Department of Computer Science and Engineering

Course Outcomes

Year & Sem	Course Code	Course Name	After completion of the course, the student will be able to
I-I	15A52101	Functional English	CO 1: Develop LSRW skills and improve pronunciation.
			CO 2: Express themselves fluently and appropriately.
			CO 3: .Develop the ability of silent reading and comprehension .
			CO 4: .Equip them with the components of different forms of writing.
			CO 5: Develop narration /description, vocabulary & note making.
I-I	15A54101	Mathematics I	CO 1: Solve differential equations of first order and its applications.
			CO 2: Analyze second order differential equations and its applications.
			CO 3: Discuss about maxima & minima of the given functions and radius of curvature.
			CO 4: Evaluate multiple integrals and apply them to find areas & volumes.
			CO 5: Explain vectors and its applications.
I-I	15A05101	Computer Programming	CO 1: Demonstrate computer hardware, software &classify operators in C language.
			CO 2 :Solve different problems using selection statements and arrays of C.
			CO 3: Apply pointers and functions in C programming.
			CO 4: Utilize structures and recursion in C programming.
			CO 5: Make use of pointers in creating files.
I-I	15A56101	Engineering	CO 1: Utilize of optics, laser technology and fiber optics various disciplines and its applications

		Physics	CO 2: Apply the knowledge to analyze different types of crystal structure &defects found in crystal, understand the importance of ultrasonic's
			CO 3: Explain the dual nature of matter, the electron behaviour & electrical conductivity in solids.
			CO 4: Analyze the semiconductors components characteristics &different magnetic material and apply the idea in solving problem in parents' streams.
			CO 5: Experiment with the principle of superconductivity & synthesis of nonmaterial's and their uses in modern technology.
I-I	15A03101	Engineering Drawing	CO 1: Draw conventions
			CO 2: Project of points and scales
			CO 3: Analyze the projection of the lines and planes
			CO 4: Develop the solids and development of surfaces.
			CO 5: Explain the isometric and orthographic projection and Drawing 2D and 3D diagrams of various objects.
I-I	15A52102	English Language Communication Skills Lab	CO 1: Explain the basics of communication in social and professional circles.
			CO 2: Take part in learning process.
			CO 3 Acquire proficiency in spoken English.
			CO 4 Participate in Speaking with clarity and confidence there by enhance employability skills.
I-I	15A56102	Engineering Physics Lab	CO 1: **C**ompute basic properties In Optics, which includes the Interference, diffraction phenomena, and dispersive power of a prism, will be clearly visualized.
			CO 2: Explain the concept of error and its analysis..
			CO 3: Measure the Magnetic field in between coils.
			CO 4: Apply the knowledge on characteristics of P-N junction diode (energy band gap) LASER diode.
			CO 5: Student will use oscilloscope and multimeter to construct a wide variety of Electrical circuits and measure the properties of those circuits
I-I	15A05102	Computer Programming Lab	CO 1 : Apply problem solving techniques to find solutions to problems
			CO 2 : Explain C language features effectively and implement solutions using C language.
			CO 3: Improve logical skills and programming skills
I-II	15A52201	English for Professional	CO 1: Comprehend & identify the speeches of different backgrounds & dialects.
			CO 2: Express themselves fluently and appropriately in social & professional circles.
			CO 3: Evolve the ability of silent reading & comprehension.

