



SRI RANGANATHAR

INSTITUTE OF ENGINEERING AND TECHNOLOGY

(Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai)
(An ISO 9001:2015 Certified Institution)

Athipalayam, Coimbatore - 641 110. Web site: sriet.ac.in Ph: 0422 2697792



ISO 9001:2015

COURSE OUTCOMES (COs)

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING



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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Course Outcome (CO)

Course Code	HS8151
Name of the Course	COMMUNICATIVE ENGLISH
Year/Semester	I/I
Total Contact Hours	60
Course Outcome	CO1: To develop the basic reading and writing skills of first year engineering and technology students CO2: To help learners develop their listening skills, which will, enable them listen to lectures and comprehend them by asking questions; seeking clarifications. CO3: To help learners develop their speaking skills and speak fluently in real contexts CO4: To help learners develop vocabulary of a general kind by developing their reading skills CO5: Participate effectively in informal conversations; introduce themselves and their friends and express opinions in English.

Course Code	MA8151
Name of the Course	ENGINEERING MATHEMATICS – I
Year/Semester	I/I
Total Contact Hours	60
Course Outcome	CO1: The goal of this course is to achieve conceptual understanding and to retain the best traditions of traditional calculus. CO2: The syllabus is designed to provide the basic tools of calculus mainly for the purpose of modelling the engineering problems mathematically and obtaining solutions. CO3: plays an important role in the understanding of science, engineering, economics and computer science, among other disciplines. CO4: To Apply various techniques in solving differential equations. CO5: To Apply integration to compute multiple integrals, area, volume, integrals in polar coordinates, in addition to change of order and change of variables.

Course Code	PH8151
Name of the Course	ENGINEERING PHYSICS
Year/Semester	I/I
Total Contact Hours	45
Course Outcome	<p>CO1: To enhance the fundamental knowledge in Physics and its applications relevant to various streams of Engineering and Technology</p> <p>CO2: To gain knowledge on the basics of properties of matter and its application</p> <p>CO3: To gain knowledge on advanced physics concepts of quantum theory and its applications in tunneling microscopes</p> <p>CO4: To understand the basics of crystals, their structures and different crystal growth techniques.</p> <p>CO5: will have adequate knowledge on the concepts of thermal properties of materials and their applications in expansion joints and heat exchangers,</p>

Course Code	CY8151
Name of the Course	ENGINEERING CHEMISTRY
Year/Semester	I/I
Total Contact Hours	45
Course Outcome	<p>CO1: To make the students conversant with boiler feed water requirements, related problems and water treatment techniques.</p> <p>CO2: To develop an understanding of the basic concepts of phase rule and its applications to single and two component systems and appreciate the purpose and significance of alloys.</p> <p>CO3: Preparation, properties and applications of engineering materials</p> <p>CO4: Types of fuels, calorific value calculations, manufacture of solid, liquid and gaseous fuels</p> <p>CO5: Principles and generation of energy in batteries, nuclear reactors, solar cells, wind mills and fuel cells</p>

Course Code	GE8151
Name of the Course	PROBLEM SOLVING AND PYTHON PROGRAMMING
Year/Semester	I/I
Total Contact Hours	45
Course Outcome	<p>CO1: To know the basics of algorithmic problem solving</p> <p>CO2: To read and write simple Python programs.</p> <p>CO3: To develop Python programs with conditionals and loops.</p> <p>CO4: To define Python functions and call them</p> <p>CO5: To use Python data structures — lists, tuples, dictionaries.</p>

Course Code	GE8152
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Name of the Course	ENGINEERING GRAPHICS
Year/Semester	I/I
Total Contact Hours	45
Course Outcome	CO1: To develop in students, graphic skills for communication of concepts, ideas and design of Engineering products CO2: To expose them to existing national standards related to technical drawings. CO3: To Perform freehand sketching of basic geometrical constructions and multiple views of objects. CO4: To Project orthographic projections of lines and plane surfaces. CO5: Visualize and to project isometric and perspective sections of simple solids.

