# MAZHARUL ULOOM COLLEGE, AMBUR

(Recognized by UGC under section 2f and 12B, Affiliated to Thiruvalluvar University, Vellore)

## DEPARTMENT OF COMPUTER APPLICATION

FOR AY 2020-21 ONWARDS

**Programme Objectives:**

1. To prepare students for careers in software industry.
2. Understanding and skills related to the use of computers and its application.
3. To impart quality computer education
4. To enhance logical computing and programming skills.
5. Identify, explain and apply fundamental structured programming techniques.

**Programme Educational Objectives:**

1. To impart advance knowledge about various sub-domains related to the field of computer applications.
2. To provide the strong character to uphold the spiritual and cultural values of our country to make students
acceptable to both industries and higher education.
3. Graduates will be capable of attaining higher position in their professional carrier, capable to do quality
research by strengthening their mathematical, scientific and basic engineering fundamentals.
4. Graduate will be capable of adopting the changing technologies, tools, and industrial environment.
6. Graduates will promote collaborative learning and spirit of team work through multidisciplinary projects
and diverse professional activities.

**Programme Specific Outcomes:**

1. An ability to enhance the application of knowledge of theory subjects in diverse fields.
2. Develop language proficiency to handle corporate communication demands.
Preparing students in various disciplines of technologies such as computer applications, computer networking, software engineering, JAVA, database concepts and programming.
4. In order to enhance programming skills of the young IT professionals, the concept of project development
in using the technologies learnt during the semester has been introduced.
5. To enhance knowledge in robotics, provide experimental hardware equipment for teaching the basics of
robotics, robot dynamics and control, and robot system design and application.
7. To enhance logical ability and programming concepts by implementing programming lab.
8. Preparing students for future aspects by building and improving their creativity, social awareness, and
general knowledge.
9. Encouraging students to convert their start-up idea to reality by implementing.
10. Ability to understand the changes or future trends in the field of computer application.
11. Ability to identify, formulate, analyse and solve problems of programming using different languages.

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**Programme Outcomes:**

1. Acquire skills and information not only about Computer and Information Technology but also in communication, organization and management.
2. Get to learn programming languages such as C, C++, HTML, SQL, DBMS, and Networking etc
3. Develop an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.
4. Ability to work in team and build leadership qualities.
5. Understand the professional, ethical, legal, security, and social issues and responsibilities in computing profession.
6. Will be able to choose appropriate techniques, skills, and tools necessary for Designing of correct models in the construction of software systems of varying complexity.
7. Recognition of the need for and ability to engage in continuing professional development.
8. Analyse impacts of computing on individuals, organizations, and society.
9. Will be well equipped with thorough knowledge of various softwares.
10. Design, implement, and evaluate a computational system to meet desired needs within realistic constraints.

for A. Anthony

**HEAD OF THE DEPARTMENT**

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## DEPARTMENT OF COMPUTER APPLICATION

**COURSE OUTCOMES**

| S.NO. | SEMESTER | COURSE NAME | Course Outcomes |
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| 01 | 1 | Programming in C | 1. After studied unit-1, the student will be able to understand the concepts of Constants, Variables, and Data Types, Operators and Expressions<br>2. After studied unit-2, the student will be able to understand the concepts of Managing Input and<br>Output Operations, Decision Making and Branching, Decision Making and Looping.<br>3. After studied unit-3, the student will be able to understand the concepts of Arrays, Character<br>Arrays and Strings, User Defined Functions.<br>4. After studied unit-4, the student will be able to understand the concepts of Structure and Unions,<br>Pointers, File Management in C.<br>5. After studied unit-5, the student will be able to understand the concepts of Fundamental Algorithms, Factoring Methods. |
| 02 | 2 | C++ & Data Structures | 1. After studied unit-1, the student will be able to understand the concepts of object oriented programming Apply structure and inline functions.<br>2. After studied unit-2, the student will be able to understand the concepts of the types of inheritances and Applying various levels of Inheritance for real time problems Apply the OOPs concepts class and object. Understand Explain the file concept and exception handlings in C++<br>3. After studied unit-3, the student will be able to understand the concepts of Stacks and Queue using array and pointers.<br>4. After studied unit-4, the student will be able to understand the concepts of Recursion, Binary Search Tree and graphs.<br>5. After studied unit-5, the student will be able to understand the concepts of Sorting and Searching Algorithms |

