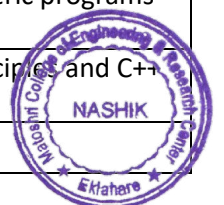


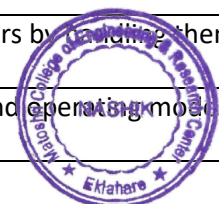
Program Name	Course code	Course name	Course Outcomes (COs)
Computer Engineering (Second Year) 2015 Course	210241	Discrete Mathematics	CO1: Formulate problems precisely, solve the problems, apply formal proof techniques, and explain the reasoning clearly.
			CO2: Apply appropriate mathematical concepts and skills to solve problems in both familiar and unfamiliar situations including those in real-life contexts.
			CO3: Design and analyze real world engineering problems by applying set theory, propositional logic and to construct proofs using mathematical induction.
			CO4: Specify, manipulate and apply equivalence relations; construct and use functions and apply these concepts to solve new problems.
			CO5: calculate numbers of possible outcomes using permutations and combinations; to model and analyze computational processes using combinatorics.
			CO6: Model and solve computing problem using tree and graph and solve problems using appropriate algorithms.
	210242	Digital Electronics and Logic Design	CO1: Realize and simplify Boolean Algebraic assignments for designing digital circuits using K-Maps.
			CO2: Design and implement Sequential digital circuits as per the specifications.
			CO3: Design and implement Combinational digital circuits as per the specifications.
			CO4: Apply the knowledge to appropriate IC as per the design specifications
			CO5: Design simple digital systems using VHDL.
			CO6: Develop simple embedded system for simple real world applications.
	210243	Data Structures and Algorithms	CO1: To demonstrate a detailed understanding of behavior of data structures like arrays, 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.
	210244	Computer Organization and Architecture	CO1: Demonstrate computer architecture concepts related to design of modern processors, memories and I/Os
			CO2: Recognize and manipulate representations of numbers stored in digital computer
			CO3: Distinguish the organization of various parts of a system memory hierarchy and understand I/O organization
			CO4: Explain addressing modes, instruction formats and program control statements
			CO5: Evaluate various design alternatives in processor organization
			CO6: Analyze hardwired control and micro-programmed control unit design
210245	Object Oriented Programming	CO1: Understand evolution of software & data and analyze the strength of OOP in Problem Solving as well as importance of software quality as per industry standards	
		CO2: Apply and analyze OOP principles for effective programming, to build enterprise applications and real time software	
		CO3: Understand and apply concept of pointers in OOP to develop advanced & commercial applications	
		CO4: Apply exception handling to enhance quality of software and create generic programs by exploring power of templates and build libraries	
		CO5: Develop applications for file handling and I/O operations using OOP principles and C++ programming	
		CO6: Understand and utilize STL to create and improve program optimization	



Program Name	Course code	Course name	Course Outcomes (COs)
210246	Digital Electronics Lab	CO1: Convert different type of codes and number systems which are used in digital communication and computer systems.	
		CO2: Employ the codes and number systems converting circuits and Compare different types of logic families which are the basic unit of different types of logic gates in the domain of economy, performance and efficiency.	
		CO3: Analyze different types of digital electronic circuit using various mapping and logical tools and know the techniques to prepare the most simplified circuit using various mapping and mathematical methods.	
		CO4: Design different types of with and without memory element digital electronic circuits for particular operation, within the realm of economic, performance, efficiency, user friendly and environmental constraints.	
		CO5: Apply the fundamental knowledge of analog and digital electronics to get different types analog to digitalized signal and vice-versa converters in real world with different changing circumstances.	
		CO6: Assess the technology in the area of memory devices and apply the memory devices in different types of digital circuits for real world applications.	
	Data Structures Lab	CO1: Use algorithms on various linear data structure using sequential organization to solve real life problems by communicating with engineering community.	
		CO2: Analyze problems to apply suitable searching and sorting methods in complex engineering problems.	
		CO3: Analyze problems and design experiments to use variants of linked list and solve complex problems.	
