



ST. JOSEPH
COLLEGE OF ENGINEERING
 Near Toll Plaza, Sriperumbudur, Chennai 602117
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SUBJECT CODE	HS8151	SEMESTER	I
SUBJECT NAME	COMMUNICATIVE ENGLISH		
Course Outcome Statement			
C101.1	Speak clearly, confidently, comprehensibly, and communicate with one or many listeners using appropriate communicative strategies.		
C101.2	Write cohesively and coherently and flawlessly avoiding grammatical errors, using a wide vocabulary range, organizing their ideas logically on a topic.		
C101.3	Read different genres of texts adopting various reading strategies.		
C101.4	Listen/view and comprehend different spoken discourses/excerpts in different accents.		
C101.5	Identify topics and formulate questions for productive inquiry.		

SUBJECT CODE	MA8151	SEMESTER:	I
SUBJECT NAME	ENGINEERING MATHEMATICS-I		
Course Outcome Statement			
C102.1	Explain the concepts of Differential Calculus.		
C102.2	Identify the functions of more than one variable and hence finding the maximum and minimum value of that function.		
C102.3	Explain the concepts of Integral calculus used in evaluating integrals both by using Riemann sums and by the Fundamental Theorem of Calculus.		
C102.4	Evaluate the multiple integrals for finding the volume and area of multi-dimensional objects.		
C102.5	Apply the knowledge of ordinary differential equations to solve the engineering problems.		



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SUBJECT CODE	PH8151	SEMESTER:	I
SUBJECT NAME	ENGINEERING PHYSICS		
Course Outcome			
C103.1	Gain knowledge on the basis of properties of matter its applications.		
C103.2	Acquire knowledge on the concepts of waves and optical devices such as LASE.		
C103.3	Have adequate knowledge on the concepts of thermal properties of materials.		
C103.4	Get knowledge on advanced physics concepts of quantum theories.		
C103.5	Understand the basis of crystals and their structure		

SUBJECT CODE	CY8151	SEMESTER:	I
SUBJECT NAME	ENGINEERING CHEMISTRY		
Course Outcome			
C104	Course Outcome		
C104.1	Ability to discuss boiler troubles and water softening methods.		
C104.2	Ability to discuss different types of adsorption isotherm and catalysis.		
C104.3	Able to construct phase diagrams and summarize the properties of alloys.		
C104.4	Ability to describe the types of fuels and analysis of flue gas.		
C104.5	Ability to outline various energy resources and storage devices.		

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YEAR	I	SEMESTER	I	SUBJECT CODE	GE8151
SUBJECT	PROBLEM SOLVING AND PYTHON PROGRAMMING				

C105	Course Outcome Statements
C105.1	Discuss the logical solutions through Flowcharts, Algorithms and Pseudo code.
C105.2	Explain the syntax for python programming constructs.
C105.3	Compute the flow of the program to obtain the programmatic solution.
C105.4	Examine the programs with sub problems using 'Python' language.
C105.5	Compute the compound data using Python lists, tuples, and dictionaries.
C105.6	Apply python programs to read and write data from/to files.

YEAR	I	SEM	I	SUBJECT CODE	GE8152
SUBJECT	ENGINEERING GRAPHICS				

C106	COURSE OUTCOME
C106.1	Familiarize with the fundamentals and standards of Engineering graphics
C106.2	Perform freehand sketching of basic geometrical constructions and multiple views of objects.
C106.3	Project orthographic projections of lines and plane surfaces
C106.4	Draw projections and solids and development of surfaces
C106.5	Visualize and to project isometric and perspective sections of simple solids



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YEAR	I	SEM	I	SUBJECT CODE	GE8161
SUBJECT	PROBLEM SOLVING AND PYTHON PROGRAMMING LABORATORY				

C107	Course Outcome
C107.1	Develop algorithmic solutions to simple computational problems
C107.2	Develop and execute simple Python program.
C107.3	Implement programs in Python using conditional and loops for solving problems.
C107.4	Deploy functions to decompose a Python program
C107.5	Process compound data using Python data structures
C107.6	Utilize Python packages in developing packages in developing software applications

SUBJECT CODE	BS8161	SEMESTER:	I
SUBJECT NAME	PHYSICS AND CHEMISTRY LABORATORY		
C108	Course Outcome		
C108.1	Ability to explain the young's modulus by non uniform bending and rigidity modulus by torsion pendulum.		
C108.2	Ability to comprehend the compressibility of given liquid using ultrasonic interferometer and wavelength of mercury spectrum.		
C108.3	Ability to estimate the thickness of thin materials by air wedge method and Ability to estimate the strength of ferrous solution by potentiometric titration		
C108.4	Ability to estimate the strength of acid by conductometry and P ^H metry		
C108.5	Able to estimate water quality parameters.		



