Suman Ramesh Tulsiani Technical Campus Faculty of Engineering
Department of AI-DS Engineering
Course Outcome (Batch 2019-23)

	Academic Year 2019-20 First Year (Semester I)
107001	**Engineering Mathematics I**
C101.1	Mean value theorems and its generalizations leading to Taylors and Maclaurin's series useful in the analysis of engineering problems.
C101.2	the Fourier series representation and harmonic analysis for design and analysis of periodic continuous and discrete systems.
C101.3	to deal with derivative of functions of several variables that are essential in various branches of Engineering.
C101.4	To apply the concept of Jacobian to find partial derivative of implicit function and functional dependence. Use of partial derivatives in estimating error and approximation and finding extreme values of the function.
C101.5	the essential tool of matrices and linear algebra in a comprehensive manner for analysis of system of linear equations, finding linear and orthogonal transformations, Eigen values and Eigen vectors applicable to engineering problems
107002	**Engineering Physics**
C102.1	Develop understanding of interference, diffraction and polarization; connect it to few engineering applications.
C102.2	Learn basics of lasers and optical fibers and their use in some applications.
C102.3	Understand concepts and principles in quantum mechanics. Relate them to some applications.
C102.4	Understand theory of semiconductors and their applications in some semiconductor devices.
C102.5	Summarize basics of magnetism and superconductivity. Explore few of their technological applications.
C102.6	Comprehend use of concepts of physics for Non Destructive Testing. Learn some properties of nanomaterials and their application.

102003	**Systems in Mechanical Engineering**
C103.1	Describe and compare the conversion of energy from renewable and non-renewable energy sources
C103.2	Explain basic laws of thermodynamics, heat transfer and their applications
C103.3	List down the types of road vehicles and their specifications
C103.4	Illustrate various basic parts and transmission system of a road vehicle
C103.5	Discuss several manufacturing processes and identify the suitable process
C103.6	Explain various types of mechanism and its application
103004	**Basic Electrical Engineering**
C104.1	Differentiate between electrical and magnetic circuits and derive mathematical relation for self and mutual inductance along with coupling effect.
C104.2	Calculate series, parallel and composite capacitor as well as characteristics parameters of alternating quantity and phasor arithmetic
C104.3	Derive expression for impedance, current, power in series and parallel RLC circuit with AC supply along with phasor diagram.
C104.4	Relate phase and line electrical quantities in polyphase networks, demonstrate the operation of single phase transformer and calculate efficiency and regulation at different loading conditions
C104.5	Apply and analyze the resistive circuits using star-delta conversion KVL, KCL and different network theorems under DC supply.
C104.6	Evaluate work, power, energy relations and suggest various batteries for different applications, concept of charging and discharging and depth of charge.
110005	**Programming and Problem Solving**
C105.1	Inculcate and apply various skills in problem solving.
C105.2	Choose most appropriate programming constructs and features to solve the problems in diversified domains.
C105.3	Got the concept of Field survey and Aerial survey and able to solve Levelling problems.

C105.4	Demonstrate significant experience with the Python program development environment.
111006	**Workshop Practice**
C106.1	Familiar with safety norms to prevent any mishap in workshop.
C106.2	Able to handle appropriate hand tool, cutting tool and machine tools to manufacture a job.
C106.3	Able to understand the construction, working and functions of machine tools and their parts.
C106.4	Able to know simple operations (Turning and Facing) on a centre lathe.
101006	**Environmental Studies**
107.1	Demonstrate an integrative approach to environmental issues with a focus on sustainability.
107.2	Explain and identify the role of the organism in energy transfers in different ecosystems.
107.3	Distinguish between and provide examples of renewable and nonrenewable resources & analyze personal consumption of resources.
107.4	Identify key threats to biodiversity and develop appropriate policy options for conserving biodiversity in different settings.
	First Year (Semester II)
107008	**Engineering Mathematics II**
C108.1	the effective mathematical tools for solutions of first order differential equations that model physical processes such as Newton's law of cooling, electrical circuit, rectilinear motion, mass spring systems, heat transfer etc.
C108.2	advanced integration techniques such as Reduction formulae, Beta functions, Gamma functions, Differentiation under integral sign and Error functions needed in evaluating multiple integrals and their applications.
C108.3	to trace the curve for a given equation and measure arc length of various curves.

