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S.No.	Sem.	Subject Code	Subject	Course Outcomes
1	3	3CS1A	Electronic Devices and Circuits	CO1: Analyzing diode and its applications in rectifier, regulator, multipliers etc.
				CO2: Evaluating characteristics and applications of BJT and FET
				CO3: Understanding differential amplifier and its applications
2	3	3CS2A	Data Structures and Algorithms	CO1 Understand different type of data structures and their measuring parameters
				CO2 Implement various data structures
				CO3. Analyze various measuring parameters and data structures (Linear/Non-Linear)
				CO4 Apply the knowledge of various data structures in basic applications of programming
3	3	3CS3A	Digital Electronics	CO1: Understanding Boolean algebra, conversions and minimization techniques.
				CO2: Creating various combinational and sequential circuits
				CO3: Understanding different logic families
				CO4 Creating of circuits using different minimization techniques.
4	3	3CS4A	Linux and Shell Programming	CO1 Understand the basic set of commands and utilities of Linux administration.
				CO2 Apply Linux tools such as vi editor for text processing
				CO3 Understand X-window environment and analyze its applications in Linux operating system
				CO4 Develop programs in shell scripting and execute methods for controlling and handling processes, jobs and builtin functions of shell.
5	3	3CS5A	OOPS	1. Understand the paradigms of object oriented programming in comparison of procedural oriented programming.
				2. Apply the class structure as fundamental, building block for computational programming.
				3. Apply the major object-oriented concepts to implement object oriented programs in C++.
				4. Implement the concept of abstraction inheritance, polymorphism, dynamic binding and generic structure in building reusable code.
6	3	3CS6A	AEM	1)Solve the Linear, Non Linear and Transportation problems by the Optimization Techniques
				2) Explain the concept of divisibility, Congruence, Prime and Prime factorization. Describe the properties of the Group, Ring and Field.
				3) Solve the Ordinary and Partial Differential equations by use of Laplace Transform.
				4) Use numerical methods for Differentiation and Integration, solve Difference and Differential equations and also develop the algorithm for numerical methods.
7	4	4CS1A	MP	CO1: Demonstrate the taxonomy of 8085 Microprocessor Architecture and knowledge of contemporary microprocessor and their functionalities
				CO2: Demonstrate Assembly Language Programming using the various addressing Modes, Debugging Technique and instruction set of 8085 Microprocessor.

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				CO3: Understand the concept of advance assembly language programming and its implementation
				CO4: Analyze and design of 8255,8254,8279,8251 and interfacing with various devices.
8	4	4CS2A	DMS	CO1. Understand the concept and operations of Sets, Functions and Relations.
				CO2. Explain and construct proofs by certain methods.
				CO3. Understand the concepts of graphs and trees and their use to visualize and simplify situations.
				CO4. Understand the concepts of logics and their uses.
9	4	4CS3A	SPT	CO1Use the concept of probability theory and properties of probability distributions in engineering problems.
				CO2Explain the concept of principal of least square and find relation between two and more variables.
				CO3 Solve waiting line problems and predict the result from previous information.
10	4	4CS4A	SE	CO1: Understand the purpose of designing a system and evaluate the various models suitable as per its requirement analysis.
				CO2 Understand and apply requirements specification into an implementable design using structured process and UML
				CO3: Formulate a testing strategy for the system design and implement the concept of OOD & OOA.
				CO4: Understand & Implement the various new technologies in software development.
11	4	4CS5A	POC	CO1 :Understand and analyze the transmission of continuous signals in communication systems through Analog Modulation – Demodulation techniques.
				CO2 :Understand and analyze the Conversion of continuous analog signal to digital signal via sampling and transmission via Pulse Analog Modulation.
				CO3 :Analyze the Band Limited digitization of continuous signals in communication systems through PCM quantization and Delta Modulationtechnique.
				CO4 :Analyze the Bands pass transmission of digital signal via Digital modulation techniques and spread spectrum modulation.
12	4	4CS6A	PPL	CO1. Understand the syntax and semantics of programming languages.
				CO2. Understand and apply programming language design issues.
				CO3 . Apply the concept of parameter passing, sub-programming and Scope of programming languages
				CO4. Understand and apply ADT's and memory management techniques for programming languages.
				Co1: Ability to understand the functional units of the processor and various micro operations.