		CO4: Design and implement data structures and develop algorithms for solving various kinds of problems by applying norms of engineering practices.	
		CO5: Use appropriate modern tools to understand and analyze the functionalities confined to the secondary storage.	
		CO6: Demonstrate practical knowledge and recognize the need for the applications of data structures in multidisciplinary environments and engage in independent learning for lifetime.	
	Object Oriented Programming Lab	CO1: Understand and Apply C++ programming languages to make use to data structures, classes and objects, and overloading of Operators	
		CO2: Implementation of Type conversions and multiple Inheritance to develop advanced applications	
		CO3: Demonstrate the use of constructors, destructors, dynamic memory allocation, static member functions, friend class, Copy constructors & Inline functions in C++	
		CO4: Identify and execute applications using Generic Programming	
		CO4: Develop applications for file handling and I/O operations using OOP principles and C++ programming	
		CO5: Design & develop applications using STL	
	Soft Skills	CO6: Effectively communicate through verbal/oral communication and improve the listening skills	
		CO1: Write precise briefs or reports and technical documents	
		CO2: Actively participate in group discussion / meetings / interviews and prepare & deliver presentations	
CO3: Become more effective individual through goal/target setting, self-motivation and practicing creative thinking			
CO4: Function effectively in multi-disciplinary and heterogeneous teams through the knowledge of team work, Inter-personal relationships, conflict management and leadership quality.			
CO6: Prepare a good curriculum vitae			
210249	CO1: Identify safe and unsafe practices of pedestrians, passengers and cyclists.		



Program Name	Course code	Course name	Course Outcomes (COs)
			CO2: Students demonstrate knowledge of traffic law relevant to them, and to other road users they may encounter.
			CO3: Able to understand the nature of the individual and the relationship between the self and the community
			CO4: Comprehend the importance of ecosystem and biodiversity
			CO5: Identify different types of environmental pollution and control measures
			CO6: Knowledge about data-informed approaches for the development of the future city, based on crowd sourcing and sensing
	207003	Engineering Mathematics - III	CO1: Solve higher order linear differential equation using appropriate techniques for modeling, analyzing of electrical circuits and control systems.
			CO2: Apply concept of Fourier transform & Z-transform and its applications to continuous & discrete systems, signal & image processing and communication systems.
			CO3: Apply statistical methods like correlation, regression analysis and prediction of a given data as applied to machine intelligence.
			CO4: Apply probability and probability distribution and prediction of a given data as applied to a machine intelligence.
			CO5: Perform vector differentiation and integration to analyze the vector fields, compute line, surface and volume integrals.
			CO6: Analyze Complex functions, Conformal mappings, Contour integration applicable to electrostatics, digital filters, signal and image processing.
	210251	Computer Graphics	CO1: Identify the basic terminologies of Computer Graphics and interpret the mathematical foundation of the concepts of computer graphics.
			CO2: Apply mathematics to develop Computer programs for elementary graphic operations.
			CO3: Illustrate the concepts of windowing and clipping and apply various algorithms to fill and clip polygons.
			CO4: Understand and apply the core concepts of computer graphics, including transformation in two and three dimensions, viewing and projection.
			CO5: Understand the concepts of color models, lighting, shading models and hidden surface elimination.
			CO6: Create effective programs using concepts of curves, fractals, animation and gaming.
	210252	Advanced Data Structures	CO1: To identify & articulate the complexity goals and benefits of a good hashing scheme for real world 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 multi-way search techniques to store and maintain data.
			CO6: To use appropriate modern tools to understand and analyze the functionalities confined to the secondary storage.
	210253	Microprocessor	CO1: Write assembly language programs to solve real life problems.
CO2: Understand the processor architecture.			
CO3: Understand building of protection and multitasking mechanism			
CO4: apply interrupts, input-output instructions to resolve run-time errors by handling them efficiently.			
CO5: Understand and use debugging features ,initialization of process and operating modes of 80386			
CO6: learn higher processor architectures as descendants of 80387.			