C108.4	the concepts of solid geometry using equations of sphere, cone and cylinder in a comprehensive manner.
C108.5	evaluation of multiple integrals and its application to find area bounded by curves, volume bounded by surfaces, Centre of gravity and Moment of inertia.
107009	**Engineering Chemistry**
C109.1	Apply the different methodologies for analysis of water and techniques involved in softening of water as commodity.
C109.2	Select appropriate electro-technique and method of material analysis.
C109.3	Demonstrate the knowledge of advanced engineering materials for various engineering applications.
C109.4	Analyze fuel and suggest use of alternative fuels.
C109.5	Identify chemical compounds based on their structure.
C109.6	Explain causes of corrosion and methods for minimizing corrosion.
104010:	**Basic Electronics Engineering**
C110.1	Explain the working of P-N junction diode and its circuits.
C110.2	Identify types of diodes and plot their characteristics and also can compare BJT with MOSFET
C110.3	Build and test analog circuits using OPAMP and digital circuits using universal/basic gates and Flip flops
C110.4	Use different electronics measuring instruments to measure various electrical parameters.
C110.5	Select sensors for specific applications.
C110.6	Describe basic principles of communication systems.
101011	**Engineering Mechanics**
C111.1	Determine resultant of various force systems
C111.2	Determine centroid, moment of inertia and solve problems related to friction
C111.3	Determine reactions of beams, calculate forces in cables using principles of equilibrium

C111.4	Solve trusses, frames for finding member forces and apply principles of equilibrium to forces in space
C111.5	Calculate position, velocity and acceleration of particle using principles of kinematics
C111.6	Calculate position, velocity and acceleration of particle using principles of kinetics and Work, Power, Energy
102012	**Engineering Graphics**
C112.1	Draw the fundamental engineering objects using basic rules and able to construct the simple geometries.
C112.2	Construct the various engineering curves using the drawing instruments.
C112.3	Apply the concept of orthographic projection of an object to draw several 2D views and its sectional views for visualizing the physical state of the object.
C112.4	Apply the visualization skill to draw a simple isometric projection from given orthographic views precisely using drawing equipment.
C112.5	Draw the development of lateral surfaces for cut section of geometrical solids.
C112.6	Draw fully-dimensioned 2D, 3D drawings using computer aided drafting tools.
110013	**Project Based Learning**
C113.1	Project based learning will increase their capacity and learning through shared cognition.
C113.2	Students able to draw on lessons from several disciplines and apply them in practical way.
C113.3	Learning by doing approach in PBL will promote long-term retention of material and replicable skill, as well as improve teachers' and students' attitudes towards learning.
101014	**Environmental Studies-II**
C114.1	Have an understanding of environmental pollution and the science behind those problems and potential solutions.
C114.2	Have knowledge of various acts and laws and will be able to identify the industries that are violating these rules.

C114.3	Assess the impact of ever increasing human population on the biosphere: social, economic issues and role of humans in conservation of natural resources
C114.4	Learn skills required to research and analyze environmental issues scientifically and learn how to use those skills in applied situations such as careers that may involve environmental problems and/or issues.
	Academic Year 2020-21 Second Year (Semester III)
210241	**: Discrete Mathematics**
C1 201.1	**Formulate** problems precisely, solve the problems, apply formal proof techniques, and explain the reasoning clearly.
C1 201.2	**Apply** appropriate mathematical concepts and skills to solve problems in both familiar and unfamiliar situations including those in real-life contexts.
C1 201.3	**Design and analyze** real world engineering problems by applying set theory, propositional logic and to construct proofs using mathematical induction
C1 201.4	**Specify, manipulate and apply** equivalence relations; construct and use functions and apply these concepts to solve new problems.
C1 201.5	**Calculate** numbers of possible outcomes using permutations and combinations; to model and analyze computational processes using combinatorics.
C1 201.6	**Model and solve** computing problem using tree and graph and solve problems using appropriate algorithms.
C1 201.7	**Analyze** the properties of binary operations, apply abstract algebra in coding theory and evaluate the algebraic structures
210243	**Object Oriented Programming**
C 202.1	**Apply** constructs- sequence, selection and iteration; classes and objects, inheritance, use of predefined classes from libraries while developing software.
C 202.2	**Design** object-oriented solutions for small systems involving multiple objects
C 202.3	**Use** virtual and pure virtual function and complex programming situations
C202.4	Apply object-oriented concepts for advanced programming.
C202.5	**Analyze** the strengths of object-oriented programming.
C202.6	**Develop** the application using object oriented programming language(C++).
210244	**: Computer Graphics**
C203.1	**CO1:Identify** the basic terminologies of Computer Graphics and interpret the mathematical foundation of the concepts of computer graphics.dimensions, viewing and projection.

