B.SC COMPUTER TECHNOLOGY - COURSE OUTCOME (CO)

Core - I - Problem Solving techniques using C	:	Demonstrate the flowchart and design an algorithm for a given problem and to develop C programs using operators
	:	Develop conditional and iterative statements to write C programs
	:	Exercise user defined functions to solve real time problems
	:	Inscribe C programs that use Pointers to access arrays, strings and functions.
	:	Exercise user defined data types including structures and unions to solve problem
Core - Practical - I – Programming in C Lab		Understand basic Structure of the C-PROGRAMMING, declaration and usage of variables
		Understand C programs using operators
		Exercise conditional and iterative statements to Write C programs
		Understand for C programs using Pointers to access arrays, strings and functions
		Understand C programs using pointers and allocate memory using dynamic memory management functions.
Java Programming		Define the concept of OOP as well as the purpose and usage principles of inheritance, polymorphism, encapsulation and method overloading.
		Identify the situations of Program Control Statements, Introducing Classes, Objects and Methods of their usages.
		Identify String Handling , Arrays, classes, objects, members of a class and the relationships among them needed for a specific problem.
		OOP concepts like inheritance, Interface & package in real time situations.
		Develop Java application programs using sound OOP practices (e.g., interfaces and APIs) and proper program structuring (e.g., by using access applet, multithreading)K3
Java Programming lab		Execute JAVA programs based on simple constructs like arrays, loops , decision statements, functions etc
		Incorporate object oriented concepts like classes, objects, inheritance, polymorphism resembling real time situation.
		Demonstrate the use of packages and interfaces
		OOP concepts like inheritance, Interface & package in real time situations.
		Develop Java application programs using sound OOP practices (e.g., interfaces and APIs) and proper program structuring (e.g., by using access

		applet, multithreading)K3
Python Programming		Examine Python syntax and semantics and be fluent in the use of Python flow control and functions
		Demonstrate proficiency in handling Strings and File Systems
		Understand Lists, Dictionaries and Regular expressions in Python
		Interpret the concepts of Object-Oriented Programming as used in Python
		Implement exemplary applications related to Network Programming, Web Services and Databases in Python
Python Programming Lab		Write, test, and debug simple Python programs.
		Implement Python programs with conditionals and loops for stack, sorting algorithms.
		Read and write data from/to files in Python.
		Use Python lists, dictionaries for representing compound data.
		Write Script to SQL and Demonstrate Exception in Python.
Core – Web Technology		Understand the basics of Internet and Its Protocol.
		To Learn about HTML Language and its features.
		To learn about basic knowledge about CSS.
		Understand basic in Servlete and HTTP
		Understand basic of JSP and Cookies
Android Application Development		To understand about the need for android and the basics in it. To know about the installation of Java JDK and Android SDK.
		To understand about the creation of android projects and user interfaces.
		To code the android applications and to work with android framework classes.
		To work with home screen widgets and app widgets in android.
		To create a distributable file and outsourcing it in the market for the developed application.
PHP & MySQL		To provide an insight of PHP basics
		Understand and practice the function and array handling in PHP

		Understand and practice the the file handling and date functions
		To provide an insight of MYSQL basics
		Strategies of file handling and Cookies in MYSQL
Data Structures		Students develop knowledge of basic data structures for storage and retrieval of ordered or unordered data.
		Students develop knowledge of linked lists.
		Students develop knowledge of applications of searching, and sorting of each data structure.
		Student develop Knowledge of Tree
		Student develop Knowledge of Graph
Core - 2 Data Structure Practical		Understand basic Concept of the data structure using C program
		Implementing STACK Operations using C Program
		Exercise linked List using C programs
		Understand nodes concepts in Linked List using C programs
		Implementing QUEUE Operations using C Program
Relational Database Management System		Demonstrate an understanding of the elementary & advanced features of DBMS & RDBMS
		Attain a good practical understanding of the SQL. Develop clear concepts about Relational Model.
		Prepare various database tables and joins them using SQL commands
		Able to design and documents data structures incorporating integrity constraints to satisfy business rules by applying the relational model
		Able to develop structured query language (SQL) queries to create, read, update, and delete relational database data
Software Engineering		This gives the Knowledge about various models in software engineering.
		It gives the brief description about requirements.
		To understand knowledge about Planning.
		To analyze various testing in software testing
		It deals the concept of Maintenance.

