

**Krishnasamy College of Science, Arts & Management for Women, Cuddalore.**

**213 - BACHELOR OF COMPUTER APPLICATIONS (BCA)**

**(Applicable to the candidates admitted in Affiliated Colleges Under CBCS )**

### **Programme Outcome**

- ❖ The objective is to motivate the students in emerging technologies and acquire knowledge in various domains.
- ❖ Career options after BCA the students can apply the optical & practical tools /techniques as Computer programmer ,Computer system analyst, System administrator, Computer support service specialist, higher studies like MCA, Projects in IT Companies.
- ❖ As software developers for designing, installing, testing & maintenance of software.
- ❖ Technical writer/Developers.
- ❖ Web Designer.

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**213 - BACHELOR OF COMPUTER APPLICATIONS (BCA)**

**Under CBCS**

**(Applicable to the candidates admitted in Affiliated Colleges  
in the academic year 2022 -2023 ONLY)**

**Course Objectives and Course Outcome**

**Subject Code & Subject Title: 22UBCAC13 & PROGRAMMING IN C**

**COURSE OBJECTIVES**

- 1) To understand simple algorithms
- 2) To understand language constructs
- 3) To understand and develop programming skills in C.
- 4) To understand the basic concepts of decision making and looping statements.
- 5) To understand the concepts of arrays, structures, union, pointers and files.

**COURSE OUTCOMES**

- 1) The Student will be able to understand the concepts of Constants, Variables, and Data Types, Operators and Expressions
- 2) The Student will be able to understand the concepts of Managing Input and Output Operations, Decision Making and Branching, Decision Making and Looping.
- 3) The Student will be able to understand the concepts of Arrays, Character Arrays and Strings, User Defined Functions.
- 4) The Student will be able to understand the concepts of Structure and Unions, Pointers, File Management in C.
- 5) The Student will be able to understand the concepts of Fundamental Algorithms, Factoring Methods.

**Subject Code & Subject Title: 22UBCAC14 & DIGITAL COMPUTER  
FUNDAMENTALS**

**COURSE OBJECTIVES**

- 1) Develop an understanding of digital circuit design and analysis.
- 2) Learn design techniques for working with digital electronic devices, and their application to solving problems.
- 3) Learn analysis skills to effectively report on the design, analysis and data of projects so that others can understand their methodology and results.
- 4) Become familiar with digital design, analysis and simulation tools.
- 5) Develop effective written communication skills using various media tools.

## **COURSE OUTCOMES**

After completing the Course successfully, the student will be able to

- 1) Identify the logic gates and their functionality.
- 2) Perform number conversions from one system to another system.
- 3) Design basic electronic circuits (combinational circuits).
- 4) Perform a comparative analysis of the components of different memory Units.
- 5) Perform number conversions.

## **Subject Code & Subject Title: 22UBCACP15 & PROGRAMMING IN C LAB**

### **COURSE OBJECTIVES**

- 1) Apply the specification of syntax rules for numerical constants and variables, data types.
- 2) Usage of Arithmetic operator, Conditional operator, logical operator and relational operators and other C constructs.
- 3) Write C programs using decision making, branching, looping constructs
- 4) Apply and Write C programs to implement one dimensional and two dimensional arrays
- 5) Writing programs using functions

## **COURSE OUTCOMES**

- 1) Read, understand and trace the execution of programs written in C language.
- 2) Write the C code for a given algorithm.
- 3) Implement Programs with pointers and arrays, perform pointer arithmetic, and use the pre-processor.
- 4) Write programs that perform operations using derived data types.
- 5) Know concepts in problem solving

## **Subject Code & Subject Title: 22UMFOA01 & MATHEMATICAL FOUNDATIONS**

### **COURSE OBJECTIVES:**

To learn how to apply fundamental mathematical tools and techniques used in most fields of science and mathematics.

