Department of Computer Science and Engineering

Course Objectives
3rd Sem

18CS32 - Data Structures and Applications	
CO1	Design & implement operations of linear data structures like create, insert, delete, search & sort. K3
CO2	Identify & implement suitable linear data structure for the given problem.K3
CO3	Design & implement different types of linked list with its operations & their applications. K
CO4	Design & implement various trees with their operations and its application. K3
CO5	Design & implement graph and their traversal methods. K3
18CS33 - Analog and Digital Electronics	
CO1	Explain the use of photoelectronics devices, 555 timers IC, Regulator ICs and uA741 op amp IC.
CO2	Make use of simplifying techniques in the design of combinational circuits
CO3	Illustrate combinational and sequential digital circuits
CO4	Demonstrate the use of flip flops and apply for registers
CO5	Design and test counters, Analog-to-Digital and Digital-to-Analog conversion

	techniques.

18CS34 - Computer Organization	
CO1	Understanding the basic structure of a computer
CO2	Demonstrate the way of communicating with I/O devices and standard I/O interfaces
CO3	Describe different memory in computer system
CO4	Understanding the how arithmetic operations are performed
CO5	Illustrate organization of single and multiple bus organization and pipeline

18CS35 - Software Engineering	
CO1	Explain software system, component, or process to meet desired needs within realistic constraints.[K2]
CO2	Explain basic concepts of Object Oriented Concepts.[K2]
CO3	Explain system models, use UML diagrams and apply design patterns.[K2]
CO4	Apply various levels of software testing methods and the importance of software maintenance. [K3]
CO5	Describe estimation techniques, schedule project activities and compute pricing.[K2]

18CS36 - Discrete Mathematical Structures	
CO1	Understanding the fundamentals of Logic.
CO2	Understanding the properties of integers & Fundamental Principles of Counting
CO3	Demonstrate the use of Relations and Functions:
CO4	Illustrate The Principle of Inclusion and Exclusion & Recurrence Relations:

CO5	Identify the applicability of Trees and Graph Theory.

4th Sem

18CS41 - Complex Analysis, Probability and Statistical Methods	
CO1	
CO2	
CO3	

CO4	
CO5	

18CS42 - Design and Analysis of Algorithms

CO1	Explain the various computational problem-solving techniques [KL2]
CO2	Solve the various divide and conquer strategy based problems to find their time complexities. (KL3)
CO3	Apply greedy method to solve different problems (KL3)
CO4	Implement dynamic programming techniques to solve problems using the solutions of similar sub-problems. (KL3)
CO5	Employ backtracking techniques for problem solving. (KL3)

18CS43 - Operating Systems

CO1	Introduce the concepts and terminology used in OS, different types of OS and process management.
CO2	Explain threading and multithreaded systems, process synchronization.
CO3	Illustrate the concept of deadlock and memory management.
CO4	Illustrate the techniques for management of disk and file system.
CO5	Realize the different concepts of OS in platform of usage through case studies.

18CS44 - Microcontrollers and Embedded Systems

CO1	Understand the fundamentals of ARM based systems
CO2	Program ARM controller using the various instructions
CO3	Identify the applicability of the embedded system

CO4	Selection method and Attributes of an Embedded System
CO5	Comprehend the real time operating system used for the embedded system

18CS45 - Object Oriented Concepts	
CO1	Explain the object-oriented concepts & C++ Programming OO Concepts
CO2	Explain the object-oriented concepts and JAVA
CO3	Develop computer programs to solve real world problems in Java
CO4	Develop simple GUI interfaces for a computer program to interact with users
CO5	To understand the event-based GUI handling principles using Applets and swings

18CS46 - Data Communication	
CO1	List and Explain the layers and their functions in Network Models
CO2	Apply the data conversions and multiplexing techniques
CO3	Analyze the different error and flow control techniques at data link layers
CO4	Demonstrate the skills of media access control and wired Ethernet LAN's
CO5	Expose wireless and wired LANs.

5th Sem

18CS51- Management, Entrepreneurship for IT Industry	
CO1	Explain the structure, characteristics of management and the planning process for decision making.
CO2	Define the various roles of staff along with controlling and directing of the staff.
CO3	Describe roles and responsibilities of various entrepreneurs and implement systematic approaches in project preparation with financial support.

CO4	Discuss on planning, staffing, ERP and their importance
CO5	Analyze the characteristics, establishment and working of SSI along with case studies.

