



**BVRIT HYDERABAD**  
**College of Engineering for Women**  
**Department of Computer Science and Engineering**  
**Course Outcomes**

Academic Year 2019-20 I Semester

<b>II Year I Sem-R18</b>			
<b>Course Code</b>	<b>Course Name</b>	<b>CO No.</b>	<b>Course Outcomes</b>
C211	Analog and Digital Electronics	C211.1	Analyze the construction, principle of operation and characteristics of PN junction diode.
		C211.2	Differentiate various types of diodes and their applications.
		C211.3	Analyze the construction, principle of operation, characteristics and applications of BJT and FET.
		C211.4	Design biasing circuits to maintain stable operating point based on given specifications.
		C211.5	Realize logic circuits using diodes and transistors.
		C211.6	Design and analyze simple combinational and sequential circuits.
C212	Data Structures	C212.1	Experiment with various operations on Stacks and queues.
		C212.2	Implement various operations on linear data structures and its applications.
		C212.3	Design programs using a variety of data structures like Hash Table Representation.
		C212.4	Experiment with various operations on non linear data structures.
		C212.5	Choose appropriate sorting technique for a given problem.
		C212.6	Exploring Pattern matching algorithms and suffix Tries.
C213	Computer Oriented Statistical Methods	C213.1	Distinguish between discrete and continuous probability. Distributions.
		C213.2	Analyze and interpret statistical data using appropriate

			probability distributions.
		C213.3	Apply sampling distributions in real world problems.
		C213.4	Estimate the value for a given parameter by choosing appropriate method.
		C213.5	Apply suitable test to accept or reject a given hypothesis.
		C213.6	Apply Stochastic process and Markov process to solve various problems.
		C214.6	Perform Parallel Processing using suitable mechanism
C215	Object Oriented Programming using C++	C215.1	Make use of object oriented paradigm with concepts of classes and objects.
		C215.2	Design and Implement programs using C++
		C215.3	Apply concepts of Inheritance in real time problems.
		C215.4	Design solutions for real time problems using Polymorphism and Abstract classes.
		C215.5	Apply features of stream I/O, various file handling techniques in C++
		C215.6	Analyze the concept Exception handling using C++
C217	Data Structures Lab	C217.1	Implement various linear data structures.
		C217.2	Implement various non linear data structures.
		C217.3	Compare various searching and sorting algorithms.
		C217.4	Ability to implement trees and graphs traversals.
C218	IT Workshop Lab	C218.1	Construct a Personal Computer and prepare the computer ready to use.
		C218.2	Prepare the Documents & slide presentations using Word processors and presentation tools.
		C218.3	Apply internet concepts to connect two or more computers for information sharing.
		C218.4	Build a dual mode operating system PC by installing OS Software.
C219	C++ Programming Lab	C219.1	Apply Object oriented features and C++ concepts.
		C219.2	Apply the concept of polymorphism and inheritance.
		C219.3	Implement exception handling and templates.

		C219.4	Develop applications using Console I/O and File I/O.
C21A	GS Lab	C21A.1	Develop a better understanding of important issues related to gender in contemporary India
		C21A.2	Analyze basic dimensions of the biological, sociological, psychological and legal aspects of gender
		C21A.3	Develop a sense of appreciation of women in all walks of life and will be equipped to work and live together as equals.
		C21A.4	Examine the new laws for women protection & relief, and empower students to understand and respond to gender violence

<b>III Year I Sem-R16</b>			
<b>Course Code</b>	<b>Course Name</b>	<b>CO No.</b>	<b>Course Outcomes</b>
C311	Design and Analysis of Algorithms	C311.1	Analyze the performance of algorithms and represent using relevant notations.
		C311.2	Model various engineering problems using graphs and trees.
		C311.3	Apply suitable paradigm to design efficient algorithms for wide-range of problems.
		C311.4	Reduce the search space of a problem using bounding functions.
		C311.5	Choose an appropriate data structures for the design
		C311.6	Identify P, NP, NP-Hard and NP-Complete problems to suitable techniques
C312	Data Communication and Computer Networks	C312.1	Analyze functionality of each layer is the ISO-OSI Reference Model, with suitable examples.
		C312.2	Determine the pros and cons of various Transmission media and their usage in real time network implementation.
		C312.3	Analyze various error control, flow control, access control mechanisms for effective implementation of networking.
		C312.4	To Estimate suitable routing algorithm for various network topologies
		C312.5	Assess the connection management and congestion control of TCP protocol.
		C312.6	Analyze the features and operations of various user interface protocols.
C313	Software Engineering	C313.1	Illustrate software process framework and models for the development of software application.
		C313.2	Analyze and validate the requirements engineering strategy for developing software requirements document
		C313.3	Choose appropriate model to create an architectural design