## **Subject Code & Subject Title: 22UBCAC23 & C++ AND DATA STRUCTURES**

### **COURSE OBJECTIVES**

- 1) To Understand the Principles of Object Oriented Programming
- 2) To understand the concepts of Classes and Objects
- 3) To Understand the Concepts of Inheritance

- 4) To Understand the Concepts of Data Structures
- 5) To Understand in developing C++ programs

### **COURSE OUTCOMES**

- 1) To learn the basic concepts Object oriented programming.
- 2) To learn the control structures and arrays.
- 3) To implementing the constructors & File opening and closing.
- 4) To learn the fundamentals of stack & Queue operations.
- 5) To learn the concepts of graphs, sorting & searching methods.

### **Subject Code & Subject Title: 22UBCAP24 & C++ & DATA STRUCTURE LAB**

### **COURSE OBJECTIVES**

1. To Impart Practical Training in C++ Programming Language

### **Subject Code & Subject Title: 22UBCACE26-3 & INTERNET AND ITS APPLICATIONS**

### **COURSE OBJECTIVES**

- 1) Illustrate basic concepts of Internet.
- 2) Understand Apply the necessary of Internet Explorer.
- 3) Analyze, design and implement Email system.
- 4) Demonstrate the Hyper Text Markup languages
- 5) To learn the E-marketing & its usage.

### **COURSE OUTCOMES**

- 1) Explain basic usages of internet and its applications.
- 2) Define and demonstrate the use of Web Browsers.
- 3) To Explain the E-Mail applications.
- 4) To demonstrate the HTML & its tags.
- 5) To Know the E-Marketing and its advertisements.

### **Subject Code & Subject Title: 22USMAA02 & STATISTICAL METHODS AND THEIR APPLICATIONS**

### **COURSE OBJECTIVES**

- 1) To know about statistics
- 2) To know about measures of central tendencies and dispersion
- 3) To know about correlation and regression
- 4) To know the concept of probability and distribution
- 5) To apply test of significance

## **COURSE OUTCOMES**

- 1) Understand the various concepts of statistics.
- 2) know about measures of central tendencies and dispersion
- 3) know the concept of correlation and regression
- 4) apply the concept of probability distribution
- 5) test the population parametric value

## **Subject Code & subject Title: 22UBCAC33 & JAVA PROGRAMMING**

### **COURSE OBJECTIVES**

- 1) Knowing about a General-purpose and Purely object-oriented programming language including data types.
- 2) To know the control statements
- 3) To know the concepts of classes
- 4) Secured, well-suited for internet programming using applets
- 5) To understand the concept of GUI-based techniques.

### **COURSE OUTCOMES**

After completing the Course successfully, the student will be able to

- 1) Explain basic principles of Java programming language
- 2) Define and demonstrate the use of built-in data structures “lists” and “dictionary”.
- 3) Design and implement a program to solve a real world problem.
- 4) Design and implement GUI application and how to handle exceptions and files.
- 5) Make database connectivity in Java programming language.

## **Subject Code & subject Title:22UCOMA19 & FINANCIAL ACCOUNTING - I**

### **COURSE OBJECTIVES**

- 1) To understand the basic Principles and practical Applications of Accounting
- 2) To have practical knowledge in the preparation of Double Entry System
- 3) To acquire knowledge about Depreciation accounting
- 4) To gain expertise in preparation of Bank Reconciliation Statement.
- 5) To draft the Final Accounts as per the Accounting Standards

### **COURSE OUTCOMES**

- 1) Explain basic principles of Accounting

- 2) Define and demonstrate the use of subsidiary books
- 3) Design and implement a Bank Reconciliation Statement.
- 4) Design and implement depreciation Accounting.
- 5) To design the Manufacturing account.

**Subject Code & subject Title: 22UBCAE35-1 MANAGEMENT INFORMATION SYSTEM**

**COURSE OBJECTIVES**

- 1) To understand the basic concepts of Information systems.
- 2) To Understand the concept of Information system types
- 3) To learn how to implement system planning & support.
- 4) To Explain the various types of systems .
- 5) To understand the concept of maintenance of MIS.

