

B.E. COMPUTER SCIENCE AND ENGINEERING

COURSE OUTCOMES

Course Code / Course Name: HS8151 / Communicative English

CO No.	Course Outcomes (COs)
C101.1	Define the rules of English grammar and construct a paragraph.
C101.2	Interpret the process and describe the action used in Engineering trends.
C101.3	Extend the formal and informal conversation both in personal and professional.
C101.4	Outline an informal letter and email for official writing.
C101.5	Show the group discussion and face to face conversation for effective speaking.

Course Code / Course Name: MA8151/ Engineering Mathematics I

CO No.	Course Outcomes (COs)
C102.1	Extend the limit definition and rules of differentiation to differentiate functions.
C102.2	Apply differentiation methods to solve maxima and minima problems.
C102.3	Explain the concept of definite and indefinite integrals.
C102.4	Apply integration to compute multiple integrals, area, volume, integrals in polar coordinates, in addition to change of order and change of variables.
C102.5	Apply the concept of differentiation in solving differential equation.

Course Code / Course Name: PH8151 / Engineering Physics

CO No.	Course Outcomes (COs)
C103.1	Interpret the basic properties of matter in I Shape girders, bending moment etc.
C103.2	Illustrate the concepts of waves and optical devices and their applications in fiber optics.
C103.3	Demonstrate the thermal properties of materials in expansion joints and heat exchangers
C103.4	Summarize the advanced physics concepts of quantum theory and its applications in tunneling microscopes
C103.5	Outline the basics of crystal structures and different techniques to grow the crystals.

Course Code / Course Name: CY8151 / Engineering Chemistry

CO No.	Course Outcomes (COs)
C104.1	Outline the requirements of boiler water, problems and treatment techniques.
C104.2	Explain the advantages of catalyst and adsorption on pollution abatement.
C104.3	Illustrate the basic concepts of phase rule in alloying and demonstrate the behavior of one and two component systems.
C104.4	Explain the types of fuels, manufacture of solid, liquid and gaseous fuels and calculations of calorific value.
C104.5	Identify the various non-conventional energy sources and list the energy storage devices.

Course Code / Course Name: GE8151 / Problem Solving and Python Programming

CO No.	Course Outcomes (COs)
C105.1	Develop algorithmic solutions to simple computational Problems.
C105.2	Construct Python Programs using Data, Expressions and Statements for solving problems.
C105.3	Apply the control flow and functions concepts in Python for solving problems.
C105.4	Make use of Lists, Tuples and Dictionary for solving problems.
C105.5	Make use of Files, Modules and Packages for solving problems.

Course Code / Course Name: GE8152 / Engineering Graphics

CO No.	Course Outcomes (COs)
C106.1	Illustrate about conics and orthographic views of engineering components.
C106.2	Show the projection of points, lines and planes.
C106.3	Construct the solids and projection of solids at different positions.
C106.4	Model the sectioned view of solids and development of surface.
C106.5	Develop the isometric projection and perspective views of an object/solid.

Course Code / Course Name: GE8161 / Problem Solving and Python Programming Laboratory

CO No.	Course Outcomes (COs)
C107.1	Develop solutions to simple computational problems using Python programs.
C107.2	Make use of conditionals and loops in Python for solving problems.
C107.3	Develop Python programs by defining functions and calling them.
C107.4	Make use of compound data structures for solving problems.
C107.5	Develop Python programs using files.

Course Code / Course Name: BS8161 / Physics & Chemistry Laboratory

CO No.	Course Outcomes (COs)
C108.1	Illustrate the physics principles in optics and properties of matter. Show the thickness of a thin wire using Air-wedge method.
C108.2	Show the velocity of ultrasonic waves in a given liquid medium and band gap of a semiconducting material.
C108.3	Estimate the hardness, chloride, alkalinity, Dissolved oxygen content of water samples. Estimate the amount of acid using conduct metric, pH metric method.
C108.4	Estimate the metal ion content in given sample by spectrophotometric, potentiometric and flame photometric method.
C108.5	Calculation of molecular weight of polyvinyl alcohol using Ostwald viscometer and estimate the CMC. Estimate rate of the reaction by Pseudo first order kinetics -ester hydrolysis. Calculate the weight loss of metal by Corrosion experiment.

