



SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN

(Approved by AICTE, Affiliated to Anna University, Chennai, India)

Kaikkurichi, Pudukkottai – 622 303

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

REGULATION 2017

COURSE OUTCOMES (CO)

I SEMESTER

HS8151 COMMUNICATIVE ENGLISH

Students will be able to

CO1	Develop vocabulary of a general kind by developing their reading skills
CO2	Explain their opinions in English and Participate effectively in informal conversations; introduce themselves and their friends
CO3	Comprehend conversations and short talks delivered in English
CO4	Write short essays of a general kind and personal letters and emails in English
CO5	Develop their speaking skills and speak fluently in real contexts.
CO6	Discuss about the general kind in magazines and newspapers

MA8151 ENGINEERING MATHEMATICS - I

Students will be able to

CO1	Apply the limit definition and rules of differentiation to differentiate functions
CO2	Apply differentiation to solve maxima and minima problems.
CO3	Evaluate integrals both by using Riemann sums and by using the Fundamental Theorem of Calculus
CO4	Apply integration to compute multiple integrals, area, volume, integrals in polar coordinates, in addition to change of order and change of variables
CO5	Evaluate integrals using techniques of integration, such as substitution, partial fractions and integration by parts
CO6	Apply various techniques in solving differential equations.

PH8151 ENGINEERING PHYSICS

Students will be able to

CO1	Explain the basics of properties of matter and its applications.
CO2	Describe the characteristics of laser light and their application in semiconductor laser.
CO3	Discuss the principle behind the propagation of light through an optical fiber and its application in sensors
CO4	Summarize the different modes of heat transfer.
CO5	Relate the quantum concepts in electron microscopes.
CO6	Describe the unit cell characteristics and the growth of crystals.

CY8151 ENGINEERING CHEMISTRY

Students will be able to

CO1	Summarize the water related problems in boilers and their treatment techniques
CO2	Discuss the applications of adsorption in the field of water and air pollution abatement



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COURSE OUTCOMES (CO)

CO3	Discuss the types of catalysis and the mechanism of enzyme catalysis
CO4	Apply phase rule in the alloying and the behavior of one component and two component systems using phase diagram
CO5	Explain various types of fuels, their manufacturing processes and calculation of calorific theoretically
CO6	Summarize the principles and generation of energy in batteries ,nuclear reactors, solar cells, wind mills and fuelcells

GE8151 PROBLEM SOLVING AND PYTHON PROGRAMMING

Students will be able to

CO1	Explain the basics of fundamentals of computing.
CO2	Design and execute simple Python programs.
CO3	Describe the basics of algorithmic problem solving
CO4	Solve problems using Python conditionals and loops
CO5	Define Python functions and use function calls to solve problems
CO6	Explain the importance of Read and write data from/to files in Python programs

GE8152 ENGINEERING GRAPHICS

Students will be able to

CO1	Familiarize with the fundamentals and standards of Engineering graphics
CO2	Perform freehand sketching of basic geometrical constructions and multiple views of objects
CO3	Project orthographic projections of lines and plane surfaces
CO4	Draw projections and solids and development of surfaces
CO5	Visualize and to project isometric sections of simple solids.
CO6	Visualize and to project perspective sections of simple solids.

GE8161 PROBLEM SOLVING AND PYTHON PROGRAMMING LABORATORY

Students will be able to

CO1	Develop algorithmic solutions to simple computational problems
CO2	Design and execute simple Python programs.
CO3	Solve programs in Python using conditionals and loops for solving problems.
CO4	Apply functions to decompose a Python program.
CO5	Analyze compound data using Python data structures
CO6	Utilize Python packages in developing software applications.

BS8161 PHYSICS AND CHEMISTRY LABORATORY

Students will be able to

CO1	Determine the Modulus of elasticity of materials and Coefficient of Viscosity of liquids
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COURSE OUTCOMES (CO)

CO2	Determine the Thermal Conductivity of bad conductor using Lee's disc method
CO3	Determination of wavelength, and particle size using Laser and Determination of acceptance angle in an optical fiber.
CO4	Calculate water quality parameters such as hardness, alkalinity of the given water sample.
CO5	Estimate the amount of the given acids using pH titrations.
CO6	Determine the amount of iron content in the given substance using potentiometric titration and Determine the amount of chloride content in the given water sample .

