

## SRI KRISHNA INSTITUTE OF TECHNOLOGY

(Approved by A.I.C.T.E. New Delhi, Recognised by Govt. of Karnataka & Affiliated to V.T U., Belgaum) #.29, Hesaraghatta Road, "Chimney Hills", Chikkabanavara P.O, Bangalore- 560090

## Department of Information Science and Engineering Course Outcome's for the Academic year 2020-21

## Semester : I & Semester : II [ Chemistry Cycle]

Subcode/SubName: 18CPS13/23/ C PROGRAMMING FOR PROBLEM SOLVING Course Outcomes:

CO1:	Illustrate simple algorithms from the different domains such as mathematics, physics,
	etc.
CO2:	Construct a programming solution to the given problem using C.
CO3:	Identify and correct the syntax and logical errors in C programs.
CO4:	Modularize the given problem using functions and structures.

Subcode/SubName: 18CPL17/27/ C PROGRAMMING LABORATORY

Course Outcomes:

CO1:	Write algorithms, flowcharts and program for simple problems.
CO2:	Correct syntax and logical errors to execute a program.
CO3:	Write iterative and wherever possible recursive programs.
CO4:	Demonstrate use of functions, arrays, strings, structures and pointers in problem
	solving.

## Semester : III

# Subcode/SubName: 18MAT31/TRANSFORM CALCULUS, FOURIER SERIES AND NUMERICAL TECHNIQUES

Course Outcomes:

CO1:	Use Laplace transform and inverse Laplace transform in solving differential/integral equation arising in network analysis, control systems and other fields of engineering.
CO2:	Demonstrate Fourier series to study the behavior of periodic functions and their
	applications in system communications, digital signal processing and field theory.
CO3:	Make use of Fourier transform and Z-transform to illustrate discrete/continuous
	function arising in wave and heat propagation, signals and systems.
CO4:	Solve first and second order ordinary differential equations arising in engineering
	problems using single step and multistep numerical methods.
CO5:	Determine the externals of functional using calculus of variations and solve problems
	arising in dynamics of rigid bodies and vibrational analysis.

Subcode/SubName: 18CS32/ DATA STRUCTURES AND APPLICATIONS

CO2:	Apply searching and sorting operations on files
CO3:	Use stack, Queue, Lists, Trees and Graphs in problem solving
CO4:	Implement all data structures in a high-level language for problem solving.

## Subcode/SubName: 18CS33/ ANALOG AND DIGITAL ELECTRONICS

Course Outcomes:

CO1:	Design and analyze application of analog circuits using photo devices, timer IC, power
	supply and regulator IC and op-amp.
CO2:	Explain the basic principles of A/D and D/A conversion circuits and develop the same.
CO3:	Simplify digital circuits using Karnaugh Map, and Quine-McClusky Methods
CO4:	Explain Gates and flip flops and make us in designing different data processing
	circuits, registers and counters and compare the types.
CO5:	Develop simple HDL programs

### Subcode/SubName: 18CS34/ COMPUTER ORGANIZATION

Course Outcomes:

CO1:	Explain the basic organization of a computer system.
CO2:	Demonstrate functioning of different sub systems, such as processor, Input/output, and
	memory.
CO3:	Illustrate hardwired control and micro programmed control, pipelining, embedded and
	other computing systems.
CO4:	Design and analyze simple arithmetic and logical units.

## Subcode/SubName: 18CS35/ SOFTWARE ENGINEERING

Course Outcomes:

CO1:	Design a software system, component, or process to meet desired needs within realistic
	constraints.
CO2:	Assess professional and ethical responsibility
CO3:	Function on multi-disciplinary teams
CO4:	Use the techniques, skills, and modern engineering tools necessary for engineering
	practice
CO5:	Analyze, design, implement, verify, validate, implement, apply, and maintain software
	systems or parts of software systems

## Subcode/SubName: 18CS36/ DISCRETE MATHEMATICAL STRUCTURES

CO1:	Use propositional and predicate logic in knowledge representation and truth
	verification.
CO2:	Demonstrate the application of discrete structures in different fields of computer
	science.
CO3:	Solve problems using recurrence relations and generating functions.
CO4:	Application of different mathematical proofs techniques in proving theorems in the
	courses.
CO5:	Compare graphs, trees and their applications.

