factor meter.
- CO-5. Analyze the functioning, specification, and applications of signal generators and signal analyzing instruments.
- CO-6. Understand working & principle of various signal analyzers like wave analyzer, distortion analyzer & spectrum analyzers.
- CO-7. Test and troubleshoot electronic circuits using various electronic measuring instruments.

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**M.Sc. II year - Semester IV
Paper - I
Code No. P 401
Nuclear Physics**



Course Objective: Nuclear Physics

The course of nuclear and particle physics is concerned

1. To study of the fundamentals of nucleus with deuteron system and explain the origin of nuclear forces.
2. To illustrate different nuclear models that exposes the structure of nucleus
3. To explain the theories of various radioactive decays and nuclear reactions
4. To determine conservation of physical quantities and study high energy physics.

Course Outcomes: Nuclear Physics

On Successful completion of course student will:

- CO-1. Understand Nuclear Force And Nuclear Models.
- CO-2. Analyze the semi empirical mass formula and its applications using liquid drop model and shell model.
- CO-3. Understand the concept of Nuclear Decay Processes.
- CO-4. Interpret the Classification of nuclear reactions.
- CO-5. Understand the Classification of elementary Particles and their Quantum Numbers.

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**M.Sc. II year - Semester IV
Paper - II
Code No. P 402
Spectroscopy**



Course Objective: Spectroscopy

1. The objective of the course is to explain the origin of the atomic spectra and behaviour of atoms in external electric and magnetic field.
2. Describe the quantum mechanics and model on molecular formation Identify and analysis different spectroscopic theory.
3. The aim of the course on Atomic and Molecular Spectroscopy is to enable the students to understand the basic techniques & methods of the subject so that they may apply these methods in various fields of research and development.

Course Outcomes: Spectroscopy

On Successful completion of course student will:

- CO-1. Understand the basic principles of atomic absorption spectroscopy.
- CO-2. Interpret the working principles and outline the atomic absorption spectroscopy device.
- CO-3. Understand Micro-wave, IR and RAMAN spectroscopy and interpret the data from these measurements.
- CO-4. Understand the basic principles of NMR and ESR spectroscopy and its applications.

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M.Sc. II year - Semester IV
Paper - III
Code No. PEI 403
Embedded Systems And Its Applications



Course Objective: Embedded Systems And Its Applications

1. To develop systematic approach for development of embedded systems using general purpose microcontrollers.
2. To understand the concepts of Hardware of various microcontrollers to enable Programming and Interfacing of microcontroller.
3. To study programming of microcontrollers using assembly and embedded C with tools.
4. To know about the interfacing Circuits.

Course Outcomes: Embedded Systems And Its Applications

On Successful completion of course student will:

- CO-1. Analyze the models of embedded systems using different processor technologies and also various types of peripherals used in embedded system.
- CO-2. Analyze a given embedded system design and identify its performance.
- CO-3. Understand the programming model and Instruction set of 8051 Microcontroller, Addressing mode supported by 8051 instruction set.
- CO-4. Practice the assembly language programs.
- CO-5. Gain knowledge on Serial data transfer, Interrupts, I/O ports and port expansion, DAC, ADC, Stepper motor.
- CO-6. Interpret the interfacing of LCD, key board, A/D & D/A, and stepper motor 8051 Microcontroller.

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**M.Sc. II year - Semester IV
Paper - IV
Code No. PEI 404
PC Architecture**



Course Objective: PC Architecture

1. Modern computer technology requires an understanding of both hardware and software, since the interaction between the two offers a framework for mastering the fundamentals of computing.
2. The purpose of this course is to cultivate an understanding of modern computing technology through an in-depth study of the interface between hardware and software.
3. In this course, you will study the history of modern computing technology before learning about modern computer architecture and a number of its essential features, including instruction sets, processor arithmetic and control, the Von Neumann architecture, pipelining, memory management, storage, and other input/output topics.
4. The course will conclude with a look at the recent switch from sequential processing to parallel processing by looking at the parallel computing models and their programming implications.

Course Outcomes: PC Architecture

On successful completion of course student will:

- CO-1. Explain digital logic and its use in digital systems.
- CO-2. Understand machine level representation of data.
- CO-3. Understand assembly level machine organization.
- CO-4. Describe memory system organization and architecture.
- CO-5. Describe interfacing and communication.
- CO-6. Understand technical literature on computer systems.
- CO-7. Analyze a computer system's expected performance.

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M.Sc. II year - Semester IV
Paper - V
Code No. PEI 405
Instrumentation for Measurement, Control,
Data Acquisition And Data Transmission



**Course Objective: Instrumentation for Measurement, Control, Data Acquisition
And Data Transmission**

Successful completion of the course will enable the students to:

1. Understand the principles of operation and limitations of common measuring instruments.
2. Model instruments and their operating conditions to use the instruments correctly.
3. Design and use signal conditioning devices.
4. Gain awareness of economical and societal aspects of instrumentation systems and communication of data.

**Course Outcomes: Instrumentation for Measurement, Control, Data Acquisition
And Data Transmission**

On successful completion of course student will:

- CO-1. Understand the Classification of transducers - Active and Passive transducers, Electrical transducers, Displacement transducers, Digital transducers.
- CO-2. Understand the operation of strain gauge, Types of strain gauges, Strain gauge circuits, Calibration of strains gauges. Strain gauge load cell.
- CO-3. Categorise the different kinds of Temperature, Pressure measurement devices and apply them in various electronic devices.
- CO-4. Analyze the different types of flow meters like Head type flow meters-Orifice meter, Venturi Tube, Pitot tube, Rotameter, Anemometer, Electromagnetic flow meter - Ultrasonic flow meter.
- CO-5. Understand open loop control & closed loop control systems.
- CO-6. Gain the knowledge on working of dc and ac servomotors and use them in applications requiring precise position control.

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ANWARUL ULOOM COLLEGE, DEPARTMENT OF PHYSICS

**ANWARUL ULOOM COLLEGE
AUTONOMOUS
ACCREDITED BY NAAC WITH 'A' GRADE
NEW MALLEPALLY HYDERABAD
POLITICAL SCIENCE
BA [EPP] & [HPML]**

2020-21

PROGRAMME OBJECTIVE (GENERAL)
1. It makes the students learn their role & responsibilities
2. The study of Political Science is gaining more significance as the society and political system grows more and more complex.
3. Allows better understanding of political conditions and trends and functioning of the government across the globe.
4. The objective is to provide knowledge related to culture & civilization & development of Social behavior.
5. The department of political science is one of the oldest departments of our college.
PROGRAMME OUTCOMES (GENERAL)
PO -1. Get familiar with the origin, evolution & core value of the subject which can be put to use in their day today life.
PO -2. Students will learn their role & responsibilities in the society & can take active part in the existing political system.
PO -3. Students will be exposed to the International politics & political issues by a course study of I.R.
PO -4. The course offers a number of job oriented courses which ensure the students to their career as a lawyer, collector, political leader, teacher lecturer etc.
PO -5. Students will be able to discuss & debate the changing trends of Indian political system.
PROGRAMMESPECIFIC OUTCOMES
1. Serve as a politician
2. Makes students to go for higher studies and take up research.
3. Serve as a political party member, political adviser & a good citizen of India.

