Department of Computer Engineering

Department Vision

To be the centre for excellence for training the world-class engineers to work with multidisciplinary domain based on the state-of-the-art of technology enabled academic system blended with industrial and business practices.

Department Mission

To educate and train undergraduate students in Computer Engineering by instilling excellence to fulfill professional and social requirements in business and industry on the platform of scientifically designed academic processes.

Program Educational Objectives

1.To inculcate computational and programming skills in the field of Computer Engineering.
2.To prepare the graduates to fulfil professional requirements in industry.
3.To motivate students to solve problems related to society

Program Outcomes

PO1	Apply knowledge of mathematics, natural science, computing, engineering fundamentals and an engineering specialization as specified in WK1 to WK4 respectively to develop to the solution of complex engineering problems.
PO2	Problem Analysis: Identify, formulate, review research literature and analyze complex engineering problems reaching substantiated conclusions with consideration for sustainable development. (WK1 to WK4)
PO3	Design/Development of Solutions: Design creative solutions for complex engineering problems and design/develop systems/components/processes to meet identified needs with consideration for the public health and safety, whole-life cost, net zero carbon, culture, society and environment as required. (WK5)
PO4	Conduct Investigations of Complex Problems: Conduct investigations of complex engineering problems using research-based knowledge including design of experiments, modelling, analysis & interpretation of data to provide valid conclusions. (WK8).
PO5	Engineering Tool Usage: Create, select and apply appropriate techniques, resources and modern engineering & IT tools, including prediction and modelling recognizing their limitations to solve complex engineering problems. (WK2 and WK6)

PO6	The Engineer and The World: Analyze and evaluate societal and environmental aspects while solving complex engineering problems for its impact on sustainability with reference to economy, health, safety, legal framework, culture and environment. (WK1, WK5, and WK7).
PO7	Ethics: Apply ethical principles and commit to professional ethics, human values, diversity and inclusion; adhere to national & international laws. (WK9)
PO8	Individual and Collaborative Team work: Function effectively as an individual, and as a member or leader in diverse/multi-disciplinary teams.
PO9	Communication: Communicate effectively and inclusively within the engineering community and society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations considering cultural, language, and learning differences .
PO10	Project Management and Finance: Apply knowledge and understanding of engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, and to manage projects and in multidisciplinary environments.
PO11	Life-Long Learning: Recognize the need for, and have the preparation and ability for i) independent and life-long learning ii) adaptability to new and emerging technologies and iii) critical thinking in the broadest context of technological change. (WK8)

Program Specific Outcomes

PSO1	To demonstrate mathematical and Computer Engineering fundamentals.
PSO2	To adapt modern computer tools and technologies to solve Computer Engineering Problems
PSO3	To apply software engineering practices and standards for project management

Course Outcomes

(As per the Syllabus of 2019 Pattern(BE) and 2024 pattern(SY and TY)

SY Semester I

Subject Code : 161301	**Subject Name: Data Structures**
CO1	Select appropriate searching and sorting techniques in the application development.
CO2	Solve problems using stack and queue data structure
CO3	Apply linked list data structure for solving problems.

CO4	Solve problems based on tree and graph data structure
CO5	Apply hashing techniques for implementing data structures.
Subject Code : 161302 Subject Name:Digital Logic and Computer Organization	
CO1	Apply Boolean algebra and logic minimization techniques to simplify combinational logic expressions. CO2:CO3CO4::
CO2	Apply design techniques to develop Sequential Circuits.
CO3	Study various concepts of Computer architectures and organization.
CO4	Illustrate advanced features of 80386 Microprocessor. CO5
CO5	Apply knowledge of the 80386 instruction set to write and analyze assembly-level programs.
Subject Code : 161303 Subject Name: Discrete Mathematics	
CO1	Solve problems by applying set theory, propositional logic, and formal proof techniques.
CO2	Illustrate problems logically by using function and relation models.
CO3	Analyze the number of possible outcomes using permutations and combinations
CO4	Solve computing problems using appropriate graph and tree algorithms
CO5	Evaluate algebraic structures and coding theory.