		C313.4	Apply various testing strategies to verify the software quality
		C313.5	Illustrate the importance of framework for product metrics
		C313.6	Identify the risk strategies and QA techniques for developing quality software
C314	Fundamentals of Management	C314.1	Examine the concept of Management and its approaches.
		C314.2	Classify the process of planning and development of business strategies for problem solving and decision making.
		C314.3	Justify the Principles of organization for better Human Resource Management.
		C314.4	Discuss leadership qualities and make familiarize with motivational theories in an organization.
		C314.5	Propose the controlling techniques for effective control in an organization.
		C314.6	Examine Control Systems in an organization.
C315	PEC	C315.1	Analyze various analog and digital modulation techniques
		C315.2	Understand various elements of telecommunication systems and networks
		C315.3	Demonstrate the concepts of satellite communication systems
		C315.4	Explain the various elements of optical communication system
		C315.5	Analyze the evolution of cellular technologies
		C315.6	Classify various wireless technologies
C316	Design Analysis and Algorithms Lab	C316.1	Divide and Conquer strategy to implement searching and sorting
		C316.2	Backtracking paradigm to implement solutions to the problems by using operations of the graph
		C316.3	Greedy techniques to optimize the solutions to the given problems
		C316.4	Dynamic programming methodology with the help of principle of optimality to solve relevant problems
C317	Computer Networks Lab	C317.1	Implement various data link layer framing methods and error detection mechanisms
		C317.2	Design the shortest route between source and destination in the network.
		C317.3	Design a broadcast tree for the given subnet and cipher text using DES algorithm and also decipher it.

		C317.4	Create public key encryption to encode the given text using cryptography
C318	Software Engineering Lab	C318.1	Analyze the problem and identify project scope and objectives.
		C318.2	Identify the software requirements and prepare SRS document.
		C318.3	Design the software using UML diagrams
		C318.4	Develop the prototype of the product
C319	Professional Ethics	C319.1	Discuss the concept of Ethics and its significance in Personal and Professional life.
		C319.2	Analyze the moral issues in Profession by applying basic theories of Ethics.
		C319.3	Formulate the moral values and enhance professional conduct in Engineering profession
		C319.4	Develop on Rights & Responsibilities of Engineers at Workplace.
		C319.5	Evaluate the Global issues in Professional Ethics.
		C319.6	Examine ethical practices in Manufacturing , Marketing, Media and Intellectual Property Rights

#### IV Year I Sem-R16

IV Year I Sem-R16			
Course Code	Course Name	CO No.	Course Outcomes
C411	Data Mining	C411.1	Examine data mining tasks, KDD process and challenges.
		C411.2	Apply Data Preprocessing techniques to make data sets ready to be mining.
		C411.3	Identify the frequent patterns and association rules from transactional datasets.
		C411.4	Classify the real world data into appropriate classes using various supervised learning techniques and measure its performance.
		C411.5	Apply clustering and outlier detection techniques on given data sets and evaluate goodness measures.
		C411.6	Classify web pages and extract knowledge from the web and text data.

