COURSE OUTCOMES FOR ACADEMIC YEAR 2020-2021

COURSE NAME	TRANSFORM CALCULUS, FOURIER SERIES AND NUMERICAL TECHNIQUES		
COURSE CODE:	18MAT31	SEMESTER-3	SCHEME-2018
CO Numbers	**Course Outcomes**		
18MAT31.1	Use Laplace transform and Inverse Laplace transform in solving differential / Integral equation arising in network analysis, control systems and other fields of engineering.		
18MAT31.2	Demonstrate Fourier series to study the behaviour of periodic functions and their applications in system communications, digital signal processing and field theory.		
18MAT31.3	Make use of Fourier transform and Z-transform to illustrate discrete/ continuous function arising in wave and heat propagation, signals and systems.		
18MAT31.4	Solve first and second order ordinary differential equations arising in engineering problems using single step and multi step numerical methods.		
18MAT31.5	Determine the extremals of functionals using calculus of variations and solve problems arising in dynamics of rigid bodies and vibrational analysis.		

COURSE NAME	DATA STRUCTURES AND APPLICATIONS		
COURSE CODE:	18CS32	SEMESTER-3	SCHEME-2018
CO Numbers	Course Outcomes		
18CS32.1	**Apply** different types of data structures, operation and algorithms for searching, sorting and pattern matching for the given problems.		
18CS32.2	**Illustrate** the operations of stack and queues and **Implement** the algorithms for stack and queue applications.		
18CS32.3	**Distinguish** between SLL, DLL and CLL by its operations and **Implement** algorithms for its applications such as polynomials and sparse matrix.		
18CS32.4	**Illustrate** the operations of trees and **Implement** the algorithms for the given problems using binary trees.		
18CS32.5	**Implement** the algorithms for searching, sorting and file manipulation operations in different applications.		

COURSE NAME	ANALOG AND DIGITAL ELECTRONICS

COURSE CODE:	18CS33	SEMESTER-3	SCHEME-2018
CO Numbers	Course Outcomes		
18CS33.1	**Explain** various analog circuits with their applications and **understand** the fundamental knowledge between analog and digital signal.		
18CS33.2	**Understand and Describe** different types of combinational logic circuits by using abridge mapping techniques.		
18CS33.3	**Understand and Design** combinational logic circuits with limited Gate fan-in, Operation of Decoders, Encoders, Multiplexers and PLD's.		
18CS33.4	**Illustrate** combinational logic circuits using VHDL simulation and **implement** the working of Sequential Circuit.		
18CS33.5	**Understand and Design** different data processing circuits using flip flops.		

COURSE NAME	COMPUTER ORGANIZATION		
COURSE CODE:	18CS34	SEMESTER-3	SCHEME-2018
CO Numbers	Course Outcomes		
18CS34.1	**Explain** the working of a computer system by using machine level instructions.		
18CS34.2	**Analyse** and **Choose** appropriate interrupt hardware for communication with I/O devices.		
18CS34.3	**Explain** different types of memory architecture and **illustrate** memory mapping, replacement and its performance		
18CS34.4	**Apply** various arithmetic and logical operations on integer data by choosing appropriate algorithms		
18CS34.5	**Explain** the processing unit, organization of processor and pipelining.		

COURSE NAME:	SOFTWARE ENGINEERING		
COURSE CODE:	18CS35	SEMESTER-3	SCHEME-2018
CO Numbers	Course Outcomes		
18CS35.1	**Understand** software engineering principles, ethics, software process with software models and requirement engineering.		
18CS35.2	**Describe** object orientation and **Demonstrate** system model using UML diagrams.		
18CS35.3	**Describe** different system models using UML diagram, design pattern and understand RUP.		

18CS35.4	**Compare** various testing and **Recognize** the importance of software maintenance and **describe** the details involved in software evolution.
18CS35.5	**Apply** estimation techniques, schedule project activities, compute pricing and identify software measurements and metrics for quality management.