		Communication	CO 4: Equip with components of different forms of writing.
			CO 5: Communicate effectively & confidently thereby enhancing employability skills.
I-II	15A54201	Mathematics – II	CO 1: Solve differential equations by using Laplace trance transforms (L3).
			CO 2: Use Fourier transforms to expand the given functions
			CO 3: Solve various types of integrals using Fourier transforms
			CO 4: Evaluate partial differential equations & its applications
			CO 5: Apply Z transforms to evaluate difference equations
I-II	15A05201	Data Structures	CO 1: Explain linked lists and its applications.
			CO 2: Apply stack and queues in the related applications.
			CO 3: Analyze trees and graphs.
			CO 4: Evaluate different sorting techniques.
			CO 5: Explain various searching methods.
I-II	15A51101	Engineering Chemistry	CO 1: Experiment the usage of hard water domestically and industrially.
			CO 2: Explain the preparation and properties of polymers and their applications.
			CO 3: Explain the corrosion effects on different materials and electrochemical cells.
			CO 4: Analyze of solid fuels, liquid fuels, gaseous fuels and flue gas analysis.
			CO 5: Apply the chemistry involved in chemistry of engineering materials.
I-II	15A01101	Environmental Studies	CO 1: Explain the importance of environmental studies
			CO 2: Comprehend the concepts of an eco-system.
			CO 3: Identify the concepts of environmental pollution
			CO 4: Differentiate social issues and environment.
			CO 5: Analyze human population and environment.
I-II	15A05202	Data Structures Lab	CO 1. Select appropriate data structures as applied to specified problem definition.
			CO 2. Design operations like searching, insertion, and deletion, traversing mechanism etc. on various data structures.
			CO 3. Create Linear and Non-Linear data structures.
			CO 4. Design advance data structure using Nonlinear data structure.
			CO 5. Determine and analyze the Trees
I-II	15A51102	Engineering Chemistry Lab	CO 1: Explain the hygiene aspects of water would be in a position to design methods to produce potable water using modern technology.
			CO 2: Explain practical understanding of the redox reaction.
			CO 3: Experiment with the viscosity of lubricants.
			CO 4: Experiment with the conductivity of strong electrolytes.

			CO 5: Prepare thermo-setting plastics.
I-II	15A99201	Engineering & IT Workshop	CO 1: Use to Disassemble and Assemble a Personal Computer and prepare the computer ready to use.
			CO 2: Prepare the Documents using Word processors
			CO 3: Prepare Slide presentations using the presentation tool
			CO 4: Experiment with interconnection of two or more computers for information sharing
			CO 5: Make use of Internet and Browse it to obtain the required information
II – I	15A54301	Mathematics III	CO 1: Explain the concepts of matrices and its applications.
			CO 2: Solve algebraic & transcendental equations using appropriate numerical methods.
			CO 3: Analyze a problem using different interpolation formulae .
			CO 4: Construct various types of curves using different numerical techniques.
			CO 5:Find numerical solutions of ordinary differential equations.
II – I	15A05301	Database Management Systems	CO1: Demonstrate the basic elements of a relational database management system.
			CO2: Identify the data models for relevant problems.
			CO3: Apply normalization for the development of application software.
			CO4: Describe transaction management and concurrency control.
			CO5:Explain indexing and hashing
II – I	15A05302	Discrete Mathematics	CO 1: Explain the mathematical logic.
			CO 2: Apply set theory.
			CO 3: Make use of algebraic structures and lattices.
			CO 4:Analyze different graphs and properties of trees.
			CO 5: Solve principles of counting ,inclusion and exclusion and generating functions.
II – I		Basic Electrical	CO 1:Analyzethe basics of electrical circuits, network theorems and two port networks

	15A99301	and Electronics Engineering	CO 2: Explain the basic principle and operation of dc generators & motors,
			CO 3:Explain the basic principle and operation of transformers, induction motors and alternator
			CO 4:Explain the basic introduction of semiconductor devices
			CO 5:Explain the operation of BJT & FET and op-amp
II-I	15A04306	Digital Logic Design	CO 1: Make use conversion technique from one number system into another number system.
			CO 2: Solve Boolean equations and functions.
			CO 3: Solve the given Boolean functions using K-Maps
			CO 4: Design Combinational and sequential circuits and implement using Boolean
			CO 5: Describe various functions, registers, counters and memory.
II – I	15A52301	Managerial Economics and Financial Analysis	CO 1 : Explain the concept of managerial economics and demand analysis
			CO 2: Explain the theory of production and cost analysis
			CO 3 Analyze the concepts of markets and new economic environment
			CO 4: Use the financial accounting and ratio analysis tools for knowing the financial performance of company
			CO 5: Evaluate the concept of capital and capital budgeting methods
II – I	15A05303	Database Management Systems Laboratory	CO 1:Design databases
			CO 2:Retrieve information from data bases
			CO 3:Use procedures to program the data access and manipulation
			CO 4:Create user interfaces and generate reports
II – I	15A99302	Basic Electrical and Electronics Laboratory	CO 1: Experiment with Superposition and Thevenins theorem.
			CO 2: Determine the O.C. and S.C. parameters of two-port network.
			CO 3: Experiment with Swinburne's Test on DC Shunt Machine and Predetermine the Efficiency of a given DC Shunt Machine (i) while working as a Motor and (ii) while working as a Generator