II SEMESTER

HS8251 TECHNICAL ENGLISH

Students will be able to

CO1	Read technical texts and write area- specific texts effortlessly
CO2	Listen and comprehend lectures and talks in their area of specialisation successfully.
CO3	Speak appropriately and effectively in varied formal and informal contexts.
CO4	Write reports and winning job applications
CO5	Develop their speaking skills to make technical presentations, participate in group discussions.
CO6	Strengthen their listening skill which will help them comprehend lectures and talks in their areas of specialization.

MA8251 ENGINEERING MATHEMATICS- II

Students will be able to

CO1	Describe about the Eigenvalues and eigenvectors, diagonalization of a matrix, Symmetric matrices, positive definite matrices and similar matrices
CO2	Apply Gradient, divergence and curl of a vector point function and related identities .
CO3	Evaluation of line, surface and volume integrals using Gauss, Stokes and Green's theorems and their verification
CO4	Evaluate the problems based on Analytic functions, conformal mapping and complex integration
CO5	Explain about the Laplace transform and inverse transform of simple functions, properties, various related theorems and application to differential equations with constant coefficients
CO6	Evaluate the linear second order differential equations with constant coefficients

PH8252 PHYSICS FOR INFORMATION SCIENCE

Students will be able to

CO1	Gain knowledge on classical and quantum electron theories, and energy band structures,
CO2	Acquire knowledge on basics of semiconductor physics and its applications in various devices,
CO3	Get knowledge on magnetic and dielectric properties of materials
CO4	Explain the necessary conditioning on the functioning of optical materials for optoelectronics,



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COURSE OUTCOMES (CO)

CO5	Explain the basics of quantum structures and their applications in spintronics and carbon electronics..
CO6	Summarize the basics of quantum structures and their applications in nano devices.

BE8255 BASIC ELECTRICAL AND ELECTRONICS AND MEASUREMENT ENGINEERING

Students will be able to

CO1	Explain the concept of three phase power circuits and measurement.
CO2	Comprehend the concepts in electrical generators, motors and transformers
CO3	Explain the principles of DC electrical machines
CO4	Explain the operation of AC electrical machines
CO5	Summarize the characteristics of the measuring instruments and its errors
CO6	Explain the working of different types of transducers, storage and display devices

GE8291 ENVIRONMENTAL SCIENCE AND ENGINEERING

Students will be able to

CO1	Environmental Pollution or problems cannot be solved by mere laws. Public participation is an important aspect which serves the environmental Protection. One will obtain knowledge on the following after completing the course.
CO2	Public awareness of environmental is at infant stage.
CO3	Identify Ignorance and incomplete knowledge has lead to misconceptions
CO4	categorize development and improvement in std. of living has lead to serious environmental disasters
CO5	Memorize about the study of dynamic processes and explain the features of the earth's interior and surface.
CO6	Describe the study of integrated themes and bio diversity, natural resources, pollution control and waste management

CS8251 PROGRAMMING IN C

Students will be able to

CO1	Describe the constructs of C Language.
CO2	Develop C Programs using basic programming constructs
CO3	Develop C programs using arrays and strings
CO4	Develop modular applications in C using functions
CO5	Develop applications in C using pointers and structures
CO6	Summarize the input/output and file handling in C

GE8261 ENGINEERING PRACTICES LABORATORY

Students will be able to

CO1	Fabricate carpentry components and pipe connections including plumbing works..
CO2	Use welding equipments to join the structures



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COURSE OUTCOMES (CO)

CO3	Carry out the basic machining operations
CO4	Make the models using sheet metal works
CO5	Illustrate on centrifugal pump, Air conditioner, operations of smithy, foundry and fittings
CO6	Carry out basic home electrical works and appliances

CS8261 C PROGRAMMING LABORATORY

Students will be able to

CO1	Demonstrate knowledge on C programming constructs
CO2	Develop programs in C using basic constructs.
CO3	Develop programs in C using arrays.
CO4	Develop applications in C using strings, pointers, functions.
CO5	Develop applications in C using structures.
CO6	Develop applications in C using file processing.