4. Work in elections & political as well as administrative system.
5. This is the most appropriate combination for the public service examination.

Course Objective- Paper- I UNDERSTANDING POLITICAL THEORY

1. Students are able to analyze political theory.
2. Understand empirical & Normative political theories, system analysis and structural functionalism
3. Students will analyze the basic concept liberty, equality justice under the light of various approaches.
4. Students will understand the theories of state (origin, nature, function), also evaluate social contract, evolutionary & divine origin theory
5. Students will undertake research to understand the difference between power & authority.

Course Objective- Paper- II WESTERN POLITICAL THOUGHT

1. Students will analyze the theory of origin of state by Thomas Hobbes, Locke, and Rousseau.
2. Students will examine Hobbes & Locke ideas on state of nature & human nature.
3. Students will understand the thoughts of 20th century by G W F Hegel to Karl Marx.
4. Students will critically the concept of utilitarianism and its principles.
5. Students will study Hegel's views on dialectics & tenants of Marxism i.e. historical materialism, class war, surplus value etc.

Course Objective- Paper- III INDIAN GOVERNMENT AND POLITICS [UNION GOVT]

1. Students will analyze the emergence of National Movement & inspire by the struggle for freedom.
2. Students will assess the status of fundamental rights of Indian citizens.
3. Students will understand the significance of Indian Constitution & role of Constituent Assembly.
4. Students will be able to express their views on independence & partition.
5. They also come to know the role & importance of a Democratic society.

Course Objective- Paper- IV INDIAN GOVERNMENT AND POLITICS [STATE GOVT]

1. Students will learn about the important political institutions of state government

(Governor, C.M, State Council of Minister, and State Legislature).

2. Students will understand the historical process, agencies & social forces that contributed to the formation of Telangana State.
3. Students also analyze the significance & composition of High Court.
4. Students will develop the deeper understanding of services of the local self institutions in India.
5. They will assess the nature of Indian Federalism with focus on union – state relations.

Course Objective- Paper- V A ANCIENT INDIAN THOUGHT

1. Students will evaluate the ancient Hindu Social Order.
2. Students will assess the core Gandhian philosophical ideas as a part of Indian Nationalist Political Thought.
3. Modern Indian thought will help the students to understand various concepts by Nehru, Ambedkar & J.P Narayan.
4. Students will analyze socio- religious reform movement's of 19th century to eradicate the evils of Indian society & ideology of the reformers.
5. Students will come to know about the contemporary conditions of the ancient Indian society through the writings of Kautilya, Manu & Buddha etc.

Course Objective- Paper- V B INTERNATIONAL RELATIONS

1. Students will, demonstrate understanding of the relations between & amongst the nations.
2. Students learn about the sovereign state system, World War 1, World War 2 & its impact on I.R.
3. Students will come up with their opinion regarding Colonialism, De- colonization & Neo- colonialism.
4. Students critically examine the emergence of third world.
5. Scope, significance & meaning of the International Relations will also be thought to them.

Course Objective- Paper- VI A WESTERN POLITICAL THOUGHT

1. Students will easily understand the Greek political thoughts.
2. They will be able to evaluate the relevance of Plato's ideas on justice, education, communism & the most important theory of ideal state.
3. They will learn the ancient thoughts of Aristotle on revolution, slavery & forms of

government.

4. Students will understand the medieval thoughts of thinkers like Aquinas & Machiavelli.

5. Their study theories of law, views on church-State & State craft.

Course Objective- Paper- VI B INTERNATIONAL RELATIONS

1. Students will understand the meaning of international organizations with special reference to UNO, its structure.

2. Students will analyze the concept of Arm race, Arm control & disarmament.

3. They will analyze the features & determinants of India's Foreign Policy.

4. They will understand the history & evolution of Non-Alignment Movement.

5. Students understand the concept of region, regionalism, and regional organizations like SAARC, ASEAN, and BRICS.

Course Outcome- Paper- I UNDERSTANDING POLITICAL THEORY

1. Students acquired knowledge about political theory, political philosophy and political thought.

2. Students came to know about various meanings of equality with reference to Liberal, Marxist & Feminist approach.

3. Students were able to analyze various ideologies associated with the discipline of political science like liberalism, Nationalism, Multiculturalism & Marxism.

4. Students analyzed the importance of political institutions (Executive, Legislature, and Judiciary).

5. Students evaluated the Indian party system in development of & looking at the ideology of dominant national parties

Course Outcome- Paper- II WESTERN POLITICAL THOUGHT

1. Students understood the importance of the Greek political thoughts.

2. They were able to evaluate the relevance of Plato's ideas on justice, education, communism & the most important theory of ideal state.

3. They learnt the ancient thoughts of Aristotle on revolution, slavery & forms of government.

4. Students understood the medieval thoughts of thinkers like Aquinas & Machiavelli.

5. They studied theories of law, views on church-State & State craft.

Course Outcome- Paper- III INDIAN GOVERNMENT AND POLITICS [UNION GOVT]

1. Students analyzed the features, importance & Directives Principles of State Policy.
2. Students analyzed the important political institutions of the Indian Union.
3. They learnt about the powers & functions of President, v. president, P.M. Council of Ministers Parliament).
4. Students realized the status of highest judicial organization in India.
5. Also come to know about its composition, powers & functions.

Course Outcome- Paper- IV INDIAN GOVERNMENT AND POLITICS [STATE GOVT]

1. Students examined the agitations took place in 1969, 1972 & 2001.
2. Students developed the deeper understanding of services of the local self institutions in India.
3. They assessed the nature of Indian Federalism with focus on union – state relations.
4. Students understood the historical process, agencies & social forces that contributed to the formation of Telangana State.
5. Students also analyzed the significance & composition of High Court.

Course Outcome- Paper- V A ANCIENT INDIAN THOUGHT

1. Students evaluated the ancient Hindu Social Order.
2. Students assessed the core Gandhian philosophical ideas as a part of Indian Nationalist Political Thought.
3. Modern Indian thought helped the students to understand various concepts by Nehru, Ambedkar & J.P Narayan.
4. Students analyzed socio- religious reform movement's of 19th century to eradicate the evils of Indian society & ideology of the reformers.
5. Students came to know about the contemporary conditions of the ancient Indian society through the writings of Kautilya, Manu & Buddha etc.

Course Outcome- Paper- V B INTERNATIONAL RELATIONS

1. Students studied the effects of Cold War.
2. Student comprehended the functions of all Financial Institutions of the world (World Bank, IMF, WTO, IBRD).
3. They understood the difference between power & authority.

4. They evaluated the concept of Globalization with different dimensions.
5. Students learnt the International economic institutions, their origin & composition.