			CO 4: Experiment with verifying P
			CO 5: Determine Bipolar Junction Transistor in CB and CE Configuration
II – II	15A54401	Probability and Statistics	CO 1:Apply the concepts of probability in different distributions.
			CO 2: Test the hypothesis and its significance .
			CO 3:Analyze different sampling tests .
			CO 4: Analyze statistical quality control.
			CO 5 :Use queuing theory to solve the related problems
II – II	15A05401	Software Engineering	CO1:Explain the software systems and the generic view of a process and solve specific problems.
			CO2:Analyze software engineering process life cycle, including number of process models and manage project from beginning to end.
			CO3:Analyze and specify software requirements through a productive working relationship with various stake holders of the project
			CO4:Analyze and translate a specification into design.
			CO5: Develop the code from the design effectively apply relevant standards and perform testing and quality management in practice.
II – II	15A05402	Computer Organization	CO 1 : Explain the fundamentals of computer organization and its relevance to classical and modern problems of computer design.
			CO 2:Explain the structure and behavior of various functional modules of a computer.
			CO 3:Ddifferentiate memories
			CO 4: make use to communicate with I/O devices
			CO 5:Explain the concepts of pipelining and the way it can speed up processing and to understand the basic characteristics of multiprocessors
II – II	15A04407	Microprocessors & Interfacing	CO1: Explain the architecture of 8085 and 8086 microprocessor
			CO 2: Develop 8086 assembly language programs

			CO 3: Design a microprocessor based system using 8086 microprocessor
			CO 4:Analyze the interfacing of programmable devices with 8086 microprocessor
			CO 5:Explain the architecture of 8051 micro controller and develop 8051 assembly language programs.
II – II	15A05403	Object Oriented Programming using Java	CO 1: Explain the fundamentals of java.
			CO 2: Create programs using java.
			CO 3:Analyze inheritance, packages, inheritance and exception handling.
			CO 4: Create multithreaded programs and applets.
			CO 5: Design programs using AWT.
II-II	15A05404	Formal Languages and Automata Theory	CO1: Explain the basics of automata theory
			CO2: Construct regular grammar and finite automata
			CO3: Classify grammar and conversion between FA and RG
			CO4: Design Push Down Automata for a given grammar and language
			CO5: Design Turing Machine for a given language
II-II	15A04408	Microprocessors & Interfacing Laboratory	CO 1: Execute arithmetic and logical operations on 8086 microprocessor using Assembly Language programs.
			CO 2: Understand programmable peripheral devices and their Interfacing.
			CO 3: Design an interfacing logic for connecting 8086 processor with peripheral devices.
			CO 4: Create 8051 assembly Language programs.
			CO 5: Develop an application specific embedded system using 8051 micro controller.
II-II	15A05405	Java Programming Laboratory	CO 1: Create portable programs which work in all environments
			CO 2: Create user friendly interfaces
			CO 3: Solve the problem using object oriented approach and design solutions which are robust

			CO 4: Create multiple threads and Exceptions
			CO 5: Use of GUI components
III-I	15A05501	Operating Systems	CO 1: Demonstrate the fundamentals of Operating systems.
			CO 2: Analyze different scheduling algorithms and process synchronization.
			CO 3 : Explain memory management and deadlocks.
			CO 4 :Discuss storage structure and file systems.
			CO 5 :Create security and protection to the Operating Systems.
III-I	15A05502	Computer Networks	CO 1: Explain the basic components of Network System and analyze the various layers of OSI & TCP/IP models.
			CO 2: Analyze Data link, Data Transmission with error free and know the basic idea of MAC.
			CO 3: Distinguish the different routing algorithms and congestion control issues
			CO 4: Explain the different internetworking components, functionalities and P Addressing schemes
			CO 5: Acquire the knowledge about different type of service related protocols for transmission
III-I	15A05503	Object Oriented Analysis and Design	CO1: Find solutions to the complex problems using object oriented approach.
			CO2: Analyze classes, objects and their relationships
			CO3: Design classes, responsibilities and states using UML notation.
			CO4: Identify the different types of diagrams and common modeling techniques.
			CO5: Explain the concept of UML 2.0 version
III-I	15A05504	Principles of Programming Languages	CO 1 : Explain the programming domains.
			CO 2 : Select an appropriate programming language for solving computational problems with justification
			CO 3 : Analyze pattern matching
			Evaluate inheritances and types in object oriented programming
			Discuss the functional, logic and rule based languages.
III-I	15A05505	Software Testing	CO1: Explain basics of testing and flow graph.
			CO2: Make use of different testing strategies.
			CO3: Analyze domain testing.