III SEMESTER

MA8351 DISCRETE MATHEMATICS

Students will be able to

CO1	Explain the concepts needed to test the logic of a program.
CO2	Describe the identifying structures on many levels.
CO3	Explain the importance of class functions which transform a finite set into another finite set which relates to input and output functions in computer science.
CO4	Apply counting principles.
CO5	Explain concepts and properties of algebraic structures such as groups, rings and fields.
CO6	Describe the concepts and significance of lattices and boolean algebra which are widely used in computer science and engineering.

CS8351 DIGITAL PRINCIPLES AND SYSTEM DESIGN

Students will be able to

CO1	Simplify Boolean functions using KMap.
CO2	Design and Analyze Combinational and Sequential Circuits
CO3	Explain the importance of Flip flops and latches.
CO4	Apply Programmable Logic Devices.
CO5	Write HDL code for combinational and Sequential Circuits
CO6	Analyse various error detection and correction logics

CS8391 DATA STRUCTURES

Students will be able to

CO1	Construct the abstract data types for linear data structures
CO2	Apply the stack and queue operations to develop various applications
CO3	Define linear and non-linear data structures.
CO4	Apply the different linear and non-linear data structures to problem solutions
CO5	Describe various searching techniques
CO6	Analyze the various sorting algorithms .



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COURSE OUTCOMES (CO)

CS8392 OBJECT ORIENTED PROGRAMMING

Students will be able to

CO1	Design Java programs using OOP principles
CO2	Develop Java programs with the concepts inheritance
CO3	Construct Java programs using interfaces
CO4	Build Java applications using exceptions and I/O streams
CO5	Develop Java applications with threads and generics classes.
CO6	Develop interactive Java programs using swings

EC8395 COMMUNICATION ENGINEERING

Students will be able to

CO1	Explain the uses of different analog modulation techniques
CO2	Classify the Comprehend and appreciate the significance and role of this course in the present contemporary world
CO3	Apply analog and digital communication techniques.
CO4	Apply various digital communication techniques .
CO5	Explain data and pulse communication techniques..
CO6	Analyze Source and Error control coding .

CS8381 DATA STRUCTURE LABORATORY

Students will be able to

CO1	Write functions to implement linear and non-linear data structure operations
CO2	Apply appropriate linear data structure operations for solving a given problem
CO3	Apply appropriate non-linear data structure operations for solving a given problem.
CO4	Design the different types of trees to solve problems
CO5	Apply traversal algorithms using graphs
CO6	Describe hash functions that result in a collision free scenario for data storage and retrieval

CS8383 OBJECT ORIENTED PROGRAMMING LABORATORY

Students will be able to

CO1	Develop and implement Java programs for simple applications that make use of classes and objects
CO2	Construct Java programs for simple applications that make use of packages and interfaces.
CO3	Develop and implement Java programs using array list
CO4	Construct exception handling and multithreading using Java programs.
CO5	Design applications using file processing
CO6	Analyze generic programming and event handling

CS8382 DIGITAL SYSTEMS LABORATORY

Students will be able to

CO1	Illustrate simplified combinational circuits using basic logic gates
CO2	Design circuits using Half/Full Adder and Subtractor.



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CO3	Apply combinational circuits using MSI devices
CO4	Describe the importance of sequential circuits like registers
CO5	Design and implementation of synchronous and asynchronous counters
CO6	Compare combinational and sequential circuits using HDL.

HS8381 INTERPERSONAL SKILLS/LISTENING & SPEAKING

Students will be able to

CO1	Prepare for the appropriately skills to Listen and respond.
CO2	Participate in group discussions
CO3	Develop communication skills.
CO4	Participate confidently and appropriately in conversations both formal and informal
CO5	Prepare for the general and academic listening skills
CO6	Summarize effective presentations

IV SEMESTER

MA8402 PROBABILITY AND QUEUEING THEORY

Students will be able to

CO1	Describe fundamental knowledge of the concepts of probability.
CO2	Explain the importance of standard distributions which can describe real life phenomenon.
CO3	Apply the concepts of one and two dimensional random variables in engineering applications.
CO4	Apply the concept of random processes in engineering disciplines
CO5	Analyze queueing models.
CO6	Explain the characterize phenomenon which evolve with respect to time in a probabilistic manner

CS8491 COMPUTER ARCHITECTURE

Students will be able to

CO1	Explain the basics structure of computers, operations and instructions.
CO2	Design arithmetic and logic unit.
CO3	Apply pipelined execution and design control unit..
CO4	Analyze parallel processing architectures.
CO5	Explain how Graphics processing units are implemented.
CO6	Describe various memory systems and I/O communication..