Subcode/SubName: 18CSL37/ ANALOG AND DIGITAL ELECTRONICS LABORATORY Course Outcomes:

CO1:	Use appropriate design equations / methods to design the given circuit.
CO2:	Examine and verify the design of both analog and digital circuits using simulators.
CO3:	Make us of electronic components, ICs, instruments and tools for design and testing of
	circuits for the given the appropriate inputs.
CO4:	Compile a laboratory journal which includes; aim,
	tool/instruments/software/components used, design equations used and designs,
	schematics, program listing, procedure followed, relevant theory, results as graphs and
	tables, interpreting and concluding the findings.

Subcode/SubName: 18CSL38 / DATA STRUCTURES LABORATORY

Course Outcomes:

CO1:	Analyze and Compare various linear and non-linear data structures
CO2:	Code, debug and demonstrate the working nature of different types of data structures
	and their applications
CO3:	Implement, analyze and evaluate the searching and sorting algorithms
CO4:	Choose the appropriate data structure for solving real world problems

# Subcode/SubName: 18CPC39/49/ CONSTITUTION OF INDIA, PROFESSIONAL ETHICS AND CYBER LAW (CPC)

Course Outcomes:

CO1:	Have constitutional knowledge and legal literacy.
CO2:	Understand Engineering and Professional ethics and responsibilities of Engineers.
CO3:	Understand the cybercrimes and cyber laws for cyber safety measures.

## Subcode/SubName: 18MATDIP31/ ADDITIONAL MATHEMATICS – I

Course Outcomes:

CO1:	Apply concepts of complex numbers and vector algebra to analyze the problems arising in related area.
CO2:	Use derivatives and partial derivatives to calculate rate of change of multivariate
	functions.
CO3:	Analyze position, velocity and acceleration in two and three dimensions of vector
	valued functions.
CO4:	Learn techniques of integration including the evaluation of double and triple integrals.
CO5:	Identify and solve first order ordinary differential equations.

## Semester : IV

# Subcode/SubName: 18MAT41/ COMPLEX ANALYSIS, PROBABILITY AND STATISTICAL METHODS

CO1:	Use the concepts of analytic function and complex potentials to solve the problems
	arising in electromagnetic field theory.

CO2:	Utilize conformal transformation and complex integral arising in aerofoil theory, fluid
	flow visualization and image processing.
CO3:	Apply discrete and continuous probability distributions in analyzing the probability
	models arising in engineering field.
CO4:	Make use of the correlation and regression analysis to fit a suitable mathematical model
	for the statistical data.
CO5:	Construct joint probability distributions and demonstrate the validity of testing the
	hypothesis.

## Subcode/SubName: 18CS42/ DESIGN AND ANALYSIS OF ALGORITHMS

Course Outcomes:

CO1:	Describe computational solution to well known problems like searching, sorting etc.
CO2:	Estimate the computational complexity of different algorithms.
CO3:	Devise an algorithm using appropriate design strategies for problem solving.

### Subcode/SubName: 18CS43/OPERATING SYSTEMS

Course Outcomes:

CO1:	Demonstrate need for OS and different types of OS
CO2:	Apply suitable techniques for management of different resources
CO3:	Use processor, memory, storage and file system commands
CO4:	Realize the different concepts of OS in platform of usage through case studies

#### Subcode/SubName: 18CS44/ MICROCONTROLLER AND EMBEDDED SYSTEMS Course Outcomes:

CO1:	Describe the architectural features and instructions of ARM microcontroller
CO2:	Apply the knowledge gained for Programming ARM for different applications.
CO3:	Interface external devices and I/O with ARM microcontroller.
CO4:	Interpret the basic hardware components and their selection method based on the
	characteristics and attributes of an embedded system.
CO5:	Develop the hardware /software co-design and firmware design approaches.
CO6:	Demonstrate the need of real time operating system for embedded system applications