C412	Principles of Programming Languages	C412.1	Identify the building blocks of various Programming languages.
		C412.2	Implement various methods to describe syntax and semantics of programming languages.
		C412.3	Examine data types and Control Structures for programming.
		C412.4	Develop subprograms for functional programming languages.
		C412.5	Apply object oriented concepts in programming
		C412.6	Outline Functional, Logic and Scripting Programming Language Concepts.
C 413	Python Programming	C413.1	Apply techniques to manipulate data using python core basis.
		C413.2	Distinguish the use of in-built functions, create user defined functions
		C413.3	Distinguish Lists,Tuples,Sets and dictionaries
		C413.4	Develop Object- Oriented programming as well as in depth data and information processing techniques to python program
		C413.5	Elaborate GUI applications using python
		C413.6	Model the design the high performance programs and strengthen the practical expertise
C 414	Mobile Application Development	C414.1	Illustrate the features, components and life cycle of Android Operating system.
		C414.2	Explore the UI components, Fragments to develop android applications in event handling.
		C414.3	Identify the importance of intents, broadcasts and notifications in Android applications.
		C414.4	Examine various file handling techniques in android.
		C414.5	Analyze the importance of database handling in Android applications.
		C414.6	Make use of android features Alarms, Internet Resources and location based services to develop Applications.
C415	Web Scripting	C415.1	Make use of resources to gain some fluency programming in Ruby, Perl, TCL and TK.

	Languages	C415.2	Analyze the features of Ruby by embedding in different ways.
		C415.3	Understanding the Perl by utilizing the advanced features.
		C415.4	Explain syntax, variables and various features of TCL.
		C415.5	Elaborate strengths and weakness TCL and select an appropriate language for solving a given problem.
		C415.6	Examine the TCL and TK by embedding in different ways.
C416	Internet of Things	C416.1	Inference the impact and challenges posed by IoT networks leading to new architectural models.
		C416.2	Compare and contrast the deployment of smart objects and the technologies to connect them to network.
		C416.3	Appraise the role of IoT protocols for efficient network communication.
		C416.4	Elaborate python programming with various interfacing devices using with Raspberry PI.
		C416.5	Illustrate different sensor technologies for sensing real world entities and identify the applications of IoT in Industry.
		C416.6	Construct a restful web API.
C417	Graph Theory	C417.1	Understand and apply the fundamental concepts in graph theory.
		C417.2	Interpret the basic concepts of mathematical logic.
		C417.3	Experiment with some important classes of graph theoretic problems.
		C417.4	Formulate and prove central theorems about trees, matching, connectivity, coloring and graphs.
		C417.5	Discuss about basic algorithms for graphs.
		C417.6	Elaborate to use graph theory as a modeling tool.
C418	Distributed Systems	C418.1	Classify the various distributed systems, challenges and models.
		C418.2	Evaluate the importance of clock, process synchronization and debugging of distributed systems.
		C418.3	Examine the protocol for inter process communication and distributed objects.
		C418.4	Explore distributed file system, naming services and shared memory for distributed system.
		C418.5	Categorize the distinct transactions mechanism and locks
		C418.6	Inspect concurrency control and recovery mechanisms for distributed systems.
C419	Machine	C419.1	Formulate machine learning problems corresponding to different applications.

	Learning	C419.2	Analyze Decision Tree Algorithm and Back propagation algorithms.
		C419.3	Evaluate the various error estimation and weight tuning rules.
		C419.4	Examine Expectation Minimization and Hidden Markov Models.
		C419.5	Survey the instance based learning mechanisms.
		C419.6	Apply genetic Learning algorithmic approach for search and optimization problem.
C41A	Software Process and Project Management	C41A.1	Analyze the Software process maturity levels for Process Improvement and Process Assessment.
		C41A.2	Explore the Software Management Renaissance in Economics.
		C41A.3	Evaluate Life cycle phases and Artifacts in Project Management.
		C41A.4	Examine the role of workflows and checkpoints in process planning.
		C41A.5	Illustrate the importance of Project Organization, Project control and process instrumentation in Project Management.
		C41A.6	Evaluate the Project management practices with Case Studies.
C41B	Computational Complexity	C41B.1	Analyze the computational complexity and classify algorithms into appropriate complexity classes.
		C41B.2	Construct reduction of problem.
		C41B.3	Analyze algorithmic paradigms and choose appropriate paradigm for a given problem.
		C41B.4	Choose appropriate randomized algorithms for pattern recognition.
		C41B.5	Compare various graph based algorithms for approximation and randomization problems.
		C41B.6	Apply suitable data structure for complex applications.
C41C	Cloud Computing	C41C.1	Understand various types of computing paradigms.
		C41C.2	Identify the need for Cloud Computing and its essential characteristics.
		C41C.3	Analyze Cloud architecture, network connectivity and its applications.
		C41C.4	Analyze management in Cloud infrastructure and approaches of Cloud migration.
		C41C.5	Identify Cloud environment using Infrastructure as a Service (IaaS), PaaS and SaaS.
		C41C.6	Analyze Cloud era by different platforms.
C41D	Blockchain Technology	C41D.1	Interpret the working of Block chain and crypto currency
		C41D.2	Examine the block chain concepts such as Digital identity, Neutrality etc.
		C41D.3	Interpret the working of Blockchain Genomics.
		C41D.4	Differentiate various Tokenization concepts for public adoption
		C41D.5	Critique various technical challenges, Business models and Regulations.
		C41D.6	Investigate various research advances in the area of Block chain.
C41E	Social Network Analysis	C41E.1	Distinguish between current web and Semantic web.
		C41E.2	Make use of Ontology for social network description and Analysis.
		C41E.3	Mine communities from social networks and archives.
		C41E.4	Analyze the human behaviour from social network data.
		C41E.5	Examine trust and privacy policies in social network usage.
		C41E.6	Utilize various tools for visualizing social networks.