COURSE NAME:	DISCRETE MATHEMATICAL STRUCTURES		
COURSE CODE:	18CS36	SEMESTER-3	SCHEME-2018
CO Numbers	Course Outcomes		
18CS36.1	**Understand** fundamentals of logic and apply proposition and predicate logic in correctness of argument.		
18CS36.2	Demonstrate the property of integer and solve problems using fundamental principles of counting.		
18CS36.3	Apply relations and functions concepts to solve fundamentals problems.		
18CS36.4	Understand the principle of inclusion and exclusion, recurrence relations and apply to solve complex problems.		
18CS36.5	Compare graph and trees, and understand the applications of graph theory in Computer Science.		

COURSE NAME:	ANALOG AND DIGITAL ELECTRONICS LABORATORY		
COURSE CODE:	18CSL37	SEMESTER-3	SCHEME-2018
CO Numbers	Course Outcomes		
18CSL37.1	**Design** analog circuits along with different electronics devices and components.		
18CSL37.2	**Design and Implement** several combinational logic circuits.		
18CSL37.3	**Design and Implement** several sequential logic circuits.		
18CSL37.4	**Design and Implement** various data processing circuits.		
18CSL37.5	**Understand** and simulate numerous analog and digital circuits		

COURSE NAME:	DATA STRUCTURES LABORATORY

COURSE CODE:	18CSL38	SEMESTER-3	SCHEME-2018
CO Numbers	Course Outcomes		
18CSL38.1	Design, Develop and implement programs on array and string operations and applications.		
18CSL38.2	Design, Develop and implement programs on Stack, Queue and Linked List operations and applications.		
18CSL38.3	Design, Develop and implement programs on Tree, Graph and Heap operations.		
18CSL38.4	Design, Develop and implement programs on Files, Searching , Sorting and Hashing operations.		

COURSE NAME:	COMPLEX ANALYSIS, PROBABILITY AND STATISTICAL METHODS		
COURSE CODE:	18MAT41	SEMESTER-4	SCHEME-2018
CO Numbers	Course Outcomes		
18MAT41.1	Use the concepts of analytic function and complex potentials to solve the problems arising in electromagnetic field theory		
18MAT41.2	Utilize conformal transformation and complex integral arising in aerofoil theory, fluid flow visualization and image processing.		
18MAT41.3	Apply discrete and continuous probability distributions in analyzing the probability models arising in engineering field		
18MAT41.4	Make use of the correlation and regression analysis to fit a suitable mathematical model for the statistical data.		
18MAT41.5	Construct joint probability distributions and demonstrate the validity of testing the hypothesis.		

COURSE NAME:	COMPLEX ANALYSIS, PROBABILITY AND STATISTICAL METHODS		
COURSE CODE:	18CS42	SEMESTER-4	SCHEME-2018
CO Numbers	Course Outcomes		
18CS42.1	Understand the performance analysis of algorithms by applying asymptotic notations.		
18CS42.2	Describe computational solution to well-known problems using divide and conquer method.		
18CS42.3	Analyse the performance of various greedy algorithms.		
18CS42.4	Design and analyse dynamic-programming algorithms.		

18CS42.5	Estimate the computational complexity of different algorithms.

COURSE NAME:	**OPERATING SYSTEMS**		
COURSE CODE:	**18CS43**	**SEMESTER-4**	**SCHEME-2018**
CO Numbers	**Course Outcomes**		
18CS43.1	Understand the fundamentals of OS and process management concepts.		
18CS43.2	Apply suitable technique for process scheduling and understand the concept of synchronization		
18CS43.3	Understand and apply various concepts of deadlock detection, prevention and memory management strategies.		
18CS43.4	Understand the concept of virtual memory management and file systems.		
18CS43.5	Understand the concepts of secondary storage structures and Linux OS using case studies.		