Software Engineering Lab		To Understanding the Requirement tasks.
		To Understanding the Requirement analysis and SRS.
		To Implement a DFD and Structured chart.
		To Understand and Implement the concept of Use case Diagram.
		To Understand and Implement the concept of Class Diagram & Object Diagram.
Computer Graphics		To gain knowledge about the computer graphics and their hardware and software systems used to make these images.
		To Recognize and evaluate critical and aesthetic issues within computer graphics and the mixed media.
		To be able to describe the general software architecture of programs that use 3D computer graphics.
		The task of producing photo-realistic images is an extremely complex one, but this is a field that is in great demand because of the nearly limitless variety of applications.
		To Apply aesthetic judgments and critical thinking skills to art and graphics related issues.
Scripting Languages		Understand the concepts of scripting languages for developing web based projects.
		Illustrates object oriented concepts like VBscript, JavaScript.
		Create database connections using PHP and build the website for the world.
		Demonstrate IP address for connecting the web servers.
		Analyze the internet ware application, security issues and frame works for application.
Linux and Shell Programming		Understanding the basic set of commands and utilities in Linux/UNIX systems.
		To learn to develop software for Linux/UNIX systems.
		To learn the important Linux/UNIX library functions and system calls.
		To obtain a foundation for an advanced file system manipulation.
		To understand the Pattern, URL and E-mail for web content.
Big Data		To understand the meaning of big data, need of big data and how worth to

Analytics		study by understands their characteristics of big data.
		To gain knowledge in evolution of Hadoop, understanding the components of Hadoop.
		To understand the value of data analyst and how to implementing a big data in organization.
		To analysis the big data in context, getting the knowledge of predictive analytics and big data.
		To understanding the concepts of humanizing and consumerization of big data analytics.
Ethical Hacking		Explain the importance of numerous methods of real-world information intelligence.
		Differentiate the processes of vulnerability assessment and ethical hacking from penetration testing.
		Comprehend the importance of appropriate countermeasures for managing vulnerabilities.
		To familiarize with the methodologies that can be used to hack into a target.
		To appreciate the wide variety of attacks that can be performed against a wireless network.
Mathematics for Computer Science		To demonstrate a working knowledge of set notation and elementary set theory with its corresponding set operations and also Venn diagram.
		To apply the fundamental concepts of Mathematical Logic and Tautologies.
		To apply and understand the fundamental concepts of Relations and Functions.
		To demonstrate different traversal methods for graphs.
		To demonstrate different methods for trees and its properties.
Allied - PC and Mobile Hardware Trouble Shooting		Understand the basics of Computer Maintenance and understands the Mobile servicing.
		Exercise Mobile Phone Repair and Maintenance , Diagnosing and repairing mobile phone faults
		To learn about basic knowledge about Laptop device and components.
		Understand basic troubleshooting in mobile and Ethics and Legal Aspects of Working

		Understand basic repair and maintenance
Computer Network		To understand the basics of computer networks , models and services.
		To explain the transmission media and to apply the error detection and correction of data transmission.
		To analyze the importance and design issues of layers.
		To differentiate the services and protocols of various layers.
		To illustrate the types of security and digital signature.
Skill Enhancement Courses – II Information Security and Cyber		The objective of this course is to provide students with a basic understanding of Information and Cyber Security issues and make them aware of the Challenges.
		To provide components of the Information and Cyber Security Organization.
		To achieve a basic understanding of information and Cyber Security.
		To master information security governance, and related legal and regulatory Issues
		To be familiarity with information security awareness and a clear understanding of its importance
Animation and Multimedia		To develop an understanding and awareness how issues such as content, information architecture, motion, sound, design, and technology merge to form effective and compelling interactive experiences for a wide range of audiences and end users.
		To become familiar with various tools used in the creation and implementation of multi- media
		To understand about the color and 3D Cloud
		To become familiar with Blender with images
		To create an animation and An introduction to the development of Graphics.
Internet Of Things		Students can understand and develop their knowledge of Internet of Things
		Analyze basic protocols in wireless sensor network
		Students can develop their knowledge of applications related with IOT.
		Design IoT applications in different domain and be able to analyze their performance
		Implement basic IoT applications on embedded platform.
Operating		After learning the fundamental concepts in Operating system including how