C41F	Data Mining lab	C41F.1	Identify various data types of attributes on a given dataset.
		C41F.2	Model a decision tree for given dataset using WEKA.
		C41F.3	Construct a classifier using WEKA on a given data set and evaluate its accuracy.
		C41F.4	Design a data warehouse schema for a given case study.
C41G	Python Programming Lab	C41G.1	Make use of python scripting for developing applications
		C41G.2	Manipulate Lists, Tuples, Sets and dictionaries
		C41G.3	Import built in libraries & Create libraries
		C41G.4	Create practical & contemporary application such as web application and data analysis
C41H	Mobile Application Development Lab	C41H.1	Design android applications using layouts and controls.
		C41H.2	Design android applications using menus, notifications and files.
		C41H.3	Develop user interface applications in Android.
		C41H.4	Develop URL related applications in Android.
C41I	Web Scripting Languages Lab	C41I.1	Design and test programs to solve mathematical problems.
		C41I.2	Develop programs Using Ruby Script.
		C41I.3	Develop Programs Using TCL Script.
		C41I.4	Develop Programs Using Perl Script.
C 41J	Internet of Things Lab	C41J.1	Recommend to compile and execute python programming in Raspberry Pi.
		C41J.2	Make use of python program to light an LED.
		C41J.3	Build a file data as input, for the python program to light an LED.
		C41J.4	Elaborate the need for hardware and web application use in an IoT implementation.
C41K	Seminar	C41K.1	Identify emerging topic specific to the programme.
		C41K.2	Extract the information relevant to the chosen topic.
		C41K.3	Deliver the knowledge using multimedia.
		C41K.4	Answer the queries with appropriate explanation and elaboration.
		C41K.5	Compile an effective technical report, providing conclusions and proposing an appropriate future scope.
		C218.4	Build a dual mode operating system PC by installing OS Software.

<b>II Year II Sem - R18</b>			
<b>Course Code</b>	<b>Course Name</b>	<b>CO No.</b>	<b>Course Outcomes</b>
C221	Discrete mathematics	C221.1	Apply mathematical logic to prove reason and infer various compound statements.
		C221.2	Model the mathematical problems using sets, functions and relations.
		C221.3	Prove mathematical results using various forms of Induction techniques.
		C221.4	Solve the counting problems on finite and discrete structures.
		C221.5	Solve the recursive functions by converting into recurrence relations.
		C221.6	Construct graphs to solve appropriate real-world problems.
C222	Business Economics and Financial Analysis	C222.1	Understand the Economic Concepts in business decision making process.
		C222.2	Familiarize with the cost concepts, market structures.
		C222.3	Make use of breakeven analysis, CVP Analysis, pricing strategies.
		C222.4	Examine financial accounting and analyze various financial statements.
		C222.5	Interpret various financial statements by applying different types of ratios.
		C222.6	Examine the usefulness of funds flow statement and cash flow statement for better managerial decisions.
C223	Operating Systems	C223.1	Analyze the functionalities and structure of a generic Operating System.
		C223.2	Evaluate various CPU scheduling algorithms.
		C223.3	Analyze process synchronization and IPC mechanisms.
		C223.4	Assess the techniques of deadlock avoidance and prevention.
		C223.5	Examine different Memory management techniques.