COURSE NAME:	**MICRO CONTROLLER AND EMBEDDED SYSTEMS**		
Course Code:	18CS44	**SEMESTER-4**	**SCHEME-2018**
CO Numbers	**Course Outcomes**		
	Describe the architectural features and instructions of ARM microcontroller.		
18CS44.2	**Understand** the programming ARM for different applications and **Interface** external devices and I/O with ARM Microcontroller.		
18CS44.3	**Interpret** the basic hardware components and their selection method based on the characteristics and attributes of an embedded system.		
18CS44.4	**Develop** the hardware/software co-design and firmware design approaches.		
18CS44.5	**Demonstrate** the need of real time operating system for embedded system applications.		

COURSE NAME:	**OBJECT ORIENTED CONCEPTS**

COURSE CODE:	18CS45	SEMESTER-4	SCHEME-2018
CO Numbers	Course Outcomes		
18CS45.1	**Explain** and **Implement** the object-oriented concepts for solving simple problems using C++ features.		
18CS45.2	**Illustrate** JAVA Buzzwords and **Implement** Object Oriented constructs and semantics for a given simple problem.		
18CS45.3	**Elucidate** the need of classes, inheritance and exception handling in JAVA language and **develop** simple programs of JAVA for corresponding problem statement.		
18CS45.4	**Explain** the need of multithreaded programming, packages and interface in JAVA language and **develop** simple programs of JAVA for a given problem statement.		
18CS45.5	**Understand** the swings and event handling and **create** an appropriate user interface using swing components and event handling for a given problem statement.		

COURSE NAME:	DATA COMMUNICATION		
COURSE CODE:	18CS46	SEMESTER-4	SCHEME-2018
CO Numbers	Course Outcomes		
18CS46.1	**Illustrate** basic computer network technology.		
18CS46.2	**Explain** the various components of data communication.		
18CS46.3	**Explain** the fundamentals of digital communication and switching.		
18CS46.4	**Distinguish** various data link layer protocols.		
18CS46.5	**Summarize** IEEE 802.xx standards		

COURSE NAME	DESIGN AND ANALYSIS OF ALGORITHMS LABORATORY		
COURSE CODE:	18CSL47	SEMESTER-4	SCHEME-2018
CO Numbers	Course Outcomes		
18CSL47.1	Apply and implement various object oriented concepts to solve real world problems.		
18CSL47.2	Design algorithms using brute-force, greedy, dynamic programming, divide and conquer approaches to analyse the performance.		

18CSL47.3	Implement algorithms such assorting, graph related, combinatorial, to analyse the performance.
18CSL47.4	Apply and compare the performance of algorithms that use back tracking principle.
18CSL47.5	Apply/implement algorithm design techniques and data structures to solve real world problems.

COURSE NAME	**MICRO CONTROLLER AND EMBEDDED SYSTEMS LABORATORY**		
COURSE CODE:	**18CSL48**	**SEMESTER-4**	**SCHEME-2018**
18MAT48.1	**Understand** the ARM7/TDMI/LPC2148 evaluation board/simulator like embedded C, Keil µ-Vision-4 tool/Compiler.		
18CSL48.2	**Develop** the Microcontroller conceptual programs to solve various arithmetic and logical problems.		
18CSL48.3	**Construct** the program to implement applications using ADC		
18CSL48.4	**Design** and **Develop** the programs to implement the LED, LCD applications		

COURSE NAME	**SAMSKRUTHIKA KANNADA**		
COURSE CODE:	**18KAK49**	**SEMESTER-4**	**SCHEME-2018**
CO Numbers	**Course Outcomes**		
18KAK49.1	**Understand** about Samskruthika Kannada.		
18KAK49.2	**Understand** the grammar of Kannada language		
18KAK49.3	**Remember** about how to use punctuation in articles.		
18KAK49.4	**Understand** about how to write applications and letters for Government and semi-Government offices for different purposes.		