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SUBJECT CODE	HS8251	SEMESTER	II
SUBJECT NAME	TECHNICAL ENGLISH		
C109	Course Outcome		
C109.1	Develop strategies and skills to enhance their ability to read and comprehend engineering and technology texts.		
C109.2	Foster their ability to write convincing job applications and effective reports.		
C109.3	Develop their speaking skills to make technical presentations, participate in group discussions of engineering .		
C109.4	Strengthen their listening skill which will help them comprehend lectures and talks in their areas of specialization.		
C109.5	Reading and understanding technical articles.		

SUBJECT CODE	MA8251	SEMESTER	II
SUBJECT NAME	ENGINEERING MATHEMATICS-II		
C110	Course Outcome		
C110.1	Solve problems in Eigen values and Eigen vectors, which is used in diagonalization of matrix.		
C110.2	Analyze the concepts of gradient, divergence and curl of a vector point function and related identities.		
C110.3	Evaluate real and complex parts by applying the concepts of analytic functions.		
C110.4	Evaluate real integrals by applying the technique of complex integration.		
C110.5	Apply the knowledge of Laplace Transforms in solving Ordinary Differential Equations.		

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SUBJECT CODE	PH8251	SEMESTER	II
SUBJECT NAME	PHYSICS FOR INFORMATION SCIENCE		
C111	Course Outcome		
C111.1	Distinguish conductor, Semiconductors and insulators based on classical and quantum theories		
C111.2	Explain electronic structure transport properties and carrier mechanism in semiconductors		
C111.3	Develop understanding of the fundamentals of magnetic materials, their classifications and application in data storage devices.		
C111.4	Understand the optical properties of materials and applications of these properties in fabrication of modern optical and electro-optical devices		
C111.5	Interpret how the properties of Nano-objects depend on confining electron waves, and how this can be exploited.		

YEAR	I	SEM	II	SUBJECT CODE	BE8254
SUBJECT	BASIC ELECTRICAL AND INSTRUMENTATION ENGINEERING				

C112	Course Outcome
C112.1	Understand the concept of three phase power circuits and measurement.
C112.2	Comprehend the concepts in electrical transformers.
C112.3	Comprehend the concepts in electrical generators and motors.
C112.4	Understand the concepts of AC Machines.
C112.5	Choose appropriate measuring instruments for given application

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Subject Code:	CY8151	Semester:	II
Subject Name:	ENVIRONMENTAL SCIENCE AND ENGINEERING		
C113	Course Outcome		
C113.1	Able to discuss different types of ecosystem and bio diversity		
C113.2	Able to create awareness about various environmental pollutions.		
C113.3	Able to summaries natural resources and the impacts of over utilization with case studies.		
C113.4	Able to outline social issues related to environment.		
C113.5	Able to explain the impact of human population on environment.		

YEAR	I	SEM	II	SUBJECT CODE	CS8251
SUBJECT	PROGRAMMING IN C				

C114	Course Outcome Statements
C114.1	Explain the syntax for C programming.
C114.2	Associate the programs in 'C' for real world situation.
C114.3	Apply the concepts of Arrays, Strings in 'C' language for user defined problems.
C114.4	Apply the concept of functions and pointers.
C114.5	Associate the programs with structure using 'C' language.
C114.6	Discuss to read and write data from/to files in 'C' Programs.



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YEAR	I	SEM	II	SUBJECT CODE	GE8261
SUBJECT	ENGINEERING PRACTICES LABORATORY				

L201	COURSE OUTCOME
C115.1	Fabricate carpentry components and pipe connections including plumbing works
C115.2	Use welding equipments to join the structures.
C115.3	Carry out the basic machining operations
C115.4	Make the models using sheet metal works
C115.5	Illustrate on centrifugal pump, Air conditioner, operations of smithy, foundry and fittings
C115.6	Carry out basic home electrical works and appliances
C115.7	Elaborate on the components, gates, soldering practices

Year	I	SEM	II	Subject Code	CS8261
Subject	C PROGRAMMING LABORATORY				

C116	Course Outcome Statements
C116.1	Able to apply and develop C programs for simple applications making use of basic constructs, arrays and strings.
C116.2	Develop C programs involving function and recursion.
C116.3	Can design and develop C programs using pointers
C116.4	Develop C program using structures.
C116.5	Able to develop sequential access files.
C116.6	Can create simple applications using random access files.