		C223.6	Explore file system interface and its operations.
C224	Database Management Systems	C224.1	Identify and classify the components of Database system.
		C224.2	Model the data using ER model and convert into Relational Model.
		C224.3	Access and manipulate the data in the databases.
		C224.4	Refine the database schema to improve data consistency.
		C224.5	Ensure the properties of transactions on databases.
		C224.6	Examine different file organizations and indexing methods.
C225	Java Programming	C225.1	Illustrate Object Oriented concepts and basics of java programming.
		C225.2	Make use of the concepts of packages and Interfaces.
		C225.3	Implement the concepts of multithreading and /or handle run time errors for Java applications.
		C225.4	Utilize collection framework and /or file management in Java applications.
		C225.5	Design real time applications using event handling concepts.
		C225.6	Develop real time GUI applications using applet, AWT, JDBC and swings.
C226	Operating Systems Lab	C226.1	Evaluate CPU Scheduling Algorithms and Memory management techniques.
		C226.2	Construct deadlock detection and avoidance algorithms.
		C226.3	Solve classical problems of synchronization using semaphores.
		C226.4	Evaluate inter process communication mechanisms using system calls and pipes.
C227	Database Management Systems Lab	C227.1	Design conceptual model (E-R model) for the given database.
		C227.2	Formulate the queries using DML, DDL, DCL commands.
		C227.3	Enforce integrity constraints on databases.

		C227.4	Implement triggers, stored procedures and cursors.
C228	Java Programming Lab	C228.1	Make use of JDK, Eclipse platform for developing java programs.
		C228.2	Build programs using abstract classes and multithreading concepts.
		C228.3	Develop programs using GUI components.
		C228.4	Develop Programs using Quick Sort and Bubble Sort.
C229	Constitution of India	C229.1	Understand the historical perspective of Constitution of India.
		C229.2	Analyze the features and Characteristics of Constitution of India.
		C229.3	Understand the concepts of Fundamental Rights and Duties of Indian Citizens.
		C229.4	Examine The Directive Principles of State Policy.
		C229.5	Understand the Parliamentary form of Government in India.
		C229.6	Examine the emergency provisions: National Emergency, President Rule and Financial Emergency.

<b>III Year II Sem - R16</b>			
<b>Course Code</b>	<b>Course Name</b>	<b>CO No.</b>	<b>Course Outcomes</b>
C321	Compiler Design	C321.1	Identify the phases in design of a compiler
		C321.2	Apply practical aspects of automata theory
		C321.3	Distinguish between top-down parsers and bottom-up parsers.
		C321.4	Construct Intermediate Code based on Abstract Tree and Symbol table data.
		C321.5	Decide among the code optimization techniques to use.
		C321.6	Build powerful code generating compilers.
C322	Web Technologies	C322.1	Design dynamic web based applications using PHP
		C322.2	Analyze XML tags and parsing of XML data in Java
		C322.3	Develop server side programming using servlet and connect to the database using JDBC.
		C322.4	Develop server side programming using JSP and connect to the

			database using JDBC.
		C322.5	Validate the web application at the client side using javascript.
		C322.6	Build dynamic web based applications using AJAX ,PHP and JSP.
C323	Cryptography and Network Security	C323.1	Illustrate the concepts and principles of security Attacks, Services and Mechanisms.
		C323.2	Evaluate applications of Cryptographic algorithms in real time scenarios.
		C323.3	Demonstrate the techniques like Message authentication, Hash function and Public key encryption.
		C323.4	Solve the network security issues using available security solutions.
		C323.5	Assess different key management techniques and solutions for web security.
		C323.6	Analyze various case studies to identify the security vulnerabilities and prevention techniques.
C324	Mobile Computing	C324.1	Apply the concept of mobile computing paradigm
		C324.2	Examine the typical mobile networking infrastructure through a popular GSM protocol as well as their architecture
		C324.3	Identify the issues and solutions of various layers of mobile networks.
		C324.4	Estimate the database issues in mobile environments and data delivery models
		C324.5	Analyze the ad hoc networks, its applications and challenges
		C324.6	Make use of the platforms and protocols used in mobile environment.
C325	Design Patterns	C325.1	Analyze the organization of design patterns and how they are applied to solve common problems in software applications.
		C325.2	Apply appropriate creational design patterns such as Abstract Factory, Builder, Factory Method, Prototype, Singleton patterns.