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13	5	5CS1A	CA	Co2: Analyze different architectural and organizational design issues that can affect the performance of a computer.
				Co3. Examine the airthmetic problems and principles of computer design.
				Co4. Describe and examine the concept of cache memory, Virtual memory and I/O organization.
14	5	5CS2A	**DLD**	Co1: Describe, design, simulates, and synthesizes computer hardware using the VHDL
				Co2: Design combinational and sequential logic that works according to timing constraints.
				CO3:Design complex state machines various PLDs and memories .
				CO4:Implement Event-driven circuits with removal of races and hazards and understanding FPGAs.
15	5	5CS3A	TEF	CO1:Apply knowledge of data transmission, its media, network reference models along with data link layer and flow control techniques.
				CO2: Perform various error detection and correction techniques and identify MAC sub layer concepts at different layer.
				CO3: Analyze and evaluate Wireless LAN techniques as well as Multiplexing and Switching techniques involved in telecommunication.
				CO4:Apply and Compare various Spread spectrum techniques and multiple access methods on different layers.
16	5	5CS4A	DBMS	CO1 Analyze the basic structure of Database and recognize the different views of the database.
				CO2 Examine the use of Relational Data Model, while comparing with other data models w.r.t ERD.
				CO3 Formulate data retrieval queries in SQL and the Relational Algebra and Calculus.
				CO4 Describe and develop the semantics of a SQL query in set-theoretic terms.
17	5	5CS5A	OS	CO1 Identify the principles and modules of operating systems and threads
				CO2 Compare and evaluate various process scheduling algorithms.
				CO3 Implement Deadlock Handling techniques, Memory Management and Disk Scheduling Algorithms
				CO4 Apply access control and protection techniques various operating system.
18	5	5CS6.3	ITC	CO1 Apply the fundamental concepts of information theory viz. entropy, mutual information and channel capacity in communication system.
				CO2 Examine the principles of source coding and data transmission.
				CO3 Analyze linear block code, cyclic code and Convolution code.
				CO4 Evaluate information theoretic methods to novel settings of encoding and decoding techniques.
19	6	6CS1A	CN	CO1. Understand the principles of Network Design issues and congestion control techniques.
				CO 2. Analyze and Apply the concepts of various routing protocols and IP addressing.
				CO 3. Analyze and implement working of TCP/UDP and principles of reliable data transfers along with transactional TCP and associated congestion control
				CO 4. Classify role of application layer, its various elements like WWW, DNS FTP & network security and P2P file sharing implementation.