**COURSE OUTCOMES**

- 1) To learn the Management Information systems.
- 2) To learn about the information system types.
- 3) To learn about the analysis & planning of system.
- 4) To learn about the various systems.
- 5) To learn about the needs & maintenance of MIS.

**Subject Code & subject Title: 22UBCAC43 & PYTHON PROGRAMMING**

**COURSE OBJECTIVES**

- 1) Illustrate basic concepts of python programming.
- 2) Understand Apply the necessary data structures includes list, tuple and dictionary in the required fields and exception handling.
- 3) Analyze, design and implement the problems using OOP concepts.
- 4) Demonstrate the simple file operations and data manipulation techniques.
- 5) Design web site using python GUI.

**COURSE OUTCOMES**

- 1) Explain basic principles of Python programming language
- 2) Define and demonstrate the use of built-in data structures “lists” and “dictionary”.
- 3) Design and implement a program to solve a real world problem.
- 4) Design and implement GUI application and how to handle exceptions and files.
- 5) Make database connectivity in python programming language.

**Subject Code & subject Title: 22UBCAC44 & ARTIFICIAL INTELLIGENCE**

### **COURSE OBJECTIVES**

- 1) To impart knowledge about Artificial Intelligence.
- 2) Understood the system Artificial intelligence, Knowledge acquisition and representation, Reasoning, Uncertainty, Search techniques
- 3) Understood the AI Technologies, Expert systems, Natural networks.
- 4) To give understanding of the main abstractions and reasoning for intelligent systems.
- 5) To understand the basic principles of AI in various Applications.

### **COURSE OUTCOMES**

- 1) Solve basic AI based problems.
- 2) Define the concept of Artificial Intelligence.
- 3) Apply AI techniques to real-world problems to develop intelligent systems.
- 4) Select appropriately from a range of techniques when implementing intelligent systems.
- 5) Understand concept of neural Networks.

### **Subject Code & subject Title: 22UCOMA20 & FINANCIAL ACCOUNTING - II**

### **COURSE OBJECTIVES**

- 1) To promote knowledge about calculation of Average Due date.
- 2) To understand the branch accounts and its types.
- 3) To have practical knowledge in the preparation departmental accounting.
- 4) To acquire practical knowledge in Partnership accounts – Admission.
- 5) To enrich the understanding about Partnership accounts – Retirement and Death of a partner.

### **COURSE OUTCOMES**

- 1) Understand the concept and gain the knowledge on Average Due Date.
- 2) Be familiar with the nuances of different systems of accounting
- 3) followed for Branches.
- 4) Acquire the Knowledge about Departmental Accounts.
- 5) Be acquainted with the accounting treatments required for admission of
- 6) partners in Partnership firms.
- 7) Understand the accounting procedures involved in the retirement and death of partners in Partnership firms

### **Subject Code & subject Title: 22UBCAS46 & INTERNET OF THINGS**

### **COURSE OBJECTIVES**

- 1) To learn about the basics of IOT protocols
- 2) To understand the fundamentals of Internet of Things
- 3) To build a small low cost embedded system using Raspberry Pi.
- 4) To apply the concept of Internet of Things in the real world scenario.
- 5) To understand the real world application concepts.

### **COURSE OUTCOMES**

After completing the Course successfully, the student will be able to

- 1) Analyze various protocols for IoT
- 2) Develop web services to access/control IoT devices.
- 3) Design a portable IoT using Raspberry Pi
- 4) Deploy an IoT application and connect to the cloud.
- 5) Analyze applications of IoT in real time scenario.