C203.2	**Apply** mathematics to develop Computer programs for elementary graphic operations
C203.3	**Illustrate** the concepts of windowing and clipping and **apply** various algorithms to fill and clip polygons.
C203.4	**Understand** and **apply** the core concepts of computer graphics, including transformation in two and three
C203.5	**Understand** the concepts of color models, lighting, shading models and hidden surface elimination.
C203.6	**Create** effective programs using concepts of curves, fractals, animation and gaming
217521:	**Operating Systems**
C204.1	**CO1: Enlist** functions of OS and types of system calls
C204.2	**CO2: Apply** process scheduling algorithms to solve a given problems
C204.3	**CO3: Illustrate** deadlock prevention, avoidance and recovery
C204.4	**CO4: Explain** memory management technique
C204.5	**CO5: Illustrate** I/O and file management policies
C204.6	**CO6: Describe** Linux process management
210242	**Fundamentals of Data Structures**
C205.1	**Design** the algorithms to solve the programming problems, **identify** appropriate algorithmic strategy for specific application, and **analyze** the time and space complexity.
C205.2	**Discriminate** the usage of various structures, **Design/Program/Implement** the appropriate data structures; use them in implementations of abstract data types and Identity the appropriate data structure in approaching the problem solution.
C205.3	**Demonstrate** use of sequential data structures- Array and Linked lists to store and process data
C205.4	**Understand** the computational efficiency of the principal algorithms for searching and sorting and choose the most efficient one for the application.
C205.5	**Compare** and **contrast** different implementations of data structures (dynamic and static).
C205.6	**Understand, Implement and apply** principles of data structures-stack and queue to solve computational problems.

210246	**: Humanity & Social Science**
C206.1	**Aware** of the various issues concerning humans and society.
C206.2	**Aware** about their responsibilities towards society.
C206.3	Sensitized about broader issues regarding the social, cultural, economic and human aspects, involved in social changes.
C206.4	**Able** to understand the nature of the individual and the relationship between self and the community.
C206.5	**Able** to understand major ideas, values, beliefs, and experiences that have shaped human history and cultures.
217525	**Business Communication Skills**
C207.1	**Express** effectively through verbal/oral communication and improve listening skills.
C207.2	**Write** precise briefs or reports and technical documents
C207.3	**Prepare** for group discussion / meetings / interviews and presentations.
C207.4	**Explore** goal/target setting, self-motivation and practicing creative thinking.
C207.5	**Operate** effectively in multi-disciplinary and heterogeneous teams through the knowledge of team work, Inter-personal relationships, conflict management and leadership qualities
210251	**Audit Course 3**
C207.1	**Understand** the dynamic behavior of the urban system by going beyond the physical appearance and by focusing on representations, properties and impact factors
C207.2	**Explore** the city as the most complex human-made organism with a metabolism that can be modeled in terms of stocks and flows
C207.3	**Knowledge** about data-informed approaches for the development of the future city, based on crowd sourcing and sensing
	Knowledge about the latest research results in for the development and management of future cities
	Understand how citizens can benefit from data-informed design to develop smart and responsive cities
	Second Year (Semester IV)
217528 :	**Statistics**
C208.1	Identify the use of appropriate statistical terms to describe data
C208.2	Use appropriate statistical methods to collect, organize, display, and analyze relevant data
C208.3	Use distribution functions for random variables