		C325.3	Identify appropriate structural design patterns such as Adaptor, Bridge, Composite, Decorator, Facade, Flyweight, Proxy.
		C325.4	Select appropriate behavioural design patterns such as Chain of Responsibility, Command, Mediator etc
		C325.35	Distinguish between various design patterns and their impact in solving design issues.
		C325.6	Formulate design patterns as solutions to pattern community.
C326	Artificial Intelligence	C326.1	Inference the ability to formulate an efficient problem space for a problem expressed.
		C326.2	Experiment with the ability to select a search algorithm for a problem and characterize its time and space complexities.
		C326.3	Assess the skill for representing knowledge using the appropriate technique.
		C326.4	Prioritize the ability to apply AI techniques to solve problems of game playing.
		C326.5	Formulate the AI techniques for implementing machine learning paradigm.
		C326.6	Composition of knowledge representation technique to solve using different types of techniques.
C327	Information Security Management (Security Analyst - I)	C327.1	Analyze threats, attacks, Security Issues and Measures for an organization.
		C327.2	Distinguish the characteristics of critical KEY Elements and Logical Elements of Network.
		C327.3	Survey the Data Leakage statistics and KPI of database security.
		C327.4	Explore security Policies, procedures and audits of an organization.
		C327.5	Examine roles and responsibilities of an information security analyst.
		C327.6	Audit the security risk and mitigation mechanisms.
C328	Introduction to	C328.1	Develop the R programs and applications for business analysis with due importance to quality & standards adherence.

	Analytics (Associate Analytics - I)	C328.2	Implement probability distribution functions in R for various datasets.
		C328.3	Choose the required strategies for time management, work management and work prioritization.
		C328.4	Develop programs to work with NoSQL & SQL databases using appropriate packages in R.
		C328.5	Compute the Regression analysis , correlation, ANOVA model and heteroscedasticity using R .
		C328.6	Relate engineering process with Business Intelligence Process and choose appropriate smart tools for requirements gathering.
C329	Cryptography and Network Security Lab	C329.1	Experiment with various cryptographic techniques to encode and decode the given text.
		C329.2	Develop solutions using symmetric key algorithms.
		C329.3	Build solutions using public key cryptographic algorithms.
		C329.4	Apply various secure hash algorithms to generate hash key.
C32A	Web Technologies Lab	C32A.1	Utilize servers and tools like Apache Tomcat and MySQL database, Eclipse.
		C32A.2	Develop web based applications using HTML, CSS, Javascript.
		C32A.3	Develop web based applications using XML
		C32A.4	Develop web based applications using Servlet, JSP.
C32B	Advanced English Communication Skills Lab	C32B.1	Build sound vocabulary and its proper use contextually.
		C32B.2	Make use of functional English effectively in formal and informal contexts.
		C32B.3	Develop effective speaking skills and Maximize job prospects.
		C32B.4	Plan and make different forms of presentation using various techniques.