Course Outcome- Paper- VI A WESTERN POLITICAL THOUGHT

1. They studied theories of law, views on church-State & State craft.
2. Students acknowledged the contributions of Greek political thoughts.
3. They are also able to evaluate the relevance of Plato's ideas on justice, education, communism & the most important theory of ideal state.
4. They learnt the ancient thoughts of Aristotle on revolution, slavery & forms of government.
5. Students understood the medieval thoughts of thinkers like Aquinas & Machiavelli.

Course Outcome- Paper- VI B INTERNATIONAL RELATIONS

1. Students understood the concept of region, regionalism, regional organizations like SAARC, ASEAN, BRICS
2. Students recognized the meaning of international organizations with special reference to UNO, its structure.
3. Students analyzed the concept of Arm race, Arm control & disarmament.
4. They analyzed the features & determinants of India's Foreign Policy.
5. They were able to appreciate the history & evolution of Non-Alignment Movement.



HOD

HEAD
 DEPT. OF POLITICAL SCIENCE
 ANWARUL-ULOOM COLLEGE (AUTONOMOUS)
 HYDERABAD.

Department: **PUBLIC ADMINISTRATION**

Year: **2020-21**

Programme: **BA [EPP]**

Programme Objective (General)

1. The department of public administration teaches students about social, political, economic & cultural issues of the times.
2. It endeavors in understanding the "PUBLIC" in a globalized world.
3. It emphasizes on concept & administrative theory.
4. Students learn the new changing issues of governance & administration

Programme Outcomes (General)

- PO -1. The dept focus to introduce and develop knowledge of institutions, organizations, practices, concepts and theories.
- PO -2. Allows better understanding of administrative conditions and trends and functioning of the government across the globe.
- PO -3. The objective is to provide knowledge related to culture & civilization & development of social behavior.
- PO -4. Improves thinking skills & prepare them to participate competently.
- PO -5. Programme provides the base to be the responsible Citizen.

Programme Specific Outcomes

1. Serve as a politician
2. Work as a teacher in colleges, schools & high schools.
3. Serve as a political party member, political adviser & a good citizen of India.
4. Work in elections & political as well as administrative system.
5. Can serve in various departments like forest and archaeological departments as conservator.

Course Objective- Paper- I BASICS OF PUBLIC ADMINISTRATION

1. Students will learn the meaning, importance, scope and evolution of public administration.
2. Students will be able to comprehend the changing paradigms of public administration.
3. Students will understand the nature of public administration.

4. Students will understand the strong relationship between public administration and law.

5. Students will study the relationship between public administration and political science.

Course Objective- Paper- II CONCEPTS AND PRINCIPLES OF PUBLIC ADMINISTRATION

1. Students will appreciate the nature scope and changing patterns of public administration.

2. Students will demonstrate the knowledge about comparative administration and development administration.

3. Students will be able to evaluate the organizational process and principles such as hierarchy, span of control, coordination, and division of work and unity of command.

4. Students will understand the synthesizing nature of knowledge of public administration from public perspective.

5. Students will grasp the administrative theories, concepts and principles to make sense of administrative practice.

Course Objective- Paper- III INDIAN ADMINISTRATION

1. Students will evaluate the function and the role of other offices in union administration.

2. Students will assess the latest trend in Centre state relations.

3. Students will analyze the legislative, administrative and financial relations between Centre and state.

4. Students will understand the working of Central personnel agencies all India services.

5. Students will analyze the role and powers of Union public service commission.

Course Objective- Paper- IV STATE ADMINISTRATION

1. Students will analyze the administrative history of Telangana.

2. Students will be able to analyze the state level political executive i.e. Governor and Chief Minister.

3. Students will understand the discern that connects and disconnects between structure, purpose, process and results in Indian administration.

4. Students will assess the nature of local governance and district administration in Telangana.
5. Students will understand the functioning of state secretariat and various directorates

Course Objective- Paper- V A MANAGEMENT OF RESOURCE

1. Students will understand the meaning, nature and scope of Human resource management.
2. Students will understand importance of Human resource management.
3. Students will demonstrate the understanding of human resource strategy and planning.
4. Students will be able to understand the changing paradigms of resource management.
5. Students will analyze the process of recruitment, selection, appointment and promotion

Course Objective- Paper- V B OFFICE MANAGEMENT

1. Students will demonstrate the understanding of nature, scope and importance of office administration.
2. Students will critically analyze the basic principles of office management.
3. Students will be able to understand the challenges of public office administration the background of ICT.
4. Students will understand the forms of management and control
5. Students will assess the office environment

Course Objective- Paper- VI A MANAGEMENT OF RESOURCE

1. Students will analyze the meaning scope and importance of financial management.
2. Students will demonstrate knowledge of how the public power is exercised in public resources is managed in expanded.
3. Students will critically evaluate the execution of budget.
4. Students understand the concept and principles of budgeting
5. They will study the preparation and enactment of budget.

Course Objective- Paper- VI B OFFICE MANAGEMENT

1. Students will understand the concept of work study work measurement and work simplification.
2. Students will understand the idea of management by objectives.

3. Students will understand the concept of supervision.
4. Students will understand the meaning of staff welfare.
5. Students will analyze the importance and some important staff welfare measures.

Course Outcome- Paper- I BASICS OF PUBLIC ADMINISTRATION

1. Students will understand how public administration is related to economics and psychology.
2. Students are exposed to different approaches of Kautilya.
3. Students study the approaches given by Taylor, Henry Fayol, Weber etc.
4. Students will evaluate the different approaches such as Oriental, classical, scientific and bureaucratic approaches.
5. Students will analyze the idea of various thinkers and the concepts of social psychology approaches.

Course Outcome- Paper- II CONCEPTS AND PRINCIPLES OF PUBLIC ADMINISTRATION

1. Students will critically evaluate the principle of line and staff agencies, leadership and communication.
2. Students will analyze the idea of New Public administration.
3. Students will be able to understand minnow brook conference I, II, III.
4. Students will evaluate the concept of new public management.
5. Students will critically evaluate the role of public services in emergence and development of new Telangana state.

Course Outcome- Paper- III INDIAN ADMINISTRATION

6. Students will understand historical evolution and socio-economic, political, cultural and global context of Indian administration.
7. Students will be able to describe the post independence Indian administration.
8. Students will be able to understand the transformative role of Indian administration.
9. Students will analyze the role of central level political executive i.e. President, Prime Minister and Council of Ministers.
10. Students will understand the working of central secretariat.

Course Outcome- Paper- IV STATE ADMINISTRATION

1. Students will understand the Indian administration's role as the main instrument of

state to achieve its developmental goals.

2. Students will understand the significance of administrative reforms and its need
3. Students develop a deeper understanding of second administrative reforms commission and its recommendations.
4. Students will understand the concept of e-government.
5. Students will analyze the importance of values and ethics in administration

Course Outcome- Paper- V A MANAGEMENT OF RESOURCE

1. Students will understand the components of pay, principles of pay and pay commissions.
2. Students will understand the concept of performance appraisal, reward and incentives management
3. Students will analyze the idea of human resource development.
4. Students will critically examine the concept of training its objectives, types and evaluation.
5. Students will analyze the institutional capacity building strategies and programmes.