Course Code / Course Name: HS8251/Technical English

CO No.	Course Outcomes (COs)
C109.1	Explain text transitions and comprehend the scientific and technical context.
C109.2	Illustrate the data from graphs and charts.
C109.3	Infer proper vocabulary, correct spelling and grammar to create reports.
C109.4	Outline a formal cover letter along with a resume to email in a convincing manner.
C109.5	Show a formal and informal conversations to participate in group discussions for delivering effective technical presentations

Course Code / Course Name: MA8251 / Engineering Mathematics II

CO No.	Course Outcomes (COs)
C110.1	Extend the concept of eigenvalues and eigenvectors in diagonalization of a matrix, Symmetric matrices, and similar matrices.
C110.2	Compare the ideas of gradient, divergence and curl of a vector point function and related identities
C110.3	Illustrate the view of line, surface and volume integrals using Gauss, Stokes and Green's theorems and their verification
C110.4	Summarize the purpose of analytic functions, conformal mapping and complex integration in Engineering field.
C110.5	Summarize the concepts of Laplace transform and inverse Laplace transform in application of differential equations with constant coefficients

Course Code / Course Name: PH8252 / Physics for Information Science

CO No.	Course Outcomes (COs)
C111.1	Summarize the classical and quantum electron theories and energy band structures
C111.2	Classify the types of semiconductor and explain the principle behind Hall effect and diodes.
C111.3	Illustrate magnetic properties of materials and their applications in data storage.
C111.4	Outline the functioning of optical materials in the field of optoelectronics and optical data storage devices.
C111.5	Explain the basics of quantum structures and their applications in carbon electronics.

Course Code / Course Name: BE8255/ Basic Electrical, Electronics and Measurement Engineering

CO No.	Course Outcomes (COs)
C112.1	Apply the essential concepts of electric circuits and analysis
C112.2	Explain the principle of operation of electric machines and transformers
C112.3	Outline the various renewable energy sources and common domestic loads.
C112.4	Interpret the fundamentals of electronic circuits using different semiconductor devices.
C112.5	Illustrate the measuring and metering instruments for electric circuits.

Course Code / Course Name: GE8291 / Environmental Science and Engineering

CO No.	Course Outcomes (COs)
C113.1	Explain the concept of ecosystem, its values, and threats and outline the methods to conserve the biodiversity
C113.2	Outline the causes and effects of Environmental Pollution and provide technical solution for pollution control
C113.3	Interpret the types of natural resources available and measures to utilize the sustainably
C113.4	Identify the social issues in the environment and find solutions for the environmental Protection
C113.5	Outline the impact of population growth on environment and human health.

Course Code / Course Name: CS8251 / Programming in C

CO No.	Course Outcomes (COs)
C114.1	Develop simple applications in C using basic constructs.
C114.2	Make use of arrays and strings for solving problems.
C114.3	Apply functions and pointers in C for a given application.
C114.4	Develop applications in C using structures.
C114.5	Apply file processing techniques for an application.

Course Code / Course Name: GE8261 / Engineering Practices Laboratory

CO No.	Course Outcomes (COs)
C115.1	Model carpentry components and use welding equipment to join the structures
C115.2	Demonstrate Plumbing requirements of domestic buildings and machining
C115.3	Illustrate on basic machining operations, sheet metal works, centrifugal pump, Air conditioner, operations of smithy, foundry and fittings.
C115.4	Apply the concept of basic electrical engineering for house wiring practice and measurement of electrical quantities.
C115.5	Apply electronic principles to develop circuits for primitive applications

Course Code / Course Name: CS8261 / C Programming Laboratory

CO No.	Course Outcomes (COs)
C116.1	Develop simple applications in C using basic constructs.
C116.2	Make use of Arrays, strings, functions and recursion concepts in C for solving problems.
C116.3	Apply structures and pointers concepts in C for a given application.
C116.4	Develop application using sequential and random-access file processing techniques.
C116.5	Develop an application using the core concepts in C.