Subject Code : 170404A Subject Name: Artificial Intelligence	
CO1	Explain the basic principles and scope of Artificial Intelligence and its relevance to different engineering disciplines.
CO2	Apply search algorithms for solving simple engineering problems.
CO3	Understand and differentiate between types of machine learning and data representations.
CO4	Identify and analyze AI applications in domains such as predictive maintenance, smart cities, automation, and control systems.
CO5	Recognize ethical, social, and professional issues in deploying AI solutions in engineering contexts.
Subject Code : 172306 Subject Name: Introduction to Cyber Security	
CO1	Explain the architecture, communication and governance of cyberspace and web technologies.
CO2	Identify and relate specific cybercrime incidents to relevant provisions of the IT Act 2000.
CO3	Apply basic practices to ensure privacy and security on social media platforms.
CO4	Apply security practices and legal guidelines to ensure safe E-Commerce and digital payment systems.
CO5	Demonstrate configuration and management of secure digital devices and tools.
Subject Code :172306 Subject Name: Entrepreneurship Development	

CO1	Explain the concept of entrepreneurship and its importance in economic and social development.
CO2	Identify, evaluate, and validate innovative business ideas using market research techniques.
CO3	Analyze startup funding options, revenue models, and financial feasibility of new businesses.
CO4	Analyze startup funding options, revenue models, and financial feasibility of new businesses.
CO5	Analyze startup funding options, revenue models, and financial feasibility of new businesses.
Subject Code : 172406 Subject Name: Business Economics	
CO1	Understand the role of economics in business decision-making and analyze real-world economic scenarios.
CO2	Apply demand and supply principles to determine market equilibrium and pricing strategies.
CO3	Analyze cost structures, profitability and break-even points in business operations.
CO4	Evaluate the impact of business cycles, inflation, and government economic policies on industries.
CO5	Develop pricing strategies based on competitive analysis and consumer demand.
Subject Code : 173307 Subject Name: Universal Human Values	
CO1	Explore a holistic vision of life, including the self and surroundings.
CO2	Recognize the co-existence of self, realize harmony, and comprehend true happiness.
CO3	Apply strategies that foster harmony in family and society through effective communication and relationship-building to cultivate social well-being.
CO4	Execute self-regulations to mutually fulfilling human behavior and enrich interaction with nature to realize harmony.
CO5	Emphasize the implications of a holistic approach in terms of ethical human conduct, and transit towards value based life.

Subject Code : 173407 Subject Name: Environmental Studies	
CO1	Describe the importance of environmental studies and the sustainable use of natural resources.
CO2	Explain the structure and function of ecosystems and the significance of biodiversity.
CO3	Identify various types of environmental pollution and their control measures.
CO4	Discuss key environmental issues, policies and their impact on society.
CO5	Observe and report environmental conditions and features through field activities.
Subject Code :161308 Subject Name:Community Engagement / Field Projects	
CO1	Explore relevance between theory and practice through community-based problem learning.
CO2	Identify real-life socio-technical problems and develop the solution.
CO3	Implement a wisdom of empathy and social responsibility to meet complex global challenges.
CO4	Develop innovative ideas in collaboration with society through community-based research methods.
CO5	Analyze the need of research projects and develop a plan for betterment of public service values through active citizenship.

SY Semester II

Subject Code : 161401 Subject Name: Operating Systems	
CO1	Analyze the role and functions of an Operating System in resource management.
CO2	Apply process/thread scheduling algorithms in operating systems
CO3	Implement process synchronization techniques
CO4	Evaluate memory management techniques for optimization
CO5	Compare I/O management, disk scheduling, and file system techniques.
Subject Code :161402 Subject Name: Database Management System	
CO1	Design E-R Model for given requirements and convert the same into database tables.
CO2	Use SQL to write queries for given requirements.
CO3	Implement normalization techniques, to construct optimized relational database designs.
CO4	Analyze and implement transaction management strategies.
CO5	Apply principles of NoSQL and MongoDB databases to perform the operations on databases.

Subject Code :161403 Subject Name: Computer Graphics	
CO1	Understand the fundamentals of graphics systems and apply mathematics to perform elementary computer graphics operations.
CO2	Apply the core concepts of transformation in two and three dimensions.
CO3	Understand the basics of hidden surface detection and apply a clipping algorithm to clip lines outside the window.
CO4	Describe methods and techniques for shading and apply mathematics to generate fractals.
CO5	Understand the basics of animation, gaming and image processing.
Subject Code : 170304A Subject Name: Engineering Mathematics-III	
CO1	Solve higher order linear differential equations using appropriate techniques.
CO2	Apply Laplace transform and Z-Transform to solve differential equations, difference equations.
CO3	Apply vector calculus concepts to analyze problems and solve system of linear equations by using numerical methods
CO4	Analyze discrete and continuous random variables using Binomial, Poisson and Normal distributions.
CO5	Analyze data through hypothesis tests like Chi-square and t-tests.
Subject Code : 171305A Subject Name: Intellectual Property Rights and Ethics	
CO1	Understand the basics of intellectual property rights.
CO2	Understand the basics of intellectual property rights.
CO3	Understand the copyright/trademark/industrial design and filing process.
CO4	Understand the importance of ethics in their personal and professional life.
CO5	Learn the workplace responsibilities and rights as an engineer in the industry.

