

SE COMPUTER SEMESTER-I

Name Of Subject:	Discrete Mathematics(210241)
Course Objectives:	
1	To use appropriate set, function and relation models to understand practical examples, and interpret the associated operations and terminologies in context.
2	Determine number of logical possibilities of events.
3	Learn logic and proof techniques to expand mathematical maturity.
4	Formulate problems precisely, solve the problems, apply formal proof techniques, and explain the reasoning clearly.
Course Outcomes:	
CO1	Design and analyze real world engineering problems by applying set theory, propositional logic and mathematical induction
CO2	Develop skill in expressing mathematical properties of relation and function
CO3	Identify number of logical possibilities of events to design professional engineering Solutions
CO4	Model and solve computing problem using tree and graph Analyze the properties of binary operations and evaluate the algebraic structure
CO5	Apply abstract algebra in combinatorics, coding theory and questions regarding geometric constructions
Name Of Subject:	
Fundamentals of Data Structures (210242)	
Course Objectives:	
1	To understand the basic techniques of algorithm analysis.
2	To understand various algorithmic strategies to approach the problem solution.
3	To understand the memory requirement for various data structures.
4	To understand various data searching and sorting methods with pros and cons.
5	To acquaint with the structural constraints and advantages in usage of the data.
6	To understand the standard and abstract data representation methods.
7	To identify the appropriate data structure and algorithm design method for a specified application.
Course Outcomes:	
CO1	To demonstrate a detailed understanding of behaviour of data structures like array, linked list, stack, and queue by developing programs.
CO2	To use appropriate algorithmic strategy for better efficiency
CO3	To summarize data searching and sorting techniques.
CO4	To discriminate the usage of various structures in approaching the problem solution.
CO5	To analyze and use effective and efficient data structures in solving various Computer Engineering domain problems.
CO6	To design the algorithms to solve the programming problems.
Name Of Subject:	
Object Oriented Programming (210243)	
Course Objectives:	
1	To explore & understand the principles of Object Oriented Programming (OOP).
2	To use the object-oriented paradigm in program design.
3	To provide object-oriented programming insight using C++
4	To lay a foundation for advanced programming.
Course Outcomes:	
CO1	Analyze the strengths of object oriented programming

CO2	Design and apply OOP principles for effective programming
CO3	Develop the application using object oriented programming language(C++)
CO4	Apply object-oriented concepts for advanced programming
Name Of Subject:	Computer Graphics (210244)
Course Objectives:	
1	To acquaint the learner with the basic concepts of Computer Graphics.
2	To learn the various algorithms for generating and rendering graphical figure.
3	To get familiar with mathematics behind the graphical transformations
4	To understand and apply various methods and techniques regarding projections, animations ,shading, illumination and lighting.
5	To generate Interactive graphics using OpenGL
Course Outcomes:	
CO1	Define basic terminologies of Computer Graphics, interpret the mathematical foundation of the concepts of computer graphics and apply mathematics to develop Computer programs for elementary graphic operations.
CO2	Define the concept of windowing and clipping and apply various algorithms to fill and clip polygons.
CO3	Explain the core concepts of computer graphics, including transformation in two and three dimensions, viewing and projection.
CO4	Explain the concepts of color models, lighting, shading models and hidden surface elimination.
CO5	Describe the fundamentals of curves, fractals, animation and gaming.
Name Of Subject:	Digital Electronics and Logic Design (210245)
Course Objectives:	
1	To study number systems and develop skills for design and implementation of combinationallogic circuits and sequential circuits
2	To understand the functionalities, properties and applicability of Logic Families.
3	To introduce programmable logic devices and ASM chart and synchronous state machines.
4	To basics of microprocessor.
Course Outcomes:	
CO1	Simplify Boolean Expressions using K Map.
CO2	Design and implement combinational circuits.
CO3	Design and implement sequential circuits.
CO4	Develop simple real-world application using ASM and PLD.
CO5	Choose appropriate logic families IC packages as per the given design specifications.
CO6	Explain organization and architecture of computer system
Name Of Subject:	Humanity & Social Science (210246)
Course Objectives:	
1	To facilitate Holistic growth
2	To Educate about Contemporary ,National and International affairs

3	To bring awareness about the responsibility towards society.
4	To give an insight about the emergence of Indian society and the relevance of Economics.
Course Outcomes:	
CO1	Aware of the various issues concerning humans and society.
CO2	Aware about their responsibilities towards society.
CO3	Sensitized about broader issues regarding the social, cultural, economic and human aspects,involved in social changes.
CO4	Able to understand the nature of the individual and the relationship between self and thecommunity.
CO5	Able to understand major ideas, values, beliefs, and experiences that have shaped humanhistory and cultures.