COURSE NAME	**MANAGEMENT AND ENTREPRENEURSHIP FOR IT INDUSTRY**		
COURSE CODE:	**18CS51**	**SEMESTER-5**	**SCHEME-2018**

CO Numbers	Course Outcomes
18CS51.1	**Explain** management, organization, planning, staffing and outline their importance in entrepreneurship.
18CS51.2	**Understand** the meaning and nature of directing, communication, co-ordination, controlling.
18CS51.3	**Understand** the development of entrepreneurship as a field of study and as a profession.
18CS51.4	**Identify** and prepare a project by using resources available through ERP.
18CS51.5	Analyse industrial policies set by government on micro and small enterprises using various Case studies.

COURSE NAME	COMPUTER NETWORKS AND SECURITY		
COURSE CODE:	18CS52	SEMESTER-5	SCHEME-2018

CO Numbers	Course Outcomes
18CS52.1	**Explain** the principles of application layer protocols
18CS52.2	**Classify** transport layer services and infer UDP and TCP protocols
18CS52.3	**Classify** routers, IP and Routing Algorithms in network layer
18CS52.4	**Explain** the basics of network security and algorithms used in security.
18CS52.5	**Describe** Multimedia Networking and Network management

COURSE NAME	DATABASE MANAGEMENT SYSTEM		
COURSE CODE:	18CS53	SEMESTER-5	SCHEME-2018

CO Numbers	Course Outcomes
18CS53.1	**Design** schema and ER diagram using RDBMS.
18CS53.2	**Modify** database by applying relational model and relational algebra.

18CS53.3	**Design** and **build** simple database systems or applications using embedded and dynamic SQL.
18CS53.4	**Understand** and **apply** dependencies, normalization and normalization algorithms on a designed database.
18CS53.5	**Understand** transaction processing, concurrency control and database recovery protocols.

COURSE NAME	**AUTOMATA THEORY AND COMPUTABILITY**		
COURSE CODE:	**18CS54**	**SEMESTER-5**	**SCHEME-2018**
CO Numbers	**Course Outcomes**		
18CS54.1	**Explain** the core concepts in Automata theory and Theory of Computation		
18CS54.2	**Construct** Grammars and Automata for various language classes like RL's, CFL's and Decidable Languages.		
18CS54.3	**Develop** skills in formal reasoning and become knowledgeable about restricted models of computation such as Regular and Context free.		
18CS54.4	**Analyse** different computational models and **translate** between various models.		
18CS54.5	**Apply** formal mathematical approaches to prove properties of languages, grammars and Automata.		

COURSE NAME	**APPLICATION DEVELOPMENT USING PYTHON**		
COURSE CODE:	**18CS55**	**SEMESTER-5**	**SCHEME-2018**
CO Numbers	**Course Outcomes**		
18CS55.1	**Understand** and **implement** the basic programming constructs with flow control statement, functions and Exception handling.		
18CS55.2	**Understand** and **implement** the data structures in python such as List, Tuples, Strings and Dictionaries techniques.		
18CS55.3	**Understand** and **demonstrate** pattern matching technique with RE, complete file system and debugging.		
18CS55.4	**Interpret** and **apply** OOP's the concepts such as classes and objects, class and methods, classes and functions and Inheritance in Python.		

18CS55.5	**Comprehend** and **apply** the processes of web scraping, working with Excel spread sheets, PDF, Word, CSV, JSON file formats.

COURSE NAME	**UNIX PROGRAMMING**		
COURSE CODE:	**18CS56**	**SEMESTER-5**	**SCHEME-2018**
CO Numbers	**Course Outcomes**		
18CS56.1	**Explain** the architecture, and **Use** of basic commands and types in UNIX.		
18CS56.2	**Understand and Analyse** how to view and modify file permissions, **Implement** various connecting commands used in UNIX such as grep, egrep and also perform pattern matching and also **Design** various shell scripts for a given problem.		
18CS56.3	**Elucidate** UNIX File System and different UNIX File types and also **Implement** various process commands and process relationships		
18CS56.4	**Implement** Inter-process communications using the various methods like Pipes, FIFO and Message Queues		
18CS56.5	**Explain** the various UNIX signals with programs and Characteristics of Daemon Process.		