18CS52 - Computer Networks and Security

CO1	Analyze the different protocols of application layer along with their services
CO2	Understand the TCP architecture and able to write the FSM for different protocols.
CO3	Identify and building the skills of subnetting and routing mechanisms
CO4	Disseminate the security issues and related algorithms.
CO5	Illustrate concepts of Multimedia Networking, Security and Network Management

18CS53 - Database Management Systems

CO1	Understand the basic concepts of DBMS and able to construct ER-Model
CO2	Understand and apply the relational model constraints and Queries in Relational Algebra & SQL
CO3	Develop Database Programming Skills using SQL & JDBC
CO4	Apply the concepts of Normalizations and design database which possesses no anomalies
CO5	Discuss the issues related to Transaction Management

18CS54 - Automata Theory and Compatibility

CO1	Introduce core concepts in Automata and Theory of Computation
CO2	Identify different Formal language Classes and their Relationships
CO3	Design Grammars and Recognizers for different formal languages
CO4	Prove or disprove theorems in automata theory using their properties
CO5	Determine the decidability and intractability of Computational problems

18CS55 - Application Development using Python

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.

18CS56 - Unix Programming

CO1	Explain the UNIX architecture, and basic commands in UNIX
CO2	Illustrate Shell programming and to write Shell scripts
CO3	Categorize , compare and make the use UNIX system calls
CO4	Understanding the concept of IPC methods , shared memory
CO5	Build an application/service over a UNIX system

6th Sem

18CS61 - System Softwares and Compilers

CO1	Illustrate system software such as assemblers, loaders, linkers
CO2	Understanding the role of lexical analyzer
CO3	Knowing the role of syntax analyzer

CO4	Understanding Lex and Yaac tools
CO5	Understanding SDD, code generator

18CS62 - Computer Graphics and Visualization

CO1	Design and implement algorithms for 2D graphics primitives and attributes.
CO2	Illustrate Geometric transformations on 2D objects and 2D viewing
CO3	Illustrate Geometric transformations on 3D objects and Illumination Models
CO4	Apply concepts of visible surface detection in 3D viewing
CO5	Explain curve-generating concepts, interactive computer graphic using the OpenGL

18CS63 - Web Technology and its Applications

CO1	Understand and Adapt HTML and CSS syntax and semantics to build web pages
CO2	Design and visually format tables and forms using HTML and CSS
CO3	Build Client-Side Scripts using JavaScript and Server-Side Scripts using PHP to generate and display the contents dynamically
CO4	Illustrate the principles of object oriented development using PHP
CO5	Deploy JavaScript frameworks like jQuery and Backbone which facilitates developer to focus on core features.

18CS641 - Data Mining and Data Warehousing

CO1	Understand Data Warehouse fundamentals, Define multi-dimensional data models.
CO2	Design data warehouse with dimensional modeling and apply OLAP operations.
CO3	To analyze data, choose relevant models and algorithms for respective applications.

CO4	Explain rules related to classification,Compare and contrast between different Classification algorithms
CO5	Compare and contrast between different Clustering algorithms

18CS643 - Cloud Computing and its Applications

CO1	Explain the technology and principles involved in building a cloud environment.
CO2	Contrast various programming models used in cloud computing Cloud Computing Architecture.
CO3	Illustrate concurrent computing appropriate to cloud model for a given application
CO4	Outline Data Intensive Computing related to map reduce concepts
CO5	Explain the Cloud Platforms in Industry, Choose appropriate cloud model for a given application.

18CS644 - Advanced Java and J2EE

CO1	Develop Java Programs using concepts like Enumerations and Annotations.
CO2	Develop Java Programs using Collections.
CO3	Differentiate String and String Buffer Class and their methods.
CO4	Develop Java EE programs using concepts of Servlets and Server Pages.
CO5	Use JDBC concepts to create connection between Front End and Back End.

18CS651 - Mobile Application Development

CO1	Design and Develop Android application by setting up Android development environment.
CO2	Implement adaptive, responsive user interfaces that work across a wide range of devices.

CO3	To Study long running tasks and background work in Android applications
CO4	Demonstrate methods in storing, sharing and retrieving data in Android applications
CO5	Discuss the performance of android applications and understand the role of permissions and security and describe the steps involved in publishing Applications

18CSMP68 - Mobile Application Development	
CO1	Learn and acquire the knowledge of android programming .
CO2	Learn installing android studio to run the applications.
CO3	Implement android's user interface functions.
CO4	Create , modify and query on SQlite database
CO5	Inspect different methods of sharing data using services.

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