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Subject Code:	MA8351	Semester:	III
Subject Name:	Discrete Mathematics		
Course Outcome Statement			
C201.1	Describe logic to solve computer science problem and apply the rules of inference and Methods of proofs.		
C201.2	Apply the proof by mathematical induction and the basic counting techniques to solve Combinatorial problems.		
C201.3	Apply graph theory models to solve problems of connectivity and constraint satisfaction, for example scheduling.		
C201.4	Define monoid, semi group, group, normal sub group, rings, field and homomorphism.		
C201.5	Apply the knowledge of lattice theory and simplify expressions using the properties of Boolean algebra.		

Year	II	SEM	III	Subject Code	CS8351
Subject	DIGITAL PRINCIPLES AND SYSTEM DESIGN				

CO202	Course Outcome
C202.1	Apply the Boolean functions using K-Map
C202.2	Interpret Combinational circuits for a given functions using logic gates
C202.3	Recognize Synchronous Sequential circuits for the given condition.
C202.4	Recognize Asynchronous Sequential circuits for the given condition
C202.5	Apply Programmable Logic towards memory management basics of Mobile OS.
C202.6	Solve verilog codes for the design of digital circuits.



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Year	II	SEM	III	Subject Code	CS8391
Subject	DATA STRUCTURES				

C203	Course Outcome Statements
C203.1	Describe linear data structures using array and linked list.
C203.2	Apply data structures like stacks, queues in linear data structure.
C203.3	Discuss non-linear data structures tree and its application.
C203.4	Apply various algorithms in graph.
C203.5	Solve searching, sorting and hashing techniques in data structures.
C203.6	Interpret sorting algorithms for a give problem.

Year	II	SEM	III	Subject Code	CS8392
Subject	Object Oriented Programming				

C204	Course Outcome Statements
C204.1	Develop Java programs using OOP principles
C204.2	Develop Java programs with the concepts inheritance and interfaces
C204.3	Build Java applications using exceptions and I/O streams
C204.4	Develop Java applications with threads and generics classes
C204.5	Develop interactive Java programs using swings
C204.6	Develop an application using core java

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Year	II	SEM	III	Subject Code	EC8395
Subject	COMMUNICATION ENGINEERING				

C205	Course Outcome Statements
C205.1	Describe the concepts of analog modulation systems.
C205.2	Illustrate pulse communication techniques
C205.3	Summarize the concepts of digital modulation systems
C205.4	Implement the source coding techniques.
C205.5	Explain the basic principles in the generation of spread spectrum signals.
C205.6	Explain the methods of multiple access in communication systems.

SUBJECT CODE	CS8381	SEMESTER	03
SUBJECT NAME	DATA STRUCTURES LABORATORY		
C206	Course Outcome		
C206.1	Write functions to implement linear and non-linear data structure operations		
C206.2	Suggest appropriate linear / non-linear data structure operations for solving a given Problem		
C206.3	Appropriately use the linear / non-linear data structure operations for a given problem		
C206.4	Apply appropriate hash functions that result in a collision free scenario for data storage and retrieval		

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YEAR	II	SEM	3	SUBJECT CODE	CS8383
SUBJECT	OBJECT ORIENTED PROGRAMMING LAB				

C207	Course Outcome Statements
C207.1	Develop and implement Java programs for simple applications that make use of classes
C207.2	Develop and implement Java programs with array list
C207.3	Design applications using file processing
C207.4	Build software development skills using java programming for real-world applications
C207.5	Apply the concepts of classes, packages, interfaces, exception handling
C207.6	Develop applications using generic programming and event handling
C207.7	Exhibit ethical principles in engineering practices
C207.8	Perform task as an individual and / or team member to manage the task in time
C207.9	Express the Engineering activities with effective presentation and report.
C207.10	Interpret the findings with appropriate technological / research citation.

YEAR	II	SEM	3	SUBJECT CODE	CS8382
SUBJECT	DIGITAL SYSTEM LABORATORY				

CO208	Course Outcome Statements
C208.1	Interpret Combinational circuits Using Logic gates.
C208.2	Illustrate Combinational circuits Using MSI Devices.
C208.3	Practice various counters using Flip-flops.
C208.4	Practice shift registers using Flip-flops
C208.5	Solve verilog codes for the design of digital circuits
C208.6	Demonstrate simple digital system
C208.7	Exhibit ethical principles in engineering practices
C208.8	Perform task as an individual and / or team member to manage the task in time
C208.9	Express the Engineering activities with effective presentation and report.
C208.10	Interpret the findings with appropriate technological / research citation.