### **Subject Code and Title: 22UBCAC51 and RDBMS**

### **COURSE OBJECTIVES**

- 1) Students are able to understand database concepts and ER model.
- 2) The students are able to understand the relational data model.
- 3) Students are able to know about relational database design concepts.
- 4) Knowledge about file structure and organization.
- 5) The students are able to write PL/SQL commands to create tables, insert/update/delete data, and query data in a relational DBMS.

### **COURSE OUTCOMES**

After completing the Course successfully, the student will be able to

- 1) 1.Describe the database architecture and the ER diagram for real world applications.
- 2) Knowledge about the relational algebra and calculus.
- 3) Knowledge about the normalization forms.
- 4) Explain the storage and accessing of data.
- 5) Programming skills in SQL and PL/SQL.

### **Subject Code and Title: 22UBCAC52: OPERATING SYSTEM**

## **COURSE OBJECTIVES**

- 1) Enable the student to understand the basics of OS, structure and functions of operating systems.
- 2) The students are able to understand the principles of scheduler, scheduler algorithms and Deadlock.
- 3) Enable the student to learn various memory management schemes.
- 4) Enable the student to study File system and Mass Storage Structure.
- 5) Knowledge about UNIX system.

## **COURSE OUTCOMES**

After completing the Course successfully, the student will be able to

- 1) Knowledge in basics of OS.
- 2) Knowledge pertaining about scheduling algorithms and deadlock.
- 3) Knowledge in memory management.
- 4) Explore in file concepts.
- 5) Knowledge in UNIX OS.

## **Subject Code and Title: 22UBCAC53: SOFTWARE ENGINEERING**

### **COURSE OBJECTIVES**

- 1) Enable the students to learn basic concepts of software process models.
- 2) Give knowledge about requirements in engineering and estimation.
- 3) Enables to understand software analysis and design.
- 4) To impart knowledge on testing and debugging.
- 5) Enable to understand software quality maintenance.

### **COURSE OUTCOMES**

After completing the Course successfully, the student will be able to

- 1) Knowledge pertaining about process models.
- 2) Knowledge in requirements functionalities.
- 3) Knowledge pertaining in various analysis models.
- 4) Knowledge to test software.
- 5) Knowledge pertaining in quality and maintenance in project development.

## **Subject Code and Title: 22UBCAC54: MOBILE COMPUTING**

### **COURSE OBJECTIVES**

- 1) Students are able to understand various types of wireless data networks and wireless protocols.

- 2) To understand basic concepts of mobile telecommunication system.
- 3) To understand the basics of wireless mobile computing.
- 4) Knowledge about wireless LAN and cellular systems.
- 5) Enable to understand application and transport layers.

### **COURSE OUTCOMES**

After completing the Course successfully, the student will be able to

- 1) Knowledge in wireless fundamental concepts.
- 2) Knowledge in telecommunication protocols.
- 3) Knowledge pertaining in wireless devices.
- 4) Capability to understand network layer functionalities.
- 5) Knowledge in TCP and WAP.

### **Subject Code and Title: 22UBCAE58-1: OBJECT ORIENTED ANALYSIS & DESIGN**

### **COURSE OBJECTIVES**

- 1) To learn the basics of object oriented analysis and design skills.
- 2) Knowledge about the UML and use case modeling.
- 3) Learn various modeling techniques.
- 4) Enable to know classes and its functionalities.
- 5) To learn about various structural patterns.

### **COURSE OUTCOMES**

After completing the Course successfully, the student will be able to

- 1) Knowledge in object model.
- 2) Knowledge in UML concepts.
- 3) Knowledge pertaining in various behavioral modeling.
- 4) Knowledge in class, objects and implementation.
- 5) Knowledge in structural diagrams.

### **Subject Code and Title: 22UBCAE58-1: 22UBCAE58-2: CRYPTOGRAPHY**

### **COURSE OBJECTIVES**

- 1) Enable students to understand various Security Concepts.

- 2) To know about various cryptographic operations.
- 3) Knowledge about public key cryptography.
- 4) Understand the various Authentication schemes.
- 5) To know about security protocols.

