DEPT. OF INFORMATION TECHNOLOGY

Academic Year 2018-19 - COURSE OUTCOMES

S. No	CLASS	REGULATION	Subject	Course Code	CO's	Course Oucomes
1	I-I SEM	R-18	Mathematics	MA101BS	CO-1	Write the matrix representation of a set of linear equations and to analyse the solution of the system of equations
					CO-2	Solve the applications on the mean value theorems. Evaluate the improper integrals using Beta and Gamma functions
					CO-3	Find the extreme values of functions of two variables with/ without constraints.
					CO-4	Find the Eigen values and Eigen vectors. Reduce the quadratic form to canonical form using orthogonal transformations
					CO-5	Analyze the nature of sequence and series.
2	I-I SEM	R-18	Chemistry	CH102BS	CO-1	The knowledge of atomic, molecular and electronic changes, band theory related to conductivity
					CO-2	Develop innovative methods to produce soft water for industrial use and potable water at cheaper cost
					CO-3	The required principles and concepts of electrochemistry, corrosion and inunderstanding the problem of water and its treatments. electron chemistry
					CO-4	The knowledge of confrontational and confirmation analysis of molecules and reaction mechanisms
					CO-5	The required skills to get clear concepts on basic spectroscopy and application to medical and other fields
3	I-I SEM	R-18	Basic Electrical Engineering	EE103ES	CO-1	To analyze and solve electrical circuits using network laws and theorems.
					CO-2	To understand and analyze basic Electric and Magnetic circuits. Representation of AC quantities
					CO-3	To understand working principle, operation of transformers and its types.
					CO-4	To study the working principles of Electrical Machines
					CO-5	To introduce components of Low Voltage Electrical Installations and gain the knowledge on batteries and Protective Equipment’s.
4	I-I SEM	R-18	Engineering Workshop	ME105ES	CO-1	Study and practice on machine tools and their operations
					CO-2	Practice on manufacturing of components using workshop trades including pluming, fitting, carpentry, foundry, house wiring and welding.
					CO-3	Identify and apply suitable tools for different trades of Engineering processes including drilling, material removing, measuring, chiseling.
					CO-4	Apply basic electrical engineering knowledge for house wiring practice.

					CO-5	Ability to design and model different Prototypes in the Carpentry Trade Such as cross Lap Joint and Dovetail Joint.
5	I-I SEM	R-18	English	EN105HS	CO-1	Use English Language effectively in spoken and written forms.
					CO-2	Comprehend the given text sand respond appropriately.
					CO-3	Communicate confidently in various contexts and different cultures.
					CO-4	Acquire basic proficiency in English including reading and listening comprehension, writing and speaking skills.
					CO-5	Apply new oral vocabulary words in context to reinforce meaning.
6	I-I SEM	R-18	Engineering Chemistry Lab	CH106BS	CO-1	Students are able to determination of parameters like hardness of water and rate of corrosion of mild steel in various conditions.
					CO-2	Students are analyzing the various water samples with different methods and various water treatment methods for industrial usages.
					CO-3	Students are able to able to perform methods such as conductometry, potentiometry and pH metry in order to find out the concentrations or equivalence points of acids and bases
					CO-4	Students are able to prepare polymers like Bakelite and nylon-6.
					CO-5	Students are able to estimations saponification value, surface tension and viscosity of lubricant oils
7	I-I SEM	R-18	English Language and Communication Skills Lab	EN107HS	CO-1	Better understanding of nuances of English language through audio- visual experience and group activities
					CO-2	Speak clearly with the right accent and intonation
					CO-3	Speaking skills with clarity and confidence which in turn enhances their employ ability skills
					CO-4	Neutralization of accent for intelligibility
					CO-5	Understand and apply knowledge of human communication and language process.
8	I-I SEM	R-18	Basic Electrical Engineering Lab	EE108ES	CO-1	To Get an exposure to basic electrical laws.
					CO-2	To Understand the response of different types of electrical circuits to different excitations.
					CO-3	To Understand the measurement, calculation and relation between the basic electrical parameters
					CO-4	To Understand the basic characteristics of transformers and its connections
					CO-5	To Assess the performance of different machines using different methods
9	I-II SEM	R-18	Mathematics - II 7	MA201BS	CO-1	Identify whether the given differential equation of first order is exact or not. Applications of first order differential equations
					CO-2	Solve higher differential equation and apply the concept of differential equation to real world problems.
					CO-3	Evaluate the multiple integrals and apply the concepts to find areas, volumes, center of mass and gravity for cubes, sphere and rectangular parallelepiped.