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SUBJECT CODE	HS8381	SEMESTER	III
SUBJECT NAME	INTERPERSONAL SKILLS/LISTENING & SPEAKING		
C209	Course Outcome		
C209.1	Listen And Respond Appropriately		
C209.2	Participate in group discussions		
C209.3	Make effective presentations		
C209.4	Participate confidently and appropriately in conversations both formal and informal		
C209.5	To Greet and to respond to Greetings		

SUBJECT CODE	MA8402	SEMESTER	IV
SUBJECT NAME	PROBABILITY QUEUING THEORY		
C210	Course Outcome		
C210.1	Explain the basic concepts of Random variable, discrete and continuous random variables, Moment Generating Function and List out the distributions.		
C210.2	Summarize two dimensional random variables and know the Joint distribution, Marginal distribution and conditional distribution, covariance, correlation and regression,		
C210.3	Classify the Random processes and explain the concepts of Markov Processes & Poisson Processes.		
C210.4	Solve and analyze the different types of Queuing models, finite and infinite capacity and single, multi server problems.		
C210.5	Formulate the concepts of one & two dimensional random variable, random process and Queuing theory.		



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YEAR	II	SEM	IV	SUBJECT CODE	CS8491
SUBJECT	COMPUTER ARCHITECTURE				

C211	Course Outcome
C211.1	Understand the basic structure of computers, operation and instructions
C211.2	Design arithmetic and logic unit.
C211.3	Understand pipelined execution and design control unit.
C211.4	Understand parallel processing architecture.
C211.5	Understand the various memory systems and I/O communication.
C211.6	Implement MIPS using MARS software.

YEAR	II	SEM	IV	SUBJECT CODE	CS8492
SUBJECT	DATABASE MANAGEMENT SYSTEMS				

C212	Course Outcome
C212.1	Discuss the fundamental concepts of relational database and SQL
C212.2	Use ER model for Relational model mapping to perform database design effectively
C212.3	Summarize the properties of transactions and concurrency control mechanisms
C212.4	Outline the various storage and optimization techniques
C212.5	Compare and contrast various indexing strategies in different database systems.
C212.6	Explain the different advanced databases

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YEAR	II	SEM	IV	SUBJECT CODE	CS8451
SUBJECT	DESIGN AND ANALYSIS OF ALGORITHMS				

C213	Course Outcome
C213.1	Design algorithms for various computing problems.
C213.2	Analyze the time and space complexity of algorithms.
C213.3	Critically analyze the different algorithm design techniques for a given problem.
C213.4	Modify existing algorithms to improve efficiency.
C213.5	Identify the limitations of algorithm in problem solving
C213.6	Applying algorithm design paradigms by identify the type of problem and justifying with solutions. Develop and evaluate innovative graph algorithms and methods that highly depend on graph computation.

YEAR	II	SEM	IV	SUBJECT CODE	CS8493
SUBJECT	OPERATING SYSTEMS				

CO	Course Outcome
C214.1	Explain the overall view of the computer system and operating system
C214.2	Identify various scheduling algorithm and deadlock prevention and avoidance algorithm
C214.3	Compare and contrast various memory management schemes and file system functionalities
C214.4	Discuss the performance of the various page replacement algorithms and interpret the file system implementation, sharing and protection mechanisms
C214.5	Demonstrate administrative tasks on Linux servers and to be familiar with the basics of Mobile OS.
C214.6	Make use of various algorithms to solve computing problems



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YEAR	II	SEM	IV	SUBJECT CODE	CS8494
SUBJECT	SOFTWARE ENGINEERING				

C215	Course Outcome
C215.1	Identify the key activities in managing a software project.
C215.2	Compare different process models
C215.3	Concepts of requirements engineering and Analysis Modeling.
C215.4	Apply systematic procedure for software design and deployment
C215.5	Compare and contrast the various testing and maintenance.
C215.6	Manage project schedule, estimate project cost and effort required.