CS8492 DATABASE MANAGEMENT SYSTEMS

Students will be able to

CO1	Classify the modern and futuristic database applications based on size and complexity
CO2	Design ER model to Relational model to perform database design effectively
CO3	Write queries using normalization criteria and optimize queries
CO4	Compare and contrast various indexing strategies in different database systems
CO5	Appraise how advanced databases differ from traditional Databases .
CO6	Describe various XML concepts



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COURSE OUTCOMES (CO)

CS8451 DESIGN AND ANALYSIS OF ALGORITHMS

Students will be able to

CO1	Design algorithms for various computing problems.
CO2	Analyze the time and space complexity of algorithms
CO3	Explain various techniques to solve different problems
CO4	Analyze and apply different dynamic programming techniques
CO5	Analyze the different algorithm design and techniques for a given problem
CO6	Compare existing algorithms and to improve efficiency.

CS8493 OPERATING SYSTEMS

Students will be able to

CO1	Analyze various scheduling algorithms.
CO2	Explain deadlock, prevention and avoidance algorithms .
CO3	Compare and contrast various memory management schemes.
CO4	Describe the functionality of file systems
CO5	Illustrate administrative tasks on Linux Servers.
CO6	Compare iOS and Android Operating Systems.

CS8494 SOFTWARE ENGINEERING

Students will be able to

CO1	Identify the key activities in managing a software project.
CO2	Compare different process models
CO3	Explain the Concepts of requirements engineering and Analysis Modeling
CO4	Apply systematic procedure for software design and deployment.
CO5	Compare and contrast the various testing and maintenance.
CO6	Explain the importance of project schedule, estimate project cost and effort required.

CS8481 DATABASE MANAGEMENT SYSTEMS LABORATORY

Students will be able to

CO1	Make Use of typical data definitions and manipulation commands.
CO2	Design applications to test Nested and Join Queries
CO3	Design simple applications that use Views
CO4	Develop applications using procedures and functions
CO5	Construct applications that require a Front-end Tool .
CO6	Analyze the use of Tables, Views, Functions and Procedures

CS8461 OPERATING SYSTEMS LABORATORY

Students will be able to

CO1	Compare the performance of various CPU Scheduling Algorithms.
CO2	Demonstrate Deadlock avoidance and Detection Algorithms.
CO3	Apply Semaphores in various problems



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COURSE OUTCOMES (CO)

CO4	Create processes and implement IPC
CO5	Analyze the performance of the various Page Replacement Algorithms
CO6	Apply File Organization and File Allocation Strategies

HS8461 ADVANCED READING AND WRITING

Students will be able to

CO1	Discuss the concept of PCM systems
CO2	Describe the various waveform coding schemes and their performance
CO3	Match and implement base band transmission schemes
CO4	Select and implement band pass signaling schemes
CO5	Demonstrate the spectral characteristics of band pass signaling schemes and their noise performance
CO6	Design error control coding schemes

V SEMESTER

MA8551 ALGEBRA AND NUMBER THEORY

Students will be able to

CO1	Apply the basic notions of groups, rings, fields which will then be used to solve related problems.
CO2	Explain the fundamental concepts of advanced algebra and their role in modern mathematics and applied contexts.
CO3	Demonstrate accurate and efficient use of advanced algebraic techniques
CO4	Demonstrate their mastery by solving non - trivial problems related to the concepts, and by proving simple theorems about the, statements proven by the text
CO5	Apply integrated approach to number theory and abstract algebra,
CO6	Explain a firm basis for further reading and study in the subject

CS8591 COMPUTER NETWORKS

Students will be able to

CO1	Understand the basic layers and its functions in computer networks.●
CO2	Evaluate the performance of a network.●
CO3	Understand the basics of how data flows from one node to another●
CO4	Analyze and design routing algorithms.
CO5	Design protocols for various functions in the network
CO6	Understand the working of various application layer protocols●