### Subcode/SubName: 18CS45/ OBJECT ORIENTED CONCEPTS

Course Outcomes:

CO1:	Explain the object-oriented concepts and JAVA.
CO2:	Develop computer programs to solve real world problems in Java.
CO3:	Develop simple GUI interfaces for a computer program to interact with users, and to
	understand the event-based GUI handling principles using swings.

### Subcode/SubName: 18CS46/ DATA COMMUNICATION

CO1:	Explain the various components of data communication.
CO2:	Explain the fundamentals of digital communication and switching.

CO3:	Compare and contrast data link layer protocols
CO4:	Summarize IEEE 802.xx standards

# Subcode/SubName: 18CSL47/ DESIGN AND ANALYSIS OF ALGORITHMS LABORATORY

Course Outcomes:

CO1:	Design algorithms using appropriate design techniques (brute-force, greedy, dynamic programming, etc.)
CO2:	Implement a variety of algorithms such assorting, graph related, combinatorial, etc., in a high level language.
CO3:	Analyze and compare the performance of algorithms using language features.
CO4:	Apply and implement learned algorithm design techniques and data structures to solve
	real-world problems

## Subcode/SubName: 18CSL48/ MICROCONTROLLER AND EMBEDDED SYSTEMS LABORATORY

Course Outcomes:

CO1:	Develop and test program using ARM7TDMI/LPC2148
CO2:	Conduct the following experiments on an ARM7TDMI/LPC2148 evaluation board
	using evaluation version of Embedded 'C' & Keil Uvision-4 tool/compiler.

Subcode/SubName: 18MATDIP414/ ADDITIONAL MATHEMATICS - II

Course Outcomes:

CO1:	Solve systems of linear equations using matrix algebra.
CO2:	Apply the knowledge of numerical methods in modelling and solving engineering
	problems
CO3:	Make use of analytical methods to solve higher order differential equations.
CO4:	Classify partial differential equations and solve them by exact methods
CO5:	Apply elementary probability theory and solve related problems.

## Semester : V

# Subcode/SubName: 18CS51 / MANAGEMENT AND ENTREPRENEURSHIP FOR IT INDUSTRY

Course Outcomes:

CO1:	Define management, organization, entrepreneur, planning, staffing, ERP and outline
	their importance in entrepreneurship
CO2:	Utilize the resources available effectively through ERP
CO3:	Make use of IPRs and institutional support in entrepreneurship

Subcode/SubName: 18CS52 / COMPUTER NETWORKS AND SECURITY

CO1:	Explain principles of application layer protocols
CO2:	Recognize transport layer services and infer UDP and TCP protocols

CO3:	Classify routers, IP and Routing Algorithms in network layer
CO4:	Understand the Wireless and Mobile Networks covering IEEE 802.11 Standard
CO5:	Describe Multimedia Networking and Network Management

## Subcode/SubName: 18CS53 / DATABASE MANAGEMENT SYSTEM

Course Outcomes:

CO1:	Identify, analyze and define database objects, enforce integrity constraints on a
	database using RDBMS
CO2:	Use Structured Query Language (SQL) for database manipulation.
CO3:	Design and build simple database systems
CO4:	Develop application to interact with databases.