YEAR	II	SEM	III	SUBJECT CODE	CS8481
SUBJECT	DATABASE MANAGEMENT SYSTEMS LABORATORY				

C216	Course Outcome
C216.1	Use typical data definitions and manipulation commands.
C216.2	Design applications to test Nested and Join Queries
C216.3	Implement simple applications that use Views
C216.4	Make use of ER modeling and normalization to design and implement database
C216.5	Implement applications that require a Front-end Tool
C216.6	Critically analyze the use of Tables, Views, Functions and Procedures
C216.7	Exhibit ethical principles in engineering practices
C216.8	Perform task as an individual and / or team member to manage the task in time
C216.9	Express the Engineering activities with effective presentation and report.
C216.10	Interpret the findings with appropriate technological / research citation.

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YEAR	II	SEM	IV	SUBJECT CODE	CS8461
SUBJECT	OPERATING SYSTEMS LABORATORY				
C217	Course Outcome				
C217.1	Illustrate the various CPU scheduling algorithms.				
C217.2	Implement deadlock avoidance and detection algorithms.				
C217.3	Implement semaphore concepts.				
C217.4	Create processes and implement IPC.				
C217.5	Analyze the performance of the various page replacement algorithms				
C217.6	Implement file organization and file allocation strategies.				
C217.7	Exhibit ethical principles in engineering practices				
C217.8	Perform task as an individual and / or team member to manage the task in time				
C217.9	Express the Engineering activities with effective presentation and report				
C217.10	Interpret the findings with appropriate technological / research citation.				

Year	II	SEM	IV	Subject Code	HS8461
Subject	ADVANCED READING AND WRITING				
C218	Course Outcome Statements				
C218.1	Read and evaluate the text intelligently				
C218.2	Understand parts of speech and use appropriate connectives in writing a paragraph.				
C218.3	To write effective job application letter.				
C218.4	Implement speed reading techniques.				
C218.5	Perform critical thinking in various professional contexts				
C218.6	To prepare descriptive and narrative writing.				
C218.7	Exhibit ethical principles in engineering practices				
C218.8	Perform task as an individual and / or team member to manage the task in time				
C218.9	Express the Engineering activities with effective presentation and report.				
C218.10	Interpret the findings with appropriate technological / research citation.				



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Subject Code	MA8551	Semester	V
Subject Name	Algebra and Number Theory		
C301	Course Outcome		
C301.1	Apply the basic notations of groups, rings, fields, which will then be used to solve related problems.		
C301.2	Explain the fundamental concepts of advanced algebra and their role in modern Mathematics and Applied contexts.		
C301.3	Demonstrate accurate and efficient use of advanced algebraic techniques.		
C301.4	Demonstrate their mastery by solving non-trivial problems related to the concepts, and by proving simple theorems about the statements proven by the texts.		
C301.5	Apply integrated approach to number theory and abstract algebra and provide a firm basis for further reading and study in the subject.		

YEAR	III	SEM	V	SUBJECT CODE	CS8591
SUBJECT	COMPUTER NETWORKS				

C302	Course Outcome
C302.1	Identify various layers of network and discuss the functions of physical layer.
C302.2	Discuss how data flows from one node to another node with regard to data link layer.
C302.3	Explain the different services of network layer.
C302.4	Compare the different transport layer protocols and their applicability based on user requirements.
C302.5	Describe the working of various application layer protocols.
C302.6	Evaluate the performance of network and analyze routing algorithms.



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SUBJECT CODE	EC8691	SEMESTER	VI
SUBJECT NAME	MICROPROCESSORS AND MICROCONTROLLERS		
C303	Course Outcome		
C303.1	To understand the Architecture of 8086 microprocessor		
C303.2	To Understand and execute programs based on 8086 microprocessor.		
C303.3	To Design Memory Interfacing circuits.		
C303.4	To Design and interface I/O circuits.		
C303.5	To Design and implement 8051 microcontroller based systems.		

YEAR	III	SEM	V	SUBJECT CODE	CS8501
SUBJECT	THEORY OF COMPUTATION				

C304	Course Outcome
C304.1	Construct automata, regular expression for any pattern.
C304.2	Write Context free grammar for any construct.
C304.3	Design Turing machines for any language.
C304.4	Propose computation solutions using Turing machines.
C304.5	Derive whether a problem is decidable or not.

