

CAUSSANEL COLLEGE OF ARTS AND SCIENCE

(Affiliated to Alagappa University, Karaikudi)

Accredited with 'A' Grade by NAAC

Recognized by UGC under 2(f) & 12(B)

Angelo Nagar, Muthupettai, RamanathapuramDist

Type of Graduation	Under Graduation
Programme Name	B.Sc Computer Science
Regulation (CBCS)	2019

Outcome of the Programme

1. Understand the principles and working of Computer System.
 2. Understand the role of components of System Software.
 3. Understand the principles and development methodologies of application software and acquire Problem Solving Skills.
 4. Study various algorithms in building the Software Products.
 5. Apply mathematical methods to solve Computation Problems.
1. Apply Software Development Life Cycle principles to build Software Products.
 2. Adapt the State-of-the-art technological changes.

3. Pursue higher studies in the Computer Science domain.
4. Become a Software Engineer to fulfill the IT industry requirements.
5. Design creative and dynamic Multimedia Content.
6. Understand the concepts and Applications in the field of computer Sciences like web designing and development, mobile application development, and network and communication Technologies.

Specific Outcome of the Programm

Semester	Subject Code	Subject Title	Outcome	Specific Outcome
I	7BCE1C1	PROGRAMMING IN C	This subject will enable the student to understand the concepts of C programming language and gain knowledge on algorithms, flowcharts and logical thinking.	<ol style="list-style-type: none"> i. Recognize the basic data types and control statements in C. ii. Summarize the concept of arrays and strings in C iii. To create efficient program using functions to implement reusability iv. Apply the structures in making application software v. Generate files and use preprocessor for real world application
			This course enables the student to gain knowledge in the basic principles	<ol style="list-style-type: none"> i. Identify the basic Programming skills.

I	7BCE1P1	PROGRAMMING IN C LAB	of programming concepts in C and to develop skills for writing program using 'C'.It also helps the student to build applications using C concepts and there by improve problem solving ability.	<ul style="list-style-type: none"> ii. Extend the skills to write C program and to solve different problems. iii. Carry out top down approach for implementing function iv. Utilize dynamic memory allocation concept in program. v. Generate file program for creating application software.
I	7BSOA1	FUNDAMENTALS OF COMPUTER	This course provides foundational understanding of Computer Hardware, Software, Operating System, and Peripherals along with how to get the most value and impact from Computer Technology.	<ul style="list-style-type: none"> i. Understand the basic operations of the computer ii. Discuss the process of the system iii. Classify the peripheral devices iv. Identify the process of programming Evaluated the security measures for protecting data
II	7BCE2C1	OBJECT ORIENTED PROGRAMMING WITH C++	This course aims at enabling students to understand the basic knowledge of object oriented programming concepts and to understand the idea of C++ streams, templates and error handling concepts. On completion of this course the student will be able to create application software with minimum complexity and more reusability.	<ul style="list-style-type: none"> i. Compare the procedural and object oriented paradigm. ii. Identify the solution for the problems by using OOP. iii. Apply the inheritance and polymorphism concept for developing application software. iv. . Develop programs using file concepts for real world software projects. v. Create robust applications using exception handling and

				templates.
II	7BCE2P1	OBJECT ORIENTED PROGRAMMING WITH C++ LAB	This course provides knowledge on Object Oriented Programming concept. By utilizing the lab components, the student can create application software.	<ul style="list-style-type: none"> i. Identify the problem solving ability by applying the characteristics of object oriented ii. Approach iii. Classify algorithms in object oriented approach for developing applications with minimum complexities. iv. Apply reusability concept in implementing inheritance for developing software application. v. . Build secured programs using data hiding features in OOP. vi. Create robust program using exception handling.
II	7BSOA2	DESKTOP PUBLISHING	Design Advertisements, Books, Business cards and other graphical oriented works using Corel Draw and Photoshop	<ul style="list-style-type: none"> i. Learn advanced tools in Corel Draw and Photoshop ii. Understand the basic features and operations of Corel Draw and Photoshop
III	7BCE3C1	DATA STRUCTURES AND COMPUTER ALGORITHMS	This course enables the student to build simple and complex data structures by applying Object Oriented concepts. It also enables them to develop algorithms and write programs using Structures, Stacks, Queues, Lists and Trees. On completion of this course the student will be able to develop real time application	<ul style="list-style-type: none"> i. Identify the storage mechanisms of data using Array and Stack. ii. Demonstrate the operation of Queue and Circular Queue using Array iii. Summarize the operations of single Linked list and double Linked list. iv. Apply traversal of Binary tree and Binary search tree in various applications.