Course Code	GE8161
Name of the Course	PROBLEM SOLVING AND PYTHON PROGRAMMING LABORATORY
Year/Semester	I/I
Total Contact Hours	60
Course Outcome	CO1: To write, test, and debug simple Python programs CO2: To implement Python programs with conditionals and loops. CO3: Use functions for structuring Python programs.. CO4: Represent compound data using Python lists, tuples, dictionaries CO5: Read and write data from/to files in Python. CO6: Develop Python programs step-wise by defining functions and calling them

Course Code	BS8161
Name of the Course	PHYSICS AND CHEMISTRY LABORATORY
Year/Semester	I/I
Total Contact Hours	30
Course Outcome	CO1: To introduce different experiments to test basic understanding of physics concepts applied in optics, thermal physics, properties of matter and liquids. CO2: To make the student to acquire practical skills in the determination of water quality parameters through volumetric and instrumental analysis CO3: To acquaint the students with the determination of molecular weight of a polymer by viscometry. CO4: Apply principles of elasticity, optics and thermal properties for engineering applications. CO5: The students will be outfitted with hands-on knowledge in the quantitative chemical analysis of water quality related parameters. CO6: To Analyze about water quality treatment

Course Code	HS8251
Name of the Course	TECHNICAL ENGLISH
Year/Semester	I/II

Total Contact Hours	60
Course Outcome	CO1: Develop strategies and skills to enhance their ability to read and comprehend engineering and technology texts. CO2: Foster their ability to write convincing job applications and effective reports CO3: Develop their speaking skills to make technical presentations, participate in group discussions. CO4: Strengthen their listening skill which will help them comprehend lectures and talks in their areas of specialization. CO5: Speak appropriately and effectively in varied formal and informal contexts.

Course Code	MA8251
Name of the Course	ENGINEERING MATHEMATICS – II
Year/Semester	I/II
Total Contact Hours	60
Course Outcome	CO1: This course is designed to cover topics such as Matrix Algebra, Vector Calculus, Complex Analysis and Laplace Transform. CO2: Matrix Algebra is one of the powerful tools to handle practical problems arising in the field of engineering. CO3: Vector calculus can be widely used for modelling the various laws of physics CO4: The various methods of complex analysis and Laplace transforms can be used for efficiently solving the problems that occur in various branches of engineering disciplines. CO5: Analytic functions, conformal mapping and complex integration.

Course Code	PH8252
Name of the Course	PHYSICS FOR INFORMATION SCIENCE
Year/Semester	I/II
Total Contact Hours	60
Course Outcome	CO1: To understand the essential principles of Physics of semiconductor device and Electron transport properties. CO2: Become proficient in magnetic and optical properties of materials and Nano-electronic devices CO3: Gain knowledge on classical and quantum electron theories, and energy band structures CO4: Understand the basics of quantum structures and their applications in carbon electronics CO5: Have the necessary understanding on the functioning of optical materials for optoelectronics

Course Code	BE8255
Name of the Course	BASIC ELECTRICAL, ELECTRONICS AND MEASUREMENT ENGINEERING
Year/Semester	I/II
Total Contact Hours	60
Course Outcome	CO1: To understand the fundamentals of electronic circuit constructions. CO2: To learn the fundamental laws, theorems of electrical circuits and also to analyze them CO3: To study the basic principles of electrical machines and their performance CO4: To understand the principles and operation of measuring instruments and transducers CO5: To study the different energy sources, protective devices and their field applications

Course Code	GE8291
Name of the Course	ENVIRONMENTAL SCIENCE AND ENGINEERING
Year/Semester	I/II
Total Contact Hours	60
Course Outcome	CO1: To study the nature and facts about environment. CO2: To finding and implementing scientific, technological, economic and political solutions to environmental problems CO3: To study the interrelationship between living organism and environment CO4: To study the dynamic processes and understand the features of the earth's interior and surface. CO5: To study the dynamic processes and understand the features of the earth's interior and surface.

