DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

3.1.1 Course Outcomes:

Course Outcomes for First Year First Semester Course		
Course Title with Code	**#**	**Statement**
C101 ENGLISH-I	CO1	Listening and Reading language to gain knowledge in the areas of communication
	CO2	Reproduce with accurate grammatical structures to form sentence and paragraph
	CO3	Selection of vocabulary aptly to the situation
	CO4	Developing comprehension skills at reading strategies
	CO5	Improving spoken skills for discussion and demonstration
C1012 MATHEMATICS-I	CO1	Solve first order differntial equations and applications of first order differential equations
	CO2	Solve linear differential equations of higher order
	CO3	Find the maximum and minimum values of functions of two variables
	CO4	Determine Laplace transform and inverse Laplace transform of various functions and use lap lace transform to determine general solution of linear Ordinary differential equations
	CO5	Find the solution of first order linear and nonlinear equations, higher order partial differential equations
C103 MATHEMATICS-II	CO1	Evaluate approximate roots of algebraic and transcdental equations by iterative methods.
	CO2	Apply Newton's forward, backward, central and Lagranges for equal and unequal intervals
	CO3	Evaluvate the real definite integrals and solve the first order ordinary differential equations by numerical methods.
	CO4	Write a Fourier series and Fourier transforms of functions
	CO5	Solve the first order partial differential equations by various methods

C104 APPLIED PHYSICS		
	CO1	Explain the need of coherent sources and the conditions for sustained interference.
	CO2	Analyze the different properties of light.
	CO3	Apply the concept to learn the types of Lasers
	CO4	Illustrate the physical significence of wave function.
	CO5	Interpret the direct and indirect band gaps of semiconductors.
C105 COMPUTER PROGRAMMING	CO1	Discuss the fundamentals of algorithms, flowcharts and C Tokens.
	CO2	Use Suitable Control structures for developing code in C.
	CO3	Implement C-programs using derived data types such as arrays, structures etc.
	CO4	Develop C-programs using pointer and its related concepts.
	CO5	Design Well structured modular programs using file handling functions.
C106 **ENGINEERING DRAWING**	CO1	To introduce the use and the application of drawing instruments and to make the students construct the polygons, curves and various types of scales. The student will be able to understand the need to enlarge or reduce the size of objects in representing them.
	CO2	To introduce orthographic projections and to project the points and lines parallel to one plane and inclined to other and also the line inclined to both the reference planes
	CO3	To make the students draw the projections of the plane inclined to both the planes
	CO4	To make the students draw the projections of the various types of solids in different positions inclined to one of the reference planes
	CO5	To represent the object in 3D view through isometric views. The student will be able to represent and convert the isometric view to orthographic view and vice versa.
C107 ENGLISH COMMUNICATION SKILLS -I	CO1	Understand public speaking skills for professional level and social purpose
	CO2	To improve communication skills for academic purpose
	CO3	Use verbal language of English for competitive purpose

	CO4	Ability to produce language for pronunciation, stress pattern and intonation
	CO5	Understand oral communication methods and its techniques
C109 ENGINEERING /APPLIED PHYSICS VIRTUAL LAB	CO1	Identify the types of Semiconductors using Hall Effect.
	CO2	Understand the different structures of the Crystals.
	CO3	Classify the magnetic materials based on the Hysteresis loop.
	CO4	Explain the working principle of N.A of optical fiber.
	CO5	Understand the concepts of the B-H curve.
C110 COMPUTER PROGRAMMING LAB	CO1	Understand the basic concept of C Programming, and its different modules that includes conditional and looping expressions, Arrays, Strings, Functions, Pointers, Structures and File programming.
	CO2	Acquire knowledge about the basic concept of writing a program.
	CO3	Role of constants, variables, identifiers, operators, type conversion and other building blocks of C Language.
	CO4	Use of conditional expressions and looping statements to solve problems associated with conditions and repetitions.
	CO5	Role of Functions involving the idea of modularity
Course Outcomes for First Year Second Semester Course		
Course Title with Code	**#**	**Statement**
C111 ENGLISH-II	CO1	Gain knowledge in the area of technology and science
	CO2	Promotes life skills and social skills
	CO3	Makes to understand different cultural etiquettes
	CO4	Know vocabulary and sentence structures
	CO5	Helps to improve written communication skills