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Name Of Subject:	Engineering Mathematics III (210252)
Course Objectives:	
1	To solve Linear differential equations of higher order applicable to Control systems, Computer vision and Robotics
2	To apply Transform techniques such as Fourier transform, Z-transform and applications to Image processing.
3	To apply Statistical methods such as correlation, regression analysis to analyze data and to make predictions applicable to machine intelligence.
4	To apply probability theory to analyze data and predict chances of happening or not happening of a event for machine intelligence
5	To perform Vector calculus necessary to analyze and design complex electrical and electronic devices as appropriate to Computer engineering.
6	To solve Complex functions, conformal mappings and contour integration applicable to Image processing, Digital filters and Computer graphics.
Course Outcomes:	
CO1	Students will be able to solve Linear differential equations of higher order applicable to Control systems, Computer vision and Robotics
CO2	Students will be able to apply Transform techniques such as Fourier transform, Z-transform and applications to Image processing.
CO3	Students will be able to apply Statistical methods such as correlation, regression analysis to analyze data and to make predictions applicable to machine intelligence.
CO4	Students will be able to apply probability theory to analyze data and predict chances of happening or not happening of a event for machine intelligence
CO5	Students will be able to perform Vector calculus necessary to analyze and design complex electrical and electronic devices as appropriate to Computer engineering.
CO6	Students will be able to solve Complex functions, conformal mappings and contour integration applicable to Image processing, Digital filters and Computer graphics.
Name Of Subject: Data Structures & Algorithms(210253)	
Course Objectives:	
1	To develop a logic for graphical modeling of the real life problems.
2	To suggest appropriate data structure and algorithm for graphical solutions of the problems.
3	To understand advanced data structures to solve complex problems in various domains.
4	To operate on the various structured data
5	To build the logic to use appropriate data structure in logical and computational solutions.
6	To understand various algorithmic strategies to approach the problem solution.
Course Outcomes:	
CO1	To identify & articulate the complexity goals and benefits of a good hashing scheme for realworld applications.
CO2	To apply non-linear data structures for solving problems of various domain.
CO3	To design and specify the operations of a nonlinear-based abstract data type and implement them in a high-level programming language.
CO4	To analyze the algorithmic solutions for resource requirements and optimization

CO5	To use efficient indexing methods and multiway search techniques to store and maintain data.
CO6	To use appropriate modern tools to understand and analyze the functionalities confined to the secondary storage.
Name Of Subject: Software Engineering (210254)	
Course Objectives:	
1	To learn and understand the principles of Software Engineering.
2	To be acquainted with methods of capturing, specifying, visualizing and analyzing software requirements.
3	To apply Design and Testing principles to S/W project development.
4	To understand project management through life cycle of the project.
Course Outcomes:	
CO1	Apply software engineering principles to develop software.
CO2	Analyze software requirements and formulate design solution for a software.
CO3	Explain concepts of project estimation, planning and scheduling.
CO4	Explain risk management and software configuration management.
CO5	Explain various types of software testing.
Name Of Subject: Microprocessor (210255)	
Course Objectives:	
1	To learn the architecture and programmer's model of advanced processor
2	To understand the system level features and processes of advanced processor
3	To acquaint the learner with application instruction set and logic to build assembly language programs.
4	To understand debugging and testing techniques confined to 80386 DX
Course Outcomes:	
CO1	To apply the assembly language programming to develop small real life embedded application.
CO2	To understand the architecture of the advanced processor thoroughly to use the resources for programming
CO3	To understand the higher processor architectures descended from 80386 architecture
Name Of Subject: Principles of Programming Languages(210256)	
Course Objectives:	
1	To learn basic principles of programming languages and programming paradigms
2	To learn structuring the data and manipulation of data, computation and program structure
3	To learn Object Oriented Programming (OOP) principles using Java Programming Language
4	To learn basic concepts of logical and functional programming language
Course Outcomes:	
CO1	Make use of basic principles of programming languages
CO2	Able to develop a program with Data representation and Computations
CO3	Able to develop programs using Object Oriented Programming language : Java
CO4	Develop application using inheritance, encapsulation, and polymorphism
CO5	Able to demonstrate Applet and Multithreading for robust application development
CO6	Able to develop a simple program using basic concepts of Functional and Logical programming paradigm
Name Of Subject: Project Based Learning (210260)	
Course Objectives:	
1	To develop critical thinking and problem solving ability by exploring and proposing solutions to realistic/social problem.