Course Code / Course Name: MA8351 / Discrete Mathematics

CO No.	Course Outcomes (COs)
C201.1	Summarize the concepts of logic of a program.
C201.2	Explain the notions of counting Principle to solve combinatorial problems.
C201.3	Apply the concepts of graph theory in network of communications.
C201.4	Summarize the purpose of algebraic structures in the field of computer science.
C201.5	Develop the concepts of Lattices in Boolean algebra.

Course Code / Course Name: CS8351/Digital Principles and System Design

CO No.	Course Outcomes (COs)
C202.1	Apply the theorems and postulates of Boolean algebra and Karnaugh Map technique for simplification of logic expressions.
C202.2	Analyze Combinational Logic Circuits for the given requirement and implement them using logic gates or other devices like multiplexers or decoders and write the HDL code for them.
C202.3	Analyze the given Synchronous Sequential Logic circuits to determine its function and implement Synchronous Sequential Logic circuits for the given requirement using different flip flops and write the HDL code for them.
C202.4	Analyze the given Asynchronous Sequential Logic circuits to determine its function and implement Asynchronous Sequential Logic circuits for the given requirement.
C202.5	Apply the concepts of different semiconductor memories and PLD's for the given requirement.

Course Code / Course Name: CS8391 / Data Structures

CO No.	Course Outcomes (COs)
C203.1	Utilize List Abstract DataType for solving problems.
C203.2	Apply the Stack and Queue data structures to solve various computing problems.
C203.3	Apply the non-linear Tree data structures to different computing problems.
C203.4	Apply the non-linear Graph data structures to different computing problems.
C203.5	Analyze the various sorting, searching algorithms, and hashing techniques.

Course Code / Course Name: CS8392 / Object Oriented Programming

CO No.	Course Outcomes (COs)
C204.1	Develop simple java programs using OOP Principles.
C204.2	Construct Java programs with the concepts of inheritance and interfaces.
C204.3	Build Java applications using exceptions and I/O streams.
C204.4	Utilize threads and generics classes in Java applications development.
C204.5	Make use of AWT and Swing components for interactive GUI applications.

Course Code / Course Name: EC8395/ Communication Engineering

CO No.	Course Outcomes (COs)
C205.1	Select the appropriate analog communication techniques based on modulation requirements.
C205.2	Make use of data and pulse communication techniques for high-speed communication.
C205.3	Explain the different types of Digital communication techniques.
C205.4	Apply Source and Error control coding techniques for error free communication.
C205.5	Demonstrate the process involved in multi-user radio communication.

Course Code / Course Name: CS8381 / Data Structures Laboratory

CO No.	Course Outcomes (COs)
C206.1	Construct linear data structures using Array and Linked List.
C206.2	Construct appropriate Tree data structure operations for solving a given problem.
C206.3	Construct appropriate Graph data structure operations for solving a given problem.
C206.4	Analyze the various searching and sorting algorithms.
C206.5	Apply appropriate hash functions that result to a collision-free data storage and recovery scenario.

Course Code / Course Name: CS8383 / Object Oriented Programming Laboratory

CO No.	Course Outcomes (COs)
C207.1	Develop Java programs for simple applications using classes, packages and interfaces.
C207.2	Make use of String and Array List for problem solving.
C207.3	Apply the concept of Exception handling and multithreading in Java Program.
C207.4	Develop applications using file processing, generic programming.
C207.5	Utilize AWT, Swing and Event Handling concepts for developing Graphical User Interface application.

Course Code / Course Name: CS8382 / Digital Systems Laboratory

CO No.	Course Outcomes (COs)
C208.1	Apply the principles of Boolean algebra and implement it using logic gates.
C208.2	Analyze the performance of combinational logic circuits and implement it using logic gates or other devices like multiplexer, decoders and encoders.
C208.3	Analyze the performance of sequential logic circuits and implement it using the given flip flop.
C208.4	Examine the performance of simple combinational logic circuits through simulation using Hardware Description Language (HDL).
C208.5	Examine the performance of simple sequential logic circuits through simulation using Hardware Description Language (HDL).

Course Code / Course Name: HS8381/Interpersonal skill listening and speaking

CO No.	Course Outcomes (COs)
C209.1	Select the concept and respond appropriately.
C209.2	Show the speaking skill in Interview and group discussions.
C209.3	Summarize the process and product.
C209.4	Demonstrate effective presentation and use in communication.
C209.5	Extend both formal and informal conversation.