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| 03 | 3 | Programming in Java | CO1. After studied unit-1, the student will be able to know about the object-oriented concepts in java.<br>CO2. After studied unit-2, the student will be able to know about primitive data types and operators.<br>CO3. After studied unit-3, the student will be able towork with arrays,control structures and handling<br>exceptions.<br>CO4. After studied unit-4, the student will be able to work with files and packages.<br>CO5. After studied unit-5, the student will be able to know about Applets and GUI concepts. |
| 04 | 3 | E-Commerce | • CO1. After studied unit-1, the student will be able to demonstrate E-Commerce Frameworks. Distinguish<br>E-Commerce and media Convergence.<br>Illustrate E-Commerce Applications.<br>• CO2. After studied unit-2, the student will be able to describe the E-Commerce Networks and Research<br>Networks, Analyses the Internet Commercialization<br>• CO3. After studied unit-3, the student will be able to Evaluate the E-Commerce how incorporate the<br>Internet, Construct the Web Security.<br>• CO4. After studied unit-4, the student will be able to Distinguish the different payment system. Illustrate<br>the data interchange.<br>• CO5. After studied unit-5, the student will be able to Understanding the Advertising and Marketing on the<br>Internet, Describe Software Agents. |
| 05 | 3 | **Operations Research** | • CO1. After studied unit-1, The Student will be able to understand the concepts of optimization and to<br>formulate and Solve Linear Programming problems.<br>• CO2. After studied unit-2, The Student will be able to understand the concepts of Transportation problem<br>and Assignment problem.<br>• CO3. After studied unit-3, The Student will be able to understand the concepts of |

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| | | | sequencing problem.<br>• CO4. After studied unit-4, The Student will be able to understand the concepts of PERT-CPM and their applications in product planning control.<br>• CO5. After studied unit-5, The Student will be able to understand the concepts of Solve the Minimal Spanning Tree Problem, Shortest Route Problem, Maximal Flow Problem and Minimal Cost Capacitated Flow Problem. |
| 06 | 3 | **Web Technology** | • CO1. After studied unit-1, The Student will be able to understand the concepts of HTML.<br>• CO2. After studied unit-2, The Student will be able to understand the concepts of java scripts.<br>• CO3. After studied unit-3, The Student will be able to understand the concepts of user defined functions.<br>• CO4. After studied unit-4, The Student will be able to understand the concepts of Active Server Page.<br>• CO5. The student will be able to understand the concepts of – OLEDB connection class. |
| 07 | 4 | **Relational Database Management Systems** | 1. After studied unit-1, the student will be able to describe the database architecture and its applications Sketch the ER diagram for real world applications Uses various ER diagram for a similar concept from various sources<br>2. After studied unit-2, the student will be able to discuss about the relational algebra and calculus Construct various queries in SQL and PL/SQL Compiles various queries in SQL, Relational Calculus and Algebra.<br>3. After studied unit-3, the student will be able to describe the various normalization forms apply the normalization concepts for a table of data Practices a table and implement the normalization concepts.<br>4. After studied unit-4, the student will be able to explain the storage and accessing of data. |

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| | | | 5. After studied unit-5, the student will be able to illustrate the query processing in database management<br>and to define the concurrency control and deadlock concept. |
| 08 | 4 | **Enterprise Resource Planning** | 1. After studied unit-1, the student will be able to know to understand the functionalities of Enterprise<br>resource planning.<br>2. After studied unit-2, the student will be able to know to Understand Characterize the ERP implementation procedures.<br>3. After studied unit-3, the student will be able to work to understand the elements of ERP.<br>4. After studied unit-4, the student will be able to understand the available ERP packages.<br>5. After studied unit-5, the student will be able to know to understand the models of ERP with other related<br>technologies. |
| 09 | 4 | **Wireless data Communication** | • CO1. After studied unit-1, the student will be able to define computer networks, demonstrate the types of<br>networks, and distinguish topologies, Differentiate Transmission mode, Design OSI and TCP/IP Reference<br>model.<br>• CO2. After studied unit-2, the student will be able to Illustrate Transmission media, Analyse the wireless<br>media, Create the structure of Telephone system<br>• CO3. After studied unit-3, the student will be able to formulate framing control and flow control, Explain<br>error correcting codes and error detecting codes<br>• CO4. After studied unit-4, the student will be able to discuss store and forward switching network, Explain<br>Routing algorithm, and examine congestion control algorithm.<br>• CO5. After studied unit-5, the student will be able to know to summarize the elements of transport<br>protocol, Describe DNS, EMAIL, WWW. |