2	To Evaluate alternative approaches, and justify the use of selected tools and methods,
3	To emphasizes learning activities that are long-term, inter-disciplinary and student-centric.
4	To engages students in rich and authentic learning experiences.
5	To provide every student the opportunity to get involved either individually or as a group so as to develop team skills and learn professionalism.
6	To develop an ecosystem this may promote entrepreneurship and research culture among the students.
Course Outcomes:	
CO1	Ability to solve real life problems by applying knowledge.
CO2	Ability to analyze alternative approaches, apply and use most appropriate one for feasible solution.
CO3	Ability to understand basics of IT Project management
CO4	Students should be able to accept and meet challenges in the real world, mirroring what professionals do every day.
CO5	Able to Classify software applications and identify unique features of various domains
CO6	Learning by doing approach in PBL will promote long-term retention of material and replicable skill, as well as improve teachers' and students' attitudes towards learning.

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Name Of Subject:	Database Management Systems (310241)
Course Objectives:	
1	To understand the fundamental concepts of Database Management Systems
2	To acquire the knowledge of database query languages and transaction processing
3	To understand systematic database design approaches
4	To acquire the skills to use a powerful, flexible, and scalable general-purpose databases to handle Big Data
5	To be familiar with advances in databases and applications
Course Outcomes:	
CO1	Analyze and design Database Management System using ER model
CO2	Implement database queries using database languages
CO3	Normalize the database design using normal forms
CO4	Apply Transaction Management concepts in real-time situations
CO5	Use NoSQL databases for processing unstructured data
CO6	Differentiate between Complex Data Types and analyze the use of appropriate data types
Name Of Subject: Theory of Computation (310242)	
Course Objectives:	
1	To introduce the students to basics of Theory of Computation
2	To study abstract computing models to provide a formal connection between algorithmic problem solving and the theory of languages
3	To learn Grammar, Pushdown Automata and Turing Machine for language processing and algorithm design
4	To learn about the theory of computability and complexity for algorithm design
Course Outcomes:	
CO1	Understand formal language, translation logic, essentials of translation, alphabets, language representation and apply it to design Finite Automata and its variants
CO2	Construct regular expression to present regular language and understand pumping lemma for RE

CO3	Design Context Free Grammars and learn to simplify the grammar
CO4	Construct Pushdown Automaton model for the Context Free Language
CO5	Design Turing Machine for the different requirements outlined by theoretical computer science
CO6	Understand different classes of problems, classify and analyze them and study concepts of NP completeness
Name Of Subject: Systems Programming and Operating System(310243)	
Course Objectives:	
1	To get acquainted with the basics of System Programming
2	To acquire knowledge of data structures used in the design of System Software
3	To be familiar with the format of object modules, the functions of linking, relocation, and loading
4	To comprehend the structures and functions of Operating Systems and process management.
5	To deal with concurrency and deadlock in the Operating System
6	To learn and understand memory management of Operating System
Course Outcomes:	
CO1	Analyze and synthesize basic System Software and its functionality.
CO2	Identify suitable data structures and Design & Implement various System Software
CO3	Compare different loading schemes and analyze the performance of linker and loader
CO4	Implement and Analyze the performance of process scheduling algorithms
CO5	Identify the mechanism to deal with deadlock and concurrency issues
CO6	Demonstrate memory organization and memory management policies
Name Of Subject: Computer Networks and Security(310244)	
Course Objectives:	
1	To understand the fundamental concepts of networking standards, protocols and technologies
2	To learn different techniques for framing, error control, flow control and routing
3	To learn different layer protocols in the protocol stacks
4	To understand modern network architectures with respect to design and performance
5	To learn the fundamental concepts of Information Security
Course Outcomes:	
CO1	Summarize fundamental concepts of Computer Networks, architectures, protocols and technologies
CO2	Illustrate the working and functions of data link layer
CO3	Analyze the working of different routing protocols and mechanisms
CO4	Implement client-server applications using sockets
CO5	Illustrate role of application layer with its protocols, client-server architectures
CO6	Comprehend the basics of Network Security
Name Of Subject: Internet of Things and Embedded Systems(310245(A))	
Course Objectives:	
1	To understand fundamentals of Internet of Things (IoT) and Embedded Systems
2	To learn advances in Embedded Systems and IoT
3	To learn methodologies for IoT application development
4	To learn the IoT protocols, cloud platforms and security issues in IoT
5	To learn real world application scenarios of IoT along with its societal and economic impact using case studies and real time examples
Course Outcomes:	
CO1	Understand the fundamentals and need of Embedded Systems for the Internet of Things