Program Name	Course code	Course name	Course Outcomes (COs)
Computer Engineering( Third	210254	Principles of Programming Languages	CO1: Analyze the strengths and weaknesses of programming languages for effective and efficient program development.
			CO2: Understand data representations and computations to apply these to create new programming languages
			CO3: Explore and evaluate structuring of programs plus programming paradigms and execute it using existing language as case study
			CO4: Classify and apply Object Oriented Programming (OOP) principles using C++ and Java for effective application development
			CO5: Explain and design advanced robust applications using Applet and Multithreading of Java
			CO6: Compare and analyze the exceptions occurring in programming languages and understand it's importance in software development
	210255	Computer Graphics Lab	CO1: Understand and apply the concepts like inheritance, polymorphism, exception handling and generic structures for implementing reusable programming codes.
			CO2: Analyze the concept of STL and apply it while sorting and searching the data
			CO3: Analyze the concept of file and apply it while storing and retrieving the data from secondary storages.
			CO4: Analyze and apply computer graphics algorithms for line-circle drawing, scan conversion and filling with the help of object oriented programming concepts.
			CO5: Understand the concept of windowing and clipping and apply various algorithms to fill and clip polygons.
			CO6: Apply logic to implement, curves, fractals, animation and gaming programs.
	210256	Advanced Data Structures Lab	CO1: Use algorithms on various linear data structure using sequential organization to solve real life problems by communicating with engineering community.
			CO2: Analyze problems to apply suitable searching and sorting methods in complex engineering problems.
			CO3: Analyze problems and design experiments to use variants of linked list and solve complex problems.
			CO4: Design and implement data structures and develop algorithms for solving various kinds of problems by applying norms of engineering practices.
			CO5: Use appropriate modern tools to understand and analyze the functionalities confined to the secondary storage.
			CO6: Demonstrate practical knowledge and recognize the need for the applications of data structures in multidisciplinary environments and engage in independent learning for lifetime.
	210258	Audit Course 2	CO1: Understanding of Drinking treatment and quality of groundwater and surface water
			CO2: Understand the fundamental legal principles related to confidential information, copyright, patents, designs, trademarks and unfair competition
			CO3: Ability to understand what happiness is and why it matters to you
			CO4: Understanding of the power of social connections and the science of empathy
			CO5: Intellectual and philosophical understanding of the theory of yoga and basic related Hindu scriptures will be developed.
			CO6: Powers of concentration, focus, and awareness will be heightened.
Computer Engineering( Third	310241	Theory of Computation	CO1: Use basic concepts of formal languages of Finite Automata Techniques
			CO2: Design Finite Automata's for different Regular Expressions and Languages
			CO3: Construct Context Free Grammar for various languages
			CO4: Solve various problems of applying Normal Form Techniques, Push Down Automata and Turing Machines
			CO5: Model, Compare and Analyze different Computational Models using Combinatorial Methods



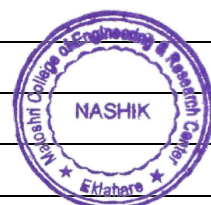
Program Name	Course code	Course name	Course Outcomes (COs)
			CO6: Understand how the theoretical study in this course is applicable to and Engineering Application like designing the compilers
	310242	Database Management Systems	CO1: Design E-R Model for given requirements and convert the same into database tables.
			CO2: Learn database techniques such as SQL & PL/SQL.
			CO3: Understand modern database techniques such as NOSQL.
			CO4: Understand transaction Management in relational database System.
			CO5: Describe different database architecture and analyze the use of appropriate architecture in real time environment.
			CO6: Understand advanced database Programming concepts
	310243	Software Engineering & Project management	CO1: Choose process model for a developing a software project
			CO2: Classify software applications and Identify unique features of various domains
			CO3: Design test cases of a software system.
			CO4: Understand basics of IT Project management.
			CO5: Learn to Plan, schedule and execute a project considering the risk management.
			CO6: Apply quality attributes in software development life cycle.