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| 10 | 4 | **INTERNET OF THINGS** | 1. After studied unit-1, the student will be able to know and analyze various protocols for IoT<br>2. After studied unit-2, the student will be able to develop web services to access/control IoT devices.<br>3. After studied unit-3, the student will be able to design a portable IoT using Rasperry Pi<br>4. After studied unit-4, the student will be able to deploy an IoT application and connect to the cloud.<br>5. After studied unit-5, the student will be able to analyze applications of IoT in real time scenario. |
| 11 | 5 | **Mobile Application Development** | 1. After studied unit-1, the student will be able to understand the basics of smart phones and android platforms.<br>2. After studied unit-2, the student will be able to understand the basic concepts of user interface related to app development.<br>3. After studied unit-3, the student will be able to understand the important of data persistence in mobile environment.<br>4. After studied unit-4, the student will be able to understand the various services and network facilities provided by android platform.<br>5. After studied unit-5, the student will be able to understand the various apps deployed and developed on by mobile platform. |
| 12 | 5 | **Operating System** | 1. After studied unit-1, the student will be able to understand the basics of smart phones and android platforms.<br>2. After studied unit-2, the student will be able to understand the basic concepts of user interface related to app development.<br>3. After studied unit-3, the student will be able to understand the important of data persistence in mobile environment.<br>4. After studied unit-4, the student will be able to understand the various services and network facilities provided by android platform. |

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| | | | 5. After studied unit-5, the student will be able to understand the various apps deployed and developed on by mobile platform. |
| 13 | 5 | **Design and Analysis of Algorithms** | 1. After studied unit-1, the student will be able to Understanding various algorithm design techniques.<br>2. After studied unit-2, the student will be able to understand the basis of efficient algorithms for all kinds of problems.<br>3. After studied unit-3, the student will be able to use simple approach which tries to find the best solution at every step.<br>4. After studied unit-4, the student will be able to providing a general insight into the dynamic programming approach.<br>5. After studied unit-5, the student will be able to understand the algorithm design paradigm for discrete and combinatorial optimization problems. |
| 14 | 5 | **Data Mining** | 1. After studied unit-1, the student will be able to understand about the basics of data mining and data.<br>2. After studied unit-2, the student will be able to understand about the methods of Data Warehousing<br>3. After studied unit-3, the student will be able to understand about the techniques of Data Mining<br>4. After studied unit-4, the student will be able to understand about the importance of Cluster and outlier detection<br>5. After studied unit-5, the student will be able to improve the student"s knowledge with recent trends and tools |
| 15 | 5 | **Information Security** | 1. After studied unit-1, the student will be able to understand the basic concepts of Information Security<br>2. After studied unit-2, the student will be able to understand the legal, ethical and professional issues in Information Security<br>3. After studied unit-3, the student will be able |

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| | | | to know about risk management<br>4. After studied unit-4, the student will be able to understand the technological aspects of Information Security<br>5. After studied unit-5, the student will be able to understand the concepts of Cryptography and Hacking methods |
| 16 | 5 | **Software Testing** | 1. After studied unit-1, the student will be able to understand the concept of software testing, and software quality<br>2. After studied unit-2, the student will be able to learn to inspect and detect errors by going through each and<br>every code segment<br>3. After studied unit-3, the student will be able to gain knowledge of various functional and structural testing<br>techniques<br>4. After studied unit-4, the student will be able to understand basic concept of Software Management tools and<br>object oriented testing<br>5. After studied unit-5, the student will be able to understand basic concept of Software quality and software<br>quality assuranc |
| 17 | 5 | **Software Engineering** | 1. After studied unit-1, the student will be able to the concepts and methods required for the construction of large<br>software intensive systems.<br>2. After studied unit-2, the student will be able to Gets the idea of choosing the Requirements in Software<br>Engineering.<br>3. After studied unit-3, the student will be able to Gives an understanding the concept of Data Engineering.<br>4. After studied unit-4, the student will be able to impart knowledge on Testing and Debugging.<br>5. After studied unit-5, the student will be able to enable the students to learn the basic of Project Management &<br>Scheduling. |
| 18 | 6 | **Open Source Software** | 1. After studied unit-1, the student will be able to understand the concept of HTML, HTML5 |