Course Code	CS8251
Name of the Course	PROGRAMMING IN C
Year/Semester	I/II
Total Contact Hours	45
Course Outcome	CO1: To develop C Programs using basic programming constructs CO2: To develop C programs using arrays and strings CO3: To develop applications in C using functions , pointers and structures CO4: To do input/output and file handling in C CO5: Design applications using sequential and random access file processing

Course Code	GE8261
Name of the Course	ENGINEERING PRACTICES LABORATORY
Year/Semester	I/II
Total Contact Hours	60
Course Outcome	CO1: To provide exposure to the students with hands on experience

	<p>on various basic engineering practices in Civil, Mechanical, Electrical and Electronics Engineering.</p> <p>CO2: To Study of plumbing and carpentry components of residential and industrial buildings. Safety</p> <p>CO3: To Study of pipeline joints, its location and functions: valves, taps, couplings, unions, reducers</p> <p>CO4: To Study of pipe connections requirements for pumps and turbines</p> <p>CO5: To Study of Electronic components and equipment's – Resistor, color coding measurement of AC signal parameter (peak-peak, rms period, frequency) using CR.</p> <p>CO6: Elaborate on the components, gates, soldering practices.</p>
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Course Code	CS8261
Name of the Course	C PROGRAMMING LABORATORY
Year/Semester	I/II
Total Contact Hours	60
Course Outcome	<p>CO1: To develop programs in C using basic constructs.</p> <p>CO2: To develop applications in C using strings, pointers, functions, structures</p> <p>CO3: To develop applications in C using file processing.</p> <p>CO4: To Develop C programs for simple applications making use of basic constructs, arrays and strings</p> <p>CO5: To Design applications using sequential and random access file processing.</p> <p>CO6: Develop C programs involving functions, recursion, pointers, and structures</p>

Course Code	MA8351
Name of the Course	DISCRETE MATHEMATICS
Year/Semester	II/III
Total Contact Hours	60
Course Outcome	<p>CO1: To extend student's logical and mathematical maturity and ability to deal with abstraction</p> <p>CO2: To introduce most of the basic terminologies used in computer science courses and application of ideas to solve practical problems.</p> <p>CO3: To understand the basic concepts of combinatorics and graph theory.</p> <p>CO4: To familiarize the applications of algebraic structures.</p> <p>CO5: To understand the concepts and significance of lattices and boolean algebra which are widely used in computer science and engineering.</p>

Course Code	CS8351
Name of the Course	DIGITAL PRINCIPLES AND SYSTEM DESIGN

Year/Semester	II/III
Total Contact Hours	60
Course Outcome	CO1: To design digital circuits using simplified Boolean functions CO2: To analyze and design combinational circuits CO3: To analyze and design synchronous and asynchronous sequential circuits CO4: To understand Programmable Logic Devices CO5: To write HDL code for combinational and sequential circuits

Course Code	CS8391
Name of the Course	DATA STRUCTURES
Year/Semester	II/III
Total Contact Hours	45
Course Outcome	CO1: To understand the concepts of ADTs CO2: To Learn linear data structures – lists, stacks, and queues CO3: To understand sorting, searching and hashing algorithms CO4: To apply Tree and Graph structures CO5: Critically analyze the various sorting algorithms

Course Code	CS8392
Name of the Course	OBJECT ORIENTED PROGRAMMING
Nature of the Course	Core
Type of the Course	Lectures
Contact Hours	3L+0T
Total Contact Hours	45
Course Outcome	CO1: To understand Object Oriented Programming concepts and basic characteristics of Java CO2: To know the principles of packages, inheritance and interfaces CO3: To define exceptions and use I/O streams CO4: To develop a java application with threads and generics classes CO5: To design and build simple Graphical User Interfaces

Course Code	EC8395
Name of the Course	COMMUNICATION ENGINEERING
Year/Semester	II/III
Total Contact Hours	45
Course Outcome	CO1: To introduce the relevance of this course to the existing technology through demonstrations, case studies, simulations, contributions of scientist, national/international policies with a futuristic vision along with socio-economic impact and issues CO2: To study the various analog and digital modulation techniques CO3: To study the principles behind information theory and coding CO4: To study the various digital communication techniques CO5: Analyze Source and Error control coding

Course Code	CS8381
Name of the Course	DATA STRUCTURES LABORATORY
Year/Semester	II/III
Total Contact Hours	60
Course Outcome	CO1: To implement linear and non-linear data structures CO2: To understand the different operations of search trees CO3: To implement graph traversal algorithms CO4: To get familiarized to sorting and searching algorithms CO5: Suggest appropriate linear / non-linear data structure operations for solving a given problem CO6: Apply appropriate hash functions that result in a collision free scenario for data storage and retrieval

Course Code	CS8383
Name of the Course	OBJECT ORIENTED PROGRAMMING LABORATORY
Year/Semester	II/III
Total Contact Hours	60
Course Outcome	CO1: To build software development skills using java programming for real-world applications CO2: To understand and apply the concepts of classes, packages, interfaces, array list, exception handling and file processing. CO3: To develop applications using generic programming and event handling. CO4: Develop and implement Java programs for simple applications that make use of classes, packages and interfaces. CO5: Develop and implement Java programs with array list, exception handling and multithreading. CO6: Design applications using file processing, generic programming and event handling.