	310244	Information Systems & Engineering	CO1: Understand various forms of Information Systems and their application in organizations.
			CO2: Understand the managerial issues related to information systems, identify, and evaluate various options in Information Systems.
			CO3: Analyze cost/revenue data and perform economic analysis in the decision-making process to justify or reject alternatives/projects on an economic basis for an organization.
			CO4: Analyze benefit/cost, life cycle, and breakeven on one or more economic alternatives.
			CO5: Understand various Information System solutions like ERP, CRM, Data warehouses and the issues in the successful implementation of these technology solutions in any organizations
			CO6: Manage, design, plan, implement and deploy the computerized information system in an organization.
	310245	Computer Networks	CO1: To establish communication among the computing nodes in P2P and Client-Server architecture
			CO2: Configure the computing nodes with understanding of protocols and technologies.
			CO3: Use different communicating modes and standards for communication
			CO4: Use modern tools for network traffic analysis
			CO5: To learn network programming.
			CO6: To learn modern open source packet tracer and analyzer tools
	310246	Skills Development Lab	CO1: Evaluate problems and analyze data using current tools and Industry standards in a wide variety of business and enterprise applications.
			CO2: Understand and apply knowledge current technologies for data driven applications.
			CO3: Demonstrate best practices for problem solving and design enterprise applications.
			CO4: Identify and analyze skills to employ Integrated Development Environment (IDE) for implementing and testing of software solution.
			CO5: Demonstrate and Design alternate architectural solutions.
			CO6: Synthesize and evaluate software for quality/correctness, usability and optimization.
	310247	DBMS Lab	CO1: Construct simple and moderately advanced database queries using Structured Query Language (SQL)
			CO2: Use SQL & PL/SQL for specific application.



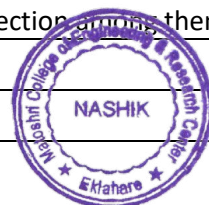
Program Name	Course code	Course name	Course Outcomes (COs)
			CO3: Use NOSQL for specific application.
			CO4: Use advanced database Programming concepts
			CO5: Design database for applications with varying complexities
			CO6: Design and build a GUI application using a MySQL
	310248	CN Lab	CO1: To establish communication among the computing nodes in P2P and Client-Server architecture
			CO2: Configure the computing nodes with understanding of protocols and technologies.
			CO3: Use different communicating modes and standards for communication
			CO4: Use modern tools for network traffic analysis
			CO5: To learn network programming.
			CO6: To learn modern open source packet tracer and analyzer tools
	310249	Audit Course 3	CO1: Understand the basic perception of profession, professional ethics, various moral issues & uses of ethical theories
			CO2: Understand various social issues, industrial standards, code of ethics and role of professional ethics in engineering field
			CO3: Follow Ethics as an engineering professional and adopt good standards & norms of engineering practice
			CO4: Apply ethical principles to resolve situations that arise in their professional lives
			CO5: To practice appropriate etiquettes in the working environment and day to day life
			CO6: To build proper practices for global corporate world
	310250	Design & Analysis of Algorithms	CO1: Understand the Role of Algorithms in Computing
			CO2: Formulate and Design Functional Model
			CO3: Understand and Design Abstract Models
			CO4: Analyze a problem and its complexity
			CO5: Compute & Analyze Amortized analysis
			CO6: Design, Develop and Analyze Distributed Algorithms
	310251	Systems Programming & Operating System	CO1: Understand working principle of System Softwares - assemblers, macro pre-processor, compiler, interpreter, and loader.
			CO2: Understand tools like LEX & YACC.
CO3: Understand the concepts and theory behind the implementation of high level programming languages.			
CO4: Describe and explain the fundamental components of a computer operating system			
CO5: Define, restate, discuss, and explain the policies for process scheduling, deadlocks, memory management, synchronization, and system calls			
CO6: Understand and analyze I/O management, disk scheduling and file management.			