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| | | | and CSS.<br>2. After studied unit-2, the student will be able to learn to inspect and detect errors by going through each and every code segment.<br>3. After studied unit-3, the student will be able to understand basic concept of Java Script and MySQL.<br>4. After studied unit-4, the student will be able to understand basic concept of PHP<br>5. After studied unit-5, the student will be able to understand basic concept of PERL |
| 19 | 6 | **PYTHON Programming** | 1. After studied unit-1, the student will be able to understand the basic building blocks for creating PYTHON programming in details.<br>2. After studied unit-2, the student will be able to understand the control statements and basic methods used in PYTHON programming<br>3. After studied unit-3, the student will be able to understand the basic build in functions.<br>4. After studied unit-4, the student will be able to understand the some advanced methods to use in PYTHON<br>5. After studied unit-5, the student will be able to understand the concept of objects used in PYTHON |
| 20 | 6 | **Python Programming Lab** | 1. After studied unit-1, the student will be able to write a program using operators.<br>2. After studied unit-2, the student will be able to develop a program using loops.<br>3. After studied unit-3, the student will be able to implement program using Arrays.<br>4. After studied unit-4, the student will be able to implement the concept of String functions.<br>5. After studied unit-5, the student will be able to build application with basic expressions |
| 21 | 6 | **Big Data Analytics** | 1. After studied unit-1, the student will be able to understand the key issues in big data management.<br>2. After studied unit-2, the student will be able to outline big data planning, processing.<br>3. After studied unit-3, the student will be able to Acquire fundamental enabling techniques and scalable |

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| | | | 4. After studied unit-4, the student will be able to examine various big data tools and techniques.<br>5. After studied unit-5, the student will be able to achieve adequate perspectives of Big Data Analytics in various<br>Applications like recommender system, Social Media Applications and etc. |
| 22 | 6 | **Cryptography** | 1. After studied unit-1, the student will be able to know the security attacks and services.<br>2. After studied unit-2, the student will be able to understand the concept of Encryption Standards.<br>3. After studied unit-3, the student will be able to understand public key cryptographic algorithms.<br>4. After studied unit-4, the student will be able to learn the concept of hash functions.<br>5. After studied unit-5, the student will be able to understand the Email security. |
| 23 | 6 | **DIGITAL IMAGE PROCESSING** | 1. After studied unit-1, the student will be able to understand the concepts like Mat Lab, DIP, electromagnetic<br>spectrum and etc.<br>2. After studied unit-2, the student will be able to analyze smoothing and sharpening techniques.<br>3. After studied unit-3, the student will be able to know about image filters.<br>4. After studied unit-4, the student will be able to gain knowledge about compression techniques.<br>5. After studied unit-5, the student will be able to know about image representation. |
| 24 | 6 | **ARTIFICIAL INTELLIGENCE** | 1. After studied unit-1, the student will be able to recall the fundamentals of artificial intelligence<br>2. After studied unit-2, the student will be able to understand the techniques used for AI<br>3. After studied unit-3, the student will be able to know about knowledge representation.<br>4. After studied unit-4, the student will be |

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| | | | able to gain knowledge about fuzzy logic.<br>5. After studied unit-5, the student will be able to evaluate the design of new artificial intelligence and machine learning applications |
| 25 | 6 | **SYSTEM SOFTWARE** | 1. After studied unit-1, the student will be able to analyse CISC and RISC machines.<br>2. After studied unit-2, the student will be able to know how assemblers are working.<br>3. After studied unit-3, the student will be able to distinguish Linker and Loader.<br>4. After studied unit-4, the student will be able to learn macro processor.<br>5. After studied unit-5, the student will be able to understand the functions of compilers. |
| 26 | 6 | **MOBILE COMPUTING** | 1. After studied unit-1, the student will be able to understand basic concepts of mobile computing.<br>2. After studied unit-2, the student will be able to learn the basics of mobile telecommunication system<br>3. After studied unit-3, the student will be able to comprehend wireless LAN and cellular systems.<br>4. After studied unit-4, the student will be able to understand protocols at network and transport layer.<br>5. After studied unit-5, the student will be able to learn development of applications in mobile computing platform. |

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| 27 | 6 | **OBJECT ORIENTED ANALYSIS AND DESIGNED** | 1. After studied unit-1, the student will be able to understand UML analysis and design diagrams.<br>2. After studied unit-2, the student will be able to Apply appropriate object model and design patterns.<br>3. After studied unit-3, the student will be able to ccreate object code from design Patterns<br>4. After studied unit-4, the student will be able to design to code, Compare and contrast various testing techniques.<br>4. After studied unit-5, the student will be able to Design and implement projects using OO concepts. |

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