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Year	III	SEM	V	Subject Code	CS8592
Subject	Object Oriented Analysis and Design				

C305	Course Outcome
C305.1	Express software design with UML diagrams
C305.2	Design software applications using OO concepts.
C305.3	Identify various scenarios based on software requirements
C305.4	Transform UML based software design into pattern based design using design patterns
C305.5	Understand the various testing methodologies for OO software

YEAR	III	SEM	V	SUBJECT CODE	OMD553
SUBJECT	TELEHEALTH TECHNOLOGY				

CO	Course Outcome
C306.1	Describe the principles of telemedicine and health.
C306.2	Apply various types of telemedical technology in healthcare.
C306.3	Elaborate data security and standard of telemedicine.
C306.4	Discuss the storage and maintenance of patient using mobile telemedicine.
C306.5	Enumerate the telemedical applications.
C306.6	Highlights few real time telemedicine applications.



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SUBJECT CODE	EC8681	SEMESTER	04
SUBJECT NAME	MICROPROCESSORS AND MICROCONTROLLERS LABORATORY		
C307	Course Outcome		
C307.1	Write ALP Program for fixed and Floating Point and Arithmetic operations in 8086		
C307.2	Write ALP Program Interface different I/Os with Microprocessors 8086		
C307.3	Write ALP Program to Generate waveforms using Microprocessors 8086		
C307.4	Write ALP Program to Execute different Programs in 8051 Demonstrate of basic instructions with 8051		
C307.5	Write ALP Program Interface different I/Os with 8051		

YEAR	III	SEM	V	SUBJECT CODE	CS8582
SUBJECT	Object Oriented Analysis and Design Laboratory				

C308	Course Outcome
C308.1	Perform OO analysis and design for a given problem specification.
C308.2	Identify and map basic software requirements in UML mapping.
C308.3	To map the design properly to code
C308.4	Improve the software quality using design patterns and to explain the rationale behind applying specific design patterns
C308.5	Test the compliance of the software with the SRS.



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YEAR	III	SEM	V	SUBJECT CODE	CS8581
SUBJECT	NETWORKS LABORATORY				

C309	Course Outcome
C309.1	Implement various protocols using TCP and UDP.
C309.2	Compare the performance of different transport layer protocols.
C309.3	Use simulation tools to analyze the performance of various network protocols.
C309.4	Analyze various routing algorithms.
C309.5	Implement error correction codes.
C309.6	Explain Network simulator (NS) and Simulate Congestion Control Algorithms using NS.
C309.7	Exhibit ethical principles in engineering practices.
C309.8	Perform task as an individual and / or team member to manage the task in time
C309.9	Express the Engineering activities with effective presentation and report.
C309.10	Interpret the findings with appropriate technological / research citation.

YEAR	III	SEM	VI	SUBJECT CODE	CS8651
SUBJECT	INTERNET PROGRAMMING				

C310	Course Outcome
C310.1	Construct a basic website using HTML and Cascading Style Sheets.
C310.2	Build dynamic web page with validation using Java Script objects and by applying different event handling mechanisms.
C310.3	Develop server side programs using Servlets and JSP.
C310.4	Construct simple web pages in PHP and to represent data in XML format.
C310.5	Use AJAX and web services to develop interactive web applications

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YEAR	II	SEM	IV	SUBJECT CODE	CS8691
SUBJECT	ARTIFICIAL INTELLIGENCE				

C311	Course Outcome
C311.1	List the characteristics and types of intelligent agents
C311.2	Interpret search algorithms for any AI problem
C311.3	Illustrate a problem using first order and predicate logic
C311.4	Explain the appropriate agent strategy to solve a given problem
C311.5	Develop software agents to solve a problem
C311.6	Make use of various algorithms to solve computing problems

YEAR	III	SEM	VI	SUBJECT CODE	CS8601
SUBJECT	MOBILE COMPUTING				

C312	Course Outcome
C312.1	Understand the basic concepts of mobile computing
C312.2	Explain the basics of mobile telecommunication systems
C312.3	Illustrate the generations of telecommunication systems in wireless networks
C312.4	Demonstrate the functionality of MAC, network layer and Identify a routing protocol for a given Ad hoc network
C312.5	Explain the functionality of Transport and Application layers
C312.6	Develop a mobile application using android/blackberry/ios/Windows SDK



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YEAR	III	SEM	VI	SUBJECT CODE	CS8602
SUBJECT	COMPILER DESIGN				

C313	Course Outcome
C313.1	Understand the different phases of compiler.
C313.2	Design a lexical analyzer for a sample language.
C313.3	Apply different parsing algorithms to develop the parsers for a given grammar.
C313.4	Understand syntax-directed translation and run-time environment.
C313.5	Learn to implement code optimization techniques and a simple code generator.
C313.6	Design and implement a scanner and a parser using LEX and YACC tools.