EC8691 MICROPROCESSORS AND MICROCONTROLLERS

Students will be able to

CO1	Explain the Architecture of 8086 microprocessor.
CO2	Design aspects of I/O and Memory Interfacing circuits.
CO3	Illustrate microprocessors with supporting chips
CO4	Describe the Architecture of 8051 microcontroller
CO5	Design a microcontroller based system



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COURSE OUTCOMES (CO)

CO6	Design and implement 8051 microcontroller based systems
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CS8501 THEORY OF COMPUTATION

Students will be able to

CO1	Construct automata, regular expression for any pattern
CO2	Write Context free grammar for any construct.
CO3	Design Turing machines for any language.
CO4	Illustrate computation solutions using Turing machines
CO5	Discuss whether a problem is decidable or not
CO6	Analyze un decidable problems and NP class problems

CS8592 OBJECT ORIENTED ANALYSIS AND DESIGN

Students will be able to

CO1	Explain software design with UML diagrams.
CO2	Design software applications using OO concepts
CO3	Identify various scenarios based on software requirements
CO4	Compare UML based software design to pattern based design using design patterns
CO5	Describe various testing methodologies for OO software
CO6	Design and Test the software against its requirements specification

OMD551 BASIC OF BIO MEDICAL INSTRUMENTATION

Students will be able to

CO1	Explain the different bio potential and its propagation.
CO2	Describe the different electrode placement for various physiological recording
CO3	Design bio amplifier for various physiological recording
CO4	Apply various technique for electrical physiological measurements
CO5	Apply various technique for non electrical physiological measurements
CO6	Compare different biochemical measurements

EC8681 MICROPROCESSORS AND MICROCONTROLLERS LABORATORY

Students will be able to

CO1	Write ALP Programmes for fixed and Floating Point and Arithmetic operations · Interface different I/Os with processor
CO2	Construct waveforms using Microprocessors
CO3	Apply Programs in 8051
CO4	Explain the difference between simulator and Emulator
CO5	Compare different I/Os with Microprocessors
CO6	Explain the importance of MASM

CS8582 OBJECT ORIENTED ANALYSIS AND DESIGN LABORATORY

Students will be able to

CO1	Practice OO analysis and design for a given problem specification
CO2	Identify and map basic software requirements in UML mapping.
CO3	Improve the software quality using design patterns



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COURSE OUTCOMES (CO)

CO4	Explain the rationale behind applying specific design patterns
CO5	Explore Convert the compliance of the software with the SRS..
CO6	Design by applying appropriate design patterns

CS8581 NETWORKS LABORATORY

Students will be able to

CO1	Implement various protocols using TCP and UDP
CO2	Compare the performance of different transport layer protocols
CO3	Use simulation tools to analyze the performance of various network protocols
CO4	Analyze various routing algorithms.
CO5	Implement error correction codes.
CO6	Illustrate simulation tools to analyze the performance of various network protocols.

SEMESTER VI

CS8651 INTERNET PROGRAMMING

Students will be able to

CO1	Construct a basic website using HTML and Cascading Style Sheets
CO2	Build dynamic web page with validation using Java Script objects and by applying different handling mechanisms
CO3	Develop server side programs using Servlets and JSP.
CO4	Construct simple web pages in PHP and to represent data in XML format. .
CO5	Use AJAX and web services to develop interactive web applications
CO6	Explain about java

CS8691 ARTIFICIAL INTELLIGENCE

Students will be able to

CO1	Illustrate appropriate search algorithms for any AI problem
CO2	Apply first order and predicate logic for various applications
CO3	Provide the apt agent strategy to solve a given problem
CO4	Develop software agents to solve a problem.
CO5	Design applications for NLP that use Artificial Intelligence.
CO6	Analyze the various applications of AI

CS8601 MOBILE COMPUTING

Students will be able to

CO1	Recall the basics of mobile telecommunication systems
CO2	Illustrate the generations of telecommunication systems in wireless networks
CO3	Determine the functionality of MAC, network layer and Identify a routing protocol for a given Ad hoc network
CO4	Describe the functionality of Transport and Application layers
CO5	Develop a mobile application using android/blackberry/ ios/ Windows SDK
CO6	Explain about different mobile platforms and application development



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COURSE OUTCOMES (CO)

CS8602 COMPILER DESIGN

Students will be able to

CO1	Explain different phases of compiler.
CO2	Design a lexical analyzer for a sample language
CO3	Apply different parsing algorithms to develop the parsers for a given grammar.
CO4	Analyze syntax-directed translation and run-time environment
CO5	Construct code optimization techniques and a simple code generator.
CO6	Design and implement a scanner and a parser using LEX and YACC tools.

