DEPARTMENT OF COMMERCE

BBA - CA (Computer Application)

Program Objective (PO)

- **PO1:** To educate students for their career in software industries, academic and research institutions, entrepreneurial pursuit, government, consulting firms and other Information Technology enabled services.
- **PO2:** To promote use of information technology and motivate to develop innovative software development skills.
- **PO3:** To develop critical thinking, communication, teamwork, and leadership skills necessary to function productively and professionally.
- **PO4:** To acclimate themselves to the changing IT requirements through lifelong learning that contributes in self and societal growth.
- **PO5:** To explore an academic guidance to the students for handling challenging opportunities in Information Technology with the help of programming languages and application tools.
- **PO6:** To train students to outrival in technical professions through quality educations.
- **P07:** To prepare students for real-world problems by working on projects.

Program Specific Objective (PSO)

- **PSO1:** To Enhance the exposure to variety of roles and responsibilities, skills students can take up in any areas of expertise.
- **PSO2:** Provide sound academic base from which an advanced career in Computer Application can be developed. (Programming subjects)
- **PSO3:** Give basic knowledge of computer h/w, networking, application software and s/w design.
- **PSO4:** Apply standard software engineering design and development principles and strategies in software project development using open source programming environment to deliver a quality of product for business success.
- **PSO5:** Increase capability of student to design, implement, and evaluate a software or a software/hardware system, component, or process to meet desired needs within realistic constraints.

- **PSO6**: Empowering skills to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems with necessary constraints and assumptions
- **PSO7:** Through projects, practical labs acquire the practices to function effectively as an individual or as a team member in achievement of desired objectives.
- **PSO8:** Acquire learning inputs to identify, formulate, and provide systematic solutions to complex engineering/Technology problems
- **PSO9:** Conceptual Grounding in computer usage as well as its practical business application will be provided.
- **PSO10**: Acquaintance of programming skills, other technical skills to become successful Software professional or entrepreneur.
- **PSO11:** To support base for various certifications which will enhance their career.

COURSE OUTCOMES

FYBBA(CA)

CA-101- Business Communication

- CO1. Students understand the concept, process and importance of communication.
- CO2. Students develop an integrative approach where reading, writing, presentation skills are used together to enhance the students' ability to communicate and write effectively.
- CO3. Students understand about Methods and Media of communication.
- CO4. Students become familiar with information technology and improve job seeking skills.
- CO5. Students understand system and communication and their utility
- CO6. Students become proficient in how to write business letters and other communications in required business.

CA-102 Principals Of Management (POM)

- CO1: Students are able to understand Nature of management
- CO2: Students are able to understand fundamental knowledge about working of business organization
- CO3: Students will well acquaint with management process, functions and principles.
- CO4: Students will get familiar with recent trends in management.
- CO5: Students are able to understand Recent trends in Management
- CO6: Students are able to understand Evolution of management thoughts

CA-103 C Programming

- CO1. Students improve their Analytical / Logical Thinking and Problem-Solving capabilities
- CO2. Students use the fundamentals of C programming in trivial problem solving
- CO3. Students enhance skill on problem solving by constructing algorithms.
- CO4. Students identify solution to a problem and apply control structures and user defined functions for solving the problem.
- CO5. Students understand the use of Strings and string handling functions.
- CO6. Students apply skill of identifying appropriate programming constructs for problem solving.

CA-104 DBMS

- CO1.Enables students to understand relational database concepts and transaction management concepts in database system.
- CO2.Enables student to write PL/SQL programs that use: procedure, function, package, cursor and trigger.
- CO3. Enables to integrate database with the programming language
- CO4. Enable students to work with real world problem in practical session
- CO5.learn handling database with varieties of practical problem
- CO6.to learn concept of database transaction with various example

CA-105 Statistics

- CO1. To understand role and importance of statistics in various business situations.
- CO2. To develop skills related with basic statistical technique
- CO3. Develop right understanding regarding regression, correlation and data interpretation.