YEAR	III	SEM	VI	SUBJECT CODE	CS8603
SUBJECT	DISTRIBUTED SYSTEMS				

C314	Course Outcome
C314.1	Elucidate the foundations and issues of distributed systems
C314.2	Understand the Mutual Exclusion and Deadlock detection algorithms in distributed systems
C314.3	Describe the agreement protocols and fault tolerance mechanisms in distributed systems.
C314.4	Describe the features of peer-to-peer and distributed shared memory systems
C314.5	Identify the issues in distributed shared memory system and explain the mechanism to handle the issues in the system



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SUBJECT CODE	IT8076	SEMESTER	VI
SUBJECT NAME	SOFTWARE TESTING		
C315	Course Outcome		
C315.1	Design test cases suitable for a software development for different domains.		
C315.2	Identify suitable tests to be carried out.		
C315.3	Prepare test planning based on the document.		
C315.4	Document test plans and test cases designed.		
C315.5	Use automatic testing tools.		
C315.6	Develop and validate a test plan.		

YEAR	III	SEM	VI	SUBJECT CODE	CS8661
SUBJECT	INTERNET PROGRAMMING LABORATORY				

C316	Course Outcome
C316.1	Construct WebPages using HTML/XML and style sheets
C316.2	Build Dynamic web pages with validation using Java Script objects and by applying different event handling mechanism.
C316.3	Develop dynamic web pages using server side scripting.
C316.4	Use PHP programming to develop web applications.
C316.5	Construct web application using AJAX and web services.



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YEAR	III	SEM	VI	SUBJECT CODE	CS8662
SUBJECT	MOBILE APPLICATION DEVELOPMENT LABORATORY				

C317	Course Outcome
C317.1	Develop mobile applications using GUI and Layouts.
C317.2	Develop mobile applications using Event Listener.
C317.3	Develop mobile applications using Database.
C317.4	Develop mobile applications using RSS Feed, Internal/External Storage, SMS, Multi-threading and GPS.
C317.5	Analyze and discover own mobile app for simple needs.
C317.6	Analysis with existing or new mobile environment such as Flutter and Adobe Phone Gap (Cordova)

YEAR	III	SEM	VI	SUBJECT CODE	CS8661
SUBJECT	MINI PROJECT				

C318	Course Outcome
C318.1	Choose problems with technical importance and societal contribution
C318.2	Identify and survey the relevant literature for getting exposed to related solutions
C318.3	Build project plans with feasible requirements
C318.4	Analyse, design and develop adaptable and reusable solutions
C318.5	Implement and test solutions to trace against the user requirements
C318.6	Deploy the solutions for better manageability and provide scope for improvability



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Subject Code	HS8581	Semester	VI
Subject Name	PROFESSIONAL COMMUNICATION		
C318	Course Outcome		
C319.1	Make effective presentations.		
C319.2	Participate confidently in group discussions.		
C319.3	Interpret in various texts to develop their content-specific knowledge.		
C319.4	Attend job interviews and be successful		
C319.5	Develop adequate soft skills required for the workplace.		

SUBJECT CODE	MG8591	SEMESTER :	V
SUBJECT NAME	PRINCIPLES OF MANAGEMENT		
C401	Course Outcome		
C401.1	To understand the basic knowledge on international aspect of management		
C401.2	To understand the planning process in the organization		
C401.3	To understand the concept of organization		
C401.4	Demonstrate the ability to directing ,leadership and communicate effectively		
C401.5	To analysis isolate issues and formulate best control methods.		

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YEAR	IV	SEM	VII	SUBJECT CODE	CS8792
SUBJECT	CRYPTOGRAPHY AND NETWORK SECURITY				

C402	Course Outcome
C402.1	Describe the fundamentals of networks security, security architecture, threats and vulnerabilities
C402.2	Discuss the mathematical support for both symmetric and asymmetric key cryptography
C402.3	Make use of symmetric key cryptographic algorithms to perform cryptographic operations
C402.4	Solve cryptographic operations using public key cryptographic algorithms
C402.5	Apply the various Authentication schemes to simulate different applications.
C402.6	Explain various Security practices and System security standards

SUBJECT CODE	CS8791	SEMESTER	VII
SUBJECT NAME	CLOUD COMPUTING		
C403	Course Outcome		
C403.1	Articulate the main concepts, key technologies, strengths and limitations of cloud computing.		
C403.2	Learn the key and enabling technologies that help in the development of cloud.		
C403.3	Develop the ability to understand and use the architecture of compute and storage cloud, service and delivery models.		
C403.4	Explain the core issues of cloud computing such as resource management and security.		
C403.5	Be able to install and use current cloud technologies.		
C403.6	Evaluate and choose the appropriate technologies, algorithms and approaches for implementation and use of cloud.		