C112 MATHEMATICS - III	CO1	Determine the rank of a matrix and solve the system of linear algebraic equations.
	CO2	Determine the Eigen values and Eigen vectors of a matrix and discuss the nature of quadratic forms.
	CO3	Apply Double and Triple integration technique to find areas and volumes covered by region.
	CO4	Determine the real integrals using special functions
	CO5	Calculate the gradient, curl, divergence of vector and scalar functions and apply Green's,Stokes,Gauss divergence theorems to calculate linear, surface and volume integrals
C113 CHEMISTRY	CO1	Identify the structures ,properties and applications of polymers.
	CO2	Analyze the Quality and Composition of fuels.
	CO3	Analyze the mechanism of corrosion and apply the few corrosion control methods.
	CO4	Iliustrate the importance of advanced materials in engineering .
	CO5	Stimulate the non conventional energy source to produce electric power.
C114 OBJECT ORIENTED PROGRAMMING THROUGH C++	CO1	Understand the Basic concepts of Object Oriented Programming Principles.
	CO2	Demonstrate classes, objects, constructors and function over loading concepts
	CO3	Implement the concepts of operator over loading, and inheritance, polymorphism
	CO4	Utilize templates for generic programming and examine the raised exceptions using exception handling.
	CO5	Outline the Standard Template Library programming model and make use of various containers concepts.
C115 ENVIRONMENTAL SCIENCE	CO1	The need for protecting the producers and consumers in various ecosystems.
	CO2	Recognize the need to conserve the natural resources.
	CO3	Conservation practices to protect the biodiversity.
	CO4	Control the pollution and waste management.

	CO5	Describe the social issues both rural and urban environment.
C116 ENGINEERING MECHANICS	CO1	Analyze the force system and frictional resistance analytically.
	CO2	Evaluate the system of forces by graphically.
	CO3	Determination of centroid or centre of gravity and moment of Inertia for simple and compound bodies.
	CO4	Determine and analyze the planar motion of a particle and rigid bodies subjected to dynamic loading.
	CO5	Derive work energy, impulse momentum method and types of connected system.
C117 **APPLIED CHEMISTRY LAB**	CO1	Estimate the unknown solution by using volumetric titration method
	CO2	Analyze the quality of water
	CO3	Construct the Electrochemical cell
	CO4	Determine the PH of liquid samples
	CO5	Measuring the of Acid by Conduct metric and potentiometric titrations.
C118 **ENGLISH-COMMUNICATIN SKILLS LAB-II**	C01	Practice English language pertaining to LSRW skills
	CO2	Comprehend English language used for debate, discussion and presentation
	CO3	Able to use and express ideas in oral communication skills in the view of interviews
	CO4	Comprehend how to develop writing skills
	C05	Helps to acquire vocabulary to avoid errors in the sentence constructions
C119- Object Oriented Programming Lab	C01	Understand the g++ compiler and translate basic C programs into C++ programs
	CO2	Develop programs using different operators like scope access, new, delete and utilize different function concepts like inline, friend , function overloading and operator overloading.
	CO3	Construct programs on classes, objects, Constructors and make use of access specifies in classes