C208.4	Distinguish between correlation coefficient and regression
C208.5	Understand tests for hypothesis and its significance
210252	**Data Structures and Algorithms**
C209.1	:Identify and articulate the complexity goals and benefits of a good hashing scheme for real world applications.
C209.2	:Apply non-linear data structures for solving problems of various domain. CO3:Design and specify the operations of a nonlinear-based abstract data type and implement them in a high-level programming language.
C209.3	:Analyze the algorithmic solutions for resource requirements and optimization CO5:Use efficient indexing methods and multiway search techniques to store and maintain data. CO6:Use appropriate modern tools to understand and analyze the functionalities confined to the secondary storage
210253:	**Software Engineering**
C210.1	**Analyze** software requirements and formulate design solution for a software.
C210.2	**Design** applicable solutions in one or more application domains using software engineering approaches that integrate ethical, social, legal and economic concerns.
C210.3	**Apply** new software models, techniques and technologies to bring out innovative and
C210.4	novelistic solutions for the growth of the society in all aspects and evolving into their continuous professional development.
C210.5	**Model** and design User interface and component-level.
C210.6	**Identify** and handle risk management and software configuration management.
217530:	**Management Information Systems**
C211.1	**Explain** the concepts of Management Information System and Business intelligence for MIS.
C211.2	**Illustrate** the need of information systems in global business and ethical issues
C211.3	**List** the IT infrastructure components and **explain** security in the Information System.
C211.4	**Demonstrate** the importance of project management and **extend** its use in the international information system
C211.5	**Illustrate** the concepts of decision support systems for business applications

217529:	Internet of Things
C211.1	Have a thorough understanding of the structure, function and characteristics of computer systems and Understand the structure of various number systems and its application in digital design. .
C211.2	Develop the skill set to build IoT systems and sensor interfacing
C211.3	Explain the concept of Internet of Things and identify the technologies that make up the internet of things
C211.4	Analyz trade-offfsin interconnected wireless embedded device networks. Select Appropriate Protocols for IoT Solutions
C211.5	Design a simple IoT system comprising sensors by analyzing the requirements of IoT Application
C211.6	Identify the Application of IoT in automation of Commercial and Real World examples
210256	**Data Structures and Algorithms Laboratory**
C213.1	Understand the ADT/libraries, hash tables and dictionary to design algorithms for a specific problem.
C213.2	Choose most appropriate data structures and apply algorithms for graphical solutions of the problems.
C213.3	: Apply and analyze non linear data structures to solve real world complex problems.
C213.4	Apply and analyze algorithm design techniques for indexing, sorting, multi-way searching, file organization and compression.
C213.5	: Analyze the efficiency of most appropriate data structure for creating efficient solutions for engineering design situations.
217531:	**Internet of Things Laboratory**
C 214.1	CO1: Understand IOT Application Development using Raspberry Pi/ Beagle board/ Arduino board CO2: Develop and modify the code for various sensor based applications using wireless sensor
C 214.2	modules and working with a variety of modules like environmental modules.
C 214.3	CO3: Make use of Cloud platform to upload and analyse any sensor data

Academic Year 2021-22 Third Year (Semester V)	
310241	**Database Management Systems**
C301.1	Analyze and design Database Management System using ER model
C301.2	Implement database queries using database languages
C301.3	Normalize the database design using normal forms
C301.4	Apply Transaction Management concepts in real-time situations
C301.5	Use NoSQL databases for processing unstructured data
C301.6	Differentiate between Complex Data Types and analyze the use of appropriate data types
310252:	**Web Technology**
C302.1	Implement and analyze behavior of web pages using HTML and CSS
C302.2	Apply the client side technologies for web development
C302.3	Analyze the concepts of Servlet and JSP
C302.4	Analyze the Web services and frameworks
C302.5	Apply the server side technologies for web development
C302.6	Create the effective web applications for business functionalities using latest web development platforms
310253:	**Artificial Intelligence**
C303.1	Analyze and synthesize basic System Software and its functionality.
C303.2	Identify suitable data structures and Design & Implement various System Software
C303.3	Compare different loading schemes and analyze the performance of linker and loader
C303.4	Implement and Analyze the performance of process scheduling algorithms