### **COURSE OUTCOMES**

After completing the Course successfully, the student will be able to

- 1) Knowledge in security concepts.
- 2) Explore knowledge in chipper and Data Encryption Standard.
- 3) Pertaining Knowledge in Public Key Cryptosystems and RSA.
- 4) Knowledge in hash algorithms.
- 5) Knowledge in Security concepts and protocols.

### **Subject Code and Title: 22UBCAE58-3: NETWORK SECURITY**

### **COURSE OBJECTIVES**

- 1) To enable knowledge in basics of network fundamentals.
- 2) Enable students to understand various Security Concepts.
- 3) To know about security structure and models.
- 4) Knowledge about VPN.
- 5) Understand the various concepts about WAP architecture.

### **COURSE OUTCOMES**

After completing the Course successfully, the student will be able to

- 1) Knowledge in security principles and policy.
- 2) Explore knowledge in Access controls and malicious software.
- 3) Pertaining Knowledge in Security infrastructure.
- 4) Knowledge in IDS.

### **Subject Code and Title: DATA COMMUNICATION NETWORKS**

### **COURSE OBJECTIVES**

- 1) To equip students to basics of Data Communication and prepare them for better computer networking.
- 2) Enable to know data link layer and wireless concepts.
- 3) Knowledge about network layer and its functions.
- 4) Impact knowledge about transport layer and USD.

- 5) To learn about application layer.

### **COURSE OUTCOMES**

After completing the Course successfully, the student will be able to

- 1) Explore knowledge in network architecture
- 2) Inhibit knowledge in Wireless protocols.
- 3) Explore functions of network layer.
- 4) Explore various protocols in transport layer.
- 5) Explore knowledge in DNS and network security.

### **Subject Code and Title: PHP PROGRAMMING**

#### **COURSE OBJECTIVES**

- 1) To understand the basic concepts of PHP and its essentials.
- 2) Understand how to create functions, web pages and how to implement PHP programs.
- 3) To learn how to implement PHP programs using object oriented programming concepts.
- 4) Explain Files, databases, session, cookies and File transfer Protocols.
- 5) Helps in implementing some features of AJAX in PHP programming.

### **COURSE OUTCOMES**

After completing the Course successfully, the student will be able to

- 1) Learn about the PHP fundamentals and problem solving
- 2) Understand the basic concepts of web page creations.
- 3) Describe the reason why different tags are used in PHP programs.
- 4) Demonstrate the concepts of Session and Cookies.
- 5) Develop the PHP program using AJAX server.

### **Subject Code and Title: ASP.NET**

#### **COURSE OBJECTIVES**

- 1) To understand the basic concepts of .NET framework and its controls.
- 2) Understand how to form and how to implement validation control in .NET programs.
- 3) To learn how to implement ADO .NET programs using Database Connections.
- 4) Explain databases, Grid controls using the web forms.

- 5) Helps in implementing some features of XML in Application programming.

### **COURSE OUTCOMES**

After completing the Course successfully, the student will be able to

- 1) Learn about the .NET fundamentals and its structures.
- 2) Understand the basic concepts of Form creations.
- 3) Describe the reason why database connections are used in .NET programs.
- 4) Demonstrate the concepts of Databases and grid controls.
- 5) Develop the .NET program using XML and web services.

### **Subject Code and Title: CLOUD COMPUTING**

#### **COURSE OBJECTIVES**

- 1) To understand the basic concepts of cloud and its storage.
- 2) Understand the types of cloud and its services
- 3) To learn how to implement cloud architecture using cloud commUNITY.
- 4) Explain the concepts of Map Reduce and Hadoop and its architecture.
- 5) Helps in implementing some features of security of cloud and its applications.

