



Ready for  
Every Good Work

# SACRED HEART COLLEGE (AUTONOMOUS)

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A Don Bosco Institution of Higher Education, Founded in 1951 \* Affiliated to Thiruvalluvar University, Vellore \* Autonomous since 1987

Accredited by NAAC (4<sup>th</sup> Cycle – under RAF) with CGPA of 3.31 / 4 at 'A+' Grade

## Name of the Programme: BCA

1	DIGITAL COMPUTER FUNDAMENTAL S	CA107	<ul style="list-style-type: none"> <li>To know and understand the fundamentals of a computer system</li> <li>To understand the basics of digital design and number systems</li> <li>To learn about combinational gates and k-maps to simplify the Boolean functions</li> <li>To know and understand the purpose of sequential circuits</li> <li>To learn the purpose of different registers and counters</li> </ul>	<ul style="list-style-type: none"> <li>Explain the Characteristics, Generations of a Computer, Purpose and Types of Input &amp; Output Unit, Processing Unit, Memory Unit and Storage devices</li> <li>Understand different Number Systems, Complements available to represent data and IC Logic gates, Boolean algebra for the simplification of expressions for Computer processing.</li> <li>Apply the Boolean Algebra rules and K-maps for simplification of expressions and explain the purpose and working of Combinational Circuits</li> <li>Understand and analyze the Sequential logic circuits - flip flops</li> <li>Draw the circuit diagram and</li> </ul>	<b>Regional / National Developmental Needs</b>
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				<p>explain the purpose and types of registers, counters.</p> <ul style="list-style-type: none"> <li>• Understand and analyze the different types of memory units</li> </ul>	
2	OPERATING SYSTEM	CA208	<ul style="list-style-type: none"> <li>• To study the basic concepts of operating systems and the design of operating system</li> <li>• To understand various CPU scheduling algorithms, Process synchronization and the deadlocks.</li> <li>• To learn the memory management, paging and segmentation techniques.</li> <li>• To be aware of the concepts of file system, allocation methods and Free space management.</li> <li>• To understand the concepts of disk scheduling.</li> </ul>	<ul style="list-style-type: none"> <li>• Describe the important computer system resources and the role of operating system in the coordination and control of computer resources.</li> <li>• Understand the process management techniques and scheduling algorithms</li> <li>• Evaluate the requirement for deadlock process synchronization and deadlock handling methods.</li> <li>• Explain and analyze the memory management and its allocation policies.</li> <li>• Apply the file management policies with respect to different storage management technologies</li> <li>• Understanding the integration of various File system structure</li> </ul>	<b>National Developmental Needs</b>
3	ELECTIVE – I: OBJECT ORIENTED ANALYSIS AND DESIGN	CA315B	<ul style="list-style-type: none"> <li>• To understand the diagrams UML.</li> <li>• To prepare the students to draw class modeling diagrams.</li> </ul>	<ul style="list-style-type: none"> <li>• Understand the modeling concept and object Oriented designs, recognize the notations of UML</li> <li>• Create UML diagrams with proper notations and uses</li> <li>• Apply their skill on framing new design based on the requirements</li> <li>• Analyze the system requirements</li> </ul>	<b>National Developmental Needs</b>

			<ul style="list-style-type: none"> <li>To make the students to understand the importance of state modeling diagrams.</li> <li>To become knowledgeable in interaction modeling diagrams.</li> <li>To understand the basic concept of system conception and design.</li> </ul>	<ul style="list-style-type: none"> <li>with UML diagrams and design the systems</li> <li>Implement modules, process flows of the systems</li> <li>Evaluate the requirements, designs, and process flow of the systems</li> </ul>	
4	ELECTIVE - I: SYSTEM ANALYSIS AND DESIGN	CA315C	<ul style="list-style-type: none"> <li>To learn the system development design strategies.</li> <li>To understand structured analysis development methods.</li> <li>To know computer input and output design strategies.</li> <li>To design online dialogue and auxiliary storage devices.</li> <li>To understand the Systems engineering and quality assurance concepts.</li> </ul>	<ul style="list-style-type: none"> <li>Understand the design and development of systems</li> <li>Apply and analyze the design based on requirements to develop systems</li> <li>Create system designs based on inputs and outputs</li> <li>Describe the memory storage devices</li> <li>Evaluate the quality of the system</li> <li>Acquire knowledge on software development</li> </ul>	<b>National Developmental Needs</b>
5	SOFTWARE ENGINEERING	CA518	<ul style="list-style-type: none"> <li>To Understand the Software Engineering Practice and Process Models.</li> </ul>	<ul style="list-style-type: none"> <li>Identify the need for engineering approach to software development and various processes k1</li> <li>Understand about software myths, generic view of the process and</li> </ul>	<b>Regional / National Developmental Needs</b>