Course Code	CS8382
Name of the Course	DIGITAL SYSTEMS LABORATORY
Year/Semester	II/III
Total Contact Hours	60
Course Outcome	CO1: To understand the various basic logic gates CO2: To design and implement the various combinational circuits CO3: To design and implement combinational circuits using MSI devices. CO4: To design and implement sequential circuits CO5: To understand and code with HDL programming CO6: Simulate combinational and sequential circuits using HDL

Course Code	HS8381
Name of the Course	INTERPERSONAL SKILLS/LISTENING&SPEAKING
Year/Semester	II/III
Total Contact Hours	30
Course Outcome	CO1: Equip students with the English language skills required for the

	<p>successful undertaking of academic studies with primary emphasis on academic speaking and listening skills</p> <p>CO2: Provide guidance and practice in basic general and classroom conversation and to engage in specific academic speaking activities</p> <p>CO3: improve general and academic listening skills</p> <p>CO4: Make effective presentations.</p> <p>CO5: Listen and respond appropriately</p>
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Course Code	MA8402
Name of the Course	PROBABILITY AND QUEUING THEORY
Year/Semester	II/IV
Total Contact Hours	60
Course Outcome	<p>CO1: To provide necessary basic concepts in probability and random processes for applications such as random signals, linear systems in communication engineering</p> <p>CO2: To understand the basic concepts of random processes which are widely used in IT fields.</p> <p>CO3: To understand the concept of queueing models and apply in engineering.</p> <p>CO4: To understand the significance of advanced queueing models</p> <p>CO5: To provide the required mathematical support in real life problems and develop probabilistic models which can be used in several areas of science and engineering.</p>

Course Code	CS8491
Name of the Course	COMPUTER ARCHITECTURE
Year/Semester	II/IV
Total Contact Hours	45
Course Outcome	<p>CO1: To learn the basic structure and operations of a computer</p> <p>CO2: To learn the arithmetic and logic unit and implementation of fixed-point and floating point arithmetic unit.</p> <p>CO3: To learn the basics of pipelined execution</p> <p>CO4: To understand parallelism and multi-core processors.</p> <p>CO5: To learn the different ways of communication with I/O devices.</p>

Course Code	CS8492
Name of the Course	DATABASE MANAGEMENT SYSTEMS
Year/Semester	II/IV
Total Contact Hours	45
Course Outcome	<p>CO1: To learn the fundamentals of data models and to represent a database system using ER diagrams.</p> <p>CO2: To study SQL and relational database design.</p> <p>CO3: To understand the internal storage structures using different file and indexing techniques which will help in physical DB design.</p> <p>CO4: To have an introductory knowledge about the Storage and Query processing Techniques</p> <p>CO5: To understand the fundamental concepts of transaction</p>

	processing- concurrency control techniques and recovery procedures
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Course Code	CS8451
Name of the Course	DESIGN AND ANALYSIS OF ALGORITHMS
Year/Semester	II/IV
Total Contact Hours	45
Course Outcome	CO1: To understand and apply the algorithm analysis techniques. CO2: To critically analyze the efficiency of alternative algorithmic solutions for the same problem CO3: To understand different algorithm design techniques CO4: To understand the limitations of Algorithmic power. CO5: Modify existing algorithms to improve efficiency.

Course Code	CS8493
Name of the Course	OPERATING SYSTEMS
Year/Semester	II/IV
Total Contact Hours	45
Course Outcome	CO1: To understand the basic concepts and functions of operating systems. CO2: To understand Processes and Threads CO3: To analyze Scheduling algorithms. CO4: To understand the concept of Deadlocks CO5: To be familiar with the basics of Linux system and Mobile OS like iOS and Android.