COURSE NAME	COMPUTER NETWORK LABORATORY		
COURSE CODE:	18CSL57	SEMESTER-5	SCHEME-2018
CO Numbers	Course Outcomes		
18CSL57.1	**Implement, analyze and evaluate** various networking concepts like Point-to-point, Ping messages and Ethernet LAN using NS2/NS3.		
18CSL57.2	**Implement, analyze and evaluate** performance of ESS, GSM and CDMA using NS2/NS3.		
18CSL57.3	**Demonstrate** the working of different concepts of networking like cryptography algorithm, routing algorithm and congestion control algorithm.		
18CSL57.4	**Demonstrate** the working of Transport layer protocols using socket programming.		

COURSE NAME	DBMS LABORATORY WITH MINI PROJECT		
COURSE CODE:	18CSL58	SEMESTER-5	SCHEME-2018
CO Numbers	Course Outcomes		
18CSL58.1	**Design** the schema and choose appropriate relationship between them.		
18CSL58.2	**Create** and **update** the tables using SQL.		
18CSL58.3	**Analyze** and **Develop** the query and views for the given database.		
18CSL58.4	**Demonstrate** the working of different concepts of DBMS.		
18CSL58.5	**Design, Develop** and **implement** the projectdeveloped for an application.		

COURSE NAME	SYSTEM SOFTWARE AND COMPILERS		
COURSE CODE:	18CS61	SEMESTER-6	SCHEME-2018
CO Numbers	Course Outcomes		

18CS61.1	**Design** and **Apply** SIC assembler translation process of given source program to Machine language program, and **Analyse** the architectural features of SIC standard and SIC/XE systems, **Understand** Design Options of SIC Assembler.
18CS61.2	**Understand** the Structure of the Compiler and **Design** the process of Lexical Analyzer.
18CS61.3	**Analyze** and **Design** different types of parsers and **Apply** the Parser process for a given source string and respective grammar
18CS61.4	**Design** and **Demonstrate** some programs using LEX and YACC programming languages.
18CS61.5	**Understand** SDD and SDT, **Apply** the operations of intermediate code generation phase, code generation phase, and code optimization phase to a given example source code.

COURSE NAME	**COMPUTER GRAPHICS AND VISUALIZATION**		
COURSE CODE:	**18CS62**	**SEMESTER-6**	**SCHEME-2018**
CO Numbers	**Course Outcomes**		
18CS62.1	**Understand** suitable hardware and software to develop graphic packages using OpenGL and **implement** algorithm for 2D graphics using primitives and attributes		
18CS62.2	**Apply** concepts of polygon fill area functions for 2D geometric primitives and **Implement** OpenGL geometric transformation functions for 2D objects.		
18CS62.3	**Apply** concepts of line clipping algorithm and illuminations models for 2D geometric primitives and **Implement** OpenGL geometric transformation functions for 3D objects.		
18CS62.4	**Comprehend** projection transformation matrices for 2D and 3D viewing and **Apply** visible surface detection methods using OpenGL functions.		
18CS62.5	**Implement** menu driven interactive programs using OpenGL functions and **Explain** corresponding OpenGL functions for curves and surfaces.		

COURSE NAME	**WEB TECHNOLOGY AND ITS APPLICATIONS**		
COURSE CODE:	**18CS63**	**SEMESTER-6**	**SCHEME-2018**
CO Numbers	**Course Outcomes**		
	Understand the basics of HTML & CSS and **Implement** the basic and advanced concepts of HTML and CSS through client sided programming.		