			CO4: Explain path product and logic based testing.
			CO5: Demonstrate state graph and graph matrices.
III-I	15A05506	Introduction to Big Data	CO 1: Explain the Architecture of Cloud Computing
			CO 2: Interpret the importance of Big data
			CO 3: Explain working of Hadoop File System.
			CO 4: Explain the importance of Map-Reduce program .
			CO 5: Analyze Big Data using different tools.
III-I	15A05509	OOAD& Software Testing Laboratory	CO 1: Find solutions to the problems using object oriented approach
			CO 2: Represent using UML notation and interact with the customer to refine the UML diagrams
III-I	15A05510	Operating Systems Laboratory	CO1: Apply CPU Scheduling algorithms
			CO2: Explain different problems related to process synchronization.
			CO3: Describe the concept of paging for memory management.
			CO4:Discuss storage structure and file systems.
			CO5: Apply different page replacement algorithms
III-I	15A99501	Social Values & Ethics (Audit Course)	CO 1 : Explain the concepts of family, NSS, NCC and its Functionaries.
			CO 2 : Illustrate the Citizenship, Constitution of India, Fundamental Rights, Social Harmony and National Integration.
			CO 3 : Explain the Environmental Issues, Health Hygiene & Sanitation, Disaster management & Civil self Defense.
			CO 4 : Explain the Gender Sensitization, Sexual Harassment, and Gender equality
			CO 5 : Take part in Physical Education, Yoga and physiology of muscular activity, respiration
III-II	15A05601	Compiler Design	CO1: Explain the structure of compiler and LEX.
			CO2: Construct top down and bottom up parsing methods
			CO3: Analyze Syntax Directed Translation and construct intermediate code.
			CO4: Explain run time environment and symbol table.
			CO5 : Construct code and optimize it.
III-II	15A05602	Data Warehousing & Mining	CO 1: Concepts of data warehousing and data mining
			CO 2: Pre-processing techniques and data mining functionalities
			CO 3: Multidimensional models for data warehousing
			CO 4: Evaluate performance of Association Rules
			CO 5: Understand and Compare different types of classification and clustering algorithms
III-II	15A05603	Design Patterns	CO 1: Explain object oriented principles of design patterns.

			CO 2: Apply the pattern in context.
			CO 3: Develop design solutions using creational patterns.
			CO 4:Apply Structural patterns to solve design problems.
			CO 5:Construct design solutions by using behavioral patterns.
III-II	15A05604	Design and Analysis of Algorithms	CO 1 : Analyze the complexity of the algorithms
			CO 2 : Solve the problems by using techniques Divide and conquer, greed, dynamic programming,
			CO 3: Solve the problems by using techniques search, traversal and backtracking techniques to.
			CO 4 : Apply Branch and bound techniques and lower bound theory to solve the problems.
			CO 5 :. Analyze criteria and specifications appropriate to new problems, and choose the appropriate algorithmic design technique for their solution to prove that a certain problem is NP-Complete.
III-II	15A05605	Web and Internet Technologies	CO 1 : Explain the concepts of web technologies.
			CO 2 : Apply java script and install web server.
			CO 3 :Design server side programming with PHP.
			CO 4 : Create forms and XML.
			CO 5 : Develop AJAX**.**
III-II	15A05606	Artificial Intelligence	CO 1 : Analyze the problem space to solve a problem.
			CO 2 : Make use of Logic programming concept to solve a problem.
			CO 3 :. Demonstrate about Expert system and its Applications.
			CO 4:. Discuss about Machine Learning Paradigms and designs issues in neural networks
			CO 5 :. Explains the concept of Fuzzy Logic.
III-II	15A05609	Web and Internet Technologies Laboratory	CO 1: Create dynamic and interactive web sites
			CO 2: Gain knowledge of client side scripting using java script and DHTML.
			CO 3: Demonstrate understanding of what is XML and how to parse and use XML data
			CO 4: Experiment with server side programming with Java Servelets, JSP
			CO 5: Experiment with server side programming with PHP.
III-II	15A05610	Data Warehousing & Mining Laboratory	CO 1 :Build Data Warehouse and Explore WEKA.
			CO 2:Perform data preprocessing tasks.
			CO 3:Demonstrate performing association rule mining on data sets
			CO 4: Perform classification, clustering and regression on data sets
			CO 5 :Design data mining algorithms