## Subcode/SubName: 18CS54/ AUTOMATA THEORY AND COMPUTABILITY

### Course Outcomes:

CO1:	Acquire fundamental understanding of the core concepts in automata theory and
	Theory of Computation
CO2:	Learn how to translate between different models of Computation (e.g., Deterministic
	and Non-deterministic and Software models)
CO3:	Design Grammars and Automata (recognizers) for different language classes and
	become knowledgeable about restricted models of Computation (Regular, Context
	Free) and their relative powers
CO4:	Develop skills in formal reasoning and reduction of a problem to a formal model, with
	an emphasis on semantic precision and conciseness.
CO5:	Classify a problem with respect to different models of Computation

Subcode/SubName: 18CS55/ APPLICATION DEVELOPMENT USING PYTHON

Course Outcomes:

CO1:	Demonstrate proficiency in handling of loops and creation of functions
CO2:	Identify the methods to create and manipulate lists, tuples and dictionaries.
CO3:	Discover the commonly used operations involving regular expressions and file system
CO4:	Interpret the concepts of Object-Oriented Programming as used in Python
CO5:	Determine the need for scraping websites and working with CSV, JSON and other file
	formats.

### Subcode/SubName: 18CS56 / UNIX PROGRAMMING

Course Outcomes:

CO1:	Explain Unix Architecture, File system and use of Basic Commands
CO2:	Illustrate Shell Programming and to write Shell Scripts
CO3:	Categorize, compare and make use of Unix System Calls
CO4:	Build an application/service over a Unix system.

Subcode/SubName: 18CSL57 / COMPUTER NETWORK LABORATORY Course Outcomes:

CO1:	Analyze and Compare various networking protocols.
CO2:	Demonstrate the working of different concepts of networking.
CO3:	Implement, analyze and evaluate networking protocols in NS2 / NS3 and JAVA
	programming language

### Subcode/SubName: 18CSL58 / DBMS LABORATORY WITH MINI PROJECT

Course Outcomes:

CO1:	Create, Update and query on the database
CO2:	Demonstrate the working of different concepts of DBMS
CO3:	Implement, analyze and evaluate the project developed for an application

### Subcode/SubName: 18CIV59 / ENVIRONMENTAL STUDIES

Course Outcomes:

CO1:	Understand the principles of ecology and environmental issues that apply to air, land,
	and water issues on a global scale,
CO2:	Develop critical thinking and/or observation skills, and apply them to the analysis of a
	problem or question related to the environment.
CO3:	Demonstrate ecology knowledge of a complex relationship between biotic and abiotic
	components.
CO4:	Apply their ecological knowledge to illustrate and graph a problem and describe the
	realities that managers face when dealing with complex issues.

## Semester : VI

Subcode/SubName: 18IS61 / FILE STRUCTURES

Course Outcomes:

CO1:	Choose appropriate file structure for storage representation.
CO2:	Identify a suitable sorting technique to arrange the data
CO3:	Select suitable indexing and hashing techniques for better performance to a given
	problem

Subcode/SubName: 18IS62/ SOFTWARE TESTING

Course Outcomes:

CO1:	Derive test cases for any given problem
CO2:	Compare the different testing techniques
CO3:	Classify the problem into suitable testing model
CO4:	Apply the appropriate technique for the design of flow graph.
CO5:	Create appropriate document for the software artefact

## Subcode/SubName: 18CS63 / WEB TECHNOLOGY AND ITS APPLICATIONS

CO1:	Adapt HTML and CSS syntax and semantics to build web pages.
CO2:	Construct and visually format tables and forms using HTML and CSS

CO3:	Develop Client-Side Scripts using JavaScript and Server-Side Scripts using PHP to
	generate and display the contents dynamically.
CO4:	Appraise the principles of object oriented development using PHP
CO5:	Inspect JavaScript frameworks like jQuery and Backbone which facilitates developer to
	focus on core features.

## Subcode/SubName: 18CS641 / DATA MINING AND DATA WAREHOUSING

Course Outcomes:

CO1:	Identify data mining problems and implement the data warehouse
CO2:	Write association rules for a given data pattern.
CO3:	Choose between classification and clustering solution.