CO2	Apply IoT enabling technologies for developing IoT systems
CO3	Apply design methodology for designing and implementing IoT applications
CO4	Analyze IoT protocols for making IoT devices communication
CO5	Design cloud based IoT systems
CO6	Design and Develop secured IoT applications
Name Of Subject: Database Management Systems Laboratory(310246)	
Course Objectives:	
1	To develop Database programming skills
2	To develop basic Database administration skills
3	To develop skills to handle NoSQL database
4	To learn, understand and execute process of software application development
Course Outcomes:	
CO1	Design E-R Model for given requirements and convert the same into database tables
CO2	Design schema in appropriate normal form considering actual requirements
CO3	Implement SQL queries for given requirements , using different SQL concepts
CO4	Implement PL/SQL Code block for given requirements
CO5	Implement NoSQL queries using MongoDB
CO6	Design and develop application considering actual requirements and using database concepts
Name Of Subject: Computer Networks and Security Laboratory(310247)	
Course Objectives:	
1	To learn computer network hardware and software components
2	To learn computer network topologies and types of network
3	To develop an understanding of various protocols, modern technologies and applications
4	To learn modern tools for network traffic analysis
5	To learn network programming
Course Outcomes:	
CO1	Analyze the requirements of network types, topology and transmission media
CO2	Demonstrate error control, flow control techniques and protocols and analyze them
CO3	Demonstrate the subnet formation with IP allocation mechanism and apply various routing algorithms
CO4	Develop Client-Server architectures and prototypes
CO5	Implement web applications and services using application layer protocols
CO6	Use network security services and mechanisms
Name Of Subject: Laboratory Practice I(310248)	
Course Objectives:	
1	To learn system programming tools
2	To learn modern operating system
3	To learn various techniques, tools, applications in IoT and Embedded Systems /Human Computer Interface/Distributed Systems/ Software Project Management
Course Outcomes:	
Systems Programming and Operating System	
CO1	Implement language translators
CO2	Use tools like LEX and YACC
CO3	Implement internals and functionalities of Operating System
Internet of Things and Embedded Systems	
CO4	Design IoT and Embedded Systems based application

CO5	Develop smart applications using IoT
CO6	Develop IoT applications based on cloud environment
Name Of Subject: Seminar and Technical Communication(310249)	
Course Objectives:	
1	To explore the basic principles of communication (verbal and non-verbal) and active, empathetic listening, speaking and writing techniques
2	To explore the latest technologies
3	To enhance the communication skills
4	To develop problem analysis skills
Course Outcomes:	
CO1	Analyze a latest topic of professional interest
CO2	Enhance technical writing skills
CO3	Identify an engineering problem, analyze it and propose a work plan to solve it
CO4	Communicate with professional technical presentation skills

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Name Of Subject:	Data Science and Big Data Analytics(310251)
Course Objectives:	
1	To understand the need of Data Science and Big Data
2	To understand computational statistics in Data Science
3	To study and understand the different technologies used for Big Data processing
4	To understand and apply data modelling strategies
5	To learn Data Analytics using Python programming
6	To be conversant with advances in analytics
Course Outcomes:	
CO1	Analyze needs and challenges for Data Science Big Data Analytics
CO2	Apply statistics for Big Data Analytics
CO3	Apply the lifecycle of Big Data analytics to real world problems
CO4	Implement Big Data Analytics using Python programming
CO5	Implement data visualization using visualization tools in Python programming
CO6	Design and implement Big Databases using the Hadoop ecosystem
Name Of Subject: Web Technology(310252)	
Course Objectives:	
1	To learn the fundamentals of web essentials and markup languages
2	To use the Client side technologies in web development
3	To use the Server side technologies in web development
4	To understand the web services and frameworks
Course Outcomes:	
CO1	Implement and analyze behavior of web pages using HTML and CSS
CO2	Apply the client side technologies for web development
CO3	Analyze the concepts of Servlet and JSP
CO4	Analyze the Web services and frameworks