#### **COURSE OUTCOMES**

After completing the Course successfully, the student will be able to

- 1) Learn about the cloud fundamentals and its architectures.
- 2) Understand the basic concepts of cloud types and its services.
- 3) Describe the reason why the usage of cloud and its security.
- 4) Demonstrate the concepts of MapReduce, Hadoop and google services.
- 5) Develop the Cloud applications using Google services.

### **Subject Code and Title: DATA MINING**

#### **COURSE OBJECTIVES**

- 1) To understand about the basics of Data Mining and Data.
- 2) To understand about the methods of Data Warehousing
- 3) To understand about the techniques of Data Mining.
- 4) To understand about the importance of Cluster and outlier detection
- 5) To improve the student's knowledge with recent trends and tools

#### **COURSE OUTCOMES**

After completing the Course successfully, the student will be able to

- 1) Learn about the data fundamentals and its mining technologies.
- 2) Understand the basic concepts of data warehouse and its methods.
- 3) Describe the patterns and its techniques, classification methods.
- 4) Demonstrate the concepts of Clustering and outlier approaches.
- 5) Develop the recent trends and its Tools.

**Subject Code and Title: DIGITAL IMAGE PROCESSING**

**COURSE OBJECTIVES**

- 1) To know the basics of Digital image and techniques.
- 2) To understand various Image enhancement ideas
- 3) To understand Image restoration techniques.
- 4) To understand degrees of image resolution and compression methods
- 5) To understand the concepts of image representation and recognition.

**COURSE OUTCOMES**

After completing the Course successfully, the student will be able to

- 1) Learn about the fundamentals of images.
- 2) Understand the basic concepts of image enhancements.
- 3) Describe the concepts of image restoration and segmentation.
- 4) Demonstrate the concepts of Wavelets and compression methods.
- 5) Develop the pattern recognition and fuzzy systems.

**Subject Code and Title: INFORMATION SECURITY**

**COURSE OBJECTIVES**

- 1) To understand the basic concepts of Information Security.
- 2) To understand the legal, ethical and professional issues in Information Security
- 3) To know about risk management
- 4) To understand the technological aspect of information security.
- 5) To understand the concepts of cryptography and hacking methods.

**COURSE OUTCOMES**

After completing the Course successfully, the student will be able to

- 1) Learn about the fundamentals of security and its components.
- 2) Understand the basic concepts of Laws and ethics.
- 3) Describe the concepts of risk management and its strategy

- 4) Demonstrate the concepts of firewalls and its tools.
- 5) Develop the cryptographic algorithms and hacking methods.

**Subject Code and Title: SOFTWARE PROJECT MANAGEMENT**

**COURSE OBJECTIVES**

- 1) To understand the basic concepts of project and its development.
- 2) To understand the models and planning of project management.
- 3) To know about tasks and activities for project.
- 4) To understand the technological aspect of project management.
- 5) To understand the concepts of Quality assurance and configurations.

**COURSE OUTCOMES**

After completing the Course successfully, the student will be able to

- 1) Learn about the fundamentals of project and its life cycle.
- 2) Understand the basic concepts of project planning and structures.
- 3) Describe the project task , activities and models
- 4) Demonstrate the project activities and scheduling.
- 5) Develop the quality guidelines and configuration principles.

**Subject Code and Title: BIG DATA ANALYTICS**

**COURSE OBJECTIVES**

- 1) To explore the fundamental concepts of big data analytics
- 2) To learn to use various techniques for mining data stream.
- 3) To learn the Big data Business Perspective
- 4) To understand the applications using Map Reduce Concepts
- 5) To introduce programming tools HIVE in Hadoop ecosystem

**COURSE OUTCOMES**

After completing the Course successfully, the student will be able to

- 1) Learn about the fundamentals of Big Data.
- 2) Understand the basic concepts of Streams.
- 3) Describe the big data perspective and its importance.
- 4) Demonstrate the concepts of Hadoop and MapReduce
- 5) Develop the Framework using Pig and Hive.