Course Code	CS8494
Name of the Course	SOFTWARE ENGINEERING
Year/Semester	II/IV
Total Contact Hours	45
Course Outcome	CO1: To understand the phases in a software project CO2: To understand fundamental concepts of requirements engineering and Analysis Modeling. CO3: To understand the various software design methodologies CO4: To learn various testing and maintenance measures CO5: Apply systematic procedure for software design and deployment.

Course Code	CS8481
Name of the Course	DATABASE MANAGEMENT SYSTEMS LABORATORY
Year/Semester	II/IV
Total Contact Hours	60
Course Outcome	CO1: To understand data definitions and data manipulation commands CO2: To learn the use of nested and join queries CO3: To understand functions, procedures and procedural

	extensions of data bases CO4: To be familiar with the use of a front end tool CO5: To understand design and implementation of typical database applications CO6: Implement applications that require a Front-end Tool
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Course Code	CS8461
Name of the Course	OPERATING SYSTEMS LABORATORY
Year/Semester	II/IV
Total Contact Hours	60
Course Outcome	CO1: To learn Unix commands and shell programming CO2: To implement various CPU Scheduling Algorithms CO3: To implement Process Creation and Inter Process Communication. CO4: To implement Deadlock Avoidance and Deadlock Detection Algorithms CO5: To implement Page Replacement Algorithms CO6: To implement File Organization and File Allocation Strategies

Course Code	HS8461
Name of the Course	ADVANCED READING AND WRITING
Year/Semester	II/IV
Total Contact Hours	60
Course Outcome	CO1: Strengthen the reading skills of students of engineering CO2: Enhance their writing skills with specific reference to technical writing CO3: Develop students 'critical thinking skills. CO4: Provide more opportunities to develop their project and proposal writing skills. CO5: Display critical thinking in various professional contexts.

Course Code	MA8551
Name of the Course	ALGEBRA AND NUMBER THEORY
Year/Semester	III/V
Total Contact Hours	60
Course Outcome	CO1: To introduce the basic notions of groups, rings, fields which will then be used to solve related problems. CO2: To introduce and apply the concepts of rings, finite fields and polynomials. CO3: To understand the basic concepts in number theory CO4: To examine the key questions in the Theory of Numbers CO5: To give an integrated approach to number theory and abstract algebra, and provide a firm basis for further reading and study in the subject.

Course Code	CS8591
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Name of the Course	COMPUTER NETWORKS
Year/Semester	III/V
Total Contact Hours	45
Course Outcome	CO1: To understand the protocol layering and physical level communication CO2: To analyze the performance of a network. CO3: To understand the various components required to build different networks. CO4: To learn the functions of network layer and the various routing protocols. CO5: To familiarize the functions and protocols of the Transport layer

Course Code	EC8691
Name of the Course	MICROPROCESSORS AND MICROCONTROLLERS
Year/Semester	III/V
Total Contact Hours	45
Course Outcome	CO1: To understand the Architecture of 8086 microprocessor CO2: To learn the design aspects of I/O and Memory Interfacing circuits. CO3: To interface microprocessors with supporting chips CO4: To design a microcontroller based system CO5: To study the Architecture of 8051 microcontroller.

Course Code	CS8501
Name of the Course	THEORY OF COMPUTATION
Year/Semester	III/V
Total Contact Hours	45
Course Outcome	CO1: To understand the language hierarchy CO2: To construct automata for any given pattern and find its equivalent regular expressions CO3: To design a context free grammar for any given language CO4: To understand Turing machines and their capability CO5: To understand undecidable problems and NP class problems
Course Code	CS8592
Name of the Course	OBJECT ORIENTED ANALYSIS AND DESIGN
Year/Semester	III/V
Total Contact Hours	45
Course Outcome	CO1: To understand the fundamentals of object modeling CO2: To understand and differentiate Unified Process from other approaches CO3: To design with static UML diagrams. CO4: To design with the UML dynamic and implementation diagrams CO5: To test the software against its requirements specification

Course Code	EC8681
Name of the Course	MICROPROCESSORS AND MICROCONTROLLERS LABORATORY
Year/Semester	III/V
Total Contact Hours	60
Course Outcome	CO1: To Introduce ALP concepts, features and Coding methods CO2: Write ALP for arithmetic and logical operations in 8086 and 8051 CO3: Differentiate Serial and Parallel Interface CO4: Interface different I/Os with Microprocessors CO5: Generate waveforms using Microprocessors CO6: Be familiar with MASM

Course Code	CS8582
Name of the Course	OBJECT ORIENTED ANALYSIS AND DESIGN LABORATORY
Year/Semester	III/V
Total Contact Hours	60
Course Outcome	CO1: To capture the requirements specification for an intended software system CO2: To draw the UML diagrams for the given specification CO3: To map the design properly to code CO4: To test the software system thoroughly for all scenarios CO5: To improve the design by applying appropriate design patterns. CO6: Test the compliance of the software with the SRS.