Course Outcomes for Second Year First Semester Course		
Course Title with Code	**#**	**Statement**
C201 STATISTICS WITH R PROGRAMMING	CO1	Motivate for learning a programming language
	CO2	To Access online resources for R and import new function packages into the R workspace
	CO3	Import, review, manipulate and summarize data-sets in R
	CO4	Explore data-sets to create testable hypotheses and identify appropriate statistical tests
	CO5	Able to perform appropriate statistical tests using R Create and edit visualizations.
C202 MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE	CO1	Apply mathematical logic and rules of inferences to check consistency of premises and reduce the given statement into normal forms
	CO2	Apply theory of inference for statement calculus and predicate calculus to derive the conclusions. know the basic concepts of sets, relations ,functions , lattices and their properties.
	CO3	Know the basic concepts of properties of integers and groups
	CO4	Use fundamental counting principle to determine the number of outcomes.
	CO5	Develop and solve the recurrence relations . Know the basic concepts of graphs and determine the minimal spanning tree for a given weighted graph
	CO6	know the concepts of coloring of a graph
C203 Digital Logic Design	CO1	Illustrate various number systems, binary addition and subtraction, data complements which are useful for various operations.
	CO2	Solve logic functions by using different switching algebra theorems
	CO3	Apply various karnaugh maps to minimize logic functions
	CO4	Design combinational, sequential logic circuits for logic functions
	CO5	Design various registers and counters for logic functions
	CO6	Design of Mealy & Moore Machines for Sequential Circuits
C204 PYTHON PROGRAMMING	CO1	Apply the core concepts of python programming language to solve real world problems
	CO2	Develop Python programs by applying basic types, operations and expressions and decision and loops in Python environment
	CO3	Examine different data structures and functions in python to develop

		solutions engineering problems
	CO4	Apply Functions and modular programming concepts of python programming language to solve real world problem
	CO5	Apply the core object oriented concepts of python to model solutions to problems**.**
	CO6	Examine standard library in python and compare different types of testing mechanisms to solve real world problems
C205 DATASTRUCTURES THROUGH C++	CO1	Illustrate the ADTs of Polynomial, Sparse matrix, transposing of matrix and matrix multiplications by using arrays.
	CO2	Perform various operations of stack and queue by using arrays.
	CO3	Implement various matrices, polynomials, stack and queue by using linked lists**.**
	CO4	Implement different hierarchical forms of data and perform various operations in BST, tree traversals.
	CO5	Analyze graph traversal techniques of DFS, BFS and minimum cost spanning Trees.
	CO6	Compare various searching and sorting techniques with their complexities.
C206 COMPUTER GRAPHICS	CO1	Make Use of algorithms for drawing line, circle ,eclipse and clipping algorithms for line, polygon, text and curve.
	CO2	Interpret 3D objects representation, viewing, visible surface identification, Animations, complex objects for fractals and self similarity, peano curves, Julia sets.
	CO3	Types of different Colour models
	CO4	Build graphic primitives by using OPENGL.
	CO5	Contrast shading methods for detect objects, rendering texture and drawing shadows
	CO6	Know the ray tracing method for graphic primitives and perform Boolean operations on objects
C207 **DATA STRUCTURES THROUGH C++LAB**	CO1	Implementation of single and double linked list
	CO2	Implementation of different stack and queue by using arrays
	CO3	Implementation of binary search trees, Hash Table and Heaps.
	CO4	Implementation of Graph traversals(DFS and BFS),finding shortest path algorithms(prim's, Dijkstra's and kruskal's).
	CO5	Implement and analyze different Sorting and Searching Techniques with their complexities.
C208 PYTHON PROGRAMMING LAB	CO1	Solve complex engineering problems by applying syntax and semantics of python script, operations and control flow.
	CO2	Examine and Apply to make use of core python data structures lists, multi-D lists, dictionaries and files to solve complex problems.
	CO3	Make use of python functions to organize a complex program into a modular program by using the built-in packages in python
	CO4	Analyze and Apply GUI and graphics web based solutions for solving complex engineering problems using applying object oriented features of python.
	CO5	Design, Develop and Test Database applications using advanced features of python.
Course Outcomes for Second Year Second Semester Course		

C209 SOFTWARE ENGINEERING	CO1	Discuss about process and various s/w process models in software development
	CO2	Analyze requirements analysis, specifications and design process.
	CO3	Utilize Function oriented design and user interface design
	CO4	Evaluate software using various testing techniques.
	CO5	Analyze CASE tools, reliability, quality management, maintenance and reuse of s/w systems.
	CO6	Analyze quality management of s/w systems
C210 JAVA PROGRAMMING	CO1	Demonstrate Various Concepts of Object Oriented Programming language
	CO2	Apply principles of object oriented programming to model/design real world problems
	CO3	Apply Exception handling mechanisms to develop fault-tolerent applications
	CO4	Analyze the concepts of multi threaded programming and synchronization
	CO5	Build programs using String API and use different keywords while developing a program
	CO6	Make use of Awt and Applet and event handling to design GUI Applications.
C211 ADVANCED DATA STRUCTURES	CO1	Apply sorting Techniques on different data
	CO2	Apply Hashing Technique for different the data performing operations
	CO3	Design priority Queues using heaps
	CO4	Design of Binary Search Tree
	CO5	Design multi way search tree
	CO6	Understanding the application of data search technique
C212 COMPUTER ORGANIZATION	CO1	Illustrate structure and types of computer.
	CO2	Describe about computer instructions,.
	CO3	Describe about addressing modes
	CO4	Realize about input/output organization.
	CO5	Design memory mapping processors.