107 Principles of Programming and Algorithm

- CO1: Will understand importance of algorithm, program development cycle, how programs
- are been developed sequentially with help of algorithm.
- CO2: Student will be able to show. detail designing of algorithm and flow of programs with the
- help of flowchart
- CO3: Student will be able to understand the use of function, library function and recursion with
- its syntax
- CO4: To understand definition, characteristics and types of array.

CA-201 Organization Behavior & Human Resource Management (OB & HRM)

- CO1: Students are able to understand Fundamentals of Organizational Behavior
- CO2: Got more knowledge on Group Behavior and Change in Organization
- CO3: Have a good understanding of Wages and Salary Administration
- CO4: Students can efficiently implement solution for Grievance and discipline
- CO5: Got more knowledge on E-HR
- CO6: Students are able to understand Human Resource Processes that are concerned with planning, motivating and developing suitable employees for the benefit of the organization develop a application software

CA-202 Financial Accounting

- CO1: To develop right understanding regarding role and importance of monetary and financial transactions in business statement Trading and P&L
- CO2: To cultivate right approach towards classifications of different transactions and their implications
- CO3: To develop proficiency preparation of basic financial as to how to write basis accounting

CA-203 Business Mathematics

- CO1: To understand role and importance of mathematics in varoius business situations and while developing software
- CO2: To develop skills related with basic mathematical technique.

CA-204 Relational Database Management System

- CO1.Enables students to understand relational database concepts and transaction management concepts in database system.
- CO2.Enables student to write PL/SQL programs that use: procedure, function, package, cursor and trigger.
- CO3. Enables to integrate database with the programming language
- CO4. Enable students to work with real world problem in practical session
- CO5.learn handling database with varieties of practical problem
- CO6.to learn concept of database transaction with various example

CA-205 Web Technology (HTML-JSS-CSS)

- CO1: Learn client and server, HTTP, FTP, IP protocols, WWW, Response and Request mechanism.
- CO2: Using All html tags create webpage
- CO3: Using CSS how make attractive web page.
- CO4: Come to know how to develop dynamic web site using client side Javascript

CO5: Students can design and deploy web sites.

207 Advance C Programming

- CO1. Students study advanced concepts of programming using the 'C' language.
- CO2. Students understand code organization with complex data types and structures.
- CO3. Students work with files.
- CO4. Students understand concept of Graphics.

SYBBA(CA)

CA-301 Digital Marketing

- CO1. Students give knowledge about using digital marketing in and as business.
- CO2. Students make SWOT analysis, SEO optimization and use of various digital marketing tools.
- CO3. Students Analyse the confluence of marketing, operations, and human resources in real-time delivery.
- CO4. Students explain emerging trends in digital marketing and critically assess the use of digital marketing tools by applying relevant marketing theories and frameworks.
- CO5. Students investigate and evaluate issues in adapting to globalised markets that are constantly changing and increasingly networked.
- CO6. Students interpret the traditional marketing mix within the context of a changing and extended range of digital strategies and tactics.

CA-302 Data Structure

- CO1: Students are able to understand the Basic Concept and Introduction to Data Structure
- CO2: Students are able to understand the different concept of Data Structure
- CO3: Have a good understanding of link list, queue, stack, tree and graph
- CO4: Students can efficiently implement solution for different problems
- CO5: Got more knowledge on C programming language
- CO6: Students are able develop a application software

CA-303 Software Engineering

- CO1. To understand System concepts.
- CO2. Students understand Software Engineering concepts.
- CO3. Students understand the applications of Software Engineering concepts and Design in Software development
- CO4. Students decompose the given project in various phases of a lifecycle.

- CO5. Students will be able to choose appropriate process model depending on the user requirements.
- CO6. Students will be able perform various life cycle activities like Analysis, Design, Implementation, Testing and Maintenance.

