



BVRIT HYDERABAD
College of Engineering for Women

Department of Information Technology

A.Y:2019-20 - I Semester

II Year I Semester - R18			
Course Code	Course Name	CO No.	Course Outcomes
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 random variables
		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	Computer Organization and Microprocessor	C214.1	Demonstrate the basic components and the structure of CPU, ALU and Control Unit
		C214.2	Categorize the instruction set, instruction formats and addressing modes of 8086
		C214.3	Develop assembly language programs to solve problems.
		C214.4	Assess Computer's arithmetic & Input – Output organization
		C214.5	Demonstrate memory hierarchy and its impact on cost/performance
		C214.6	Apply instruction level parallelism and pipelining for high performance Processor design
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++
C216	Analog and Digital Electronics Lab	C216.1	Analyze the characteristics of Full wave rectifier.
		C216.2	Analyze the characteristics of different Transistor amplifier configurations.
		C216.3	Implement Boolean expressions using universal logic gates
		C216.4	Design and verify simple combinational and sequential circuits using IC s of different logic families.
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 and Microprocessor Lab	C218.1	Apply knowledge for computer assembling and software installation.
		C218.2	Estimate how to solve the trouble shooting problems.
		C218.3	Implement various operations on numbers using ALP
		C218.4	Use ALP to perform various String operations
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	Gender Sensitization 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

III Year I Semester - R16			
Course Code	Course Name	CO No.	Course Outcomes
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 & 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	C313.1	Illustrate software process framework and models for the

	Engineering		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	Principles of Electronic communications	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 and Analysis of 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 Semester - 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	Android Application Development	C412.1	Illustrate the features, components and life cycle of Android Operating system
		C412.2	Explore the UI components ,Fragments to develop android applications in event handling
		C412.3	Identify the importance of intents, broadcasts and notifications in Android applications
		C412.4	Examine various file handling techniques in android
		C412.5	Analyze the importance of database handling in Android

			applications
		C412.6	Make use of android features Alarms, Internet Resources and location based services to develop applications
C413	Python Programming	C413.1	Able to Read and manipulate different 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
C414	Web Scripting Languages	C414.1	Make use of resources to gain some fluency programming in Ruby, Perl, TCL and TK
		C414.2	Analyze the features of Ruby by embedding in different ways
		C414.3	Understanding the Perl by utilizing the advanced features
		C414.4	Explain syntax, variables and various features of TCL
		C414.5	Elaborate strengths and weakness TCL and select an appropriate language for solving a given problem
		C414.6	Examine the TCL and TK by embedding in different ways
C415	Ethical Hacking	C415.1	Able to gain the over view of ethical hacking
		C415.2	Gain the knowledge of the use and availability of tools to support an ethical hack
		C415.3	Gain the knowledge of interpreting the results of a controlled attack
		C415.4	Understand the role of politics, inherent and imposed limitations and metrics for planning of a test
		C415.5	Able to capture passwords using password crackers
		C415.6	Comprehend the dangers associated with penetration testing
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	Web and Database Security	C417.1	Explore the importance of cryptography & other techniques in web security
		C417.2	Analyze the techniques of privacy protecting backups and anti-theft in web security perspective
		C417.3	Identify the role of Access Control model for Database issues in Trust management &Truест Negotiation -
		C417.4	Examine Various issues in Data warehouses and OLAP System
		C417.5	Illustrate the need of security Re-engineering for Databases
		C417.6	Explore future trends in privacy & Security polices in mobile enrolment
C418	Embedded Systems	C418.1	Distinguish the embedded systems from general purpose processing systems.
		C418.2	Recommend suitable hardware for different applications of embedded systems.
		C418.3	Select different types and amount of memory based on embedded system specifications.
		C418.4	Discuss the Embedded firmware design approaches, development languages and device drivers
		C418.5	Analyze the issues and techniques of Task synchronization and communication in embedded firmware.
		C418.6	Differentiate between general purpose operating systems and RTOS.
C419	Artificial Intelligence	C419.1	Possess the ability to formulate an efficient problem space for a problem expressed in English
		C419.2	Possess the ability to select a search algorithm for a problem and characterize its time and space complexities
		C419.3	Possess the skill for representing knowledge using the appropriate technique
		C419.4	Able to apply AI techniques to solve problems of Machine learning and Natural Language Processing
		C419.5	Able to create gaming application
		C419.6	Able to create Expert system
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	Blockchain Technology	C41B.1	Interpret the working of Blockchain and cryptocurrency
		C41B.2	Examine the blockchain concepts such as Digital identity, Neutrality etc
		C41B.3	Interpret the working of Blockchain Genomics
		C41B.4	Differentiate various Tokenization concepts for public adoption
		C41B.5	Critique various technical challenges, Business models and Regulations
		C41B.6	Investigate various research advances in the area of Blockchain
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	Social Network Analysis	C41D.1	Distinguish between current web and Semantic web
		C41D.2	Make use of Ontology for social network description and Analysis
		C41D.3	Mine communities from social networks and archives
		C41D.4	Analyze the human behavior from social network data
		C41D.5	Examine trust and privacy policies in social network usage
		C41D.6	Utilize various tools for visualizing social networks
C41E	Information Retrieval Systems	C41E.1	Compute the similarity measure between collections of documents using different approaches
		C41E.2	Apply various retrieval techniques to improve the efficiency
		C41E.3	Compute the similarity coefficient for retrieval of relevant documents of cross language in nature
		C41E.4	Apply optimization techniques to improve the efficiency of information retrieval
		C41E.5	Perform information retrieval from various distributed sources in different forms
		C41E.6	Build the working model of information retrieval system
C41F	Android	C41F.1	Design android applications using layouts and controls