	CO6	Describe about micro programmed control.
C213 FORMAL LANGUAGES & AUTOMATA THEORY	CO1	Design automata for any given pattern
	CO2	Specify regular expression of string pattern
	CO3	Write context free grammar for any language
	CO4	Design PDA for the given language
	CO5	Apply Turing machine to propose computation solutions
	CO6	Interpret whether a problem is decidable or not
C214 PRINCIPLES OF PROGRAMMING LANGUAGES	CO1	Describe the syntax, semantics and basic constructs of programming languages
	CO2	Design of sub programs in various programming languages
	CO3	Apply object oriented concepts
	CO4	Analyze functional program using ML(meta language)
	CO5	Analyze logic paradigm in prolog
C215 ADVANCED DATA STRUCTURE LAB	CO1	Develop programs to implement AVL trees.
	CO2	Design application that uses binary heap
	CO3	Write a program to generate minimum cost spanning tree.
	CO4	Describe and implement algorithm to find shortest path in the graph
	CO5	Write a program to implement static hashing
	CO6	Develop programs to implement huffmann coding technique and balanced trees
C216 JAVA PROGRAMMING LAB	CO1	Demonstrate Various Concepts of Object Oriented Programming language.
	CO2	Apply principles of object oriented programming to model/design real world problems
	CO3	Apply Exception handling mechanism to develop fault-tolerant applications
	CO4	Analyze the concepts of multi threaded programming and synchronization
	CO5	Build programs using StringAPI and use different keywords while developing a program
	CO6	Makeuse of Awt and Applet and event handling to design GUI applications.
Course Outcomes for Third Year FIRST Semester Course		
	CO1	Apply concepts and different phases of Compiler..

C301 COMPILER DESIGN	CO2	Compare top down with bottom up parsers, and develop appropriate parser to produce parse tree representation of the input.
	CO3	Design syntax directed translation schemes for a given context free grammar
	CO4	Generate intermediate code for statements in high level language.
	CO5	Apply optimization techniques to intermediate code and generate machine code for high level language program.
C302 UNIX PROGRAMMING	CO1	Explain various Unix basic concepts, like accessing Unix , components , Unix commands syntax and semantics etc….
	CO2	able to organize the files and directories
	CO3	Use various Meta characters to access/display the required data
	CO4	Apply insert ,retrieve& search methods on the required data by using various Unix commands .
	CO5	Build simple & effective shell scripts
	CO6	Differentiate the different types of processes & also explain their purpose
C303 OBJECT ORIENTED ANALYSIS AND DESIGN USING UML	CO1	Model the solutions for complex problems using object oriented approaModel the solutions for complex problems using object oriented approach. Key elements:Identify the solution for problems and design using UMLch.
	CO2	Examine the relationships and use notations to design class diagrams. Key elements: Utilize notations and use to relationships and design the class diagrams.
	CO3	Analyse behavioral modeling concepts of the system. Key elements: Analyse behavioral modeling and develop interaction and design use case diagrams.
	CO4	Evaluate concepts of events, signals for state chart diagrams. Key elements: Identify signals, events for to model state chart diagrams and design use case diagrams, interaction diagrams, activity diagrams..
	CO5	Apply the concepts of architectural design for various case studies and applications. Key elements: Use of component and deployment diagrams in library application and Analyze various case studies.