CA-304 (Option)

Subject: Angular - JS

- CO1: By the end of this course, the students should be able to Understand Client Side MVC and SPA
- CO2: Explore AngularJS Component
- CO3: Develop an AngularJS Single Page Application
- CO4: Create and bind controllers with Javascript
- CO5: Apply filter in AngularJS application

CA-305 BigData

- CO1. To enable learners to develop expert knowledge and analytical skills in current and developing areas of analysis statistics, and machine learning
- CO2. To enable the learner to identify, develop and apply detailed analytical, creative, problem-solving skills.
- CO3. Provide the learner with a comprehensive platform for career development, innovation and further study.
- CO4. To provide different types of digital data structure of real world
- CO5. To enable learners various Data Manipulation, Data Visualization, Data Analysis tools
- CO6. To provide various application oriented statistical concepts like Populations and samples Statistical Modeling, Probability

CA-305 Block Chain

- CO1: Students are able to understand current concern about our impact on the environment
- CO2: Got more knowledge on how to securely interact with them,
- CO3: Have a good understanding of use case for a Blockchain application
- CO4: Students can efficiently implement, Integrate ideas from blockchain technology into their own projects.
- CO5: Student will create own Blockchain network application
- CO6: Students are able to understand Design, build, and deploy smart contracts and distributed applications,

307. Environment Awareness

- CO1: Students are able to understand current concern about our impact on the environment
- CO2: Got more knowledge on the things they do affect the environment.
- CO3: Promote green practices at home and at work.
- CO4: Students can efficiently implement solution to develop conscious towards a cleaner and better managed environment
- CO5: Students can provide opportunities to acquire the knowledge, values, attitudes, commitment, and skills needed to protect and improve the environment
- CO6: Describe what is being done and what we all can do to help prevent harm to the environment.

CA-401 Computer Networking

- CO1: Able to understand networking types
- CO2: Come to know the protocols used in networking
- CO3: Get the knowledge how to assign IP addresses
- CO4: Identify which type of media is to be used.
- CO5: Compare different access techniques, channelization and Ethernet standards
- CO6: Able to Compare different types of network connectivity devices and usage of it.
- CO7: Come to know how internet works and
- CO8: Students analyses how network security is provided using different devices, software's and cryptography

CA-402 Object Oriented through C++

- CO1: Differentiate various programming paradigms and apply basic concepts of OOP.
- CO2: Identify classes, objects, methods, and handle object creation, initialization, and destruction to model real-world problems
- CO3: Identify relationship among objects using inheritance and polymorphism
- CO4: Handle different types of exceptions and perform generic programming.
- CO5: Use file handling for real world application.
- CO6: Apply appropriate design patterns to provide object-oriented solutions.

CA-403 Operating System

- CO1: Students come to know different OS structures and services of OS.
- CO2: Able to use System services related to different services in building applications.
- CO3: Students can create process and perform different operations on it.

- CO4: Can effectively use different process scheduling algorithms as per the need in application
- CO5: Using synchronization and deadlock concept while developing applications
- CO6: Students come to know how operating system allocate memory while creating file.
- CO7: Able to understand how data gets read from the disk and using interfaces for the memory storage devices

CA-404 Node Js

- CO1- Students will develop Analytical / Logical Thinking and Problem-Solving capabilities
- CO2- Students will understand how to develop web applications
- CO3-Students will know the concept of server-side scripting
- CO4- Students will know the concept of Javascript
- CO5-Students will be able to develop simple programs in Node Js
- CO6-Students will understand concept of file management in NodeJs

CA-404 Advanced PHP

- CO1. Understand how server-side programming works on the web.
- CO2. Using PHP built-in functions and creating custom functions
- CO3. Understanding POST and GET in form submission.
- CO4. How to receive and process form submission data.
- CO5. Read and process data in a MySQL database.
- CO6. Enable learners to practical web-based application using database.

CA-407 J Query

- CO1. Students get hands-on experience on JavaScript and jQuery.
- CO2. Students learn how to work with binding events to the controls in JavaScript.
- CO3. Students learn how to download jQuery library and refer it to the Html page.
- CO4. Students learn Traversing of Html elements.
- CO5. Students learn handling different events for different Controls.
- CO6. Students learn how to provide effects to the elements or sections in the Html page.
- CO7. Students learn manipulating elements by adding CSS classes dynamically, by inserting Elements.