System		OS has evolved over the years and different components of OS
		This will provide the necessary information for students to extract maximum benefits out of the OS while developing programs, working with applications and etc.
		These chapters cover methods for process scheduling, interprocess communication, process synchronization, and deadlock handling.
		These chapter covers the how storage is maintain in the computer
		Have the knowledge of provided by a mechanism that controls the access of programs, processes, or users to the resources defined by a computer system.
Data warehouse and data Mining		To explain the core concepts of the Data Warehousing. This Explain about the Concept of Different Types of Data warehouse and its features.
		To discuss Data Mining Techniques and issues.
		To analyze various Association Rules in Data Warehousing.
		To understand various Clustering techniques.
		To deploy applications of Web Mining.
Computer Architecture and Design		To make students understand the basic structure and operation of digital computer.
		To understand the hardware-software interface.
		To familiarize the students with arithmetic and logic unit and implementation of fixed point and floating-point arithmetic operations.
		To expose the students to the concept of pipelining.
		To familiarize the students with hierarchical memory system including cache memories and virtual memory. To expose the students with different ways of communicating with I/O devices and standard I/O interfaces.
Distributed Programming		To understand the foundations of distributed systems.
		To learn process and naming concepts in distributed systems.
		To learn issues related to clock Synchronization and the need for global state in distributed systems.
		To understand the fault tolerance and recovery protocols in Distributed Systems.
		To learn the characteristics of distributed object based System and file systems.

Skill Enhancement Course : Digital Image Processing		Understand the fundamentals of digital image processing and sampling and quantization concepts.
		Apply image processing techniques in both the spatial and frequency domains using various transform techniques.
		Understanding the filtering techniques for Image restoration and reconstruction.
		Understanding fundamentals and some basic models of Image Compression
		Applying the image segmentation process.
Software Project Management		To understand and explore the basics of Software Projects and Risks.
		Understand the Methods and techniques of Software Projects.
		To learn the functions of Classes and Objects.
		To familiarize the Project schedules and activities
		Implementing Framework and Management control
R Programming		To understand and explore the basics of R Programming language.
		Understand the basics of classes, lists and data frames
		To learn the integrated collection of tools for data analysis.
		Understand the working of various applications with functions
		To familiarize the graphical facilities for data analysis.
Core - I - Data Science		To understand about Data Science Process and how its components interact and Learn its application of Data Science
		To formulate about big data history and its innovation and Road map to Big Data
		To understand the Hadoop framework and its architecture and Learnt about installation of Hadoop ,Hive and Pig
		To have the ability to understand how big data analyzed into data science and explained about the way of its implementation.
		To particularly know about R Programming tool and its working principle. It provides an in-depth understanding of the R language, R-studio, and R packages and basic Pig Commands and functions.
Software Testing		To explain the core concepts of the software testing Basics. How and why this testing shift came about, the characteristics, advantages and challenges brought about by the various Testing and services in Software Testing.

		To discuss various types of Testing and its features.
		To analyze various Testing Technique which is directly implemented into real time application software
		To Analyze Performance and Functional of Real time Application Software.
		To Plan Overall Software Development Process.
Cloud Infrastructure and Service		To explain the core concepts of the cloud computing paradigm: how and why this paradigm shift came about, the characteristics, advantages and challenges brought about by the various models and services in cloud computing
		To discuss system virtualization and outline its role in enabling the cloud computing system model.
		To analyze various cloud programming models and apply them to solve problems on the cloud.
		To understand various management and other distinguish services of AWS**.**
		To deploy applications over commercial cloud computing infrastructures such as Amazon
Software Testing		To explain the core concepts of the software testing Basics. How and why this testing shift came about, the characteristics, advantages and challenges brought about by the various Testing and services in Software Testing.
		To discuss various types of Testing and its features.
		To analyze various Testing Technique which is directly implemented into real time application software
		To Analyze Performance and Functional of Real time Application Software.
		To Plan Overall Software Development Process.