					CO-4	The physical quantities involved in engineering field related to vector valued functions
					CO-5	Evaluate the line, surface and volume integrals and converting them from one to another.
10	I-II SEM	R-18	Applied Physics	AP202BS	CO-1	Learn the fundamental concepts on Quantum behavior of matter in its microstate.
					CO-2	Understand the of fundamentals of Semiconductor Physics, Optoelectronics which enable the students to apply to various systems like communication, solar cell, photocell etc.,
					CO-3	Learn the principle, working of various Laser systems and light propagation through Optical Fibers.
					CO-4	Design, Characterize, and study the properties of materials and to prepare new materials for various engineering applications.
					CO-5	Understand the Laws of Electromagnetism and get an exposure on Magnetic and Dielectric materials.
11	I-II SEM	R-18	Programming for Problem Solving	CS203ES	CO-1	To write algorithms and to draw flowcharts for solving problems.
					CO-2	To convert the algorithms/flowcharts to C programs
					CO-3	To code and test a given logic in C programming language.
					CO-4	To decompose a problem into functions and to develop modular reusable code.
					CO-5	To use arrays, pointers, strings and structures to write C programs
12	I-II SEM	R-18	Engineering Graphics	ME204ES	CO-1	Apply computer aided drafting tools to create 2D and 3D objects
					CO-2	sketch conics and different types of solids
					CO-3	Appreciate the need of Sectional views of solids and Development of surfaces of solids
					CO-4	Read and interpret engineering drawings
					CO-5	Conversion of orthographic projection into isometric view and vice versa manually and by using computer aided drafting
13	I-II SEM	R-18	Applied Physics Lab	AP205BS	CO-1	Understand the characteristics of Photo emitters and Photo detectors
					CO-2	Construct RC & LCR circuit in Series and parallel.
					CO-3	Study the magnetic field variation along the axis of the circular coil carrying current.
					CO-4	Understand the working of Optical fiber and find the values of Numerical Aperture and Bending Losses.
					CO-5	Find the value of Energy gap and Hall coefficient of a given semiconductor material.
14	I-II SEM	R-18	Programming for Problem Solving Lab	CS206ES	CO-1	formulate the algorithms for simple problems
					CO-2	translate given algorithms to a working and correct program
					CO-3	correct syntax errors as reported by the compilers

			Lab		CO-4	Identify and correct logical errors encountered during execution
					CO-5	use pointers of different types
15	I-II SEM	R-18	Environmental Science	*MC209ES	CO-1	Gain knowledge about environment and ecosystem
					CO-2	Students will learn about natural resource, its importance and environmental impacts of human activities on natural resource.
					CO-3	Gain knowledge about the conservation of biodiversity and its importance.
					CO-4	Aware students about problems of environmental pollution, its impact on human and ecosystem and control measures.
16	II-I SEM	R-18	Analog and Digital Electronics	CS301ES	CO-1	Know the characteristics of various components.
					CO-2	Understand the utilization of components.
					CO-3	Design and analyze small signal amplifier circuits
					CO-4	Design and analyze combinational and sequential circuits
					CO-5	Know about the logic families and realization of logic gates.
17	II-I SEM	R-18	Data Structures	CS302PC	CO-1	Ability to select the data structures that efficiently model the information in a problem.
					CO-2	Ability to assess efficiency trade-offs among different data structure implementations or combinations.
					CO-3	Implement and know the application of algorithms for sorting and pattern matching
					CO-4	Design programs using a variety of data structures, including hash tables, binary and general tree structures, search trees, tries, heaps, graphs, and AVL-trees.
					CO-5	Enhance their algorithmic thinking skills and learn how to design algorithms that leverage the strengths of specific data structures to solve problems efficiently.
18	II-I SEM	R-18	Computer Oriented Statistical Methods	MA303BS	CO-1	Apply the concepts of probability and distributions to some case studies
					CO-2	Correlate the material of one unit to the material in other units
					CO-3	Resolve the potential misconceptions and hazards in each topic of study
					CO-4	Develop proficiency in using computer software to perform data analysis tasks, such as data cleaning, data visualization, and descriptive statistics
					CO-5	To test hypotheses and make data-driven decisions.
19	II-I SEM	R-18	Computer Organization and Microprocessor	IT304PC	CO-1	Able to understand the basic components and the design of CPU, ALU and Control Unit...
					CO-2	Ability to understand memory hierarchy and its impact on computer cost/performance
					CO-3	Ability to understand the advantage of instruction level parallelism and pipelining for high performance Processor design.
					CO-4	Ability to understand the instruction set, instruction formats and addressing modes of 8086
					CO-5	Ability to write assembly language programs to solve problems.