Course Code / Course Name: MA8402/Probability and Queueing Theory

CO No.	Course Outcomes (COs)
C210.1	Relate the concept of probability and standard distributions in real life phenomenon.
C210.2	Summarize the notions of covariance, correlation and regression in engineering applications.
C210.3	Apply the concept of random processes in engineering disciplines.
C210.4	Extend the concepts of random process in queueing models.
C210.5	Utilize queueing theory in open Jacksons networks.

Course Code / Course Name: CS8491/ Computer Architecture

CO No.	Course Outcomes (COs)
C211.1	Interpret the basic structure of computer operations, instructions and addressing modes.
C211.2	Make use of algorithms to perform arithmetic operations.
C211.3	Build pipelined processor using MIPS architecture.
C211.4	Illustrate the concepts of parallel processing architecture.
C211.5	Summarize the fundamentals of memory system, bus and I/O communication.

Course Code / Course Name: CS8492 / Database Management Systems

CO No.	Course Outcomes (COs)
C212.1	Interpret the fundamental concepts of relational database.
C212.2	Develop Relational model from ER model to perform database design and generate queries with normalization criteria to optimize queries.
C212.3	Make use of serializability and concurrency control in transaction processing.
C212.4	Utilize the indexing strategies in database application.
C212.5	Apply advanced database concepts for a given application.

Course Code / Course Name: CS8451 / Design and Analysis of Algorithms

CO No.	Course Outcomes (COs)
C213.1	Develop algorithms for various computing problems and time and space complexity analysis.
C213.2	Analyze the Brute Force and Divide and Conquer algorithm design techniques for a given problem.
C213.3	Analyze the Dynamic and Greedy algorithm design techniques for a given problem.
C213.4	Analyze the Iterative improvement algorithm design techniques and solve the given problem.
C213.5	Examine Backtracking and Branch and Bound Techniques and Modify the existing algorithms to improve efficiency.

Course Code / Course Name: CS8493/ Operating Systems

CO No.	Course Outcomes (COs)
C214.1	Outline the functionalities of Operating Systems.
C214.2	Analyze various scheduling algorithms and explain the process synchronization.
C214.3	Apply memory management schemes in OS.
C214.4	Summarize the functionalities of File systems and I/O systems.
C214.5	Make use of administrative tasks on Linux Servers and compare iOS & Android Operating Systems.

Course Code / Subject Name: CS8494/ Software Engineering

CO No.	Course Outcomes (COs)
C215.1	Identify the key activities in managing a software project and compare different process models.
C215.2	Identify the concepts of requirements engineering and analysis modelling.
C215.3	Apply systematic procedure for software design and deployment.
C215.4	Select the relevant standards for coding, testing practices and Reengineering process model.
C215.5	Build project schedule, estimate project cost and effort required.

Course Code / Course Name: CS8481 / Database Management Systems Laboratory

CO No	Course Outcomes (COs)
C216.1	Make use of typical data definitions and manipulation commands.
C216.2	Build the applications to test Nested and Join Queries.
C216.3	Develop simple applications that use Views and Normalization.
C216.4	Construct applications that require a Front-end Tool.
C216.5	Identify the use of Tables, Views, Functions and Procedures.

Course Code / Course Name: CS8461/Operating Systems Laboratory

CO No.	Course Outcomes (COs)
C217.1	Make use of Unix Commands and Shell programming.
C217.2	Build CPU Scheduling Algorithms for a given processes detail.
C217.3	Develop IPC, Semaphores for memory management.
C217.4	Build Threading & Synchronization Applications and Deadlock Avoidance & Detection Algorithms.
C217.5	Develop Page Replacement Algorithms and File Organization and Allocation Strategies.

Course Code / Course Name: HS8461/Advanced reading and writing.

CO No.	Course Outcomes (COs)
C218.1	List the glosses and footnotes to aid reading comprehension.
C218.2	Illustrate reasons and examples to support ideas in writing.
C218.3	Show critical thinking in various professional contexts.
C218.4	Outline the ideas relevantly and coherently in writing and speaking.
C218.5	Infer how the text positions the reader.