Course Outcome- Paper- V B OFFICE MANAGEMENT

1. Student will be able to make office planning and layouts.
2. Students will discuss the methods of managing the office records.
3. Students will comprehend the administrative process in office
4. Students will analyze the maintenance of office stationery.
5. Students will understand the impact of technology in office administration.

Course Outcome- Paper- VI A MANAGEMENT OF RESOURCE

1. Students will analyze the organization and functions of finance ministry.
2. Students will examine the role of finance ministry in managing resources.
3. Students will evaluate the role of finance commission in Centre state relations.
4. Students in this unit will analyze functioning of public accounts committee, estimates committee and committee on public undertakings.
5. Students will critically evaluate the role of the comptroller and auditor General of India.

Course Outcome- Paper- VI B OFFICE MANAGEMENT

1. Students will understand the introduction of social system and public office administration.
2. Students will also analyze the systems approach.
3. Students will examine the basic premises and influence of social factors on public office.
4. Students will understand the objective, introduction and application of management techniques.
5. Students will demonstrate knowledge of the problems in application of management techniques.

Y. S. S.
HEAD
DEPT. OF PUBLIC ADMINISTRATION
ANWARUL ULOOM COLLEGE
HYDERABAD.

Anwarul Uloom Degree College

(An autonomous Muslim minority institution)

New Mallepally Hyderabad.5000001. T.S India

Affiliated to Osmania University

Department of Telugu.

2020- 21. Departmental

Programme Objectives and Outcomes.

(పాఠ్యాంశాల ఉద్దేశ్యాలు మరియు సాధించినవి)

Degree 1st year (డిగ్రీ మొదటి సంవత్సరం)

Programme Objectives

(పాఠ్యాంశాల ఆధారంగా ఉద్దేశ్యాలు)

1. ప్రాచీన సాహిత్యంలో భాగంగా శకుంతలో పాఖ్యానము, గొడగూచి కథ, సంవర్నుడి తపస్సు, గజేంద్రమోక్షము, హనుమత్ సందేశము, సుభాషితములు అనే పాఠ్యాంశాల ఆధారంగా నాటి సాహిత్య విలువలు తెలుసుకుంటారు.
2. ఆధునిక కవిత్వంలో కాసులు రాజ కవి గంగిరెద్దు జయభేరి అంతర్నాథము ప్రపంచ పదులు అల్వీదా పాఠ్యాంశాల ఆధారంగా ఆధునిక కవిత పోకడలను మరియు కవుల గురించి తెలుసుకుంటారు.
3. వచన విభాగంలో యుగాంతము వెంకన్న మామిడిపండు మా ఊరు పోయింది ఇది ఒకే కళే పేర్లు గుర్తుంచుకోవడం అనే పాఠ్యాంశాల ఆధారంగా కథానిక ప్రక్రియను వ్యాస ప్రక్రియను గురించి తెలుసుకుంటారు.
4. రుద్రమదేవి నవల ఉపవాచకంలో చరిత్ర గురించి తెలుగు వారి సంస్కృతి గురించి తెలుసుకుంటారు.
5. భాషాభాగాలలో పర్యాయపదాలు నానార్థాలు భాగంగా సందులు సమాసాలు తెలుగు వాక్యము గురించి అధ్యయనం చేసి భాష నిర్మాణాన్ని తెలుసుకోవడం ఇక్కడ ఉద్దేశం గా ఉన్నది.

Out comes. (సాధించిన ఫలితాలు)

Anwarul Uloom Degree College
(An autonomous Muslim minority institution)
New Mallepally Hyderabad.5000001. T.S India

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Department of Telugu.

2020-21 Departmental

Programme Objectives and Outcomes.

(పాఠ్యాంశాల ఉద్దేశ్యాలు మరియు సాధించినవి)

Degree 2nd year (డగ్రీ రెండవ సంవత్సరం)

Departmental Program Objective's and Outcomes.

డగ్రీ రెండవ సంవత్సరం తెలుగు ద్వితీయ భాష పాఠ్య

ప్రణాళికల ఆధారంగా ఉద్దేశ్యాలు ఫలితాలు.


Program objectives: (ఉద్దేశ్యాలు):--

1. విద్యార్థులు చక్కని సంభాషణ నైపుణ్యాన్ని పెంపొందించుకోవడం గురించి. తిక్కన గోనబుద్ధారెడ్డి శ్రీ నాథుడు పింగళి సూరన ల గురించి తెలుసుకోవడం.
2. విద్యార్థులు చెడు లక్షణాలకు దూరంగా ఉండడం, మరియు ఆధునిక కవిత్వపు విషయ అవగాహన కలిగి ఉండడం.
3. విద్యార్థులకు వ్యవసాయ ప్రాధాన్యతను తెలియజేయడం, తెలుగు భాష గొప్పతనాన్ని గురించి దానికోసం ఆంగ్లేయులు చేసిన సేవలు తెలుసుకోవడం.
4. ప్రాచీన మన వారసత్వ సంపదను సంరక్షించుకోవడం, గ్రామ నామాల ఏర్పాటు గురించి విద్యార్థులకు అవగాహన కల్పించడం
5. నాటక ప్రక్రియ గురించి తెలుసుకోవడం మరియు వచన రచనల పట్ల అభిరుచిని పెంచుకోవడం.

Program outcomes: లక్ష్యాల సాధన:--

1. శ్రీకృష్ణుని సుందీ కి పంపి సందర్భంలో ధర్మరాజు మాటలలో చక్కని నైపుణ్య మైన సంభాషణా చాతుర్యం కనిపిస్తోంది. ఎవరి పట్ల నైనా ద్వేషము, కోపము, అసహనము, పగ అనే విషయాలు. మంచివి కావు అని

చేసిన సేవలను గుర్తించి మాతృభాష ఔన్నత్యాన్ని తెలుసుకుని దీని పట్ల గౌరవ భావాన్ని కలిగి తమ వంతు పాత్ర గా భాషా సాహిత్యాల అభివృద్ధిలో పాలుపంచుకుంటారు.


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BOARD OF STUDIES
DEPARTMENT OF TELUGU
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HYDERABAD-500001 T.S.