#### Subcode/SubName: 18CS642 / OBJECT ORIENTED MODELING AND DESIGN Course Outcomes:

CO1:	Describe the concepts of object-oriented and basic class modelling.
CO2:	Draw class diagrams, sequence diagrams and interaction diagrams to solve problems
CO3:	Choose and apply a befitting design pattern for the given problem

## Subcode/SubName: 18CS643 / CLOUD COMPUTING AND ITS APPLICATIONS

Course Outcomes:

CO1:	Explain cloud computing, virtualization and classify services of cloud computing
CO2:	Illustrate architecture and programming in cloud
CO3:	Describe the platforms for development of cloud applications and List the application
	of cloud

## Subcode/SubName: 18CS644 / ADVANCED JAVA AND J2EE

Course Outcomes:

CO1:	Interpret the need for advanced Java concepts like enumerations and collections in
	developing modular and efficient programs
CO2:	Build client-server applications and TCP/IP socket programs
CO3:	Illustrate database access and details for managing information using the JDBC API
CO4:	Describe how servlets fit into Java-based web application architecture
CO5:	Develop reusable software components using Java Beans

## Subcode/SubName: 18IS645 / INFORMATION MANAGEMENT SYSTEM

Course Outcomes:

CO1:	Describe the role of information technology and information systems in business
CO2:	Record the current issues of information technology and relate those issues to the firm
CO3:	Interpret how to use information technology to solve business problems

Subcode/SubName: 18CS651/ MOBILE APPLICATION DEVELOPMENT Course Outcomes:

CO1:	Create, test and debug Android application by setting up Android development
	environment
CO2:	Implement adaptive, responsive user interfaces that work across a wide range of
	devices.
CO3:	Infer long running tasks and background work in Android applications
CO4:	Demonstrate methods in storing, sharing and retrieving data in Android applications
CO5:	Analyze performance of android applications and understand the role of permissions
	and security
CO6:	Describe the steps involved in publishing Android application to share with the world

# Subcode/SubName: 18CS652/ INTRODUCTION TO DATA SRUCTURES AND ALGORITHM

Course Outcomes:

CO1:	Identify different data structures in C programming language
CO2:	Appraise the use of data structures in problem solving
CO3:	Implement data structures using C programming language.

#### Subcode/SubName: 18CS653/ PROGRAMMING IN JAVA

Course Outcomes:

CO1:	Explain the object-oriented concepts and JAVA
CO2:	Develop computer programs to solve real world problems in Java.

### Subcode/SubName: 18CS654/ INTRODUCTION TO OPERATING SYSTEM

Course Outcomes:

CO1:	Explain the fundamentals of operating system
CO2:	Comprehend process management, memory management and storage management.
CO3:	Familiar with various types of operating systems

#### Subcode/SubName: 18ISL66/ SOFTWARE TESTING LABORATORY

Course Outcomes:

CO1:	List out the requirements for the given problem
CO2:	Design and implement the solution for given problem in any programming
	language(C,C++,JAVA)
CO3:	Derive test cases for any given problem
CO4:	Apply the appropriate technique for the design of flow graph.
CO5:	Create appropriate document for the software artefact.

## Subcode/SubName: 18ISL66/ SOFTWARE TESTING LABORATORY

CO1:	Implement operations related to files
CO2:	Apply the concepts of file system to produce the given application
	Evaluate performance of various file systems on given parameters.

Subcode/SubName: 18CSMP68/ MOBILE APPLICATION DEVELOPMENT

Course Outcomes:	
CO1:	Create, test and debug Android application by setting up Android development
	environment.
CO2:	Implement adaptive, responsive user interfaces that work across a wide range of
	devices.
CO3:	Infer long running tasks and background work in Android applications.
CO4:	Demonstrate methods in storing, sharing and retrieving data in Android applications
CO5:	Infer the role of permissions and security for Android applications.