Course Code / Course Name: MA8551/ Algebra and Number Theory

CO No.	Course Outcomes (COs)
C301.1	Understand the basic concepts of groups, rings and field and to know about uses of these concepts in various sets.
C301.2	Summarize the notions of finite fields and polynomials to solve problems in advanced algebra.
C301.3	Explain the theory of divisibility and canonical decompositions.
C301.4	Solve the linear Diophantine equation and congruence's.
C301.5	Apply classical theorem and multiplicative functions in number theory.

Course Code / Course Name: CS8591/ Computer Networks

CO No.	Course Outcomes (COs)
C302.1	Interpret the basic layers and its functions in computer networks.
C302.2	Identify the functionalities of data link and media access control protocols.
C302.3	Apply routing algorithms for different kinds of networks.
C302.4	Make use of the transport layer's functionalities and protocols.
C302.5	Explain the working of application layer protocols.

Course Code / Course Name: EC8691 /Microprocessors and Microcontrollers

CO No.	Course Outcomes (COs)
C303.1	Construct the programs based on 8086 Microprocessor.
C303.2	Outline the system but timing and processor configuration.
C303.3	Examine the interfacing of microprocessor with supporting chips.
C303.4	Construct programs based on 8051 Microcontroller.
C303.5	Develop microcontroller-based systems.

Course Code / Subject Name: CS8501/Theory of Computation

CO No.	Course Outcomes (COs)
C304.1	Construct automata for any pattern.
C304.2	Build regular expression of string pattern.
C304.3	Make use of context free grammar for Push down Automata.
C304.4	Apply Turing machines to propose computation solutions.
C305.5	Identify whether a problem is decidable or not and NP class problems.

Course Code / Subject Name: CS8592 / Object Oriented Analysis and Design

CO No.	Course Outcomes (COs)
C305.1	Develop an Use Case Diagram for a given application.
C305.2	Apply Static UML concepts for a given software application.
C305.3	Apply Dynamic and Implementation UML concepts for a given software application.
C305.4	Make use of design patterns and transform the UML based software design into pattern-based design.
C305.5	Apply appropriate testing methodologies for generating test cases and test plans in OO software.

Course Code / Course Name: OBT551 / Basics of Bio Medical Instrumentation

CO No.	Course Outcomes (COs)
C306.1	Outline the different bio potential and its propagation
C306.2	Explain the different types of electrodes and its placement for various recording
C306.3	Explain bio amplifiers for various physiological recording
C306.4	Outline the different measurement techniques for non-physiological parameters.
C306.5	Explain the different biochemical measurements.

Course Code / Course Name: EC8681 / Microprocessors and Microcontrollers Laboratory

CO No.	Course Outcomes (COs)
C307.1	Apply the basic operations such as arithmetic and logical operations, data block movement, code conversion and string operations using 8086 microprocessor.
C307.2	Examine the various operations such as password checking, print RAM size and system date, counters and time delay using 8086 microprocessor.
C307.3	Inference the various peripheral chipsets with 8086 microprocessor.
C307.4	Examine the basic operations such as arithmetic and logical operations, 2's complement and code conversion and string operations using 8051 microcontroller.
C307.5	Analyze the basic operations using MASM simulator.

Course Code / Course Name: CS8582 / Object Oriented Analysis and Design Laboratory

CO No.	Course Outcomes (COs)
C308.1	Apply OO analysis and design for a given problem specification and differentiate advance Object Oriented Approach from the traditional approach for design and development system.
C308.2	Construct various UML Models using the appropriate notations.
C308.3	Identify and map basic software requirements in UML.
C308.4	Build the software quality using design patterns and to explain the rationale behind applying specific design patterns.
C308.5	Develop the test cases for the compliance of the software with the SRS.

Course Code / Course Name: CS8581/Networks Lab

CO No.	Course Outcomes (COs)
C309.1	Model protocols using TCP and UDP.
C309.2	Identify the performance of different transport layer protocols.
C309.3	Make Use of simulation tools to analyze the performance of various network protocols.
C309.4	Analyze different routing algorithms.
C309.5	Identify the error correction codes.

Course Code / Course Name: CS8651/Internet Programming

CO No.	Course Outcomes (COs)
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 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	Develop dynamic web applications using AJAX and web services.