	Application Development Lab	C41F.2	Design android applications using menus, notifications and files
		C41F.3	Develop user interface applications in Android
		C41F.4	Develop URL related applications in Android
C41G	Python Programming Lab	C41G.1	ability to play with the basic concepts of python scripting language
		C41G.2	ability to manipulate Lists, Tuples, Sets and dictionaries
		C41G.3	ability to import built in libraries & Create libraries
		C41G.4	Ability to create practical & contemporary application such as web application and data analysis
C41H	Web Scripting Languages Lab	C41H.1	Design and test programs to solve mathematical problems
		C41H.2	Develop programs Using Ruby Script
		C41H.3	Develop Programs Using TCL Script
		C41H.4	Develop Programs Using Perl Script
C41I	Ethical Hacking Lab	C41I.1	Gain the knowledge of the use and availability of tools to support an ethical hack
		C41I.2	Gain the knowledge of interpreting the results of a controlled attack
		C41I.3	Able to capture web based passwords
		C41I.4	Able to create penetration testing
C41J	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	Industry Oriented Mini Project	C41K.1	Utilize acquired knowledge within the chosen area of technology for project development
		C41K.2	Justify the technical aspects of the chosen project with a comprehensive and systematic approach
		C41K.3	Develop engineering projects using technical aspects
		C41K.4	Construct the report of project related activities effectively to peers and mentors
C41L	Seminar	C41L.1	Identify emerging topic specific to the programme.
		C41L.2	Extract the information relevant to the chosen topic.
		C41L.3	Deliver the knowledge using multimedia.
		C41L.4	Answer the queries with appropriate explanation and elaboration.
		C41L.5	Compile an effective technical report, providing conclusions and proposing an appropriate future scope.

A.Y:2019-20 - II Semester

II Year II Semester - R18			
Course Code	Course Name	CO No.	Course Outcomes
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 & 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 various Memory management techniques
		C223.6	Explore file system interface & 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.
C228	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.