Subject Code : 171305B Subject Name: Renewable Energy	
CO1	Describe the basics of renewable energy.
CO2	Explain the constructional details and working of hydro-electric power plant.
CO3	Describe the fundamentals and technology to harness solar energy.
CO4	Explain the wind energy conversion system.
CO5	Discuss the bio-energy conversion pathways.
Subject Code : 171305C Subject Name: Health, Care and Management Systems	
CO1	Understand the structure and function of key human body systems relevant to healthcare and diagnosis.
CO2	Identify common health issues and explain their causes, symptoms.
CO3	Describe the working principles and applications of basic biomedical instruments used in diagnosis and monitoring.
CO4	Analyze the role of advanced medical devices and imaging systems in clinical decision making and treatment.
CO5	Explain the components of the hospital management system and significance of digital health technologies like Electronic Health Records (EHR), telemedicine and emergency tracking.
Subject Code : 171305D Subject Name: Smart City and Infrastructure	
CO1	Describe the concept, features and components of smart cities with relevant examples.
CO2	Demonstrate the structure and regulatory mechanisms of smart city development in context of Indian and international benchmarks
CO3	Apply GIS and remote sensing techniques for spatial analysis and infrastructure planning in smart cities.

CO4	Relate smart transportation technologies and their role in improving urban mobility and sustainability.
CO5	Suggest smart solutions for urban water, air and waste management using IoT technologies.

Subject Code : 174408 Subject Name: Foreign Languages	
CO1	Learn the basic phonetics, alphabets and sounds of the selected foreign language.
CO2	Interpret and use everyday vocabulary to manage simple social interaction.
CO3	Form simple sentences using basic grammatical structures and sentence patterns.
CO4	Participate in simple conversations and everyday communication situations relevant to academic, social and professional contexts.
CO5	Demonstrate cultural awareness and appropriate language behaviour to facilitate global and cross-cultural interactions.

Subject Code :161409 Subject Name: Java Programming	
CO1	Use various data types, conditional and looping constructs in Java.
CO2	Demonstrate Java classes, various overloading and overriding methods in Java.
CO3	Design and implement Java programs using OOP principles
CO4	Apply knowledge in handling files and implementing multithreading in Java applications.
CO5	Demonstrate hands-on experience with Java collections and database connectivity (JDBC).

TY Semester I

Subject Code : 102501	**Subject Name: Computer Networks**
CO1	Explain the fundamentals of computer networks, network models, and transmission media.
CO2	Apply error control, flow control, and MAC techniques in data link communication.
CO3	Analyse IP addressing, subnetting, and routing algorithms.
CO4	Evaluate transport layer functions, TCP/UDP services, and congestion control.
CO5	Demonstrate application layer protocols and understand emerging technologies
Subject Code : 102502	**Subject Name: Machine Learning**
CO1	Identify the needs and challenges of machine learning for real time applications.
CO2	Apply regression and classification techniques to solve machine learning problems.
CO3	Use appropriate supervised machine learning algorithms for different applications. .
CO4	Compare and contrast different clustering algorithms.
CO5	Analyze the performance and architecture of neural networks for solving engineering problems.

Subject Code : 102503 Subject Name: Automata Theory	
CO1	Construct finite automata and its variants to represent regular languages
CO2	Apply regular expressions to represent regular languages.
CO3	Simplify context free grammars for regular and context free languages.
CO4	Examine the functionality of pushdown automata for recognizing context free languages.
CO5	Analyze the working of Turing Machines to solve computational problems for different requirements.
CO6	Apply memory management techniques.
Subject Code : 102504A Subject Name: Systems Programming and Compilers	
CO1	Explain the concepts, functions, and design principles of system software components and assemblers.
CO2	Apply conditional macro expansion, two-pass macro processor design, and loader-linker concepts in system software.
CO3	Use parsing techniques to analyze grammars.
CO4	Apply syntax-directed translation, syntax error handling, and recovery mechanisms in parser design.
CO5	Analyze basic blocks, flow graphs, and code optimization techniques for efficient code generation.
Subject Code : 102504B Subject Name: Distributed Systems	
CO1	Use the basic concepts of distributed systems to understand their models, challenges, trends, and real-world applications.