18CS63.1	
18CS63.2	**Comprehend** the basics of JavaScript and **Implement** the basic and advanced concepts of JavaScript through client sided programming.
18CS63.3	**Demonstate** the basic programming constructs in PHP and **Implement** the basic and advanced concepts of PHP through server sided programming.
18CS63.4	**Elucidate** the different concepts of web technology and **Implement** the concepts such as managing state, cookies, serialization, session, AJAX, XML and JSON using PHP programs

COURSE NAME	**ADVANCED JAVA AND J2EE**		
COURSE CODE:	**18CS644**	**SEMESTER-6**	**SCHEME-2018**
CO Numbers	**Course Outcomes**		
18CS644.1	**Comprehend** the basics of enumerations, auto boxing and annotations and **Apply** the concepts with typical programs.		
18CS644.2	**Explain** the basics of different collections and interfaces and **Apply** the concepts with appropriate program.		
18CS644.3	**Explain** and **Implement** types of string constructors and string handling methods and operations.		
18CS644.4	**Elucidate** and **Implement** servlets, HTTP Requests and Responses, and JSP in web applications		
18CS644.5	**Illustrate** and **Apply** database connectivity and access through JDBC/ODBC bridge.		

COURSE NAME	**OCCUPATIONAL HEALTH & SAFETY**		
COURSE CODE:	**18CV653**	**SEMESTER-6**	**SCHEME-2018**
CO Numbers	**Course Outcomes**		
18OSH653.1	Identify hazards in the workplace that pose danger or threat to their safety or health, or that of others.		
18OSH653.2	Control unsafe o run health hazards and propose methods to eliminate the hazard.		
18OSH653.3	Present a coherent analysis of a potential safety or health hazard both verbally and in writing, citing the occupational Health and Safety Regulations as well as supported legislation.		

18OSH653.4	Discuss the role of health and safety in the workplace pertaining to the responsibilities of workers, managers, supervisors
18OSH653.5	Identify the decisions required to maintain protection of the environment, workplace.
18OSH653.6	Identify the decisions required to maintain personal health and safety

COURSE NAME	**NON CONVENTIONAL ENERGY SOURCES**		
COURSE CODE:	**18ME651**	**SEMESTER-6**	**SCHEME-2018**
CO Numbers	**Course Outcomes**		
18ME651.1	Describe the environmental aspects of non-conventional energy resources. In comparison with various conventional energy systems, their prospects and limitations.		
18ME651	Describe the use of solar energy and the various components used in the energy production with respect to applications like-heating, cooling, desalination, power generation, drying, cooking etc.		
18ME651	Appreciate the need of Wind Energy, OTEC and the various components used in energy generation and know the classifications.		
18ME651	Acquire the knowledge of fuel cells, wave power, tidal power and geothermal principles and applications.		
18ME651	Understand the concept of Biomass energy resources and their classification, types of biogas Plants applications.		

COURSE NAME	**COMPUTER GRAPHICS LABORATORY AND MINI PROJECT**		
COURSE CODE:	**18CSL67**	**SEMESTER-6**	**SCHEME-2018**
CO Numbers	**Course Outcomes**		
18CSL67.1	**Apply** the concepts of computer graphics		
18CSL67.2	**Animate** real world problems using OpenGL		
18CSL67.3	**Implement** computer graphics applications using OpenGL		

COURSE NAME	MOBILE APPLICATION DEVELOPMENT		
COURSE CODE:	18CSMP68	SEMESTER-6	SCHEME-2018
CO Numbers	Course Outcomes		
18CSMP68.1	Create, test and debug Android application by setting up Android development environment.		
18CSMP68.2	Implement adaptive, responsive user interfaces that work across a wide range of devices.		
18CSMP68.3	Infer long running tasks and background work in Android applications.		
18CSMP68.4	Demonstrate methods in storing, sharing and retrieving data in Android applications		
18CSMP68.5	Infer the role of permissions and security for Android applications.		