				v. Analyze various sorting techniques to arrange data.
III	7BCE3P1	DATA STRUCTURES AND COMPUTER ALGORITHMS LAB (USING C AND C++)	The aim of the course is to enable the students to build simple and complex data structures. Students are trained to develop algorithms and writing programs for the user defined data types such as Structures, Stacks, Queues, Lists and Trees. Also this course gives an in depth knowledge on Sorting, & Searching	<ul style="list-style-type: none"> i. Acquire knowledge on implementation of array and stack to execute the instructions. ii. Understand the types and applications of queue data structure. iii. Implement linked list in real time problem solving. iv. Gain knowledge on various types of trees, tree traversals and variable length code generation. v. Develop real time algorithms to search and sort the data.
III	7BECA1	ANLOG AND DIGITAL ELECTRONICS	Most systems that interface to real-world signals, such as sound, light, temperature, and pressure use an analog interface to capture or transmit the information. digital circuits have the flexibility that can change the functionality of digital circuits by making changes in software instead of changing actual circuit.	<ul style="list-style-type: none"> i. Analog signals are much higher density, and can present more refined information ii. Digital signals can convey information with less noise, distortion, and Interference. iii. To understand the working resistor and capacitor. iv. To understand the electrical field with voltage and current. v. Design the logical gates and understand the number conversion.

III		ANLOG AND DIGITAL ELECTRONICS LAB	The aim of the course is to design the electrical circuits with resistor and capacitor with current and voltage.mainly understand the logical designs of circuits and gates.	<ul style="list-style-type: none"> i. Design the electrical circuits with resister and capacitors. ii. Knowledge about types of resistors and capacitors. iii. Experiment of electrical circuits. iv. Designing analog circuits. v. Understanding electrical current circuits
IV	7BCE4C1	JAVA PROGRAMMING	The objective of this course is to train the students to build software development skills using Java programming concepts in real world applications. This course helps to understand applet, swings, database interaction through JDBC and JSP. On completion of this course the student will be able to create interactive website.	<ul style="list-style-type: none"> i. Identify the various features of Object Oriented Programming. ii. Illustrate OOP concept using Java application programs. iii. Apply reusability using inheritance, interfaces and packages. iv. Constructs Java programs to implement error handling technique and to create application software using JDBC.Build dynamic web application using JSP v.
IV	7BCE4P1	JAVA PROGRAMMING LAB	The aim of this course is to enable the student to understand the fundamental techniques of java. It also helps them to use advanced concepts of java to build an application on their own.	<ul style="list-style-type: none"> i. Classify a simple application using Java programming. ii. . Develop robust program using Exception Handling. iii. Implement many application software and enhance problem solving ability. iv. Create client server application using JDBC.

				v. . Design a Dynamic web page using JSP.
IV	7BCEA2	MICROPROCESSOR	Learn importance of Microprocessors in designing real time applications. Develop interfacing to real world devices. Learn use of hardware & software tools.	<ul style="list-style-type: none"> i. To understand the applications of Microprocessors. ii. To understand need of Microprocessors in computer system. iii. To understand architecture and features of typical Microprocessors. iv. To learn interfacing of real world input and output devices. v. 5. To study various hardware & software tools for developing applications.
IV	7BCEAP1	ANALOG AND DIGITAL ELECTRONICS LAB AND MICRO PROCESSOR	Learn importance of Microprocessors 8086 in designing real time applications Develop interfacing to real world devices like LED displays, Keyboards, DAC/ADC, and various other devices. Learn use of hardware & software tools	<ul style="list-style-type: none"> i. To provide practical exposure to the students on microprocessors, design and coding knowledge on 80x86 family. ii. To give the knowledge and practical exposure on connectivity and execute of interfacing devices with 8086 kit like LED displays, Keyboards, DAC/ADC, and various other devices.
			This course will enable the student to have an overview on the components of the Operating systems. It will also provide	<ul style="list-style-type: none"> i. Identify the components of operating systems, process and threads. ii. Summarize the process

V	7BCE5C1	OPERATING SYSTEM	knowledge on the principles of deadlock, design issues related to processor scheduling, process management, storage management and file Management.	<p>management concept for the given situation.</p> <ul style="list-style-type: none"> iii. Relate the different memory management for the given situation. iv. Choose the page replacement algorithms and storage structure concepts v. Categorize the file structures, and I/O systems.
V	7BCE5C2	RELATIONAL DATABASE MANAGEMENT SYSTEM	This course helps the student acquire knowledge in Database Management Systems. It also helps them to understand the relational model and to familiarize the students with design tools. In completion of this course the student will be able to create and maintain the databases of their own.	<ul style="list-style-type: none"> i. Identify the database requirements and the entities involved in the applications ii. Apply relational expressions for queries. iii. Examine the database design by normalization. iv. Build a table and manipulate the data using SQL Commands v. Summarize the transactions, its properties and the concurrency controls.
V	7BCEE1B	WEB DESIGN	This course deals with web page designing by using the techniques in web designing. It contains HTML, Java Script, and XML. Students will be able to design their web pages and place them in the web.	<ul style="list-style-type: none"> i. Recognize about the basic concepts of Internet and its services ii. Understand the concepts of HTML and CSS iii. Analyzing the javascript statements. iv. Apply Javascript in the HTML pages and validating the forms v. Explain functional elements of DOM and XML.