20	II-I SEM	R-18	Object Oriented Programming using C++	CS305PC	CO-1	Able to develop programs with reusability
					CO-2	Develop programs for file handling
					CO-3	Handle exceptions in programming
					CO-4	Develop applications for a range of problems using object-oriented programming techniques
					CO-5	To create modular and reusable code by defining classes and using object instances.
21	II-I SEM	R-18	Analog and Digital Electronics Lab	CS306ES	CO-1	Know the characteristics of various components.
					CO-2	Understand the utilization of components.
					CO-3	Design and analyze small signal amplifier circuits.
					CO-4	Postulates of Boolean algebra and to minimize combinational functions
					CO-5	Design and analyze combinational and sequential circuits
22	II-I SEM	R-18	Data Structures Lab	CS307PC	CO-1	Ability to develop C programs for computing and real-life applications using basic elements like control statements, arrays, functions, pointers and strings, and data structures like stacks, queues and linked lists.
					CO-2	Ability to Implement searching and sorting algorithms
					CO-3	Proficient in implementing algorithms associated with data structures, such as sorting and searching algorithms, graph traversal, and tree traversal algorithms.
					CO-4	Will analyse the time and space complexity of their data structure implementation
					CO-5	Understand how different data structures affect the performance of various operations.
23	II-I SEM	R-18	IT Workshop and Microprocessor Lab	IT308PC	CO-1	Become proficient in using various software tools and applications commonly used in IT,
					CO-2	Will gain practical programming skills in languages like Python, Java, C++, or other languages relevant to the IT domain.
					CO-3	Learn web development technologies like HTML, CSS, JavaScript, and frameworks like React or Angular to build interactive and responsive web applications.
					CO-4	Will learn how to design and manage databases, perform queries, and understand basic concepts like normalization and data modelling.
					CO-5	Gain hands-on experience in configuring and managing computer networks, including setting up routers, switches, and network protocols.
					CO-1	Ability to develop applications for a range of problems using object-oriented programming techniques
					CO-2	Become proficient in writing C++ code, understanding the syntax, and using the language's features, such as variables, data types, loops, conditionals, functions, and classes.

24	II-I SEM	R-18	C++ Programming Lab	CS309PC	CO-3	Gain experience in implementing various algorithms and data structures in C++, enabling them to solve computational problems efficiently.
					CO-4	Will enhance their problem-solving abilities, learning how to break down complex problems into manageable tasks and design effective solutions.
					CO-5	Learn and practice OOP principles in C++, including class and object creation, inheritance, polymorphism, and encapsulation.
25	II-I SEM	R-18	Gender Sensitization Lab	*MC309	CO-1	Understand the importance of Environmental education, conservation of natural resources & understand the importance of ecosystems and biodiversity
					CO-2	Understand the pollution problems and apply the environmental science knowledge on solid waste management, disaster management
					CO-3	Apply the environmental science knowledge to improve the resources
					CO-4	Identify the interactions and intersections of identities (e.g., gender, race, ethnicity, class, sexuality, and so on) and assess the ways in which they contribute to instances of privilege and power dynamics across cultures, space, and time. And their problems
26	II-II SEM	R-18	Discrete Mathematics	CS401PC	CO-1	Ability to understand and construct precise mathematical proofs
					CO-2	Ability to use logic and set theory to formulate precise statements
					CO-3	Ability to analyze and solve counting problems on finite and discrete structures
					CO-4	Ability to describe and manipulate sequences
					CO-5	Ability to apply graph theory in solving computing problems
27	II-II SEM	R-18	Business Economics & Financial Analysis	SM402MS	CO-1	understand the various Forms of Business and the impact of economic variables on the Business
					CO-2	The Demand, Supply, Production, Cost, Market Structure, Pricing aspects are learnt
					CO-3	The Students can study the firm’s financial position by analysing the Financial Statements of a Company.
					CO-4	Learn how to apply economic principles to make rational decisions in various business scenarios, considering factors like opportunity cost, marginal analysis, and cost-benefit analysis.
					CO-5	Able to analyze markets and industry trends, assess competitive forces, and make strategic business decisions based on market conditions.
28	II-II SEM	R-18	Operating Systems	CS403PC	CO-1	Will be able to control access to a computer and the files that may be shared
					CO-2	Demonstrate the knowledge of the components of computer and their respective roles in computing
					CO-3	Ability to recognize and resolve user problems with standard operating environments.