Course Code	CS8581
Name of the Course	NETWORKS LABORATORY
Year/Semester	III/V
Total Contact Hours	60
Course Outcome	CO1: To learn and use network commands. CO2: To learn socket programming. CO3: To implement and analyze various network protocols. CO4: To learn and use simulation tools. CO5: To use simulation tools to analyze the performance of various network protocols. CO6: Implement various protocols using TCP and UDP.

Course Code	CS8651
Name of the Course	INTERNET PROGRAMMING
Year/Semester	III/VI
Total Contact Hours	45
Course Outcome	CO1: To understand different Internet Technologies.

	CO2: To learn java-specific web services architecture CO3: Develop a mobile application using android/blackberry/ios/Windows SDK CO4: Determine the functionality of MAC, network layer and Identify a routing protocol for a given Ad hoc network CO5: Use AJAX and web services to develop interactive web applications
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Course Code	CS8691
Name of the Course	ARTIFICIAL INTELLIGENCE
Year/Semester	III/VI
Total Contact Hours	45
Course Outcome	CO1: To understand the various characteristics of Intelligent agents CO2: To learn the different search strategies in A CO3: To learn to represent knowledge in solving AI problems CO4: To know about the various applications of AI. CO5: To understand the different ways of designing software agents

Course Code	CS8601
Name of the Course	MOBILE COMPUTING
Year/Semester	III/VI
Total Contact Hours	45
Course Outcome	CO1: To understand the basic concepts of mobile computing. CO2: To learn the basics of mobile telecommunication system . CO3: To be familiar with the network layer protocols and Ad-Hoc networks. CO4: To know the basis of transport and application layer protocols CO5: To gain knowledge about different mobile platforms and application development.

Course Code	CS8602
Name of the Course	COMPILER DESIGN
Year/Semester	III/VI
Total Contact Hours	45
Course Outcome	CO1: To learn the various phases of compiler CO2: To learn the various parsing techniques CO3: To understand intermediate code generation and run-time environment. CO4: To learn to implement front-end of the compiler. CO5: To learn to implement code generator.

Course Code	CS8603
Name of the Course	DISTRIBUTED SYSTEMS
Year/Semester	III/VI
Total Contact Hours	45
Course Outcome	CO1: To understand the foundations of distributed systems

	<p>CO2: To learn issues related to clock Synchronization and the need for global state in distributed systems.</p> <p>CO3: To learn distributed mutual exclusion and deadlock detection algorithms</p> <p>CO4: To learn the characteristics of peer-to-peer and distributed shared memory systems.</p> <p>CO5: To understand the significance of agreement, fault tolerance and recovery protocols in Distributed Systems.</p>
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Course Code	CS8662
Name of the Course	MOBILE APPLICATION DEVELOPMENT LABORATORY
Year/Semester	III/VI
Total Contact Hours	60
Course Outcome	<p>CO1: To understand the components and structure of mobile application development frameworks for Android and windows OS based mobiles.</p> <p>CO2: To understand how to work with various mobile application development frameworks.</p> <p>CO3: To learn the basic and important design concepts and issues of development of mobile applications.</p> <p>CO4: To understand the capabilities and limitations of mobile devices.</p> <p>CO5: Develop mobile applications using GUI and Layouts.</p> <p>CO6: Analyze and discover own mobile app for simple needs.</p>

Course Code	CS8662
Name of the Course	INTERNET PROGRAMMING LABORATORY
Year/Semester	III/VI
Total Contact Hours	60
Course Outcome	<p>CO1: To be familiar with Web page design using HTML/XML and style sheets</p> <p>CO2: To be exposed to creation of user interfaces using Java frames and applets.</p> <p>CO3: To learn to create dynamic web pages using server side scripting</p> <p>CO4: To learn to write Client Server applications..</p> <p>CO5: To be familiar with the PHP programming..</p> <p>CO6: To be exposed to creating applications with AJAX.</p>