V	7BCEE2A	DIGITAL PRINCIPLES AND COMPUTER ORGANIZATION	This course will enable the student to understand the fundamentals of digital principles, the basics of computer organization and gain knowledge on computer architecture and its design. This will also familiarize the student in the concepts of gates, Boolean Algebra, Processor and Memory.	<ul style="list-style-type: none"> i. Identify different types of number systems, Logic Gates, Boolean laws & theorems. ii. Formulate different theorems for simplification of basic digital electronics circuits and able to build arithmetic operations using logic circuits. iii. Carry out the basics of Flip-flop, shifts register, counters and Semiconductor memory for data Processing circuits. iv. Recognize the basic structure of computer and control unit operations. v. Extend the learning of memory organization.
V	7BCE5P1	ORACLE LAB	The Objective of this course is to train the student to create database using Oracle concepts. It also helps them to build database for real life application.	<ul style="list-style-type: none"> i. Develop database using SQL. ii. Examine queries in SQL to retrieve any type of information from a data base. iii. Classify various functions available in SQL iv. Construct programming structure using PL/SQL. v. Build programs using Cursor and Procedure.
			This course has an objective to impart the details about the building blocks of computer graphics algorithms for output primitives, filling, clipping, 2D and 3D transformation. It includes the principles of various graphics devices. On	<ul style="list-style-type: none"> i. Identify the CG applications and understand the working of different output ii. Systems (Raster and Random). iii. Generate lines, circle, and ellipse and fill polygons using different

VI	7BCE6C2	COMPUTER GRAPHICS	completion of this course the student will know the basics of multimedia programming.	<p>algorithms.</p> <ul style="list-style-type: none"> iv. Apply transformations to geometric figures. v. Illustrate 2D viewing and clipping concepts. vi. . Relate the previously learned concepts of viewing, transformations in 2D with 3D and apply them. vii.
VI	7BCE6C1	COMPUTER NETWORKS	This course will enable the student to understand the various issues in constructing networks and to perceive what is important in the architecture design of networks. It also helps the student to understand the role of different layers of OSI and TCP/IP reference models, applications of network and also the different standards used between networks.	<ul style="list-style-type: none"> i. Identify the terminology and concepts of the basic communication and networking technologies. ii. iii. Outline how communication works in data networks on both wired and wireless network. iv. Examine the role of protocols in networking and choose between various error detection and correction codes. v. vi. Interpret Ethernet types and various network hardware components, their roles and working. vii. . Utilize the role of network layer and modify different security and ethical issues in computer networking.
			This course enables the student to analyze, estimate and design new software with quality standards. Exploring the Concepts of Software Engineering, software processes,	<ul style="list-style-type: none"> i. Recall the basic concepts of software engineering and will be able to analyze, estimate and design new software with quality standards.

VI	7BCE3C3	SOFTWARE ENGINEERING	paradigms, analysis and design strategies of requirements engineering provides the student management skills to work on real time applications. In completion of this course the student can be able to develop software products by using SDLC Models.	<ul style="list-style-type: none"> ii. . Explain various concepts of requirement engineering and its validation provide better management skills for real time management. iii. To create a detailed system design through the system analysis for various designing purposes. iv. Design UML diagrams for better understanding of software system. v. . Applying various types of testing concepts and implementation procedures with maintenance for quality assurance.
VI	7BCEE3A	VB.NET AND ASP.NET PROGRAMMING	This course enables the Students understand the fundamental concepts of .NET framework, Visual Basic.Net, ADO.NET to develop application e programs. This course also presents the detailed description of ASP.NET, Web service and ADO.NET and helps the student develop Dynamic Web Application.	<ul style="list-style-type: none"> i. Identify the fundamental concepts of .net framework. ii. Develop programs using VB.NET forms and controls. iii. Organize the procedures and structures of OOP to build forms. iv. Illustrate the concepts of database and its connections for program outputs. v. Create interactive web application including web services.
VI	7BCA6PR	PROJECT LAB	To solve a specific problem right from its identification and till the successful solution of the same.	<ul style="list-style-type: none"> i. Identify the computer software technology and methodologies. ii. Develop the software project by

			Prepare project reports and to face reviews and viva voce examination	<p>understanding the client requirements.</p> <p>iii. Analyse the given problem and develop an algorithm to solve the problem.</p> <p>iv. Implementing a various programming language like c, c++, java construct in the correct way.</p>
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