					CO-4	Gain practical knowledge of how programming languages, operating systems, and architectures interact and how to use each effectively.
					CO-5	Learn about device drivers, I/O operations, interrupt handling, and how the operating system interacts with hardware devices
29	II-II SEM	R-18	Database Management Systems	CS404PC	CO-1	Gain knowledge of fundamentals of DBMS, database design and normal forms
					CO-2	Master the basics of SQL for retrieval and management of data.
					CO-3	Be acquainted with the basics of transaction processing and concurrency control.
					CO-4	Familiarity with database storage structures and access techniques
					CO-5	Study distributed database systems and the challenges associated with data distribution and replication.
30	II-II SEM	R-18	Java Programming	CS405PC	CO-1	Able to solve real world problems using OOP techniques
					CO-2	Able to understand the use of abstract classes.
					CO-3	Able to solve problems using java collection framework and I/o classes.
					CO-4	Able to develop multithreaded applications with synchronization.
					CO-5	Able to develop applets for web applications
31	II-II SEM	R-18	Operating Systems Lab	CS406PC	CO-1	Simulate and implement operating system concepts such as scheduling, deadlock management, file management and memory management.
					CO-2	Able to implement C programs using Unix system calls
					CO-3	Will work with threads and understand how to create, manage, and synchronize threads in a multi-threaded environment.
					CO-4	Will experiment with different CPU scheduling algorithms, such as round-robin, priority-based, and shortest job first, and analyze their performance.
					CO-5	Perform various file system operations, including file creation, reading, writing, and deletion, while understanding the impact of different file system structures.
32	II-II SEM	R-18	Database Management Systems Lab	CS407PC	CO-1	Design database schema for a given application and apply normalization
					CO-2	Acquire skills in using SQL commands for data definition and data manipulation.
					CO-3	Develop solutions for database applications using procedures, cursors and triggers
					CO-4	Learn how to design and implement databases based on specific requirements, including creating tables, defining relationships, and ensuring data integrity.
					CO-5	Become proficient in using SQL (Structured Query Language) to perform various database operations
					CO-1	Able to write programs for solving real world problems using java collection frame work

33	II-II SEM	R-18	Java Programming Lab	CS408PC	CO-2	Able to write programs using abstract classes
					CO-3	Able to write multithreaded programs
					CO-4	Able to write GUI programs using swing controls in Java
					CO-5	Understand multithreading concepts in Java and learn how to write concurrent programs to leverage modern hardware capabilities.
34	II-II SEM	R-18	Constitution of India	*MC409	CO-1	To understand Indian Constitutional Law
					CO-2	To understand historical background of Constitutional Law
					CO-3	To learn Fundamental Rights and Duties
					CO-4	To understand differences between Parliamentary and Presidential form of Government
35	III-I SEM	R-18	Formal Languages & Automata Theory	CS501PC	CO-1	Describe different types of Algorithms
					CO-2	Estimate performance of an Algorithm
					CO-3	Compare different types of design techniques of Algorithms
					CO-4	Choose Appropriate design techniques or Algorithms for solving problems
					CO-5	Develop Algorithms for real time scenarios
36	III-I SEM	R-18	Software Engineering	CS502PC	CO-1	Define Network and its components
					CO-2	Illustrate the functionality of OSI and TCP/IP reference models
					CO-3	Compare different network layer protocols
					CO-4	Evaluate Architecture for Application layer protocols
					CO-5	Choose appropriate protocol for desired communication service
37	III-I SEM	R-18	Data Communication & Computer Networks	IT503PC	CO-1	Able to define software engineering process and practices, and demonstrate various process models
					CO-2	Able to identify different types of risks in software development
					CO-3	Able to distinguish different testing strategies and it’s working
					CO-4	Able to Estimate the quality of software process
					CO-5	Able to develop the SRS document for project.
38	III-I SEM	R-18	Web Programming	IT504PC	CO-1	Understand the significance of management in their profession.
					CO-2	Define and summarize the importance of planning and decision making techniques.
					CO-3	Describe the organizational structures and effective utilization of Human resources in the organization
					CO-4	Importance of leadership and motivation to reach the organizational goals
					CO-5	Define controlling and enlist its features, process and different controlling techniques
39	III-I SEM	R-18	Professional Elective - I PPL	CS515PE	CO-1	Explain the concepts of programming language, the general problems and methods related to syntax and semantics.
					CO-2	Interpret the structured data objects, sub programs and programmer defined data type.
					CO-3	Apply the concepts of storage management using programming languages.