CO5	Apply the server side technologies for web development
CO6	Create the effective web applications for business functionalities using latest web development platforms
Name Of Subject: Artificial Intelligence(310253)	
Course Objectives:	
1	To understand the concept of Artificial Intelligence (AI) in the form of various Intellectual tasks
2	To understand Problem Solving using various peculiar search strategies for AI
3	To understand multi-agent environment in competitive environment
4	To acquaint with the fundamentals of knowledge and reasoning
5	To devise plan of action to achieve goals as a critical part of AI
6	To develop a mind to solve real world problems unconventionally with optimality
Course Outcomes:	
CO1	Identify and apply suitable Intelligent agents for various AI applications
CO2	Build smart system using different informed search / uninformed search or heuristic approaches
CO3	Identify knowledge associated and represent it by ontological engineering to plan a strategy to solve given problem
CO4	Apply the suitable algorithms to solve AI problems
CO5	Implement ideas underlying modern logical inference systems
CO6	Represent complex problems with expressive yet carefully constrained language of representation
Name Of Subject: Cloud Computing(310254(C))	
Course Objectives:	
1	To study fundamental concepts of cloud computing
2	To learn various data storage methods on cloud
3	To understand the implementation of Virtualization in Cloud Computing
4	To learn the application and security on cloud computing
5	To study risk management in cloud computing
6	To understand the advanced technologies in cloud computing
Course Outcomes:	
CO1	Understand the different Cloud Computing environment
CO2	Use appropriate data storage technique on Cloud, based on Cloud application
CO3	Analyze virtualization technology and install virtualization software
CO4	: Develop and deploy applications on Cloud
CO5	Apply security in cloud applications
CO6	Use advance techniques in Cloud Computing
Name Of Subject: Internship**(310255)	
Course Objectives:	
1	To encourage and provide opportunities for students to get professional/personal experience through internships
2	To learn and understand real life/industrial situations.
3	To get familiar with various tools and technologies used in industries and their applications.
4	To nurture professional and societal ethics.
5	To create awareness of social, economic and administrative considerations in the working environment of industry organizations.
Course Outcomes:	
CO1	To demonstrate professional competence through industry internship
CO2	To apply knowledge gained through internships to complete academic activities in a professional manner.
CO3	To choose appropriate technology and tools to solve given problem.

CO4	To demonstrate abilities of a responsible professional and use ethical practices in day to day life.
CO5	Creating network and social circle, and developing relationships with industry people.
CO6	To analyze various career opportunities and decide carrier goals.
Name Of Subject: Data Science and Big Data Analytics Laboratory(310256)	
Course Objectives:	
1	To understand principles of Data Science for the analysis of real time problems
2	To develop in depth understanding and implementation of the key technologies in Data Science and Big Data Analytics
3	To analyze and demonstrate knowledge of statistical data analysis techniques for decision-making
4	To gain practical, hands-on experience with statistics programming languages and Big Data tools
Course Outcomes:	
CO1	Apply principles of Data Science for the analysis of real time problems
CO2	Implement data representation using statistical methods
CO3	Implement and evaluate data analytics algorithms
CO4	Perform text preprocessing
CO5	Implement data visualization techniques
CO6	Use cutting edge tools and technologies to analyze Big Data
Name Of Subject: Web Technology Laboratory(310257)	
Course Objectives:	
1	To learn the web based development environment
2	To use client side and server side web technologies
3	To design and develop web applications using front end technologies and backend databases
Course Outcomes:	
CO1	Understand the importance of website planning and website design issues
CO2	Apply the client side and server side technologies for web application development
CO3	Analyze the web technology languages, frameworks and services
CO4	Create three tier web based applications
Name Of Subject: Laboratory Practice II(310258)	
Course Objectives:	
1	To learn and apply various search strategies for AI
2	To Formalize and implement constraints in search problems
3	To understand the concepts of Information Security / Augmented and Virtual Reality/Cloud Computing/Software Modeling and Architectures
Course Outcomes:	
Artificial Intelligence	
CO1	Design system using different informed search / uninformed search or heuristic approaches
CO2	Apply basic principles of AI in solutions that require problem solving, inference, perception, knowledge representation, and learning
CO3	Design and develop an expert system
Cloud Computing	
CO4	Use tools and techniques in the area of Cloud Computing
CO5	Use the knowledge of Cloud Computing for problem solving
CO6	Apply the concepts Cloud Computing to design and develop applications