C304 Database Management Systems	CO1	Demonstrate database management system and its architecture levels in relation with all types of users and query optimization.
	CO2	Build a database system with specified constraints and normalization levels for a given real world problem.
	CO3	Construct Queries in Relational algebra, relational calculus and Structured Query Language efficiently.
	CO4	Schedule the transactions properly to maintain concurrency control.
	CO5	Analyze various recovery methods to keep data base consistent.
	CO6	Choose appropriate storage and indexing techniques for the fast retrieval of data.
C305 OPERATING SYSTEM	CO1	Apply the operating system resources, services, processes and scheduling algorithms for system management
	CO2	Compare various memory management schemes and solve page replacement algorithms in memory management for efficient storage of data
	CO3	Apply the principles of concurrency, deadlock prevention and avoidance algorithm to increase the system performance
	CO4	Solve issues related to file system interface, file system implementation and disk management for better utilization of memory
	CO5	Analyze administrative tasks on Linux Server and Android operating system for developing applications.
C306 UNIFIED MODELING LAB	CO1	Understand the unified modeling language and Rational Rose for object oriented modeling
	CO2	Illustrate the conceptual Model of UML.
	CO3	Represent Behavioral diagrams in UML.
	CO4	Identify the basic and advanced structural diagrams.
	CO5	Relate forward and reverse engineering for a software system.
	CO6	Assess the architectural modeling of UML
C307 OS&LINUX LAB	CO1	Implement Different management policies like CPU scheduling, page replacement resource allocation and classical process synchronization problem etc.
	CO2	Implement various file allocation Stratagies
	CO3	To use Unix Utilities and perform basic shell commands of the utilities
	CO4	To use the Unix file System and file access control
	CO5	Solve problem using bash shell scripting
	CO2	Create and maintain tables using PL/SQL.
	CO3	Populate and Query a Database.

	CO4	Prepare Reports.
	CO5	Application development using PL/SQL & front end tools.
	C06	Create and populate a RDBMS for a real life application, with constraints and keys, using SQL.
C309 PROFESSIONAL ETHICS	CO1	Identify human Values and ethics useful for the survival in Society
	CO2	Illustrate professional roles played by an engineer in the society
	CO3	Interpret the concepts of Engineering in social experimentation
	CO4	explain the role of engineers to maintain safety
	CO5	Identify the rights and responsibilities of engineers at work place.
	C06	Explain different issues related to globalization and research.
Course Outcomes for Third Year SECOND Semester Course		
C310 COMPUTER NETWORKS	CO1	Utilize the network topologies for various models
	CO2	Apply different types of transmission media and techniques for error detection and correction.
	CO3	Analyze MAC protocols for channel allocation
	CO4	Classify the routing and congestion control algorithms.
	CO5	Design various protocols for security, Authentication and data transmission. .
C311 DATAWARE HOUSING & DATA MINING	CO1	Understand stages in building a Data Warehouse
	CO2	Understand the need and importance of pre-processing techniques
	CO3	Understand the need and importance of Similarity and dissimilarity techniques
	CO4	Analyze and evaluate performance of algorithms for Association Rules.
	CO5	Analyze Classification and Clustering algorithms.
	CO1	Analyze the algorithms and Examine time complexities of algorithms.
	CO2	Apply divide-and-conquer paradigm to solve algorithms.
	CO3	Apply greedy method to solve minimum cost spanning trees.

C312 DESIGN AND ANALYSIS OF ALGORITHMS	CO4	Analyze dynamic programming algorithm.
	CO5	Analyze backtacking algorithms.
	CO6	Describe Branch and Bound algorithms.
C313 SOFTWARE TESTING METHODOLOGIES	CO1	**Know** the basic concepts of software testing and its essentials
	CO2	**Perform** functional testing using transaction flow and control flow graphs.
	CO3	**Test** a domain or an application and identifying the nice and ugly domains.
	CO4	**Classify** a path expression and reduce them very well when needed.
	CO5	**Apply** an effective, step-by-step process for identifying needed areas of testing, designing test conditions and building and executing test cases.
	CO6	**Apply** appropriate software testing tools, techniques and methods for even more effective systems during both the test planning and test execution phases of a software development project.
C314 ARTIFICIAL INTELLIGENCE	CO1	To understand the Basic concepts of Intelligence with latest trends.
	CO2	To differentiate the Problem Solving and Problem Reduction
	CO3	To Estimate the logic concepts of Predicates.
	CO4	To Complete the knowledge Representation.
	CO5	To understand the Expert Systems.
	CO6	To understand the Fuzzy Logic Concepts.
C315 NETWORK PROGRAMMING LAB	CO1	Use network related commands and configuration files for Establishing network.
	CO2	Develop a channel establishment using TCP and UDP
	CO3	Use several system calls
	CO4	Apply socket system calls for remote command execution
	CO5	Illustrate Transfer protocols for communication
	CO6	Implement algorithms for identifying errors in networks