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20	6	6CS2A	DAA	CO1: Understand and analyzing the algorithms with different techniques
				CO2: Discuss various design strategies for implementing algorithms
				CO3: Implement various divide and conquer,greedy and dynamics statergies based algorithms
				CO4: Classify the algorithms and problems in various categories like NP, NP-Hard & NP-Complete
21	6	6CS3A	TOC	CO1: Examine Finite Automata and Regular Expression.
				CO2: Classify regular sets of Regular Grammars.
				CO3: Categorize Context Free Language and Design Pushdown automata.
				CO4: Design Turing machine, compare Chomsky hierarchy languages and analyze Linear bounded automata.
22	6	6CS4A	CG	Co1. Implement geometric images using graphical input techniques
				Co2. Design and develop images with the help of 2D & 3D transformations.
				CO3. Identify visible surfaces for generation of realistic graphics display and curves representation.
				CO4.Analyze multimedia and animation techniques.
23	6	6CS5A	ESD	CO1: Understand the concept of Embedded system.
				CO2: Examine interrupt terminologies and its fundamentals.
				CO3: Discuss overview of Real Time Operating system, its features and design considerations.
				CO4: Demonstrate testing and debugging tools used in the embedded system at host and target system.
24	6	6CS6.2A	AI	CO1: Understand the concept of Artificial Intelligence and apply various searching techniques
				CO2: Illustrate various knowledge representation techniques in Artificial Intelligence system..
				CO3: Analyze various concepts like Baye's theorem, fuzzy logic, Probabilistic Reasoning
				CO4: Apply basic concepts of learning, natural language processing, neural networks and expert systems.
25	7	7CS1A	CLOUD	CO1 Understand the cloud computing architecture i.e., the model, types of clouds, various service models and programming concepts
				CO2 Analyze the recent trends in area of cloud computing like Hadoop, programming of Google app engine and virtualization technology and resource management
				CO3 Identify and evaluate the various threats related to cloud and disaster recovery system
				CO4 Analyze the cloud platforms in IT industry and deploy various services.
26	7	7CS2A	ISS	CO1: Identify different security attacks, Mechanism, classical and modern encryption techniques
				CO2: Apply random number generation , AES and S-box theory and Implement public key cryptosystem.
				CO3: Evaluate message authentication and digital signatures using hash function and IP security.
				C04: Analyze & Implement Water marking technique and strong password protocol in Information Seccurity System

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27	7	7CS3A	DMW	CO1: Understand the concepts and benefits of Data mining in the real time scenario.
				CO2: Acquire basic knowledge about concept description of data mining algorithms
				CO3: Illustrate concept of Data Warehouses with OLAP applications and OLAP deployment.
				CO4: Design a data mart for management of information.
28	7	7CS4A	CAD VLSI	CO1: Aquire understanding of microelectronic circuit design to synthesize a digital circuit.
				CO2: Analyze various resource optimizaton algorithms and understanding binding process..
				CO3:Analyze various VLSI Physical design algorithms to get optimized design.
				CO4: Identify and demonstrate VLSI design coding tools.
29	7	7CS5A	COMPILER	CO1: Compare different phases of compiler and design lexical analyzer.
				CO2: Examine syntax and semantic analyzer and illustrate storage allocation and its organization.
				CO3: Analyze symbol table organization, code optimization and code generator
				CO4: Compare and evaluate various compilers and analyzers
30	7	7CS6.3A	DCT	CO1: Apply fundamental concepts in information theory and their inter-relationships.
				CO2: Implement key theorems for various encoding methods.
				CO3: Analyze and implement wavelet multi-resolution and its scaling function for compression.
31	8	8CS1A	MC	CO1: Understand the basic concepts of mobile computing and its mechanisms.
				CO2: Analyze the data dissemination and management techniques.
				CO3: Compare the service discovery and its standardization Methods
				CO4: Apply and compare Adhoc Networks using different protocols.
32	8	8CS2A	DIP	CO1 Understand the fundamental aspects of image processing.
				CO2 Apply the mathematical foundations for image enhancement in spatial and frequency domains.
				CO3 Compare and Implement filters for various types of noise.
				CO4 Evaluate various coding algorithms used in image processing and compression.
33	8	8CS3A	DS	CO1: Understand distributed system concepts and desired properties of such systems
				CO2: Understand and analyze the problems and challenges associated with distributed system.
				CO3: Apply key distributed system properties and evaluate various distributed systems
				CO4: Design and deploy distributed system using various mechanisms
34	8	8CS4.2A	RTS	CO1: Understand and analyze various constraints, dependencies and parameters of Real Time Software.
				CO2: Compare & implement various Real time Scheduling algorithms.

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S.No.	Sem.	Subject Code	Subject	Course Outcomes
34	8	8CS4.2A	RTS	CO3: Analyze and construct periodic task scheduling using flexible computation techniques
				CO4: Comapre and contrast various protocols for assigning jobs to processor