CO2	Demonstrate communication and coordination mechanisms in distributed systems
CO3	Analyze replication and fault tolerance techniques used in distributed systems for reliability and recovery.
CO4	Analyze distributed file systems, name services, and distributed applications used in modern distributed systems.
CO5	Assess security mechanisms, access control techniques, and emerging trends in distributed systems.
Subject Code : 102504C Subject Name: Cryptography and Network Security	
CO1	Demonstrate security concepts and cryptographic techniques in secure communication systems.
CO2	Apply encryption algorithms such as DES, Triple DES, AES, RC5, and IDEA
CO3	Apply the RSA algorithm for key generation, encryption, and decryption in secure communication.
CO4	Implement digital signatures for data authenticity and non-repudiation.
CO5	Analyze modern network security architectures and their applications.
Subject Code : 102606 Subject Name:Web Technologies	
CO1	Explain the fundamentals of HTML, CSS, responsive design, and accessibility concepts.
CO2	Develop interactive web applications using JavaScript, DOM manipulation, and API integration.

CO3	Analyze Single Page Applications using ReactJS concepts and hooks.
CO4	Analyze server-side web applications using PHP, MySQL, and CRUD operations.
CO5	Design and develop dynamic full-stack web applications using Node.js, Express, databases, and APIs.
Subject Code :170505B Subject Name: Data Structures and Algorithms	
CO1	Understand basic concepts of data structures.
CO2	Apply the concepts of stacks and queues.
CO3	Implement appropriate non-linear data structures.
CO4	Demonstrate searching and sorting techniques in engineering data handling.
CO5	Illustrate real-world engineering case studies using data structures.

TY Semester II

Subject Code : 102601 Subject Name: Software Engineering	
CO1	Explain software engineering principles and process models
CO2	Apply requirement engineering techniques to manage functional and non-functional requirements.
CO3	Use suitable software architecture for software development.
CO4	Develop UML models to represent system structure and behavior.
CO5	Analyze test cases using appropriate testing techniques.
Subject Code : 102602 Subject Name: Design and Analysis of Algorithms	
CO1	Analyse time and space complexity of various algorithms.
CO2	Classify asymptotic performance of algorithms.
CO3	Decide between Divide - Conquer and Greedy strategies.
CO4	Apply Dynamic programming to solve problems.
CO5	Choose suitable algorithmic strategy for problem solving.

Subject Code : 102603A Subject Name: Big Data Analytics	
CO1	Explain the concepts, characteristics, and applications of Big Data and Big Data Analytics.
CO2	Describe the Hadoop ecosystem and HDFS architecture used for the distributed storage of large datasets.
CO3	Apply the MapReduce programming model for processing and analyzing big data.
CO4	Use Big Data tools such as Hive, Pig, and NoSQL databases for managing and querying large datasets**.**
CO5	Implement Big Data analytics using Apache Spark for large-scale data processing.

Subject Code : 102603B Subject Name: Cloud Computing	
CO1	Articulate the main concepts, key technologies and fundamentals of cloud computing.
CO2	Understand cloud enabling technologies and virtualization.
CO3	Analyse various cloud programming models and apply them to solve problems on the cloud.
CO4	Develop and deploy applications on Cloud.
CO5	Apply security providing techniques for cloud applications.

Subject Code : 102603C Subject Name: Ethical Hacking	
CO1	Explain ethical hacking concepts, phases, and penetration testing methodologies
CO2	Apply footprinting, scanning, and enumeration techniques using ethical hacking tools.
CO3	Analyze web application vulnerabilities and security practices.
CO4	Examine network and wireless security threats and protection techniques.
CO5	Evaluate AI-based techniques in ethical hacking and threat detection.

Subject Code :102604A Subject Name: High Performance Computing	
CO1	Analyze various parallel paradigm.
CO2	Evaluate efficient parallel algorithm to solve given problem.
CO3	Illustrate the processes involved in data communication within various parallel computing architectures.
CO4	Apply CUDA programming architecture for parallel programs.
CO5	Evaluate various High Performance Computing applications.