C316 SOFTWARE TESTING LAB	CO1	To Apply Win Runner testing tool implementation.
	CO2	To Study the Win Runner Testing tool and its implementation
	CO3	Find practical solutions to the problems of C.
	CO4	Create the test cases for the Banking application.
	CO5	Manage a project like Library system
	CO6	Solve specific problems for ATM applications.
C317 DATA MINING LAB	CO1	Ability To Explain Different kinds of Dta Warehouse Tools.
	CO2	Utilize the Existing tool and perform data Pre processing
	CO3	Ability To Analyze the data and apply appropriating Algorithm for decision making
	CO4	Ability to add mining algorithms as a component to the Existing Tool.
	CO5	Ability to develop a system to help a loan officer to decide wheather the credits of a customer is good or bad using mining Algorithm.
C318 IPR & PATENT	CO1	Identify human Values and ethics useful for the survival in Society
	CO2	Illustrate professional roles played by an engineer in the society
	CO3	Interpret the concepts of Engineering in social experimentation
	CO4	explain the role of engineers to maintain safety
	CO5	Identify the rights and responsibilities of engineers at work place.
	CO6	Explain different issues related to globalization and research.
Course Outcomes for Fourth Year First Semester Course		
C401 CRYPTOGRAPHY & NETWORK SECURITY	CO1	Apply the Mathematics of Cryptography and Cryptographic attacks to find message.
	CO2	Apply the algorithms of cryptography, including encryption/decryption and hash functions efficiently.
	CO3	Use of different authentication, digital signature schemes and key management for security of data.
	CO4	Analyze the network, transport and application layers and outline appropriate security protocols for security issues

NETWORK SECURITY (R1641051)	CO5	Identify various intrusion detection systems and be able to achieve highest system security.
C402 SOFTWARE ARCHITECTURE & DESIGN PATTERNS (R1641052)	CO1	Apply the basic concepts of architecture structures and designing software architecture.
	CO2	Analyzing the software architectures
	CO3	Study of pattern oriented approach for real world problems
	CO4	Study of Creational, Behavioral and Structural Patterns for real world problems
	CO5	Implementation of architecture structures and design problems.
C403 WEB TECHNOLOGIES	CO1	Designing of static web pages by using HTML and separate design from content using Cascading Style sheet
	CO2	Designing dynamic web pages and Constructs to perform Client side validation by using JavaScript.
	CO3	Design XML schema and XML schema validations ,and integration of PHP with AJAX
	CO4	Develop server side web applications By using PHP.
	CO5	Programming design of arrays, hashes, files, regular expressions, classes and web applications by using PERL and RUBY.
C404 MANAGERIAL ECONOMICS AND FINANCIAL ANALYSIS	CO1	Knowledge Managerial Economics& different types of demand
	CO2	Comprehension Types of Production functions &Cost Concepts
	CO3	Knowledge Recall the nature of Markets and different Pricing methods
	CO4	Knowledge Different forms of Business phases & Cycles
	CO5	Analysis Financial position of a company by using different techniques
	CO6	Application Different Investment proposals of Capital budgeting
C405 BIG DATA ANALYTICS	CO1	Data summarization, query and analysis and Use of Data Collection objects for Data operations.
	CO2	Applying data modeling techniques to large data sets.
	CO3	Creating applications for Big Data analytics for analyzing the data.
	CO4	Building a complete business data analytic solution.
	CO5	Knowledge of Writing PIG & HIVE Scripts for under standing the data analysis.
	CO6	Understanding of Big Data and Hadoop Eco System.