BE COMPUTER SEMESTER-I**Name Of Subject: Design and Analysis of Algorithms(410241)****Course Objectives:**

1	To develop problem solving abilities using mathematical theories.
2	To apply algorithmic strategies while solving problems.
3	To analyze performance of different algorithmic strategies in terms of time and space.
4	To develop time and space efficient algorithms.
5	To study algorithmic examples in distributed and concurrent environments
6	To Understand Multithreaded and Distributed Algorithms

Course Outcomes:

CO1	Formulate the problem
CO2	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

Name Of Subject: Machine Learning(410242)**Course Objectives:**

1	To understand the need for Machine learning
2	To explore various data pre-processing methods.
3	To study and understand classification methods
4	To understand the need for multi-class classifiers.
5	To learn the working of clustering algorithms
6	To learn fundamental neural network algorithms.

Course Outcomes:

CO1	Identify the needs and challenges of machine learning for real time applications.
CO2	Apply various data pre-processing techniques to simplify and speed up machine learning algorithms.
CO3	Select and apply appropriately supervised machine learning algorithms for real time applications.
CO4	Implement variants of multi-class classifier and measure its performance.
CO5	Compare and contrast different clustering algorithms.
CO6	Design a neural network for solving engineering problems.

Name Of Subject: Blockchain Technology(410243)**Course Objectives:**

1	Technology behind Blockchain
2	Crypto currency, Bitcoin and Smart contracts
3	Different consensus algorithms used in Blockchain
4	Real-world applications of Blockchain
5	To analyze Blockchain Ethereum Platform using Solidity
6	To Describe Blockchain Case Studies

Course Outcomes:

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.
Name Of Subject: Object oriented Modeling and Design(410244(D))	
1	Describe the concepts involved in Object-Oriented modelling and their benefits.
2	Demonstrate concept of use-case model, sequence model and state chart model for a given problem.
3	Explain the facets of the unified process approach to design and build a Software system.
4	Translate the requirements into implementation for Object Oriented design.
5	Choose an appropriate design pattern to facilitate development procedure. Select suitable design pattern depending on nature of application.
6	To describe Designing and Management of Patterns.
Course Outcomes:	
CO1	Describe the concepts of object-oriented and basic class modelling.
CO2	Draw class diagrams, sequence diagrams and interaction diagrams to solve problems.
CO3	Choose and apply a befitting design pattern for the given problem
CO4	To Analyze applications, architectural Styles & software control strategies
CO5	To develop Class design Models & choose Legacy Systems.
CO6	To Understand Design Patterns
Name Of Subject: Software Testing and Quality Assurance(410245 (D))	
1	Introduce basic concepts of software testing.
2	Understand the best way to increase the effectiveness, test coverage, and execution speed in software testing.
3	Understand white box, block box, object oriented, web based and cloud testing.
4	Understand the importance of software quality and assurance software systems development.
5	Know in details automation testing and tools used for automation testing.
6	To learn and understand the combination of practices and tools that are designed to help QA professionals test more efficiently.
Course Outcomes:	
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.
Name Of Subject: Laboratory Practice III(410246)	
1	Learn effect of data preprocessing on the performance of machine learning algorithms
2	Develop in depth understanding for implementation of the regression models.
3	Implement and evaluate supervised and unsupervised machine learning algorithms.
4	Analyze performance of an algorithm.
5	Learn how to implement algorithms that follow algorithm design strategies namely divide and conquer, greedy, dynamic programming, backtracking, branch and bound.
6	Understand and explore the working of Blockchain technology and its applications.
Course Outcomes:	
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
Name Of Subject: Project Work Stage I(410248)	
1	To Apply the knowledge for solving realistic problem
2	To develop problem solving ability
3	To Organize, sustain and report on a substantial piece of team work over a period of several months
4	To Evaluate alternative approaches, and justify the use of selected tools and methods
5	To Reflect upon the experience gained and lessons learned
6	To Consider relevant social, ethical and legal issues
7	To find information for yourself from appropriate sources such as manuals, books, research journals and from other sources, and in turn increase analytical skills.
8	To Work in Team and learn professionalism
Course Outcomes:	
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	Inter-personal relationships, conflict management and leadership quality.