TYBBA(CA)

CA-501 Cyber Security

CO1.To understand the fundamentals of cyber security.

- CO2. To understand various categories of Cybercrime.
- CO3.To understand, Cyber-attacks on mobile, tools.
- CO4. To have an overview of the Cyber laws and concepts of Cyber forensics.
- CO5. To understand and techniques used in Cybercrime and case studies.

CA-502: Object Oriented Software Engineering

- CO1. To Understand concept of system design using UML.
- CO2. To understand system development through object-oriented techniques.
- CO3. Get acknowledged with UML and its Conceptual Model.
- CO4. Awareness about Class Diagrams, Object Diagram, Packages.
- CO5. Understanding requirements, Acquire introduction about 4 phases of RUP.
- CO6. Awareness about different types of UML diagram like Class Diagrams, Object Diagram, Packages.

CA-503: Core Java

- CO1-To learn the basic concept of Java Programming.
- CO2-To understand how to use programming in day-to-day applications.
- CO3-Able to solve real world problems using OOP techniques.
- CO4.-Able to understand the use of abstract classes.
- CO5-Able to solve problems using java collection framework and I/o classes.
- CO6-Able to develop multithreaded applications with synchronization.
- CO7-Able to develop applets for web applications
- CO8-Able to design GUI based applications

CA- 504 Subject: Python

- CO1: Define and demonstrate the use of built-in data structures "lists" and "dictionary".
- CO2:. Design and implement a program to solve a real-world problem.
- CO3. Design and implement a program to solve a real-world problem.

CA-507 Subject: Internet of Things (IoT)

- CO1. To understand technical aspects of Internet of things.
- CO2. To describe smart objects and IoT Architecture.
- CO3. To study and compare different Application protocols of IoT.
- CO4. To understand IoT platform using Arduino Uno.

CA-601 Subject: Recent Trends in IT

CO1. To understand upcoming trends in Information technology.

- CO2. To study Eco friendly software development concepts.
- CO3. To provide a strong foundation of fundamental concepts in Artificial Intelligence.
- CO4. To evaluate the performance of various data mining task.
- CO5. To understand Data analytics using Spark Programming.

CA-602: Software Testing

- CO1. Students understand how to test bugs in software.
- CO2. Students learn to apply software testing knowledge and engineering methods
- CO3. Students understand and identify various software testing problems, and solve these problems by designing and selecting software test models, criteria, strategies, and methods
- CO4. Students analyze and understand the use of software testing methods and modern software testing tools for their testing projects
- CO5. Students identify defects and manage those defects for improvement in quality for given Software
- CO6. Students learn to design SQA activities, SQA strategy, formal technical review report for software quality control and assurance.

CA-603: Advanced Java

- CO1-Students will able to develop programming logic
- CO2-Students will know the concepts of JDBC Programming.
- CO3-Students will know the concepts of Multithreading and Socket Programming.
- CO4-Students will know the concepts Networking
- CO5-Students will develop the project by using JSP and JDBC.
- CO6-Students will know concept of Remote method invocation

CA 604 Dot Net Framework

- CO1. To understand the fundamentals of Dot Net Framework
- CO2. To develop applications using windows application.
- CO3. Demonstrate their skills of using Vb.net software development tools.
- CO4. The student will learn to create web application.
- CO5. To develop built and create and consume libraries, work with the database to store data locally.
- CO6. To develop the website and application

CA-604 Android Programming

- CO1. To understand the fundamentals of Android operating systems.
- CO2. To develop applications using Google's Android open-source platform.

- CO3. Demonstrate their skills of using Android software development tools.
- CO4. The student will learn the basics of Android platform and get to understand the application lifecycle.
- CO5. To develop built-in widgets and components, work with the database to store data locally.
- CO6. To understand the fundamentals location-based services and Google map.