COURSE NAME	WEB TECHNOLOGY AND ITS APPLICATIONS		
COURSE CODE:	17CS71	SEMESTER-7	SCHEME-2017
CO Numbers	Course Outcomes		
17CS71.1	**Understand** the basics of HTML & CSS and **Implement** the basic and advanced concepts of HTML and CSS through client sided programming.		
17CS71.2	**Comprehend** the basics of JavaScript and **Implement** the basic and advanced concepts of JavaScript through client sided programming.		
17CS71.3	**Demonstate** the basic programming constructs in PHP and **Implement** the basic and advanced concepts of PHP through server sided programming.		
17CS71.4	**Elucidate** the different concepts of web technology and **Implement** the concepts such as managing state, cookies, serialization, session, AJAX, XML and JSON using PHP programs		

COURSE NAME	ADVANCED COMPUTER ARCHITECTURES(ACA)

COURSE CODE:	17CS72	SEMESTER-7	SCHEME-2017
CO Numbers	Course Outcomes		
17CS72.1	**Differentiate** the parallel computer models and **Identify** theperformance metrics of scalable parallel computers.		
17CS72.2	**Analyse**the various hardware technologies using processors and memory hierarchy.		
17CS72.3	**Distinguish** the performance of pipelining and non-pipelining environment in a processor		
17CS72.4	**Compare** and **contrast** the parallel and scalable architectures		
17CS72.5	**Demonstrate** the software for parallel programming concepts		

COURSE NAME	MACHINE LEARNING		
COURSE CODE:	17CS73	SEMESTER-7	SCHEME-2017
CO Numbers	Course Outcomes		
17CS73.1	**Study** fundamental issues and **find** solutions to problems relevant to machine learning		
17CS73.2	**Study and reproduce** theimplementation of decision tree algorithm to solve different problems.		
17CS73.3	**Comprehend and apply** Artificial Neural Network techniques to solve certain problems in Machine Learning		
17CS73.4	**Conceptualize and visualize** the statistical hypothesis and probabilities using Bayesian learning theorem to solve the problem in machine learning		
17CS73.5	**Evaluating and estimating** the accuracy of hypothesis model in machine learning and understand and **apply** instance based and reinforcement learning		

COURSE NAME	UNIX SYSTEM PROGRAMMING		
COURSE CODE:	17CS744	SEMESTER-7	SCHEME-2017
CO Numbers	Course Outcomes		
17CS744.1	**Understand** various Standards (like ANSI C, ANSI C++, POSIX), Feature Test Macros and API Common Characteristics		
17CS744.2	**Analyse**UNIX File Types and different UNIX File APIs.		

17CS744.3	**Understand** Process, Process control, Process relationships and controlling terminals, Also **Demonstrate** various process commands like Create process (fork), wait, execute process (exec), exit from the process (exit), etc…in the C program.
17CS744.4	**Discuss** the UNIX signals and Daemon Process.
17CS744.5	**Demonstrate** Inter-Process Communications using the various methods.

COURSE NAME	**STORAGE AREA NETWORK**		
COURSE CODE:	**17CS754**	**SEMESTER-7**	**SCHEME-2017**
CO Numbers	**Course Outcomes**		
17CS754.1	**Explain** key challenges in managing information and **develop** intelligent storage system using the different components.		
17CS754.2	**Explain** components of FC-SAN, NAS and virtualization in SAN and **choose** different protocols for storage networking.		
17CS754.3	**Determine** backup recovery, disaster recovery, business continuity and replication.		
17CS754.4	**Classify** Cloud computing models based on characteristics and its benefits and **describe** the different forms of storage automation and virtualization.		
17CS754.5	**Illustrate** the security in storage infrastructure and its management.		

COURSE NAME	**MACHINE LEARNING LAB**		
COURSE CODE:	**17CSL76**	**SEMESTER-7**	**SCHEME-2017**
CO Numbers	**Course Outcomes**		
17CSL76.1	**Implement** and **demonstrate** ML algorithms for defining hypothesis		
17CSL76.2	**Demonstrate** the working of various clustering and classification algorithms		
17CSL76.3	**Illustrate** approach of approximating real valued target function		
17CSL76.4	**Identify** and **apply** Machine Learning algorithms to solve real world problems.		