Course Outcomes
Department of Urdu
Deg 1st Year Sem I
2020-21

حصہ نثر و نظم | یونٹ

اس یونٹ میں طلبا کو محمد قلی قطب شاہ کے حالات زندگی اور ان کی شاعری کے بارے میں سمجھا یا جائیگا۔
طلبا محمد قلی قطب شاہ کی نظم کی تشریح سمجھیں گے۔

طلبا کو محمد قلی قطب شاہ اور نظیر اکر آبادی کی شاعری کی خصوصیات سمجھا ئی جائیگی۔

طلبا انشانیہ کے بارے میں پڑھیں گے اور ساتھ ہی انہیں مشتاق احمد یو سفی کا انشانیہ "پڑھنیے اگر بیمار" کا تجزیہ کر وایا
جائیگا۔

نظم "توحید" کے ذریعہ اللہ کی واحدانیت کے بارے میں سمجھا یا گیا۔

نثر و نظم || یونٹ

طلبا اس یونٹ میں سراج اورنگ آبادی، نظیر اکبر آباد کی حالات زندگی اور ان کی شاعری کی خصوصیات کو سمجھیں گے۔

طلبا کو "حکایت" کے بارے میں وضاحت دی جائیگی۔ اور ساتھ ہی "حکایت سعادی" کے بارے میں سمجھا یا جائیگا۔

طلبا "افسانہ" کی تعریف اور تاریخ کے بارے میں پڑھیں گے۔

افسانہ "یہ غازی تیرے پر اسرار بندے" کے بارے میں طلبا کو سمجھا یا جائیگا۔

سراج اورنگ آبادی کی غزل گوئی کے بارے میں طلبا کو سمجھا یا گیا۔

حصہ نثر و نظم ||| یونٹ

طلبا اس یونٹ میں شاعر "میر تقی میر" کی حالات زندگی کا تجزیہ کریں گے۔

میر تقی میر کی دو غزلوں کی تشریحی کو طلبا سمجھیں گے۔

طلبا کو اردو میں سفر نامے کے آغاز و ارتقاء کے بارے میں سمجھا یا جائیگا۔

طلبا مشہور شاعر "شاہ تمکنت" کے حالات زندگی کا مطالعہ کریں گے اور نظم "اب کے برس" کا مطالعہ کریں گے۔

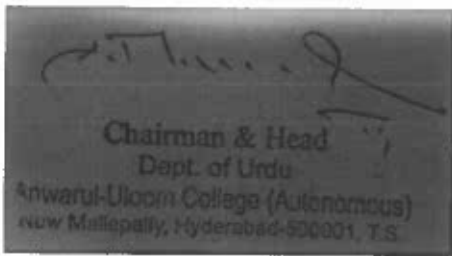
حصہ نثر و نظم IV یونٹ

طلبا الطاف حسین حالی کی دو غزلوں کا جائزہ لیں گے۔

طلبا کو اس یونٹ میں شامل الطاف حسین حالی کی دو غزلوں کی تشریح
سمجھانی جائیگی۔

طلبا شاعر حافظ جا لندھری کے حالات زندگی کو پڑھیں گے۔

افسانہ کی ابتداء و ارتقاء کے بارے میں سمجھا یا گیا۔



Course Outcomes
Department of Urdu
Deg 1st Year Sem II
2020-21

حصہ نظم I یونٹ

طلبا کو اس یونٹ میں ولی دکنی کی دو غزلوں کی تشریح سمجھانی جائیگی۔
طلبا اکبر الہ آباد اور شاعر مقدم کے حالات زندگی کا جائزہ لیں گے۔

حصہ نظم و نثر II یونٹ

طلبا کو اردو ڈرامہ کی تعریف اور تاریخ واقف کر وایا جائیگا۔

طلبا امتیاز علی تاج اور بیگم قدسیہ کا ڈرامہ "تلاش" کو پڑھیں گے۔

طلبا شاعر آتش کی شاعری کو سمجھیں گے اور ساتھ ہی ان کے حالات زندگی کا جائزہ لیں گے۔

حصہ غزل III یونٹ

اس یونٹ میں طبا کو مرزا اسد اللہ خاں غالب کی دو غزلوں کی وضاحت کی جائیگی۔

طلبا اردو ادب میں فنون لطیفہ کا جائزہ لیں گے۔

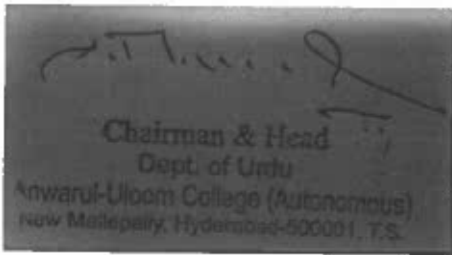
طلبا کو "خاکہ" کی تعریف اور اس کی خصوصیت کے بارے میں سمجھا یا جائیگا۔

خاکہ نگار سلیمان آریب کی حالات زندگی کو طبا پڑھیں گے۔ اور خاکہ "سلیمان آریب" کا جائزہ لیں گے۔

حصہ نظم و نثر IV یونٹ

طلبا مرزا اسد اللہ خاں غالب کی حیات زندگی کا مطالعہ کریں گے۔

طلبا شاعر لدھیانوی کے حالات زندگی اور ان کی شاعری کا جائزہ لیں گے۔



Course Outcomes
Department of Urdu
Deg 2nd Year Sem III
2020-21

حصہ نظم و نثر I یونٹ

طلبا کو اس یونٹ میں جدید اور قدیم مثنوی میں فرق سمجھا یا جائیگا۔

مثنوی "امن نامہ" کا خلاصہ سمجھا یا جائیگا۔

طلبا مشہور شاعر جان نثار اختر، میر انیس کے حالات زندگی کا مطالعہ کریں گے۔

طلبا رپورٹاز کے بارے میں سمجھیں گے۔

حصہ نثر و نظم II یونٹ

طلبا کو داستان کی اہمیت اس کی افادیت کے بارے میں سمجھا یا جائیگا۔

طلبا داستان کی خصوصیت کو سمجھیں گے۔ داستان کی ابتداء و ارتقا پر روشنی ڈالی جائیگی۔

اس یونٹ میں طلبا کو "ربا عیات" کی تعریف و تاریخ کے بارے میں سمجھا یا جائیگا۔

طلبا کو شاعر "جگت مو بن رواں" اور "ملا وجہی" کے حالات زندگی کے بارے میں آگاہ کیا جائیگا۔

نثر و نظم III یونٹ

طلبا صنف قطعات کے بارے میں سمجھیں گے۔

قطعات کی تعریف، تاریخ، اور اس اہمیت کے بارے میں طلبا کو سمجھا یا جائیگا۔

طلبا کو شاعر میر انیس کے قطعہ "دنیا بھی عجب سرائے فانی دیکھی" کی تشریح سمجھائی جائیگی۔

انشانیہ کی تعریف سے طلبا کو واقف کر وایا جائیگا۔

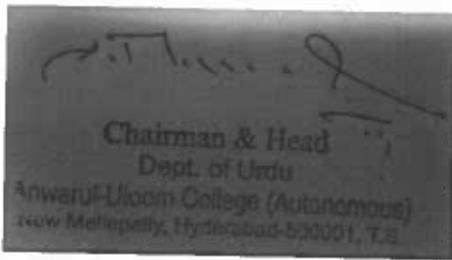
انشانیہ "ذوق چائے نوشی" کو سمجھا یا جائیگا اس کے علاوہ ابوالکلام آزاد کے حالات زندگی کو بیان کیا جائیگا۔

