SACRED HEART COLLEGE (AUTONOMOUS)

Tirupattur – 635 601, Tamil Nadu, S.India

Ready for Every Good Work

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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 (4th Cycle – under RAF) with CGPA of 3.31 / 4 at 'A+' Grade

Name of the Programme: BCA

S No	Title of the Paper	Course Code	Course Objectives	Course Outcomes	Relevance
1	INTERNET CONCEPTS AND WEB DESIGN	CA108	• To know the concept of basics of Internet. • To become knowledgeable in Fundamentals of Html • To ensure that the students have a basic understanding of creating Forms and Frames. • To understand the concept of Cascading Style Sheet. • To be aware of the method of Java Script.	• Learn about the basic structure and use of an HTML element (content, attributes, etc.) K1 • Understand the basics of data communication, networking, internet and their importance, and recognize the different internet devices and their functions K2 • Apply the knowledge of HTML tags to design web pages. K3 • Analyze the performance and functionalities of HTML tags, CSS and JavaScript k4 • Evaluate the web contents using JavaScript k5 • Develop web programs with effective design and perform client side	**Local / Global Developmental Needs**

			Course Objectives	Course Outcomes	
				validations. K6	
2	PROGRAMMING WITH C	CA207	• To enhance their analyzing and problem-solving skills and use the same for writing programs in C. • To develop logics and that will help them to create programs, applications in C. • To identify programming task involved in a given computational problem. • To identify tasks in which the numerical techniques learned are applicable and apply them to write programs.	• Relate the basic terminology of algorithm and flowchart used in programming. • Explain the concepts of structure and union • Acquire knowledge on decision making and looping concepts • Distinguish the processing of sequential and random-access file. • Develop programs with various concepts like decision structures, loops and functions. • Validate the use of arrays and pointers in data structures	**Global Developmental Needs**
3	OFFICE AUTOMATION	CC110	• To know the history of computers. • To understand the basic formatting features in word processor. • To have knowledge on functions of spreadsheet. • To understand the fundamental concepts of presentation. • To explore knowledge on sending receiving mails		**Local / Global Developmental Needs**

			Course Objectives	Course Outcomes	
4	INTERNET CONCEPTS AND WEB DESIGN	CA110	• To know the concept of basics of Internet. • To become knowledgeable in Fundamentals of Html • To ensure that the students have a basic understanding of creating Forms and Frames. • To understand the concept of Cascading Style Sheet. • To be aware of the method of Java Script.		**Local / Global Developmental Needs**
5	COMPUTER NETWORKS	CA312	• To understand the organization of computer networks. • To test and implement the different network connections. • To understand the performance of network layers like IPv4 and IPv6 addresses. • To understand the way protocols currently in use in the Internetwork and the requirements for designing network protocols. • To understand the concepts of WWW and electronic mail.	• Understand the general principles of data communication. • Assess error detection and correction techniques. • Experiment the performance of network layer and IPv4 and IPv6 addresses. • Analyze various transport layer protocols like Stop-and-Wait, Go-Back-N and selective repeat protocols. • Develop the concept of client /server programming, DNS, FTP, Electronic mail and SNMP. • Memorize the services and features of TCP and UDP	**Global Developmental Needs**
6	PROGRAMMING WITH JAVA	CA313	• To understand the basics of Object Oriented Programming concepts, Character Set, tokens, variables, data types, operators and	• Remember the basic concepts of object oriented programming and important features of Java	**Global Developmental Needs**

			control structure. • To understand the fundamental concept of Java like class and object, array, methods, constructors and inheritance. • To understand the concept of package, Exception Handling and Threading. • To understand the concepts of Applets, AWT and SWING.	language. • Solve the inter-disciplinary applications using the concept of inheritance. • Explain different techniques on creating and accessing packages and exception handling to avoid abnormal termination of program and multithreading concepts to develop inter process communication. • Design simple GUI interfaces to interact with users, using Applets. • Recognize the process of graphical user interface design and implementation using swing. • Describe Swing component classes	
7	ELECTIVE – I ANGULAR JS	CA315A	• To helps the reader understand how Angular JS differs from other frameworks • To set up a test environment for Angular JS • To shows why Angular JS is a better framework for building modern web applications and websites • To working on a functional application and implement testing • To covers search engine optimization as it relates to Angular JS applications and websites.	• Understand how Angular JS differs from other frameworks • Set up a test environment for AngularJS • Shows why Angular JS is a better framework for building modern web applications and websites • Working on a functional application and implement testing • Covers search engine optimization as it relates to Angular JS applications and websites. • Retrieve data from back-end	**Global Developmental Needs**

#		Course Code	Course Objectives	Course Outcomes	
			server, manipulate it and display it with ease.		
8	ENTERPRISE APPLICATIONS USING .NET	CA413	• To know the differences between desktop and web application. • To create and manipulate GUI components in C#. • To configure an asp.net application. • To create ASP.Net applications using standard .net controls. • To develop a data driven web application. • To connect the data sources and managing them.	• Know the differences between desktop and web application. • Understand the development and deployment cycles of enterprise applications • Create and configure the GUI components in C#. • Create ASP.NETapplications using standard .NET controls. • Analysis and evaluate the validation and rich controls • Create and connect the data sources in ADO.NET	**Global Developmental Needs**
9	RELATIONAL DATABASE MANAGEMENT SYSTEM	CA414	• To understand the basic concepts of Database and Data Models. • To learn how to implement the query language in database. • To understand the advance features query language used to design an efficient database • To know database design models exist. • To understand the consequences of bad database design and how it can be overcome.	• Discuss database concepts, applications, data models • Identify the tables and relationships between tables. • Apply normalization concepts to design the database. • Implement data definition, constraints, schema to organize data in database • Integrate the concepts of queries, joins, aggregate functions in SQL. • Develop the strong ability to use the database concepts for create queries and operations.	**Global Developmental Needs**