COURSE NAME	PROJECT PHASE1+SEMINAR		
COURSE CODE:	17CSP78	SEMESTER-7	SCHEME-2017
CO Numbers	Course Outcomes		
17CSP78.1	**Understand** various technologies in the areas of computer science and engineering.		
17CSP78.2	**Understand** the relationship between theory andpracticeand the essential links between them		
17CSP78.3	**Apply** the knowledge they have gained to improve the presentation skill and communication skill		
17CSP78.4	**Transcend** the Implementation details of the variouscomponents to encompass an appreciation for the structure of computer systems and the processes involved in their construction and analysis.		
17CSP78.5	**Create**solutions to solve real problems		

COURSE NAME	INTERNET OF THINGS TECHNOLOGY		
COURSE CODE:	17CS81	SEMESTER-8	SCHEME-2017
CO Numbers	Course Outcomes		
17CS81.1	**Interpret** the impact and challenges posed by IoT networks leading to new architectural models.		
17CS81.2	**Compare** and **contrast** the deployment of smart objects and the technologies to connect them to network		
17CS81.3	**Explain** the role of IoT protocols for efficient network communication		
17CS81.4	**List** the need for Data Analytics and Security in IoT		
17CS81.5	**Illustrate** different sensor technologies for sensing real world entities and **identify** the applications of IoT in Industry.		

COURSE NAME	BIG DATA ANALYTICS		
COURSE CODE:	17CS82	SEMESTER-8	SCHEME-2017
CO Numbers	Course Outcomes		
17CS82.1	Master the concepts of HDFS and MapReduce framework		
17CS82.2	Investigate Hadoop related tools for big data analytics and perform		

	basic Hadoop administration
17CS82.3	Recognize the role of business intelligence, data warehousing and visualization in decision making
17CS82.4	Infer the importance of core datamining techniques of data analytics
17CS82.5	Compare and contrast different text mining techniques

COURSE NAME	**SYSTEM MODELLING AND SIMULATION**		
COURSE CODE:	**17CS834**	**SEMESTER-8**	**SCHEME-2017**
CO Numbers	**Course Outcomes**		
17CS834.1	**Understand** the system concept and apply functional modeling method to model the activities of a static system		
17CS834.2	**Explain** the behavior of a dynamic system and create an analogous model for a dynamic system;		
17CS834.3	**Experiment with** the operation of a dynamic system and make improvement according to the simulation results.		

COURSE NAME	**INTERNSHIP**		
COURSE CODE:	**17CS84**	**SEMESTER-8**	**SCHEME-2017**
CO Numbers	**Course Outcomes**		
17CS84.1	**Design** and **develop** engineering skills through specific tasks carried out in a suitable real-world environment and business organization.		
17CS84.2	**Inspect** the impact of one's developing personal knowledge, practice and skills in society and **Adapt** to the Industry environment and ethical values.		

17CS84.3	**Comprehend** the knowledge of engineering and management principles by writing reports and design documentation with presentations.
17CS84.4	**Model** the complex engineering problems and activities by applying appropriate techniques with help of modern IT tools

COURSE NAME	**PROJECT WORK PHASE II**		
COURSE CODE:	**17CSP85**	**SEMESTER-5**	**SCHEME-2017**
CO Numbers	**Course Outcomes**		
17CSP85.1	Students will acquire the ability to make links across different areas of knowledge and to generate, develop and evaluate ideas and information so as to apply these skills to the project task.		
17CSP85.2	Design engineering solutions to complex problems utilising a systems approach.		
17CSP85.3	Apply software testing on the solutions		
17CSP85.4	Demonstrate the knowledge, skills and attitudes of a professional engineer.		

COURSE NAME	**SEMINAR**		
COURSE CODE:	**17CSS86**	**SEMESTER-5**	**SCHEME-2017**
CO Numbers	**Course Outcomes**		
17CSS86.1	**Understand** the various technologies in the areas of computer science and engineering.		
17CSS86.2	**Apply** the knowledge they have gained to improve the presentation skill		
17CSS86.3	**Apply** the knowledge they have gained to improve the communication skill		

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