310252	Embedded Systems & Internet of Things	CO1: Acquaint with the concepts, hardware and software components used in embedded system and Internet of Things (IOT)	
		CO2: Apply design methodology to construct the IOT system	
		CO3: Implement secure infrastructure for IoT	
		CO4: Implement an architectural design for IoT for specified requirement	
		CO5: Solve the given societal issues and challenges using IoT	
		CO6: Choose between available technologies and devices for state of the art IoT challenges	



Program Name	Course code	Course name	Course Outcomes (COs)
	310253	Software Modeling and Design	CO1: Analyze the problem statement (SRS) and choose proper design technique for designing web-based/ desktop application.
			CO2: Design an application using UML modeling as fundamental tool.
			CO3: Apply design patterns to understand reusability in OO design.
			CO4: Apply different architectural designs and to transform them into proper model.
			CO5: Choose and apply appropriate modern tool for designing and modeling.
			CO6: Choose and apply appropriate modern testing tool for testing web-based/desktop application.
	310254	Web Technology	CO1: Understand the principles and methodologies of the web-based applications development process.
			CO2: Understand current client-side and server-side web technologies
			CO3: Understand current client-side and server-side frameworks
			CO4: Understand web services and content management
			CO5: Learn frameworks, web services, and content management
			CO6: Learn open source technology for sustainable web development
	310255	Seminar & Technical Communication	CO1: Analyze a current topic of professional interest
			CO2: Familiar with basic technical writing concepts and terms, such as audience analysis, jargon, format, visuals, and presentation
			CO3: Improve skills to read, understand, and interpret material on technology
			CO4: Identify an engineering problem, analyze it and propose a work plan to solve it
			CO5: Improve communication and writing skills
			CO6: Explore an appreciation of the self in relation to its larger diverse social and academic contexts
	310256	Web Technology Lab	CO1: Use current client-side and server-side web technologies for various applications
			CO2: Implement communication among the computing nodes using current client-side and server-side technologies
			CO3: Design and implement web services with content management
CO4: Solve complex problems using appropriate methods and suitable technologies.			
CO5: Understand modern frameworks and web services			
CO6: Learn modern open source technology for web development			
310257	SP & OS Lab	CO1: Develop system softwares like- assembler and macro pre-processor	
		CO2: Use tools LEX & YACC for developing solution to real life problems	
		CO3: Understand the Operating System internals and functionalities	
		CO4: Understand and analyze process scheduling techniques to solve real world problem	
		CO5: Analyze the memory management and its allocation policies.	
		CO6: Analyze disk scheduling algorithms and implement disk scheduling techniques.	
310258	ES & IoT Lab	CO1: Acquaint with the concepts, hardware and software components used in embedded system and Internet of Things (IOT)	
		CO2: Apply design methodology to construct the IOT system	
		CO3: Implement secure infrastructure for IoT	
		CO4: Implement an architectural design for IoT for specified requirement	



Program Name	Course code	Course name	Course Outcomes (COs)
			CO5: Solve the given societal issues and challenges using IoT
			CO6: Choose between available technologies and devices for stated IoT challenge
	310259	Audit Course 4	CO1: Understand the Social Media space and tools and Connect business objectives to appropriate Social Media tactics.
			CO2: Analyze the effectiveness of your company's and competitors' social media programs and reate Social Media policies that combine business objectives with appropriate use of social media channels and content
			CO3: Understand the concept of green IT and relate it to sustainable development and Apply the green computing practices to save energy.
			CO4: To demonstrate an overview of the main sources of renewable energy. To understand benefits of renewable and sustainable energy systems. To Inspires people to reduce, reuse and recycle.
			CO5: To develop communication and problem solving skills. Able to use a process for decision making characters.
CO6: To manage and lead 'adaptive challenges' and ambiguity. Building High Performance Teams & Organisations.			