## Semester : VII

Subcode/SubName: 18CS71 / ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING Course Outcomes:

CO1:	Appraise the theory of Artificial intelligence and Machine Learning.
CO2:	Illustrate the working of AI and ML Algorithms.
CO3:	Demonstrate the applications of AI and ML

## Subcode/SubName: 18CS72/ BIG DATA AND ANALYTICS

Course Outcomes:

CO1:	Understand fundamentals of Big Data analytics
CO2:	Investigate Hadoop framework and Hadoop Distributed File system
CO3:	Illustrate the concepts of NoSQL using Mongo DB and Cassandra for Big Data.
CO4:	Demonstrate the Map Reduce programming model to process the big data along with
	Hadoop tools.
CO5:	Use Machine Learning algorithms for real world big data
CO6:	Analyze web contents and Social Networks to provide analytics with relevant
	visualization tools.

Subcode/SubName: 18CS731/ SOFTWARE ARCHITECTURE AND DESIGN PATTERNS Course Outcomes:

CO1:	Design and implement codes with higher performance and lower complexity
CO2:	Be aware of code qualities needed to keep code flexible
CO3:	Experience core design principles and be able to assess the quality of a design with
	respect to these principles.
CO4:	Capable of applying these principles in the design of object oriented systems
CO5:	Demonstrate an understanding of a range of design patterns. Be capable of
	comprehending a design presented using this vocabulary
CO6:	Be able to select and apply suitable patterns in specific contexts

Subcode/SubName: 18CS732/ HIGH PERFORMANCE COMPUTING Course Outcomes:

CO1:	Illustrate the key factors affecting performance of CSE applications
CO2:	Illustrate mapping of applications to high-performance computing systems
CO3:	Apply hardware/software co-design for achieving performance on real-world applications

#### Subcode/SubName: 18CS733/ ADVANCED COMPUTER ARCHITECTURES

#### Course Outcomes:

CO1:	Explain the concepts of parallel computing and hardware technologies
CO2:	Compare and contrast the parallel architectures
CO3:	Illustrate parallel programming concepts

### Subcode/SubName: 18CS734/ USER INTERFACE DESIGN

#### Course Outcomes:

CO1:	Design the User Interface, design, menu creation, windows creation and connection
	between menus and windows

#### Subcode/SubName: 18CS741 / DIGITAL IMAGE PROCESSING

Course Outcomes:

CO1:	Explain fundamentals of image processing
CO2:	Compare transformation algorithms
CO3:	Contrast enhancement, segmentation and compression techniques

### Subcode/SubName: 18CS742/ NETWORK MANAGEMENT

Course Outcomes:

CO1:	Analyze the issues and challenges pertaining to management of emerging network
	technologies such as wired/wireless networks and high-speed internets
CO2:	Apply network management standards to manage practical networks
CO3:	Formulate possible approaches for managing OSI network model.
CO4:	Use on SNMP for managing the network
CO5:	Use RMON for monitoring the behavior of the network
CO6:	Identify the various components of network and formulate the scheme for the managing
	them

### Subcode/SubName: 18CS743/ NATURAL LANGUAGE PROCESSING

Course Outcomes:

CO1:	Analyze the natural language text.
CO2:	Define the importance of natural language
CO3:	Understand the concepts Text mining
CO4:	Illustrate information retrieval techniques

### Subcode/SubName: 18CS744/ CRYPTOGRAPHY

Course Outcomes:

CO1:	Define cryptography and its principles
CO2:	Explain Cryptography algorithms
CO3:	Illustrate Public and Private key cryptography
CO4:	Explain Key management, distribution and certification
CO5:	Explain authentication protocols
CO6:	Tell about IPsec

# Subcode/SubName: 18CS745/ ROBOTIC PROCESS AUTOMATION DESIGN & DEVELOPMENT

Course Outcomes:

CO1:	To understand Basic Programming concepts and the underlying logic/structure
CO2:	To Describe RPA, where it can be applied and how its implemented
CO3:	To Describe the different types of variables, Control Flow and data manipulation
	techniques
CO4:	To Understand Image, Text and Data Tables Automation
CO5:	To Describe automation to Email and various types of Exceptions and strategies to
	handle

### Subcode/SubName: 18CS751 / INTRODUCTION TO BIG DATA ANALYTICS

Course Outcomes:

CO1:	Explain the importance of data and data analysis
CO2:	Interpret the probabilistic models for data
CO3:	Define hypothesis, uncertainty principle
CO4:	Evaluate regression analysis

### Subcode/SubName: 18CS752 / PYTHON APPLICATION PROGRAMMING

Course Outcomes:

CO1:	Examine Python syntax and semantics and be fluent in the use of Python flow control
	and functions
CO2:	Demonstrate proficiency in handling Strings and File Systems.
CO3:	Create, run and manipulate Python Programs using core data structures like Lists,
	Dictionaries and use Regular Expressions.
CO4:	Interpret the concepts of Object-Oriented Programming as used in Python.
CO5:	Implement exemplary applications related to Network Programming, Web Services and
	Databases in Python

## Subcode/SubName: 18CS753 / INTRODUCTION TO ARTIFICIAL INTELLIGENCE Course Outcomes:

CO1:	Identify the AI based problems
CO2:	Apply techniques to solve the AI problems
CO3:	Define learning and explain various learning techniques
CO4:	Discuss on expert systems

# Subcode/SubName: 18CS754 / INTRODUCTION TO DOT NET FRAMEWORK FOR APPLICATION DEVELOPMENT

### Course Outcomes:

CO1:	Build applications on Visual Studio .NET platform by understanding the syntax and
	semantics of C#
CO2:	Demonstrate Object Oriented Programming concepts in C# programming language
CO3:	Design custom interfaces for applications and leverage the available built-in interfaces
	in building complex applications.
CO4:	Illustrate the use of generics and collections in C#
CO5:	Compose queries to query in-memory data and define own operator behavior

# Subcode/SubName: 18CSL76 / ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING LABORATORY

Course Outcomes:

CO1:	Implement and demonstrate AI and ML algorithms
CO2:	Evaluate different algorithms

## Semester : VIII

### Subcode/SubName: 18CS81 / INTERNET OF THINGS

Course Outcomes:

CO1:	Interpret the impact and challenges posed by IoT networks leading to new architectural models.
CO2:	Compare and contrast the deployment of smart objects and the technologies to connect
	them to network
CO3:	Appraise the role of IoT protocols for efficient network communication
CO4:	Elaborate the need for Data Analytics and Security in IoT
CO5:	Illustrate different sensor technologies for sensing real world entities and identify the
	applications of IoT in Industry

Subcode/SubName: 18CS821/ MOBILE COMPUTINGS

Course Outcomes:

CO1:	Explain state of art techniques in wireless communication
CO2:	Discover CDMA, GSM. Mobile IP, WImax
CO3:	Demonstrate program for CLDC, MIDP let model and security concerns

### Subcode/SubName: 18CS822 / STORAGE AREA NETWORKS

CO1:	Identify key challenges in managing information and analyze different storage
	networking technologies and virtualization
CO2:	Explain components and the implementation of NAS
CO3:	Describe CAS architecture and types of archives and forms of virtualization
CO4:	Illustrate the storage infrastructure and management activities

## Subcode/SubName: 18CS823/ NOSQL DATABASE

Course Outcomes:

CO1:	Define, compare and use the four types of NOSQL Databases (Document-oriented,
	Key Value Pairs, Column-oriented and Graph).
CO2:	Demonstrate an understanding of the detailed architecture, define objects, load data,
	query data and performance tune Column-oriented NOSQL database
CO3:	Explain the detailed architecture, define objects, load data, query data and performance
	tune Document-oriented NOSQL databases.

Subcode/SubName: 18CS824 / MULTICORE ARCHITECTURE AND PROGRAMMING

CO1:	Identify the limitations of ILP and the need for multicore architectures
CO2:	Define fundamental concepts of parallel programming and its design issues
CO3:	Solve the issues related to multiprocessing and suggest solutions
CO4:	Make out the salient features of different multicore architectures and how they exploit
	parallelism
CO5:	Demonstrate the role of Open MP and programming concept