### IV Year II Sem - R16

Course Code	Course Name	CO No.	Course Outcomes
C421	Entrepreneur Resource Planning	C421.1	Make use of evolutionary development of Enterprise Resource Planning.
		C421.2	Apply ERP System options and selection methods for different projects.
		C421.3	Develop Risk Identification Analysis in Managing Projects.
		C421.4	Analyze ERP functions with respect to Sales and Marketing, Accounting and Finance and Customer Relationship Management.
		C421.5	Apply Production Module in ERP.
		C421.6	Examine the future directions of ERP.
C422	Organizational Behavior	C422.1	Analyze the behavior of individuals and groups in Organizations
		C422.2	Analyze the factors that influence Organizational behavior
		C422.3	Examine the potential effects of organizational level factors on organizational behavior.
		C422.4	Analyze potential effects of important developments in the external environment on Organizational behavior.
		C422.5	Examine the role of globalization and advances in technology on Organizational behavior.
		C422.6	Analyze organizational behavior theories, models and concepts.
C423	Information Theory & coding	C423.1	Study mathematical model of information technology and measure the information errors
		C423.2	Understand the importance of various Linear codes for communication systems
		C423.3	Interpret various cyclic codes and their shortened forms.
		C423.4	To design encoder and decoder of various codes
		C423.5	Analyze the applicability of source and channel codes
		C423.6	Discover Minimum distance and BCH bounds and procedure of decoding BCH codes
C424	Real-Time Systems	C424.1	Apply the commands for file I/O and process Control
		C424.2	Implement time management & task management in the real time operating systems
		C424.3	Analyze the communication among processes during concurrency
		C424.4	Configure different components of I/O
		C424.5	Handle Exceptions & Interrupts
		C424.6	Distinguish functionalities of various real time operating systems namely RT Linux, Vx Works, MicroC/OS-II, Tiny OS and Embedded Linux
C425	Data Analytics	C425.1	Fetch data from various sources and make it ready for analysis
		C425.2	Make use of various tools and technologies for data analysis
		C425.3	Apply regression techniques to data and evaluate performance
		C425.4	build supervised and unsupervised learning models for object segmentation
		C425.5	Build models for time series and evaluate performance
		C425.6	Visualize the data and interpret the insights exist in data



C426	Modern Software Engineering	C426.1	Explain Agile Methods
		C426.2	Analyze Extreme Programming
		C426.3	Analyze Quality assurance techniques and testing methodologies
		C426.4	Identify the approach to risk management through risk identification, risk measurement
		C426.5	List issues on modularity and coding standards
		C426.6	Develop future values of customer in various designs
C427	Advanced Algorithms	C427.1	Solve the complex problem using dynamic programming
		C427.2	Analyze complex problems using advanced data structures (stacks, queues, linked lists, graphs and trees)
		C427.3	Model real life problem using different algorithm design techniques
		C427.4	Apply different design techniques to solve network related problems .
		C427.5	Choose proper pattern matching algorithm for given problem
		C427.6	Analyze Np and NP hard problems
C428	Web Services and Service Oriented Architecture	C428.1	Analyze the Evolution of distributed computing. Core distributed computing technologies
		C428.2	Discuss the details of web service architecture
		C428.3	Identify the fundamentals of web services technologies like WSDL, UDDI and SOAP
		C428.4	Implement and deploy web service enables applications
		C428.5	Classify Discovering of Web Services and UDDI
		C428.6	Inspect Web Services Interoperability and Web Services Security
C429	Computer Forensics	C429.1	Explore digital evidences which are obtained from digital media.
		C429.2	Identify types of law enforcement.
		C429.3	Reorganization the different roles computer placed in a certain crime
		C429.4	Develop Standard procedures for Network Forensics.
		C429.5	Elaborate the Role of E-Mail in Investigation.
		C429.6	Examine NTFS Disks and Microsoft startup tasks
C42A	Neural Network and Deep Learning	C42A.1	Ability to understand the concepts of Neural Networks
		C42A.2	Ability to select the Learning Networks in modeling real world systems
		C42A.3	Ability to understand deep learning architectures
		C42A.4	Ability to use an efficient algorithm for Deep Models
		C42A.5	Ability to use Regularizations for deep learning
		C42A.6	Ability to apply optimization strategies for large scale applications
C42B	Major Project	C42B.1	Identify problem, conduct relevant literature survey and formalize it.
		C42B.2	Analyze & design efficient, cost-effective and eco-friendly solutions using relevant tools (if necessary) and processes.
		C42B.3	Implement the design and demonstrate the functionality of developed model

		C42B.4	Evaluate the results to derive the conclusion and provide scope for future enhancement.
		C42B.5	Exhibit good interpersonal and leadership skills in meeting project deadlines with individual contribution towards progress of the project.