Subject Code :102604B Subject Name: UI/UX Design	
CO1	Explain key UI/UX concepts, human-centered design principles, and design thinking.
CO2	Conduct user research, create personas, and identify user needs.
CO3	Create wireframes, user flows, and information architecture for applications.
CO4	Create visual design and apply heuristic evaluation and conduct usability testing.
CO5	Design industry-ready interfaces for web, mobile, and IoT systems.

Subject Code : 102604C Subject Name: Quantum Computing	
CO1	Apply principles of superposition, entanglement, and quantum interference to represent and manipulate qubits.
CO2	Utilize the postulates of quantum mechanics to describe quantum measurements, expectation values, and time evolution of quantum systems.
CO3	Make use of fundamental quantum algorithms to address computational problems efficiently.
CO4	Analyze quantum learning techniques and quantum circuits for solving complex problems.
CO5	Examine Quantum AI techniques for decision-making and problem-solving in diverse domains.

Subject Code : 170605B Subject Name: Database Systems	
CO1	Explain the basic concepts, architecture, and components of database systems.
CO2	Convert ER diagrams into equivalent relational database schemas.
CO3	Normalize relational schemas using functional dependencies.
CO4	Explain the purpose and components of SQL in relational database systems.
CO5	Identify various transaction states and common transaction operations.

BE Semester I

Subject Code : 410241 Subject Name: Design and Analysis of Algorithms	
CO1	Formulate the problem
CO.2	Analyze the asymptotic performance of algorithms
CO3	Decide and apply algorithmic strategies to solve given problem
CO4	Find optimal solution by applying various methods
CO5	Analyze and Apply Scheduling and Sorting Algorithms
CO6	Solve problems for multi-core or distributed or concurrent environments
Subject Code :410242 Subject Name: Machine Learning	
CO1	Describe machine learning concepts
CO2	Apply Preprocessing methods to prepare training data sets for machine learning.
CO3	Solve problems using regression techniques.
CO4	Solve problems using supervised machine learning algorithms.
CO5	Differentiate learning models.
CO6	Solve problems using unsupervised machine learning algorithms.

Subject Code : 410243 Subject Name: Blockchain Technology	
CO1	Interpret the fundamentals and basic concepts in Blockchain
CO2	Compare the working of different blockchain platforms
CO3	Use Crypto wallet for cryptocurrency based transactions
CO4	Analyze the importance of blockchain in finding the solution to the real-world problems.
CO5	Illustrate the Ethereum public block chain platform
CO6	Identify relative application where block chain technology can be effectively used and implemented.
Subject Code : 410244C Subject Name: Cyber Security and Digital Forensic	
CO1	Analyze threats in order to protect or defend it in cyberspace from cyber-attacks.
CO2	Build appropriate security solutions against cyber-attacks.
CO3	Describe the need of digital forensic and role of digital evidences
CO4	Explain rules and types of evidence collection
CO5	Analyze, validate and process crime scenes
CO6	Identify the methods to generate legal evidence and supporting investigation reports.

Subject Code : 410245 C Subject Name: Mobile Computing	
CO1	Develop a strong grounding in the fundamentals of mobile Networks

CO2	Apply knowledge in MAC, Network, and Transport Layer protocols of Wireless Network
CO3	Illustrate Global System for Mobile Communications
CO4	Use the 3G/4G technology based network with bandwidth capacity planning, VLR and HLR identification algorithms
CO5	Classify network and transport layer of mobile communication
CO6	Design & development of various wireless network protocols using simulation tools
Subject Code : 410245D Subject Name: Software Testing and Quality Assurance	
CO1	Describe fundamental concepts in software testing such as manual testing, automation testing and software quality assurance.
CO2	Design and Develop project test plan, design test cases, test data, and conduct test operations.
CO3	Apply recent automation tool for various software testing for testing software.
CO4	Apply different approaches of quality management, assurance, and quality standard to software system.
CO5	Apply and analyze effectiveness Software Quality Tools.
CO6	Apply tools necessary for efficient testing framework.