Course Code / Course Name: CS8691/Artificial Intelligence

CO No.	Course Outcomes (COs)
C311.1	Demonstrate the fundamentals, scope and applications of Artificial Intelligence.
C311.2	Utilize appropriate search algorithms and optimization techniques to solve the problem.
C311.3	Make use of predicate logic in Knowledge Representation.
C311.4	Model software agents and provide the APT agent strategy to solve a problem.
C311.5	Build the applications for NLP that use Artificial Intelligence.

Course Code / Course Name: CS8601 / Mobile Computing

CO No.	Course Outcomes (COs)
C312.1	Explain the basics of mobile telecommunication systems.
C312.2	Illustrate the generations of telecommunication systems in wireless networks.
C312.3	Apply the functionality of MAC, network layer and identify a routing protocol for a given Ad hoc network.
C312.4	Explain the functionality of Transport and Application layers.
C312.5	Develop a mobile application using android/blackberry/ios/Windows SDK.

Course Code / Subject Name: CS8602/ Compiler Design

CO No.	Course Outcomes (COs)
C313.1	Apply DFA for recognition of tokens in lexical phase of compiler.
C313.2	Apply different parsing algorithms to develop the parsers for a given grammar.
C313.3	Construct syntax tree, Syntax directed translation for intermediate code generation.
C313.4	Develop simple code generator in run time environment.
C313.5	Apply code optimization techniques for programming construct.

Course Code / Course Name: CS8603 / Distributed Systems

CO No.	Course Outcomes (COs)
C314.1	Elucidate the foundations and issues of distributed systems.
C314.2	Build the various synchronization and global state for distributed systems.
C314.3	Apply the Mutual Exclusion and Deadlock detection algorithms in distributed systems.
C314.4	Make use of the agreement protocols and fault tolerance mechanisms in distributed systems.
C314.5	Identify the features of peer-to-peer and distributed shared memory systems.

Course Code / Course Name: IT8076/Software Testing

CO No.	Course Outcomes (COs)
C315.1	Infer the importance of testing, its principles ,tester’s role and spot the defects.
C315.2	Identify the suitable test cases for the software development for different domains.
C315.3	Identify suitable testing levels to be carried out for different domains.
C315.4	Develop test plans based on the document and make the test group.
C315.5	Make use of automatic testing tools and validate the test plan.

Course Code / Course Name:CS8661 / Internet Programming Laboratory

CO No.	Course Outcomes (COs)
C316.1	Construct Web pages using HTML/XML and style sheets.
C316.2	Build dynamic web pages with validation using Java Script objects and by applying different event handling mechanisms.
C316.3	Develop dynamic web pages using server-side scripting.
C316.4	Develop interactive web applications using PHP.
C316.5	Construct web applications using AJAX and web services.

Course Code / Course Name: CS8662 / Mobile Application Development Laboratory

CO No.	Course Outcomes (COs)
C317.1	Develop mobile applications using GUI and Layouts.
C317.2	Develop mobile applications using Event Listener
C317.3	Develop mobile applications using Databases.
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.

Course Code / Course Name: CS8611 / Mini Project

CO No.	Course Outcomes (COs)
C318.1	Determine effective methodologies to solve real world problems.
C318.2	Identify and review the appropriate literature for exposure to similar solutions.
C318.3	Build project plans with feasible requirements.
C318.4	Analyze, design and build flexible and reusable solutions.
C318.5	Organize the solutions for enhanced handling and provide scope for improvement.

Course Code / Course Name: HS8581 / Professional communication.

CO No.	Course Outcomes (COs)
C319.1	Develop adequate Soft Skills and soft skill required for the workplace.
C319.2	Show various technical presentations in a company.
C319.3	Interpret in mock interview and interact in group discussions.
C319.4	Outline professional etiquette.
C319.5	Summarize the various technical conversations.

Course Code / Course Name: MG8591 / Principles of Management

CO No.	Course Outcomes (COs)
C401.1	Apply basic managerial functions for an organization.
C401.2	Build the planning process for an organization.
C401.3	Identify the process of organization structure and HR management.
C401.4	Summarize the individual and group behaviour, motivation and leadership theories.
C401.5	Develop various Controlling techniques to maintain standards in Organizations.