III Year II Semester - R16			
Course Code	Course Name	CO No.	Course Outcomes
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 & 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.
C325	Mobile Computing	C325.1	Apply the concept of mobile computing paradigm
		C325.2	Examine the typical mobile networking infrastructure through a popular GSM protocol as well as their

			architecture
		C325.3	Identify the issues and solutions of various layers of mobile networks.
		C325.4	Estimate the database issues in mobile environments and data delivery models
		C325.5	Analyze the ad hoc networks, its applications and challenges
		C325.6	Make use of the platforms and protocols used in mobile environment.
C326	Object Oriented Analysis and Design	C326.1	Summarize the basics of modeling and artifacts in software development life cycle.
		C326.2	Apply appropriate static modeling to capture the structural aspects of the software system using class and object diagrams.
		C326.3	Choose appropriate dynamic modeling to capture the behavioral aspects of the software system using use case, activity and interaction diagrams.
		C326.4	Evaluate the importance of real-time systems, and model the events and processes using state chart, component and deployment diagrams.
		C326.5	Build models for any given case study by using appropriate framework and design patterns.
		C326.6	Apply forward and reverse engineering using Star UML case tools to ease software development life cycle.
C327	Computer Forensics	C327.1	Provide Digital Evidences which are obtained from digital media
		C327.2	Identify types of law enforcement
		C327.3	Recognize the different roles computer placed in a certain crime
		C327.4	Develop Standard procedures for Network Forensics
		C327.5	Explore the Role of E-Mail in Investigation
		C327.6	Examine NTFS Disks and Microsoft startup tasks
C328	Information Security Management Security Analyst-1	C328.1	Analyze threats, attacks, Security Issues and Measures for an organization.
		C328.2	Distinguish the characteristics of critical KEY Elements and Logical Elements of Network.
		C328.3	Survey the Data Leakage statistics and KPI of database security.
		C328.4	Explore security Policies, procedures and audits of an organization.
		C328.5	Examine roles and responsibilities of an information security analyst.
		C328.6	Audit the security risk and mitigation mechanisms.
C329	Introduction to Analytics, Associate	C329.1	Develop the R programs and applications for business analysis with due importance to quality & standards adherence.

	Analytics – 1	C329.2	Implement probability distribution functions in R for various datasets.
		C329.3	Choose the required strategies for time management, work management and work prioritization.
		C329.4	Develop programs to work with NoSQL & SQL databases using appropriate packages in R.
		C329.5	Compute the Regression analysis, correlation, ANOVA model and heteroscedasticity using R .
		C329.6	Relate engineering process with Business Intelligence Process and choose appropriate smart tools for requirements gathering.
C32A	Cryptography & Network Security Lab	C32A.1	Experiment with various cryptographic techniques to encode and decode the given text.
		C32A.2	Develop solutions using symmetric key algorithms.
		C32A.3	Build solutions using public key cryptographic algorithms.
		C32A.4	Apply various secure hash algorithms to generate hash key.
C32B	Web Technologies Lab	C32B.1	Develop web based applications using HTML, CSS, Javascript.
		C32B.2	Develop web based applications using XML
		C32B.3	Develop web based applications using PHP.
		C32B.4	Develop web based applications using Servlet, JSP.
C32C	Advanced English Communication Skills Lab	C32C.1	Build sound vocabulary and its proper use contextually.
		C32C.2	Make use of functional English effectively in formal and informal contexts.
		C32C.3	Develop effective speaking skills and Maximize job prospects.
		C32C.4	Plan and make different forms of presentation using various techniques.