10	ENTERPRISE APPLICATIONS USING JAVA	CA516	• This course provides a platform with enterprise features such as distributed computing and web services. Java EE has several specifications which are useful in making web pages, reading and writing from database in a transactional way, managing distributed queues. The Java EE contains several APIs which have the functionalities of base Java SE APIs such as Enterprise JavaBeans, connectors, Servlets, Java Server Pages and several web service technologies.	• Learn and Understand the structure of web applications and enterprise programs • Develop web applications using servlets • Apply the knowledge on servlet to create enterprise programs • Analyze the concept of Servlets and JSP Create JSP programs with the programming knowledge • Apply database knowledge to implement CRUD applications • Evaluates the program	**Global Developmental Needs**
11	PROGRAMMING WITH PYTHON	CA517	• Python is a high-level interpreted language that has many benefits, including easy-to-read and easy-to-write syntax and powerful libraries that provide additional functionality. It is used extensively for practical applications in engineering and data science. This course covers a range of topics, such as data types, control flow, functions, file operations, and object-oriented programming	• Learn core Python scripting elements • Understand the OOP concepts and file operations • Demonstrate the use of Python libraries, packages and modules • Apply the library files for graphical representation and visualization • Create the GUI applications • Construct scripts to scrap the web to obtain web content.	**Global Developmental Needs**

			and GUI applications.		
12	CLOUD COMPUTING	CA612	• This course introduces domain of cloud infrastructures, virtualization, software defined networks, cloud storage, and programming models. Modern data centers enable many of the economic and technological benefits of the cloud paradigm. Focus on virtualization as a key cloud technique for offering software, computation and storage services.	• Describe the principles of Parallel and Distributed Computing and evolution of cloud computing from existing technologies • Implement different types of Virtualization technologies and Service Oriented Architecture systems • Identify the concepts of cloud reference model, economics of the cloud and open challenges • Analyse Aneka cloud application platform and thread programming • Choose among various cloud technologies for implementing applications • Install and use current cloud technologies	**Global Developmental Needs**
13	MOBILE APPLICATION DEVELOPMENT	CA613	• This course explains and demonstrates the architecture, platform, tools, libraries and components needed to develop a mobile app. The objective of the course is to understand and design mobile apps using activities, layouts, widgets and fragments. It also provides libraries, methods and tools to	• Explain about the mobile app development architecture, framework, packages, Android basic syntax, libraries and Virtual devices available to develop mobile apps. • Understand and implement Activities, Indents and Frameworks • Understand and apply layouts,	**Global Developmental Needs**

				widgets and view groups to design mobile apps.
			develop professional apps to send SMS, Notifications, Mails, Telephony and data manipulation using SQLite.	• Analyze and design mobile apps with images, menus in different layouts • Create Notifications and database operations with SQLite. • Analyze and build mobile apps for sending SMS, Emails, telephony and Google play store registration	
14	WEB PROGRAMMING USING PHP	CA614	• The objective of this course is to delivers the fundamentals of PHP. Its helps to build dynamic web applications. It deals with MySQL queries and database connections to interact with frontend applications.	• Understand the basic fundamental syntax and functions. • Understand and evaluate form processing and validation methods • Know the file handling concepts. • Understand and apply MySQL functions. • Apply and solve various database operations • Connect frontend and backend applications using PHP`	**Global Developmental Needs**
15	ELECTIVE – II :BIG DATA ANALYTICS	CA615A	• This course describes the 5 V's of data and offers NoSQL databases for data management, R Programming for data analysis. The objective of this course is to identify study and understand the types of digital data, new big data database tools and languages to process the big	• Describe the types of digital data, characteristics of big data, challenges in big data, data analytics and its tools. • Understand and compare the NoSQL databases and its features • Study and build simple applications using basics of R language and its packages.	**Global Developmental Needs**

			data. It also demonstrates the tools and methods to store big data with different data structures, perform statistical analysis and visualize the results.	• Understand and develop methods to read and process external data using R syntax • Understand, apply and evaluate the visualization methods available in R • Evaluate, and implement statistical algorithms for the online free data set	
16	ELECTIVE II: - CRYPTOGRAPHY AND NETWORK SECURITY	CA615B	• This course develops a basic understanding of the algorithms used to protect data. A wide variety of basic cryptographic primitives will be discussed along with recent developments. The cryptanalysis part understands, challenges for cyber security that includes network security, data security, mobile security, cloud security and endpoint security.	• Recollect basic principles of security services and mechanisms. • Describe the concepts of network security like firewalls, IP security and virtual private network • Categorize various cryptographic techniques that are used to prevent attacks. • Analyze and design classical encryption techniques and block ciphers • Implement system level security applications • Create an algorithms using both symmetric and asymmetric key cryptography	**Global Developmental Needs**