					CO-4	Implementing the subprogram call and return.
					CO-5	Classify procedural, non-procedural and object oriented programming language.
40	III-I SEM	R-18	Professional Elective - II AOS	CS522PE	CO-1	Understand the design approaches of advanced operating systems
					CO-2	Analyze the design issues of distributed operating systems.
					CO-3	Evaluate design issues of multi-processor operating systems.
					CO-4	Identify the requirements Distributed File System and Distributed Shared Memory.
					CO-5	Formulate the solutions to schedule the real time applications.
41	III-I SEM	R-18	Software Engineering Lab	CS505PC	CO-1	Ability to implement error detection techniques.
					CO-2	Ability to apply appropriate algorithm for finding of shortest route.
					CO-3	Ability to configure the routing table
					CO-4	Ability to understand the encryption and decryption concepts in Linux environment
					CO-5	Ability to implement client/server communication
42	III-I SEM	R-18	Computer Networks & Web Programming Lab	IT506PC	CO-1	Able to Plan a software engineering process lifecycle.
					CO-2	Able to elicit, analyze and specify software requirements.
					CO-3	Able to Analyze and translate a specification into a design.
					CO-4	Able to Built an SRS documents: Realized sign practically, using an appropriate software engineering
					CO-5	Develop proto type model for a given case study using modern engineering tools.
43	III-I SEM	R-18	Advanced Communication Skills Lab	EN508HS	CO-1	The students will understand the importance of Values and Ethics in their personal lives and professional careers.
					CO-2	The students will learn the rights and responsibilities as an employee, team member and a global citizen.
					CO-3	Acquiring knowledge of various roles of Engineer In applying ethical principles at various professional levels
					CO-4	Professional Ethical values and contemporary issues.
44	III-I SEM	R-18	Intellectual Property Rights	*MC510	CO-1	Able to define different types of translators used in programming
					CO-2	Explainsymboltableorganizationandroleofsemanticanalysisincompilerdesign
					CO-3	Able to construct atop down and bottom-up parser
					CO-4	List various code generation techniques
					CO-5	Able to design a Lexical analyzer
45	III-II SEM	R-18	Introduction to Embedded Systems	IT601PC	CO-1	Able to explain server side scripting and make use of PHP
					CO-2	Able to define client side scripting and make use of JavaScript and AJAX to validate at client side.
					CO-3	Able to define XML and choose appropriate parser techniques (DOM and SAX).