IV Year II Semester -R16

Course Code	Course Name	CO No.	Course Outcomes
C421	Organizational Behavior	C421.1	Analyze the behavior of individuals and groups in Organizations
		C421.2	Analyze the factors that influence Organizational behavior
		C421.3	Examine the potential effects of organizational level factors on organizational behavior.
		C421.4	Analyze potential effects of important developments in the external environment on Organizational behavior.
		C421.5	Examine the role of globalization and advances in

			technology on Organizational behavior.
		C421.6	Analyze organizational behavior theories, models and concepts.
C422	Steganography and Watermarking	C422.1	Analyze History, Applications and properties of watermarking and steganography.
		C422.2	Demonstrate Models and algorithms of watermarking
		C422.3	Analyze errors in watermarking
		C422.4	Evaluate perceptual models and its examples.
		C422.5	Identify Attacks and its solutions through Authentication techniques and watermarking.
		C422.6	Identify theoretic foundations of steganography and steganalysis
C423	Real-Time Systems	C423.1	Apply the commands for file I/O and process Control
		C423.2	Implement time management & task management in the real time operating systems
		C423.3	Analyze the communication among processes during concurrency
		C423.4	Configure different components of I/O
		C423.5	Handle Exceptions & Interrupts
		C423.6	Distinguish functionalities of various real time operating systems namely RT Linux, Vx Works, MicroC/OS-II, Tiny OS and Embedded Linux
C424	Data Analytics	C424.1	Fetch data from various sources and make it ready for analysis
		C424.2	Make use of various tools and technologies for data analysis
		C424.3	Apply regression techniques to data and evaluate performance
		C424.4	build supervised and unsupervised learning models for object segmentation
		C424.5	Build models for time series and evaluate performance
		C424.6	Visualize the data and interpret the insights exist in data
C425	Modern Software Engineering	C425.1	Explain Agile Methods
		C425.2	Analyze Extreme Programming
		C425.3	Analyze Quality assurance techniques and testing methodologies
		C425.4	Identify the approach to risk management through risk identification, risk measurement
		C425.5	List issues on modularity and coding standards
		C425.6	Develop future values of customer in various designs
C426	Intrusion Detection System	C426.1	Examine Various threats against computes and networked system
		C426.2	Explore various classes of attacks in network layer
		C426.3	Identify various solutions for the problem Intrusion deletion system

		C426.4	Make use of Anomaly directors and algorithms for intrusion detection
		C426.5	Examine various techniques like malware detection-obfuscation foe attack trees and correction of alerts
		C426.6	Utilize different techniques to resolve email security issues
C427	ADHOC and Sensor Networks	C427.1	Identify the importance of MANETS in ASN
		C427.2	Explore Routing & forwarding strategies in ASN
		C427.3	Compare various data transmission techniques like Broadcasting & multicasting
		C427.4	Analyze the role of Geo casting in ASN
		C427.5	Illustrate the applications of wireless sensors
		C427.6	Examine various Lower layer Issues and Higher layer issues of wireless sensor networks
C428	Neural Networks and Deep Learning	C428.1	Ability to understand the concepts of Neural Networks
		C428.2	Ability to select the Learning Networks in modeling real world systems
		C428.3	Ability to understand deep learning architectures
		C428.4	Ability to use an efficient algorithm for Deep Models
		C428.5	Ability to use Regularizations for deep learning
		C428.6	Ability to apply optimization strategies for large scale applications
C429	Human Computer Interaction	C429.1	Elaborate the design of good Interface and features of GUI
		C429.2	Compare the Human interaction speed with computers
		C429.3	Apply visually pleasing composition of elements on screen design
		C429.4	Identify Various Navigation Schemes, Screen based controls in user interface design
		C429.5	Apply the multimedia features to Components
		C429.6	choose various User Interface building tools and Interaction Devices
C42A	Major Project	C42A.1	Identify the problem, conduct relevant literature survey and formalize it.
		C42A.2	Analyze & design efficient, cost-effective and eco-friendly solutions using relevant tools (if necessary) and processes.
		C42A.3	Implement the design and demonstrate the functionality of developed model
		C42A.4	Evaluate the results to derive the conclusion and provide scope for future enhancement.
		C42A.5	Exhibit good interpersonal and leadership skills in meeting project deadlines with individual contribution towards progress of the project.