نثر و نظم IV یونٹ

اس یونٹ میں طلبا کو اردو میں مضمون نگاری کی تعریف سمجھائی جائیگی۔

قدیم دکنی اردو کی خصوصیات سے طلبا کو واقف کر وایا جائیگا۔

نصیر الدین ہاشمی اور جگت مو بن لال رواں کے حالات زندگی کو بیان کیا جائیگا۔



Course Outcomes
Department of Urdu
Deg 2nd Year Sem IV
2020-21
حصہ نظم 1 یونٹ

اس سمسٹر کے یونٹ میں روایتی اور شخصی مرثیہ کے بارے میں طلبا کو سمجھا یا جائیگا۔
الطاف حسین حالی کی حالات زندگی کے بارے میں سمجھا یا جائیگا۔
طلبا کو شخصی مرثیہ "مرثیہ غالب" کے بارے میں سمجھا یا جائیگا۔
طلبا کو "میر تقی میر" کی شاعری اور ان کی غزل کے بارے میں سمجھا یا جائیگا۔
میر تقی میر کی دو غزلیات کی تشریح کی جائیگی۔
طلبا شاعر جو ش ملیح آبادی کے حالات زندگی کا مطالعہ کریں گے۔ ساتھ ہی ان کی ایک غزل کی تشریح کا بھی جائزہ لیں گے۔

حصہ نظم II یونٹ

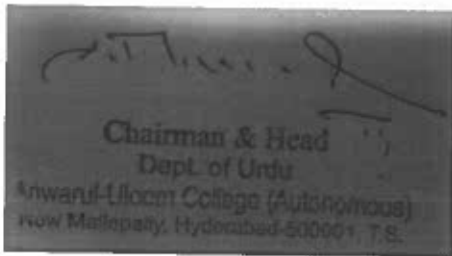
طلبا کو اس یونٹ میں "نیچرل نظم" تعریف سمجھانی جائیگی۔
طلبا نیچرل نظم "مرغابی" کا خلاصہ سمجھیں گے
طلبا کو شاعر "شوکت علی تھانوی" کی غزل کی تشریح سمجھانی جائیگی۔

حصہ نظم III یونٹ

طلبا کو "وطنی نظم" کی تعریف سمجھانی جائیگی اور ساتھ ہی وطنی نظم "خاک بند" کا مطالعہ کر ویا جائیگا۔
طلبا کو شاعر محسن کاکوری، شاعر برج نارائن جکبست کے حالات زندگی کا مطالعہ کر وایا جائیگا۔

حصہ نظم IV یونٹ

طلبا کو "آزاد نظم" کی تعریف اور اس کی خصوصیت سمجھانی جائیگی۔
طلبا کو آزاد نظم "تبوک آواز دے رہا ہے" کی تشریح کر وانی جائیگی۔
طلبا جدید اور روایتی نظم کا جائزہ لیں گے۔
طلبا جدید نظم "دھرتی تیرا مجھ سے روپ" کی تشریح سمجھیں گے۔



Course Outcomes
Department of Urdu
Deg 3rd Year Sem IV
2020-21

حصہ نثر I یونٹ

طلبا کو فنون لطیفہ کی اہمیت سے واقف کر وایا جائیگا۔
طلبا ادب کی تعریف سمجھیں گے اور افسانہ کی تعریف اور تاریخ کے بارے میں پڑھیں گے۔

حصہ نثر و نظم II یونٹ

طلبا حقیقت اور ادب میں فرق کو محسوس کر یں گے۔

طلبا کو شاعری کی مختلف اصناف کے بارے میں سمجھا یا جائیگا۔

حصہ نثر III یونٹ

اس یونٹ میں طلبا کو داستان کی تعریف و تاریخ کے بارے میں بتلا یا جائیگا

طلبا داستان کے اقسام کو سمجھیں گے

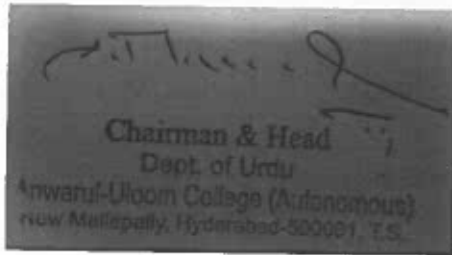
طلبا کو منظوم اور نثری داستان کے فروق کے بارے میں سمجھا یا جائیگا۔

نثر IV یونٹ

طلبا کو ناول کی تعریف و تاریخ سے آگاہ کیا جائیگا

طلبا اردو ادب میں ڈرامہ کا جائزہ لیں گے

طلبا کو ناول اور ڈرامہ میں فرق بھی سمجھا یا جائیگا



Course Outcomes
Department of Urdu
Deg 3rd Year Sem V
2020-21

I یونٹ

طلبا کو اردو کی ابتدا ء او ارتقا کے بارے میں تفصیل سے سمجھا یا جائیگا
طلبا اس کو بات کو سمجھیں گے کہ اردو زبان کے فروق میں اولیا نے اکرام کا کیا حصہ تھا
طلبا کو قطب شاہی، عادل شاہی حکومتوں کے قیام کے بارے میں سمجھا یا جائیگا۔
طلبا قطب شاہی اور عاشاہی دور کے شعراء کی تعریف اور ان کی شعری خصوصیات کے بارے میں پڑھیں گے

II یونٹ

طلبا ولی دکنی کی حالات زندگی کے بارے میں سمجھنے کی کوشش کریں گے
طلبا کو ولی دکنی اور ان کے معاصرین کے بارے میں پڑھا یا جائے گا۔
طلبا میر تقی میر اور محمد رفیع سودا کے حالات زندگی کے بارے میں پڑھیں گے اور دونوں شعرا کے دور کے سیاسی حالات
کو سمجھیں گے۔

طلبا کو دبستان دہلی کے شعرا اور ان کی شاعری کی خصوصیات کے بارے میں سمجھا یا جائیگا۔
طلبا ترقی پسند تحریک کی ابتداء و ارتقا کے بارے میں سمجھیں گے

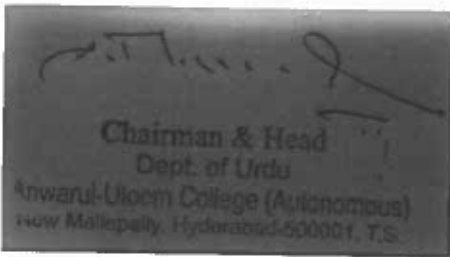
III یونٹ

طلبا دبستان لکھنؤ کے شعراء کی حالات زندگی اور ان کی شاعری کو سمجھیں گے۔
طلبا کو شاعر اسد اللہ خان غالب اور مومن کی شاعری و ان شعراء کی حالات زندگی سمجھانی جائیگی۔
طلبا فورٹ ولیم کالج کے قیام اور اس قیام سے اردو ادب کو ہونے والے فائدہ کا جائزہ لیں گے۔
طلبا جدید اور قدیم اردو ادب کا مطالعہ کریں گے۔