					CO-4	Able demonstrate Server side programming and adopt to build applications with java Servlets and JSP's.
					CO-5	Able to contrast servers ide scripting and Servers ide programming and develop database connectivity by make use of java and PHP.
46	III-II SEM	R-18	Principles of Compiler Construction	IT602PC	CO-1	Understand and apply the crypto graphic algorithms to safe guard from intruders
					CO-2	Compare and contrast symmetric and asymmetric encryption systems and their vulnerability to attack
					CO-3	Implement the various key distribution, management and message authentication schemes to send the messages with security
					CO-4	Identify information system requirements for Transport level, wireless network, E-Mail and IP
					CO-5	Design a network security system by implementing all the concepts of encryption and decryption algorithms
47	III-II SEM	R-18	Algorithm Design and Analysis	IT603PC	CO-1	Ability to analyze the performance of algorithms
					CO-2	Ability to choose appropriate data structures and algorithm design methods for a specified application
					CO-3	Ability to understand how the choice of data structures and the algorithm design methods impact the performance of programs
					CO-4	Will explore algorithms for graph traversal, shortest path, minimum spanning trees, and network flow problems.
					CO-5	Will gain experience with backtracking algorithms for solving problems with a search and prune strategy.
48	III-II SEM	R-18	Internet of Things	IT604PC	CO-1	Understand how IoT can contribute to energy efficiency by optimizing resource usage and reducing waste.
					CO-2	how IoT is applied in various industries, such as healthcare, agriculture, smart cities, manufacturing, transportation, and more.
					CO-3	Learn about IoT applications for environmental monitoring, including air quality, water quality, and climate tracking.
					CO-4	Explore the development of smart home devices and connected consumer products.
					CO-5	Learn how to interface with IoT devices, collect data from sensors, and control actuators remotely.
49	III-II SEM	R-18	Professional Elective –III SL	CS613PE	CO-1	Comprehend the differences between typical scripting languages and typical system and application programming languages.
					CO-2	Gain knowledge of the strengths and weakness of Perl, TCL and Ruby; and select an appropriate language for solving a given problem.
					CO-3	Acquire programming skills in scripting language

					CO-4	Learn to write modular and reusable code, enhancing the maintainability of your scripts.
					CO-5	Develop scripts to manage files and directories, perform batch operations, and organize data.
50	III-II SEM	R-18	Open Elective-I DPPM	CE600OE	CO-1	The application of Disaster Concepts to Management.
					CO-2	Analyzing Relationship between Development and Disasters.
					CO-3	Ability to understand Categories of Disasters.
					CO-4	Realization of the responsibilities to society.
					CO-5	Ability to understand Impacts of Disasters.
51	III-II SEM	R-18	Embedded Systems & Internet of Things Lab	IT605PC	CO-1	Develops confidence to use relevant vocabulary, using apt kinesics or body language in communication
					CO-2	Infer the meaning of the text easily through comprehension techniques like, skimming, scanning and effective reading through proper vocabulary
					CO-3	Analyse the writing skills through letters, reports and resume writing from the text and use for all professional settings
					CO-4	Gather ideas, information and organize them relevantly in making presentations
					CO-5	Self-assured to organize and deliver discussions, presentations and strategies to face the interviews effectively
52	III-II SEM	R-18	Compiler Construction Lab	IT606PC	CO-1	Design and develop interactive and dynamic web applications using HTML, CSS, JavaScript and XML
					CO-2	Apply client-server principles to develop scalable and enterprise web applications
					CO-3	Ability to design, develop, and implement a compiler for any language
					CO-4	Able to use lex and yacc tools for developing a scanner and a parser
					CO-5	Able to design and implement LL and LR parsers
53	III-II SEM	R-18	Professional Elective-III Lab	CS613PE	CO-1	Apply Linux utilities and Shell scripting language (bash) to solve Problems.
					CO-2	Develop skills necessary for writing scripts
					CO-3	Develop the skills necessary for working with files
					CO-4	Understanding of Linux environment which includes program arguments and Environment variables
					CO-5	Familiar with the skills necessary for memory Management, process management and Locks.
54	III-II SEM	R-18	Environmental Science	*MC609	CO-1	Gain knowledge about environment and ecosystem
					CO-2	Students will learn about natural resource, its importance and environmental impacts of human activities on natural resource.
					CO-3	Gain knowledge about the conservation of biodiversity and its importance.
					CO-4	Aware students about problems of environmental pollution, its impact on human and ecosystem and control measures.