Computer BE	410441	High Performance Computing	CO1: Understand principles of Parallel Algorithm Design
			CO2: Understand and design different parallel architectures, inter-connect networks, programming models
			CO3: Analyze computational complexities of parallel algorithms
			CO4: Develop and analyze an efficient parallel algorithm to solve given problem
			CO5: Develop, test, apply administration, scheduling, code portability and data management in an HPC environment
			CO6: Design HPC applications, Measure, analyse and assess the performance of HPC applications and their supporting hardware
	410442	Artificial Intelligence and Robotics	CO1: Identify and apply suitable Intelligent agents and its environments for different AI applications
			CO2: Identify and apply different searching algorithms to design smart system
			CO3: Apply different rules and facts to design rule based expert system
			CO4: Identify knowledge to plan a strategy to solve given problem
			CO5: Apply natural language processing to solve real life problems
			CO6: Identify and apply different techniques and sensors to solve AI problems
	410443	Data Analytics	CO1: Demonstrate proficiency with statistical analysis of data
			CO2: Build and assess data-based models efficiently
			CO3: Integrate data from disparate sources, can transform data from one format to another, and can program data management in relational databases.
			CO4: Select and implement machine learning techniques and computing environments that are suitable for the applications under consideration.
			CO5: Understand and apply to scale up machine learning techniques and associated computing techniques and technologies.
			CO6: Apply data science concepts and methods to solve problems in real-world contexts and will communicate these solutions effectively.
	410445	Elective I-B	CO1: Understand, Identify and design elements of an application
			CO2: Generate architectural alternatives for a problem and selection among them
			CO3: Choose and use appropriate architectural styles
			CO4: Select and use appropriate software design patterns

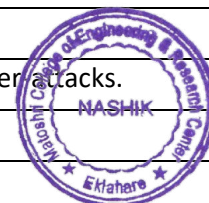




Program Name	Course code	Course name	Course Outcomes (COs)
			CO5:Understand and apply the execution of Client and Server side Technology CO6:Evaluate the current trends and technologies such as model-driven and service-oriented architectures
	410444	Elective I-D	CO1:Understand the process, functions of each step and applications of data mining CO2:Understand pre-processing techniques in data mining CO3:Apply the association rules for mining the data. CO4:Design and deploy appropriate classification techniques CO5:Cluster the high dimensional data for better organization of the data. CO6:Evaluate various mining techniques on complex data objects
	410445	Elective II	CO1:Understand various generations of mobile Communications CO2:Understand the concept of Cellular communication CO3:Learn design of cellular mobile system. CO4:Learn GSM mobile communication standard, its architecture, logical channels, advantages and limitations. CO5:Identify the requirements of mobile communication as compared to static Communication CO6:Search, select, organize and present information on new technologies in mobile and cellular communications.
	410446	Laboratory Practice I	CO1:Understand necessity of Practical hands on to enhance the competency by undertaking the laboratory assignments CO2:Understand and apply parallel reduction, parallel sorting and parallel searching on various algorithms CO3:Understand and apply classifier algorithm in applications CO5:Apply heuristic Search algorithm A* for various applications CO4:Understand and apply artificial intelligence logic to design expert systems CO5:Understand and apply different programming to design data analytics
	410447	Laboratory Practice II	CO6:Understand, analyze , design and implement signal processing algorithm CO1:Identify criteria for the design of a software system and select patterns, create frameworks, and Analyze soundness of a software design CO2:Design and build Multifunctional Application" in the Mobile and Pervasive domain" CO3:Write and construct test for application and Understand Selenium tool CO4:Well suits for beginners as well as manual testers who want to have automation exposure CO5:Demonstrate classification, and clustering in large data sets, Understand and apply various mining techniques and tools for realistic data
	410448	Project Work I	CO1:Solve real life problems by applying knowledge. CO2:Analyze alternative approaches, apply and use most appropriate one for feasible solution CO3:Demonstrate effective communication at various levels and write precise reports and technical documents in a nutshell. CO4:Participate effectively in multi-disciplinary and heterogeneous teams exhibiting team work, Inter-personal relationships, conflict management and leadership quality CO5:Provide solution to problems considering social, safety, environmental, ethical and legal issues.