Subject Code : 410246 Subject Name: Laboratory Practices-III	
CO1	Apply preprocessing techniques on datasets
CO2	Implement and evaluate linear regression and random forest regression models.
CO3	Apply and evaluate classification and clustering techniques.
CO4	Analyze performance of an algorithm.
CO5	Implement an algorithm that follows one of the following algorithm design strategies: divide and conquer, greedy, dynamic programming, backtracking, branch and bound.
CO6	Interpret the basic concepts in Blockchain technology and its applications
Subject Code : 410247 Subject Name:Laboratory Practices-IV	
CO1	Apply android application development for solving real life problems
CO2	Identify various vulnerabilities and demonstrate using various tools.
CO3	Apply software testing tools to perform automated testing
Subject Code : 410248 Subject Name:Project Work Stage -I	
CO1	Solve real life problems by applying knowledge.
CO2	Analyze alternative approaches, apply and use most appropriate one for feasible solution

CO3	Write precise reports and technical documents in a nutshell.
CO4	Participate effectively in multi-disciplinary and heterogeneous teams exhibiting team work
CO5	Developed Inter-personal relationships, conflict management and leadership quality
Subject Code : 410249 Subject Name: Audit Course 7 (3D Printing)	
CO1	Understand the basic knowledge of Shop Floor Safety rules and regulations basics of Machine tools and 3D printing machines.
CO2	Understand the concept of concept of technical sketching, multi-view drawings, Lettering, tolerance, and metric construction.

BE Semester II

Subject Code : 410250 Subject Name: High Performance Computing	
CO1	Understand various Parallel Paradigm
CO2	Design and Develop an efficient parallel algorithm to solve given problem
CO3	Illustrate data communication operations on various parallel architecture
CO4	Analyze and measure performance of modern parallel computing systems
CO5	Apply CUDA architecture for parallel programming
CO6	Analyze the performance of HPC applications

Subject Code : 410251 Subject Name: Deep Learning	
CO1	Understand the basics of Deep Learning and apply the tools to implement deep learning applications.
CO2	Evaluate the performance of deep learning models (e.g., with respect to the bias-variance trade-off, overfitting and underfitting, estimation of test error).
CO3	To apply the technique of Convolution (CNN) for implementing Deep Learning models.
CO4	To apply the technique of Recurrent Neural Network (RNN) for implementing Deep Learning models.
CO5	To implement and apply deep generative models.
CO6	To understand Reinforcement Learning Process and construct and apply on-policy reinforcement learning algorithms.
Subject Code : 410252 (A) Subject Name: Natural Language Processing	
CO1	Describe the fundamental concepts of NLP, challenges and issues in NLP
CO2	Analyze Natural languages morphologically, syntactical and semantically OR Describe the concepts of morphology, syntax, semantics of natural language
CO3	Illustrate various language modelling techniques
CO4	Integrate the NLP techniques for the information retrieval task
CO5	Demonstrate the use of NLP tools and techniques for text-based processing of natural languages
CO6	Develop real world NLP applications
Subject Code : 410253 C Subject Name: Business Intelligence	
CO1	Differentiate the concepts of Decision Support System & Business Intelligence

CO2	Use Data Warehouse & Business Architecture to design a BI system.
CO3	Build graphical reports.
CO4	Apply different data pre-processing techniques on dataset
CO5	Implement machine learning algorithms as per business needs.
CO6	Identify the role of BI in marketing, logistics, finance, and telecommunication sector.
Subject Code : 410254	**Subject Name: Laboratory Practice V**
CO1	Analyze and measure performance of sequential and parallel algorithms.
CO2	Design and Implement solutions for multicore/Distributed/parallel environment.
CO3	Apply the technique of Deep Neural network for implementing Linear regression and classification.
CO4	Apply the technique of Convolution (CNN) for implementing Deep Learning models
Subject Code : 410255	**Subject Name:Laboratory Practices-VI**
CO1	Apply basic principles of elective subjects to problem solving and modeling
CO2	Use tools and techniques in the area of software development to build mini projects
CO3	Design and develop applications on subjects of their choice
CO4	Generate and manage deployment, administration & security.

Subject Code : 410256 Subject Name:Project work Stage -II	
CO1	Show evidence of independent investigation
CO2	Critically analyze the results and their interpretation.
CO3	Report and present the original results in an orderly way and placing the open questions in the right perspective.
CO4	Link techniques and results from literature as well as actual research and future research lines with the research
CO5	Appreciate practical implications and constraints of the specialist subject
Subject Code : 410257 Subject Name: Audit Course 8 (Social Media and Analytics)	
CO1	Identify some of the latest digital marketing trends and skill sets needed for today's marketer.
CO2	Assess digital marketing as a long-term career opportunity