III-II	15A52602	Advanced English Language Communication Skills(AELCS) Laboratory) (Audit Course)	CO 1: Make use of Reading Comprehension, Listening Comprehension, Vocabulary for competitive purpose, spotting errors
			CO 2:Make use of reporting writing, Curriculum vitae, covering letter, Email writing.
			CO 3: Develop Oral presentation, Power point presentation, stage dynamics.
			CO 4: Take part in Telephone skills, Net etiquettes.
			CO 5: Take part in Group Discussions, Interview skills, Psychometric tests
IV-I	15A52601	Management Science	CO 1 :. Explain the Concept of Management.
			CO 2 : Explain the Concept of Operations Management and Marketing Management.
			CO 3 : Explain the Human resource management.
			CO 4 : Explain the Concept of Strategic Management and Project management
			CO 5 : Know about the Contemporary management practices.
IV-I	15A05701	Grid & Cloud Computing	CO 1: Explain the security models in the Grid and Cloud environment
			CO 2: Explain the practical and detailed view of OGSA/OGSI
			CO 3: Apply the concepts of Virtualization
			CO 4: Apply Grid computing techniques to solve large scale scientific problems
			CO 5 : Explain Grid and Cloud infrastructure security
IV-I	15A05702	Information Security	CO 1 : Explain the different types of encryption algorithms
			CO 2 : Explain the concepts of number theory
			CO 3: Choose the appropriate security algorithm based on the message authentication requirements.
			CO 4: Explain the concepts of Key Management and email security
			CO 5: Explain different types of viruses and firewalls
IV-I	15A05703	Mobile Application Development	CO1. Demonstrate the Fundamentals of Android Operating System environment.
			CO2. Illustrate various components of Android Application Development.
			CO3. Build the Android Application using different layouts and resources.
			CO4. Select Android Widgets and Debugging
			CO5. Construct Android applications using Menus and Databases
IV-I	15A05706	Machine Learning	CO1: Demonstrate the importance of the machine
			CO2: Apply the machine learning algorithms to real world applications
			CO3: Analyze dimension reduction and clustering
			CO4: Explain the linear discrimination and deep learning

			CO5:Use kernel machines and graphical models
IV-I	15A05707	Software Project Management	CO1: Define and analyze the framework and their dimensions of software project management.
			CO2: Define software project planning estimation models and scheduling process.
			CO3: Analyze the basic concepts and issues of software project management in a effective way
			CO4: Implement the project plans through managing people in the Organization.
			CO5: Develop a project management plan and can Track project execution through collecting
IV-I	15A05710	Grid & Cloud Computing Laboratory	CO 1 Make use of the Grid Toolkit.
			CO.2 Design and Implement new Grid applications Grid.
			CO.3 Make use of the Cloud Toolkit.
			CO.4 Build cloud applications on Cloud.
			CO.5 Construct the applications according to the services.
IV-I	15A05711	Mobile Application Development Laboratory	CO1. Demonstrate the Fundamentals of Android Operating System environment.
			CO2. Illustrate the fundamentals of Android Programming
			CO3. Illustrate the various components, layouts and views in Android programming.
			CO4. Develop applications using Layouts and publishing android applications
			CO5. Create data sharing with different applications and sending and intercepting SMS.
IV-II	15A05803	Innovations and IT Management	CO 1 : Explain organizations, information systems and the competitive environment in organizations
			CO 2 : Comprehend about E-Commerce ,E-Business and E-Governance and ethical issues, social issues.
			CO 3: Analyze IT infrastructure.
			CO 4: Explain the complex business processes and the technologies used in DSS,BI and Knowledge management .
			CO 5: Use ICT development and Open source software.
IV-II	15A05806	Cyber Security	CO 1: Explain the different types cybercrime
			CO 2: Explain the tools and methods used for Cyber crime
			CO 3: Explain the security challenges presented by mobile devices and information systems access in the cybercrime world.

			CO 4: Explain and know how cyber forensics is used in cyber crime investigations.
			CO 5: Explain the need of cyber laws.