410449	Audit Course 5		CO1:Understand aspects of Entrepreneurship, IPR, Trademarks, Copyright and patenting CO2:Understand and apply functional plans and Manage Entrepreneurial Finance



Program Name	Course code	Course name	Course Outcomes (COs)
			CO3:Implement security as a culture Understand various attacks like DoS, buffer overflow, web specific, database specific, web -spoofing attacks.
			CO4:Apply models, Plan the resources and Apply principles in 3D printing
			CO5:Formulate the plan for Safety performance and the action plan for accidents and hazards
			CO6:Follow the safety and security norms in the industry
	410450	Machine Learning	CO1:Distinguish different learning based applications.
			CO2:Apply different preprocessing methods to prepare training data set for machine learning.
			CO3:Design and implement supervised and unsupervised machine learning algorithm.
			CO4:Implement different learning models.
			CO5:Learn Meta classifiers and deep learning concepts.
			CO6:Recognize the characteristics of machine learning that make it useful to real-world problems.
	410451	Information and Cyber Security	CO1:Measure the security protections and limitations provided by today's technology.
			CO2:Identify information security and cyber security threats.
			CO3:Analyze threats in order to protect or defend it in cyberspace from cyber-attacks.
			CO4:Build appropriate security solutions against cyber-attacks.
			CO5:Evaluate and communicate the human role in security systems.
			CO6:Interpret and forensically investigate security incidents.
	410452	Elective III	CO1:Recognize and classify embedded and real-time systems
			CO2:Understand embedded system and network embedded system
			CO3:Classify and use scheduling algorithms
			CO4:Apply software development process to a given RTOS application
			CO5:Understand and use various inter process communication
			CO6:Design RTOS application for given problem
	4104453	Elective -IV	CO1:Understand and apply core concepts of the cloud computing paradigms
			CO2:Understand and analyze the Data Storage Techniques and security issues
			CO3:Understand , design and apply Virtualization
			CO4:An understanding of when and where to use techniques using the appropriate industry models
			CO5:Understand, Identify trends and design technologies and applications of Ubiquitous Clouds and the Internet of Things
CO6:Explore future trends of cloud computing			
410454	Laboratory Practice III	CO1: Implement suitable machine learning algorithm for the applications under consideration.	
		CO2: Analyse a problem, identify and define the computing requirements appropriate to its solution.	
		CO3: Apply Suitable machine learning toolboxes for application under consideration.	
		CO4: Gauge the security protections and limitations provided by today's technology.	
		CO5: Build appropriate security solutions against cyber-attacks.	
		CO6: Analyse threats in order to protect or defend it in cyberspace from cyber-attacks.	
4 1	L a b		CO1: To develop problem solving abilities using HPC.



Program Name	Course code	Course name	Course Outcomes (COs)
			CO2: To Develop problem solving abilities using Business Analytics, OR and Mobile Programming.
			CO3:To develop time and space efficient algorithms
			CO4:To study algorithmic examples in distributed, concurrent and parallel environments
			CO5:To learn framework for BAI applications development
			CO6: To learn and understand Mobile Programming Technologies
	410456	Project Work -II	CO1: Solve real life problems by applying knowledge.
			CO2:Analyze alternative approaches, apply and use most appropriate one for feasible solution
			CO3: Demonstrate effective communication at various levels and write precise reports and technical documents in a nutshell.
			CO4: Participate effectively in multi-disciplinary and heterogeneous teams exhibiting team work, Inter-personal relationships, conflict management and leadership quality.
			CO5: Provide solution to problems considering social, safety, environmental, ethical and legal issues.
	410457	Audit Course 6	CO1:Understand aspects of Entrepreneurship, IPR, Trademarks, Copyright and patenting
			CO2:Understand and apply functional plans and Manage Entrepreneurial Finance
			CO3: Implement security as a culture Understand various attacks like DOS, buffer overflow, web specific, database specific, web -spoofing attacks.
			CO4:Apply models, Plan the resources and Apply principles in 3D printing
			CO5:Formulate the plan for Safety performance and the action plan for accidents and hazards
			CO6:Follow the safety and security norms in the industry