Course Code / Course Name: CS8792 / Cryptography and Network Security

CO No.	Course Outcomes (COs)
C402.1	Make use of classical encryption techniques to solve the problems.
C402.2	Apply symmetric cryptographic algorithms for performing encryption and decryption operations.
C402.3	Make use of asymmetric cryptographic algorithms to perform cryptographic operations.
C402.4	Identify authentication schemes for different applications.
C402.5	Utilize the security practices and system security standards.

Course Code / Course Name: CS8791 / Cloud Computing

CO No.	Course Outcomes (COs)
C403.1	Infer the main concepts, key technologies, strengths and limitations of cloud computing.
C403.2	Apply the key and enabling technologies that help in the development of cloud.
C403.3	Identify the architecture of compute and storage cloud, service and delivery models.
C403.4	Identify the core issues of cloud computing such as resource management and security to model a cloud.
C403.5	Develop the skills to install current cloud technologies.

Course Code / Course Name: OCY751/ Wastewater Treatment

CO No.	Course Outcomes (COs)
C404.1	Explain the importance of the water quality and the preliminary treatment process used in wastewater treatment.
C404.2	Summarize the basic concepts of industrial wastewater treatment.
C404.3	Explain the role of conventional wastewater treatment processes.
C404.4	Interpret the advancement in various wastewater treatment processes.
C404.5	Classify the adsorption and oxidation process used in wastewater treatment.

Course Code / Course Name: IT8075/ Software Project Management

CO No.	Course Outcomes (COs)
C405.1	Interpret Project Planning and Evaluation principles.
C405.2	Apply adequate knowledge about software process models, software effort estimation techniques.
C405.3	Identify the risks involved in various project activities.
C405.4	Make use of checkpoints, project reporting structure, project progress and tracking mechanisms using project management principles.
C405.5	Outline about staffing in software projects and the issues related to people management.

Course Code / Course Name: CS8079 / Human Computer Interaction

CO No.	Course Outcomes (COs)
C406.1	Interpret the computer devices and HCI models.
C406.2	Develop software by using Interactive design techniques and HCI software process.
C406.3	Identify the stake holder's requirements and appropriate models related to human computer interaction.
C406.4	Develop mobile HCI using mobile elements and tools by considering mobile eco system.
C406.5	Build a meaningful user interface.

Course Code / Course Name: CS8711 - Cloud Computing Laboratory

CO No.	Course Outcomes (COs)
C407.1	Configure various virtualization tools such as Virtual Box, VMware workstation.
C407.2	Construct and deploy a web application in a PaaS environment.
C407.3	Install and use a generic cloud environment that can be used as a private cloud.
C407.4	Learn how to simulate a cloud environment to implement new schedulers.
C407.5	Manipulate large data sets in a parallel environment.

Course Code / Course Name: IT8761 - Security Laboratory

CO No.	Course Outcomes (COs)
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	Construct the network security system using open-source tools.

Course Code / Subject Name: GE8076 / Professional Ethics in Engineering

CO No.	Course Outcomes (COs)
C409.1	Illustrate the core values that enrich the ethical behaviour of an engineer.
C409.2	Interpret the importance of moral issues and theories of the profession.
C409.3	Identify how engineering is applied in association with ethics based on engineering experimentation.
C409.4	Infer the suitable safety measures towards risk benefit analysis.
C409.5	Explain the global ethical issues related to various work place situations.

Course Code / Course Name: CS8080 / Information Retrieval Techniques

CO No.	Course Outcomes (COs)
C410.1	Explain the fundamentals of Information Retrieval.
C410.2	Make use of modelling and retrieval evaluation techniques in data store.
C410.3	Apply appropriate method of classification and clustering.
C410.4	Make use of ranking algorithms for web retrieval and crawling.
C410.5	Analyze recommender system techniques for data retrieval.

Course Code / Course Name:CS8811 / Project Work

CO No.	Course Outcomes (COs)
C411.1	Identify the problem by applying acquired knowledge.
C411.2	Analyze and categorize executable project modules after considering risks.
C411.3	Choose efficient tools for designing project modules.
C411.4	Evaluate all the modules through effective team work after efficient testing.
C411.5	Elaborate the completed task and compile the project report.