			<ul style="list-style-type: none"> <li>• To Understand Software Process Modeling Concepts.</li> <li>• To know the concept of Architectural Design method in Software Engineering.</li> <li>• To understand Component based software Engineering.</li> <li>• To know the various methods of Reengineering.</li> </ul>	<p>process models k2</p> <ul style="list-style-type: none"> <li>• Analyze various software engineering models and apply methods for design and development Process. K4</li> <li>• Acquire knowledge on the wider perspective of software engineering architecture design</li> <li>• Assess the concept of Component Based software Engineering</li> <li>• Enhance in the techniques of risk management and re-engineering</li> </ul>	
6	EMERGING COMPUTING PARADIGM	CA415	<ul style="list-style-type: none"> <li>• To learn the benefits of E-Commerce and the features available in e-business.</li> <li>• To introduce the basics of Block Chain and its applications.</li> <li>• To know and implement content management system and various CMS models exist.</li> <li>• To know and understand machine learning and its different categories of algorithms.</li> <li>• To understand the basics and uses of Artificial</li> </ul>	<ul style="list-style-type: none"> <li>• Explain the benefits of E-Commerce and the features available in e-business.</li> <li>• Understand the basics of Block Chain and its applications.</li> <li>• Study and apply content management system and various CMS models exist.</li> <li>• Understand, analyze and evaluate machine learning and its different categories of algorithms.</li> <li>• Explain and implement the basics and uses of Artificial Intelligence System.</li> <li>• Understand and analyze the basics of Quantum Computing</li> </ul>	<b>National Developmental Needs</b>

			Intelligence System and quantum computing.		
7	COMPUTER GRAPHICS	CA515	<ul style="list-style-type: none"> <li>The main objective of the course is to introduce fundamental concepts and theory of computer graphics. It represents the important drawing algorithm, polygon filling, clipping and 2D transformation curves and an introduction to 3D transformation. It provides the basics of OpenGL application programming interface.</li> </ul>	<ul style="list-style-type: none"> <li>Enumerate the mechanisms involved in basic transformation of an object in Two dimensions.</li> <li>Identify the basic function of displays and algorithm mechanism for generating line and circle.</li> <li>Apply the transformation effects to the objects in Three dimensions.</li> <li>Analyze the procedure in manipulating an object from window to viewport.</li> <li>Predict the possible surface for the visibility of the objects</li> <li>Determine projected objects to naturalize the scene in 2D view.</li> </ul>	<b>National Developmental Needs</b>
8	ELECTIVE II: INTERNET OF THINGS	CA615C	<ul style="list-style-type: none"> <li>This course gives a foundation in the Internet of Things, including the components, tools, and analysis by teaching the concepts behind the IoT and a look at real-world solutions. This Course focuses on hands-on IoT concepts such as sensing, actuation and communication. It covers the</li> </ul>	<ul style="list-style-type: none"> <li>Remember the IOT based solution for real world applications</li> <li>Realize the evolution of domain specific IoT.</li> <li>Understand the building blocks of Internet of Things and its characteristics.</li> <li>Understand the concepts of IOT and its application.</li> <li>Develop the IoT devices with help</li> </ul>	<b>National Developmental Needs</b>

			development of Internet of Things (IoT) prototypes including devices for sensing, actuation, processing, and communication.	of Tools <ul style="list-style-type: none"><li>• Apply the knowledge and skills acquired during the course to build and test a complete, working IoT system involving prototyping, programming and data analysis</li></ul>	
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