CS8603 DISTRIBUTED SYSTEMS

Students will be able to

CO1	Explain the foundations and issues of distributed systems
CO2	Analyze the various synchronization issues and global state for distributed systems
CO3	Compare Mutual Exclusion and Deadlock detection algorithms in distributed systems
CO4	Illustrate the agreement protocols and fault tolerance mechanisms in distributed systems.
CO5	Discuss the features of peer-to-peer and distributed shared memory systems
CO6	Describe the characteristics of peer-to-peer and distributed shared memory systems

CS8661 INTERNET PROGRAMMING LABORATORY

Students will be able to

CO1	Construct Web pages using HTML/XML and stylesheets.
CO2	Build dynamic webpages with validation using Java Script objects and by applying different handling mechanisms.
CO3	Develop dynamic web pages using server side scripting
CO4	Use PHP programming to develop web applications.
CO5	Construct web applications using AJAX and web services.
CO6	Design Client Server applications.

CS8662 MOBILE APPLICATION DEVELOPMENT LABORATORY

Students will be able to

CO1	Construct mobile applications using GUI and Layouts.
CO2	Develop mobile applications using Event Listener.
CO3	Design mobile applications using Databases.
CO4	Develop mobile applications using RSS Feed, Internal / External Storage, SMS, Multi threading and GPS.
CO5	Analyze and discover own mobile app for simple needs.
CO6	Explain the capabilities and limitations of mobile devices.

CS8611 MINI PROJECT

Students will be able to

CO1	Develop their own innovative prototype of ideas.
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COURSE OUTCOMES (CO)

CO2	Practice acquired knowledge within the chosen area of technology for project development.
CO3	Identify, discuss and justify the technical aspects of the chosen project with a comprehensive and systematic approach
CO4	Reproduce, improve and refine technical aspects for engineering projects.
CO5	Practice work as an individual or in a team in development of technical projects.
CO6	Construct report effectively project related activities and findings.

HS8581 PROFESSIONAL COMMUNICATION

Students will be able to

CO1	Develop vocabulary and language skills relevant to engineering as a profession
CO2	Analyze, interpret and effectively summarize a variety of textual content
CO3	Discuss a given technical/non-technical topic in a group setting and arrive at generalizations/consensus.
CO4	Relate telephone/Skype and panel interviews.
CO5	Create effective technical presentations
CO6	Develop adequate Soft Skills required for the workplace

SEMESTER VII

MG8591 PRINCIPLES OF MANAGEMENT

Students will be able to

CO1	Recall managerial functions like organization culture and environment
CO2	Analyze Evolution of Management and the types of Business organization
CO3	Apply Managerial functions of planning and decision making steps.
CO4	Analyze the organization structure and departmentalization, staffing
CO5	Explain the concept of motivational techniques ,job satisfaction and leadership
CO6	Describe about the use of computers and IT in Management control

CS8792 CRYPTOGRAPHY AND NETWORK SECURITY

Students will be able to

CO1	Recall the fundamentals of networks security, security architecture, threats and vulnerabilities
CO2	Elaborate the different cryptographic operations of symmetric cryptographic algorithms
CO3	Apply the different cryptographic operations of public key cryptography
CO4	Explain about The Asymmetric Key Ciphers
CO5	Apply the various Authentication schemes to simulate different applications.
CO6	Describe various Security practices and System security standards

CS8791 CLOUD COMPUTING

Students will be able to

CO1	Articulate the main concepts, key technologies, strengths and limitations of cloud computing.
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COURSE OUTCOMES (CO)

CO2	Describe about the key and enabling technologies that help in the development of cloud
CO3	Develop the ability to use the architecture of cloud to compute and storage cloud service and delivery models.
CO4	Explain the core issues of cloud computing such as resource management and security.
CO5	Illustrate the installation process and use current cloud technologies.
CO6	Evaluate and choose the appropriate technologies, algorithms and approaches for implementation and use of cloud.