IV یونٹ

طلبا کو اردو اخبار "اودھ پنچ" کی ادبی خدمات کے بارے میں واقف کر وایا جائیگا۔
طلبا دلی کالج اور علی گڑھ تحریک کے بارے میں مطالعہ کریں گے۔
طلبا سرسید احمد خاں کی زندگی کا مطالعہ کریں گے اور ان کے رفقا کے بارے میں
تفصیل سے پڑھیں گے۔

دلی کالج کا قیام اور اردو زبان کی ترقی و ترویج کا طلبا جائزہ لیں گے۔



Specific Outcomes
Department of Urdu
Deg 1st Year Sem I
2020-21

- طلباء اس یونٹ میں سراج اورنگ آبادی، نظیر اکبر آباد کی حالات زندگی اور ان کی شاعری کی خصوصیات کو سمجھیں گے۔
- طلباء کو "حکایت" کے بارے میں وضاحت دی جائیگی۔ اور ساتھ ہی "حکایت سعادی" کے بارے میں سمجھا یا جائیگا۔
- طلباء "افسانہ" کی تعریف اور تاریخ کے بارے میں پڑھیں گے۔
- افسانہ "یہ غازی تیرے پر اسرار بندے" کے بارے میں طلباء کو سمجھا یا جائیگا۔
- سراج اورنگ آبادی کی غزل گوئی کے بارے میں طلباء کو سمجھا یا گیا۔
- طلباء اس یونٹ میں شاعر "میر تقی میر" کی حالات زندگی کا تجزیہ کریں گے۔
- میر تقی میر کی دو غزلوں کی تشریح کو طلباء سمجھیں گے۔
- طلباء کو اردو میں سفر نامے کے آغاز و ارتقاء کے بارے میں سمجھا یا جائیگا۔
- طلباء مشہور شاعر "شاد تمکنت" کے حالات زندگی کا مطالعہ کریں گے اور نظم "اب کے برس" کا مطالعہ کریں گے۔
- طلباء الطاف حسین حالی کی دو غزلوں کا جائزہ لیں گے۔
- طلباء کو اس یونٹ میں شامل الطاف حسین حالی کی دو غزلوں کی تشریح سمجھانی جائیگی۔
- طلباء شاعر حافظ جالندھری کے حالات زندگی کو پڑھیں گے۔
- افسانہ کی ابتداء و ارتقاء کے بارے میں سمجھا یا گیا۔

Specific Outcomes
Department of Urdu
Deg 1st Year Sem II
2020-21

اس یونٹ میں طلبا کو مرزا اسد اللہ خاں غالب کی دو غزلوں کی وضاحت کی جائیگی۔
طلبا اردو ادب میں فتون لطیفہ کا جائزہ لیں گے۔

طلبا کو "خاکہ" کی تعریف اور اس کی خصوصیت کے بارے میں سمجھا یا جائیگا۔
خاکہ نگار سلیمان آریب کی حالات زندگی کو طلبا پڑھیں گے۔ اور خاکہ "سلیمان آریب" کا جائزہ لیں گے۔
طلبا مرزا اسد اللہ خاں غالب کی حیات زندگی کا مطالعہ کریں گے۔
طلبا شاعر لدھیانوی کے حالات زندگی اور ان کی شاعری کا جائزہ لیں گے۔

Specific Outcomes

Department of Urdu

Deg 2nd Year Sem III

2020-21

طلبا صنف قطعات کے بارے میں سمجھیں گے۔

قطعات کی تعریف، تاریخ، اور اس اہمیت کے بارے میں طلبا کو سمجھا یا جائیگا۔

طلبا کو شاعر میر انیس کے قطعہ "دنیا بھی عجب سرائے فانی دیکھی" کی تشریح سمجھانی جائیگی۔

انشائیہ کی تعریف سے طلبا کو واقف کر وایا جائیگا۔

انشائیہ "نوق چائے نوشی" کو سمجھا یا جائیگا اس کے علاوہ ابوالکلام آزاد کے حالات زندگی کو بیان کیا جائیگا۔

اس یو نٹ میں طلبا کو اردو میں مضمون نگاری کی تعریف سمجھانی جائیگی۔

قدیم دکنی اردو کی خصوصیات سے طلبا کو واقف کر ویا جائیگا۔

نصیر الدین ہاشمی اور جگت موہن لال رواں کے حالات زندگی کو بیان کیا جائیگا۔

Course Outcomes
Department of Urdu
Deg 2nd Year Sem IV
2020-21

طلبا کو اس یونٹ میں "نیچرل نظم" تعریف سمجھانی جائیگی۔

طلبا نیچرل نظم "مرغابی" کا خلاصہ سمجھیں گے

طلبا کو شاعر "شوکت علی تھانوی" کی غزل کی تشریح سمجھانی جائیگی۔

طلبا کو "وطنی نظم" کی تعریف سمجھانی جائیگی اور ساتھ ہی وطنی نظم "خاک بند" کا مطالعہ کر ویا جائیگا۔

طلبا کو شاعر محسن کاکوری، شاعر برج نارائن جکبست کے حالات زندگی کا مطالعہ کر وایا جائیگا۔

طلبا کو "آزاد نظم" کی تعریف اور اس کی خصوصیت سمجھانی جائیگی۔

طلبا کو آزاد نظم "توک آواز دے رہا ہے" کی تشریح کر وانی جائیگی۔

طلبا جدید اور روایتی نظم کا جائزہ لیں گے۔

طلبا جدید نظم "دھر تی تیرا مجھ سے روپ" کی تشریح سمجھیں گے۔

Specific Outcomes
Department of Urdu
Deg 3rd Year Sem IV
2020-21

- طلبا کو داستان کی تعریف و تاریخ کے بارے میں بتلا یا جانینگا
- طلبا داستان کے اقسام کو سمجھیں گے
- طلبا کو منظوم اور نثری داستان کے فرق کے بارے میں سمجھا یا جانینگا۔
- طلبا کو ناول کی تعریف و تاریخ سے آگاہ کیا جانینگا
- طلبا اردو ادب میں ڈرامہ کا جائزہ لیں گے
- طلبا کو ناول اور ڈرامہ میں فرق بھی سمجھا یا جانینگا

Specific Outcomes

Department of Urdu

Deg 3rd Year Sem V

2020-21

I یونٹ

طلبا کو اردو کی ابتداء اور ارتقا کے بارے میں تفصیل سے سمجھا یا جائیگا
طلبا اس کو بات کو سمجھیں گے کہ اردو زبان کے فروق میں اولیا نے اکرام کا کیا حصہ تھا
طلبا کو قطب شاہی، عادل شاہی حکومتوں کے قیام کے بارے میں سمجھا یا جائیگا۔
طلبا قطب شاہی اور عاشاہی دور کے شعراء کی تعریف اور ان کی شعری خصوصیات کے بارے میں پڑھیں گے