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SUBJECT CODE	IT8075	SEMESTER	VII
SUBJECT NAME	SOFTWARE PROJECT MANAGEMENT		
C404	Course Outcome		
C404.1	Understand Project Management principles while developing software.		
C404.2	Gain extensive knowledge about the basic project management concepts, framework and the process models.		
C404.3	Obtain adequate knowledge about software process models and software effort estimation techniques.		
C404.4	Estimate the risks involved in various project activities.		
C404.5	Define the checkpoints, project reporting structure, project progress and tracking mechanisms using project management principles.		
C404.6	Learn staff selection process and the issues related to people management.		

SUBJECT CODE	CS8079	SEMESTER	VII
SUBJECT NAME	HUMAN COMPUTER INTERACTION		
C405	Course Outcome		
C405.1	Design effective dialog for HCI		
C405.2	Design effective HCI for individuals and persons with disabilities.		
C405.3	Assess the importance of user feedback.		
C405.4	Explain the HCI implications for designing multimedia/ ecommerce/ e-learning Web sites.		
C405.5	Develop meaningful user interface.		

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Subject Code	CS8711	Semester :	VII
Subject Name	CLOUD COMPUTING LABORATORY		
C407	Course Outcome		
C407.1	Configure various virtualization tools such as Virtual Box, VMware workstation.		
C407.2	Design and deploy a web application in a PaaS environment.		
C407.3	Learn how to simulate a cloud environment to implement new schedulers.		
C407.4	Install and use a generic cloud environment that can be used as a private cloud.		
C407.5	Manipulate large data sets in a parallel environment.		

YEAR	IV	SEM	VII	SUBJECT CODE	IT8761
SUBJECT	SECURITY LABORATORY				

C408	Course Outcome
C408.1	Develop code for classical Encryption Techniques to solve the problems
C408.2	Build cryptosystems by applying symmetric and public key encryption algorithms.
C408.3	Construct code for authentication algorithms.
C408.4	Develop a signature scheme using Digital signature standard.
C408.5	Demonstrate the network security system using open source tools
C408.6	Develop code for classical Encryption Techniques to solve the problems.
C408.7	Exhibit ethical principles in engineering practices
C408.8	Perform task as an individual and / or team member to manage the task in time
C408.9	Express the Engineering activities with effective presentation and report
C408.10	Interpret the findings with appropriate technological / research citation.



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YEAR	IV	SEM	VIII	SUBJECT CODE	CS8811
SUBJECT	PROFESSIONAL ETHICS IN ENGINEERING				

C409	Course Outcome
C409.1	Apply the principles of human values and ethics.
C409.2	Apply the concepts of Professional ideals and virtues.
C409.3	Apply the code of ethics.
C409.4	Evaluate the consequences of safety and risk.
C409.5	Differentiate the responsibility and rights of Engineering professionals.
C409.6	Explore the issues related to global contexts with respect to engineering practice.

YEAR	IV	SEM	VIII	SUBJECT CODE	CS8080
SUBJECT	INFORMATION RETRIEVAL TECHNIQUES				

C410	Course Outcome
C410.1	Use an open source search engine framework and explore its capabilities
C410.2	Apply appropriate method of classification or clustering
C410.3	Develop mobile applications using Database.
C410.4	Develop mobile applications using RSS Feed, Internal/External Storage, SMS, Multi-threading and GPS.
C410.5	Analyze and discover own mobile app for simple needs.
C410.6	Analysis with existing or new mobile environment such as Flutter and Adobe Phone Gap (Cordova)

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YEAR	IV	SEM	VIII	SUBJECT CODE	CS8811
SUBJECT	PROJECT WORK				

C411	Course Outcome
C411.1	Identify the problem by applying acquired knowledge and survey the relevant literature for getting exposed to related solutions.
C411.2	Analyze and categories executable project modules after considering risks.
C411.3	Choose efficient tools for designing project modules.
C411.4	Combine all the modules through effective team works after efficient testing.
C411.5	Implement and test solutions to trace against the user requirements.
C411.6	Deploy the solution for better maintenance and provide scope for future upgrades.