Course Code	HS8581
Name of the Course	PROFESSIONAL COMMUNICATION
Year/Semester	III/VI
Total Contact Hours	45
Course Outcome	<p>CO1: To understand the components and structure of mobile application development frameworks for Android and windows OS based mobiles.</p> <p>CO2: To understand how to work with various mobile application</p>

	<p>development frameworks.</p> <p>CO3: To learn the basic and important design concepts and issues of development of mobile applications.</p> <p>CO4: To understand the capabilities and limitations of mobile devices.</p> <p>CO5: Develop adequate Soft Skills required for the workplace</p>
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Course Code	CS8792
Name of the Course	CRYPTOGRAPHY AND NETWORK SECURITY
Year/Semester	IV/VII
Total Contact Hours	45
Course Outcome	<p>CO1: To understand Cryptography Theories, Algorithms and Systems</p> <p>CO2: To understand necessary Approaches and Techniques to build protection mechanisms in order to secure computer networks.</p> <p>CO3: Apply the different cryptographic operations of symmetric cryptographic algorithms</p> <p>CO4: Understand various Security practices and System security standards</p> <p>CO5: Understand the fundamentals of networks security, security architecture, threats and vulnerabilities</p>

Course Code	IT8076
Name of the Course	SOFTWARE TESTING
Year/Semester	IV/VII
Total Contact Hours	45
Course Outcome	<p>CO1: To learn the criteria for test cases.</p> <p>CO2: To learn the design of test cases.</p> <p>CO3: To understand test management and test automation techniques.</p> <p>CO4: To apply test metrics and measurements.</p> <p>CO5: Identify suitable tests to be carried out</p>

Course Code	IT8075
Name of the Course	SOFTWARE PROJECT MANAGEMENT
Year/Semester	IV/VII
Total Contact Hours	45
Course Outcome	<p>CO1: To understand the Software Project Planning and Evaluation techniques</p> <p>CO2: To plan and manage projects at each stage of the software development life cycle (SDLC).</p> <p>CO3: To learn about the activity planning and risk management principles.</p> <p>CO4: To deliver successful software projects that support organization's strategic goals.</p> <p>CO5: To develop skills to manage the various phases involved in project management and people management.</p>

Course Code	CS8079
Name of the Course	HUMAN COMPUTER INTERACTION
Year/Semester	IV/VII
Total Contact Hours	45
Course Outcome	CO1: To learn the foundations of Human Computer Interaction CO2: To become familiar with the design technologies for individuals and persons with disabilities CO3: To be aware of mobile HCI. CO4: To deliver successful software projects that support organization's strategic goals. CO5: Design effective HCI for individuals and persons with disabilities.

Course Code	CS8078
Name of the Course	GREEN COMPUTING
Year/Semester	IV/VII
Total Contact Hours	45
Course Outcome	CO1: To learn the fundamentals of Green Computing CO2: To analyze the Green computing Grid Framework. CO3: To understand the issues related with Green compliance. CO4: To study and develop various case studies. CO5: Acquire knowledge to adopt green computing practices to minimize negative impacts on the environment.

Course Code	GE8077
Name of the Course	TOTAL QUALITY MANAGEMENT
Year/Semester	IV/VIII
Total Contact Hours	45
Course Outcome	CO1: To facilitate the understanding of Quality Management principles and process CO2: to apply the tools and techniques of quality management to manufacturing and services processes. CO3: Strategic quality planning, CO4: The seven traditional tools of quality CO5: Environmental management system

Course Code	CS8077
Name of the Course	GRAPH THEORY AND APPLICATIONS
Year/Semester	IV/VIII
Total Contact Hours	45
Course Outcome	CO1: To understand fundamentals of graph theory.

	<p>CO2: To study proof techniques related to various concepts in graphs.</p> <p>CO3: To explore modern applications of graph theory.</p> <p>CO4: Apply suitable graph model and algorithm for solving applications.</p> <p>CO5: Understand the basic concepts of graphs, and different types of graphs</p>
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