II یونٹ

طلبا ولی دکنی کی حالات زندگی کے بارے میں سمجھنے کی کوشش کریں گے
طلبا کو ولی دکنی اور ان کے معاصرین کے بارے میں پڑھا یا جائے گا۔
طلبا میر تقی میر اور محمد رفیع سودا کے حالات زندگی کے بارے میں پڑھیں گے اور دونوں شعرا کے دور کے سیاسی حالات کو سمجھیں گے۔
طلبا کو دبستان دہلی کے شعرا اور اس کی شاعری کی خصوصیات کے بارے میں سمجھا یا جائیگا۔
طلبا ترقی پسند تحریک کی ابتداء و ارتقا کے بارے میں سمجھیں گے
طلبا کو اردو اخبار "اودھ پنچ" کی ادبی خدمات کے بارے میں واقف کر وایا جائیگا۔
طلبا دلی کالج اور علی گڑھ تحریک کے بارے میں مطالعہ کریں گے۔
طلبا سرسید احمد خاں کی زندگی کا مطالعہ کریں گے اور ان کے رفقا کے بارے میں تفصیل سے پڑھیں گے۔
دلی کالج کا قیام اور اردو زبان کی ترقی و ترویج کا طلبا جائزہ لیں گے۔



ANWARUL ULOOM COLLEGE (AUTONOMOUS)

(Accredited by NAAC with 'A' Grade & An ISO 9001:2015 Certified
Institution)

(Affiliated to Osmania University, Hyderabad)

Department: Zoology

Programme: B.Sc. (2020-2021)

Programme Objective:

1. Understanding the field of zoology and its different aspects.
2. Ecology, evolution, wildlife and habitat conservation.
3. Laboratory techniques, specimen observation and preparation.
4. Economic importance of certain animals and livestock farming.

Programme Outcomes:

1. Understand various physiological processes at the molecular level of animals from different phyla.
2. Information and skill of advanced biological techniques for experimental purposes.
3. Apply the knowledge and understanding of Zoology to one's own social life.
4. Gain knowledge of the protection of vulnerable and endangered species.

Handwritten signature
Dept. of Zoology
A.U. College, Hvd.



ANWARUL ULOOM COLLEGE

(AUTONOMOUS)

(Accredited by NAAC with 'A' Grade & An ISO 9001:2015 Certified Institution)


(Affiliated to Osmania University, Hyderabad)

Programme Specific Outcomes:

1. The students gained the knowledge to use modern sophisticated equipment and tools.
2. Understand the nature and basic concepts of cell biology, genetics, taxonomy, physiology, ecology, and applied zoology.
3. To analyze the mechanisms involved in life processes up to the molecular level.
4. Acquire knowledge of the various aspects of life sciences, cell biology, genetics, taxonomy, physiology, applied zoology, general embryology, and public health.

Course Outcomes: Semester – I Animal Diversity – Invertebrates.

1. To classify Phylum Porifera with taxonomic Keys.
2. To describe the Phylum Coelenterata and its Polymorphism.
3. To identify the given Mollusca with respect to economic importance.
4. To describe general characters of Nematelminths and their parasitic adaptation.
5. To explain classification of protozoa and diseases caused by them.
6. To explain general characters of Arthropoda and metamorphosis in insects.


Dept. of Zoology
A.U. College, Hvd



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(AUTONOMOUS)

(Accredited by NAAC with 'A' Grade & An ISO 9001:2015 Certified Institution)

(Affiliated to Osmania University, Hyderabad)

Course Outcomes: Semester – II Animal Diversity - Vertebrates.

1. To identify the characters of Amphibia.
2. To describe the Phylum Mammalia.
3. To identify the venomous and non-venomous snakes.
4. To write down the classification of Aves.

Course Outcomes: Semester – III Biology of Chordates.

1. Understand the evolutionary history and relationship between the different classes of chordates.
2. Know the different characteristics along with their habits, habitats and distribution of the chordates.
3. Understand the significance of the differences in physiological systems between the vertebrates.
4. Distinguish the significance of the chordates from other lower organisms and comprehend their advantages.
5. This course will help the students to understand the development of multicellular organisms from a single-cell zygote.
6. Students will be able to appreciate the mechanisms that support growth and development.
7. They will learn interesting and unique post embryonic development that happens in other animals.
8. It will help them to understand the concept of aging and the relevance of this knowledge in several medical applications.

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Dept. of Zoology
A.U. College, HYD



ANWARUL ULOOM COLLEGE


(AUTONOMOUS)

(Accredited by NAAC with 'A' Grade & An ISO 9001:2015 Certified Institution)

(Affiliated to Osmania University, Hyderabad)

Course Outcomes: Semester – IV Cell Biology, Genetics, and Organic Evolution.
1. Illustrate that Cell being the fundamental structural unit defines the function of all living things.
2. Obtain knowledge of the structures and functions of basic components of prokaryotic and eukaryotic cells, especially macromolecules, membranes, and organelles.
3. Understand the cellular components underlying cell division.
4. Compare and contrast the events of cell cycle and its regulation.
5. Explain the communications of cells with other cells and to the environment.
6. A thorough and in-depth understanding of the chemical basis of heredity.
7. The skills required to plan, carry out, and evaluate the outcomes of genetic experiments in animal model systems.
8. Develop the necessary communication skills in the discipline required for Oral presentations of research results, and poster presentations at conferences etc.
9. Gain knowledge about the relationship of the evolution of various species and the environment they live in.

Course Outcomes: Semester – VA Animal Physiology.
1. To describe the types of Digestion.
2. To explain the process of carbohydrates, protein, lipid digestion.
3. To describe the structure of mammalian lungs.
4. To describe the mammalian heart and its functioning.
5. How are the animals classified on the basis of excretion of nitrogenous waste products.
6. To describe Sliding Filament theory of muscle contraction.


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Course Outcomes: Semester – VB Genetics.

1. Students will be taught Mendelian genetics, its principles, and gene interaction.
2. They learn about chromosomal aberrations and the structure of chromosomes.
3. The student will gain a basic understanding of human genetics and hereditary.
4. The course teaches the students about genes at the molecular level.
5. They learn about DNA, and RNA and their replication, mutations, and DNA repair mechanism.
6. The course outcome is to train the students in understanding genetics and relate modern DNA technology for disease diagnostics and therapy.

Course Outcomes: Semester – VIA Fisheries and Haematology.

1. To describe fresh water, marine and estuarine fisheries.
2. To explain Hatchery design and management.
3. To describe the techniques in Induced breeding.
4. To describe the structure and functioning of Blood.
5. To give the Importance of Biopsy and Autopsy.

Course Outcomes: Semester – VIB Immunology and Biotechnology.

1. This course gives an overview of the immune system including organs, cells and receptors.
2. The students learn about the molecular basis of antigen recognition, hypersensitivity reaction, antigen-antibody reactions.
3. The course develops in the student an appreciation for the principles of immunology and its applications in treating human diseases.

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| 4. The course will introduce major groups of micro-organisms tools in biotechnology and their most important environmental applications. |
| 5. On completion of the course, students will be able to understand the use of basic microbiological, molecular and analytical methods, which are extensively used in environmental biotechnology. |


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