OEC374 MEDICAL ELECTRONICS

Students will be able to

CO1	Explain the human body electro- physiological parameters and recording of bio-potentials
CO2	Comprehend the non-electrical physiological parameters and their measurement – body temperature, blood pressure, pulse, blood cell count, blood flow meter etc
CO3	Explain the importance of the various assist devices used in the hospitals viz. pacemakers, defibrillators, dialyzers and ventilators
CO4	Comprehend physical medicine methods eg. ultrasonic, shortwave, microwave surgical diathermies, and bio-telemetry principles and methods
CO5	Discuss recent trends in medical instrumentation
CO6	Describe about equipment used for physical medicine and the various recently developed diagnostic and therapeutic techniques.

CS8081 INTERNET OF THINGS

Students will be able to

CO1	Explain the concept of IoT.
CO2	Analyze various protocols for IoT.
CO3	Design a PoC of an IoT system using Raspberry Pi/Arduino
CO4	Apply data analytics and use cloud offerings related to IoT.
CO5	Describe about python web application development.
CO6	Analyze applications of IoT in real time scenario

GE8074 HUMAN RIGHTS

Students will be able to

CO1	Explain the basic knowledge of human rights.
CO2	Describe about natural, moral and legal rights
CO3	Analyse the concept of Human Rights Magna Carta
CO4	Explain the perspectives of UN Laws
CO5	Analyse the concept of Human Rights of Disadvantaged People
CO6	Apply the implementation of Human Rights



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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

REGULATION 2017

COURSE OUTCOMES (CO)

CS8711 CLOUD COMPUTING LABORATORY

Students will be able to

CO1	Illustrate the configuration of various virtualization tools such as Virtual Box, VMware workstation.
CO2	Design and deploy a web application in a PaaS environment.
CO3	Demonstrate simulation of a cloud environment to implement new schedulers.
CO4	Explain the importance of a generic cloud environment that can be used as a private cloud.
CO5	Describe about large data sets Manipulation in a parallel environment.
CO6	Explain the procedure of Installation of Hadoop single node cluster and run simple applications like word count

IT8761 SECURITY LABORATORY

Students will be able to

CO1	Develop code for classical Encryption Techniques to solve the problems
CO2	Build cryptosystems by applying symmetric and public key encryption algorithms.
CO3	Construct code for authentication algorithms.
CO4	Develop a signature scheme using Digital signature standard
CO5	Demonstrate the network security system using open source tools
CO6	Explain Automated Attack and Penetration Tools Exploring N-Stalker

CS8080 INFORMATION RETRIEVAL TECHNIQUES

Students will be able to

CO1	Make use of an open source search engine framework and explore its capabilities
CO2	Apply appropriate method of classification or clustering.
CO3	Design and implement innovative features in a search engine.
CO4	Design and implement a recommender system.
CO5	Explain about the concepts of Collaborative Filtering
CO6	Apply the algorithm for Neural Network Model

GE8076 PROFESSIONALETHICS IN ENGINEERING

Students will be able to

CO1	Explain about Introduction to Yoga and meditation
CO2	Apply ethics in society,
CO3	Discuss the ethical issues related to engineering and realize the responsibilities and rights in the society.
CO4	Elaborate the Weapons Development – Engineers as Managers
CO5	Examine the concept of Risk Benefit Analysis and Reducing Risk.
CO6	Describe about Senses of ‘Engineering Ethics’



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COURSE OUTCOMES (CO)

CS8811 PROJECT WORK	
Students will be able to	
CO1	Identify technically and economically feasible problems of social relevance
CO2	Construct the project team with assigned responsibilities
CO3	Identify and survey the relevant literature for getting exposed to related solutions
CO4	Analyse, design and develop adaptable and reusable solutions of minimal complexity by using modern tools
CO5	Describe the solutions to trace against the user requirements
CO6	Deploy and support the solutions for better manageability of the solutions and provide scope for improvability