					CO-5	Students will learn about increase in population growth and its impact on environment
55	IV-I SEM	R-18	Data Mining	CS702PC	CO-1	Ability to understand the types of the data to be mined and present a general classification of tasks and primitives to integrate a data mining system.
					CO-2	Apply pre-processing methods for any given raw data.
					CO-3	Extract interesting patterns from large amounts of data.
					CO-4	Discover the role played by data mining in various fields
					CO-5	Choose and employ suitable data mining algorithms to build analytical applications
56	IV-I SEM	R-18	Professional Elective -IV CC	CS714PE	CO-1	Ability to understand various service delivery models of a cloud computing architecture
					CO-2	Ability to understand the ways in which the cloud can be programmed and deployed.
					CO-3	Understanding cloud service providers.
					CO-4	Learn how to scale computing resources up or down based on demand, allowing applications to handle varying workloads efficiently.
					CO-5	Understand how to optimize costs by paying only for the resources and services used, without the need for large upfront investments in hardware.
57	IV-I SEM	R-18	Professional Elective -V SPPM	CS725PE	CO-1	Gain knowledge of software economics, phases in the life cycle of software development, project organization, project control and process instrumentation
					CO-2	Analyse the major and minor mile stones, art if acts and metrics from management and technical perspective
					CO-3	Design and develop software product using conventional and modern principles of software project management
					CO-4	Gain insights into cost estimation techniques, budgeting, and tracking expenses throughout the project lifecycle.
					CO-5	Learn how to lead and manage software development teams, handle conflicts, motivate team members, and promote a positive work environment.
58	IV-I SEM	R-18	Open Elective-III POE		CO-1	Understand the concept of Entrepreneurship
					CO-2	Financing and Managing the new ventures
					CO-3	Industrial Financial Support
					CO-4	Learning about production and marketing management
					CO-5	Understanding Labour Legislations
59	IV-I SEM	R-18	Information Security Lab	IT703PC	CO-1	Gain hands-on experience in implementing encryption and decryption algorithms using symmetric and asymmetric cryptographic techniques.
					CO-2	Will learn how to generate and verify digital signatures to ensure message authenticity and integrity.
					CO-3	Will implement cryptographic hash functions and use them to compute message digests for data integrity verification.

					CO-4	Will learn key management practices, including key generation, distribution, and storage.
					CO-5	Will configure firewalls and other network security devices to control network traffic and protect against unauthorized access.
60	IV-I SEM	R-18	Industrial Oriented Mini Project/ Summer Internship	IT704PC	CO-1	Apply his/her knowledge to understand the industrial applications
					CO-2	Observe the process of problem identification its formulation and solution.
					CO-3	Prepare a detailed report on the work carried
					CO-4	Present in front of the evaluation committee and other participants
					CO-5	Demonstrate the professional and ethical responsibilities of an engineer.
61	IV-I SEM	R-18	Seminar	IT705PC	CO-1	Conduct the literature survey in his / her chosen work of the specialized engineering domain
					CO-2	Have the recent developments in the chosen work
					CO-3	Prepare a detailed report on the work carried
					CO-4	Present in front of the evaluation committee and other participants
62	IV-I SEM	R-18	Project Stage - II	IT706PC	CO-1	Demonstrate the technical knowledge of their selected project topic.
					CO-2	Undertake problem identification, formulation and solution.
					CO-3	Design engineering solutions to complex problems utilizing a systems approach.
					CO-4	Work with practicing engineers
63	IV-II SEM	R-18	Organizational Behaviour	SM801MS	CO-1	Understanding Organizational Behavior
					CO-2	To Understand cognitive processes
					CO-3	To Understanding Organizational dynamics
					CO-4	To Understanding Organizational group dynamics
					CO-5	To Understand about the work practices and leadership
64	IV-II SEM	R-18	Professional Elective -VI DISTRIBUTED SYSTEM	CS812PE	CO-1	Ability to understand Transactions and Concurrency control
					CO-2	Ability to understand Security issues
					CO-3	Understanding Distributed shared memory.
					CO-4	Ability to design distributed systems for basic level applications
					CO-5	To design applications that can scale horizontally to handle increased workloads by adding more machines to the system.
65	IV-II SEM	R-18	Open Elective-III EIA	CE800OE	CO-1	Identify the environmental attributes to be considered for the EIA study
					CO-2	Formulate objectives of the EIA studies
					CO-3	Identify the methodology to prepare rapid EIA
					CO-4	Prepare EIA reports and environmental management
					CO-5	Carry out positive and negative environmental impact assessment
					CO-1	Develop comprehensive solution of issues identified in project stage-1 and to meet the requirements as stated in project brief.

66	IV-II SEM	R-18	Project Stage - II	IT802PC	CO-2	Synthesize the results of the detailed analytical studies conducted, lay down validity and design criteria, interpret the result for application to the problem, develop the concept and detailed design solution and to effectively communicate the thesis rationale.
					CO-3	Demonstrate the knowledge, skills and attitudes of a professional engineer.
					CO-4	Communicate with engineers and the community at large in written an oral forms.
					CO-5	Able to write effective technical report and demonstrate through presentation