C406 CLOUD COMPUTING	CO1	Explain the basic principles of cloud computing
	CO2	Analyze the cloud architecture , various deployment and service models
	CO3	Examine the different virtualization techniques
	CO4	Determine the real world cloud service model and their data centers
	CO5	Determining the techniques of cloud resource scheduling mechanisms
C407 SOFTWARE ARCHITECTURE & DESIGN PATTERNS LAB	CO1	Design the use case view and logical view of weather mapping system
	CO2	Design of the implementation, process, and deployment views for the Weather Mapping System.
	CO3	Implement component and inter process communication design
	CO4	Design creational patterns using uml
	CO5	Design structural patterns and behavioral patterns
C408 WEB TECHNOLOGY LAB	CO1	Develop static web pages using HTML and CSS
	CO2	Develop dynamic web pages for client side validations using java script.
	CO3	Implement XML and XSLT for web applications
	CO4	Write program for arrays, hashes, classes, integrated with database by using RUBY and PERL.
	CO5	Develop dynamic web pages for server side validations and connect to the different databases by using PHP.
COURSE OUTCOMES FOR THE FOURTH YEAR SECOND SEMESTER		
C409 DISTRIBUTED SYSTEMS	CO1	Analyze important characteristics and the salient architectural features for construction of distributed systems.
	CO2	Develop using Java API for inter process communication in the Internet to provides both datagram and stream communication.
	CO3	Analyse the concepts of RMI to communicate between distributed objects.
	CO4	Construct processes and threads to examine the design and implementation of multithreaded processing and communication facilities in distributed environment.
	CO5	Analyse the File system architecture, peer-to-peer systems, multicast communication, transaction recovery and replications for how processes coordinate their actions and agree on shared values in distributed systems.

C410 MANAGEMENT SCIENCE	CO1	Apply the concept of Management, Motivational theories, and designing different organizational structures in business organizations.
	CO2	Examine the quality of products using SQC and also Maintain Inventory
	CO3	Analyze different functions of an organization and strategies of product lifecycles and channels of distribution
	CO4	Designing project schedules with the help of network analysis
	CO5	Differentiating Vision, Mission ,and Goals of an organization and formulating strategies.
C411 MACHINE LEARNING	CO1	Apply the ingredients of machine learning techniques to solve real world problems
	CO2	Analyze machine learning techniques for classification, regression, and clustering problems and concept learning
	CO3	Analyze the Tree models and Rule models to develop solutions to real world problems
	CO4	Analyze the Linear models ,Distance-based models and Probabilistic models to develop solutions to real world problems
	CO5	Extend the machine learning concept to construct, transform and select features of different models.
	CO6	Apply Dimensionality Reduction(PCA) to reduce the number of features in the large dataset, Artificial Neural Networks(ANNs)as a machine learning tool to solve real world problems
C412 ARTIFICIAL NEURAL NETWORKS	CO1	Apply Mathematical Concepts Matrix Algebra, Calculus, With a Basic Knowledge of Optimization in Neural Networks
	CO2	Model Neuron and Neural Network, and to Analyze ANN learning, and its applications.
	CO3	Perform Pattern Recognition, Linear classification.
	CO4	Develop different single layer/multiple layer Perception learning algorithms
	CO5	Design of another class of layered networks Radial Basis Functions and Support Vector Machines.
C413 SEMINAR	CO1	Access information in variety of ways, by using library collections and services and other search tools And databases.
	CO2	Demon strate effective writings kills by employing various techniques of academic writing.
	CO3	Understand the role that effective presentations have in public/professional contexts and gain experience in formal/ informal presentation.
	CO4	Demonstrate the ability to collaborate with others as they work on reading, writing, speaking, and Researching skills.

C414 PROJECT	CO1	Able to collaborate with team members in analyzing the requirements of the project to be developed.
	CO2	Able to generate necessary design specifications and documents for the chosen project.
	CO3	Able to gain proper domain and language knowledge to implement/code the application.
	CO4	Able to test and deploy the project after implementation.
	CO5	Able to demonstrate the project comprehensively with necessary tools.

Coordinator **HOD** **Principal**