C303.5	Identify suitable data structures and Design & Implement various System Software
C303.6	Compare different loading schemes and analyze the performance of linker and loader
C303.7	Implement and Analyze the performance of process scheduling algorithms
C303.8	Identify the mechanism to deal with deadlock and concurrency issues
C303.9	Demonstrate memory organization and memory management policies
317521:	**Computer Networks**
C304.1	Summarize fundamental concepts of Computer Networks, architectures, protocols andtechnologies
C304.2	Analyze the working of physical layer protocols.
C304.3	Analyze the working of different routing protocols and mechanisms
C304.4	Implementclient-server applications using sockets
C304.5	Illustrate role of application layer with its protocols, client-server architectures
C304.6	Summarizeconcepts of MAC and ethernet
310245(D)	**Elective I-Software Project Management**
C305D.1	Comprehend Project Management Concepts
C305D.2	Use various tools of Software Project Management
C305D.3	Schedule various activities in software projects
C305D.4	Track a project and manage changes
C305D.5	Apply Agile Project Management
C305D.6	Analyse staffing process for team building and decision making in Software Projects and Management

C309.1	Analyze needs and challenges for Data Science Big Data Analytics
C309.2	Apply statistics for Big Data Analytics
C309.3	Apply the lifecycle of Big Data analytics to real world problems
C309.4	Implement Big Data Analytics using Python programming
C309.5	Implement data visualization using visualization tools in Python programming
C309.6	Design and implement Big Databases using the Hadoop ecosystem
310252:	**Web Technology**
C310.1	Implement and analyze behavior of web pages using HTML and CSS
C310.2	Apply the client side technologies for web development
C310.3	Analyze the concepts of Servlet and JSP
C310.4	Analyze the Web services and frameworks
C310.5	Apply the server side technologies for web development
C310.6	Create the effective web applications for business functionalities using latest web development platforms
310253:	**Artificial Intelligence**
C311.1	Identify and apply suitable Intelligent agents for various AI applications
C311.2	Build smart system using different informed search / uninformed search or heuristic approaches
C311.3	Identify knowledge associated and represent it by ontological engineering to plan a strategy to solve given problem
C311.4	Apply the suitable algorithms to solve AI problems
C311.5	Implement ideas underlying modern logical inference systems
C311.6	Represent complex problems with expressive yet carefully constrained language of representation

310245	Human Computer Interface
C312.1	Design effective Human-Computer-Interfaces for all kinds of users
C311.2	Apply and analyze the user-interface with respect to golden rules of interface
C311.3	Analyze and evaluate the effectiveness of a user-interface design
C311.4	Implement the interactive designs for feasible data search and retrieval
C311.5	Analyze the scope of HCI in various paradigms like ubiquitous computing, virtual reality ,multi-media, World wide web related environments
C311.6	Analyze and identify user models, user support, and stakeholder requirements of HCIsystems
310249	**Seminar and Technical Communication**
C306.1	Analyze a latest topic of professional interest
C306.2	Enhance technical writing skills
C306.3	Identify an engineering problem, analyze it and propose a work plan to solve it
C306.4	Communicate with professional technical presentation skills
310250:	**Audit Course 5**
C307.1	Understand and classify various cybercrimes
C307.2	Understand how criminals plan for the cybercrimes
C307.3	Apply tools and methods used in cybercrime
C307.4	Analyze the examples of few case studies of cybercrimes

SRTCT'S

SUMAN RAMESH TULSIANI TECHNICAL CAMPUS – FACULTY OF ENGINEERING, KHAMSHET

Third Year
SEMESTER 6

Academic Year 2021-22 Third Year (Semester VI)	
317529:	**Data Science**

C313.1	Analyze needs and challenges for Data Science
C313.2	Apply statistics for Data Analytics
C313.3	Apply the lifecycle of Data analytics to real world problems
C313.4	Implement Data Analytics using Python programming
C313.5	Implement data visualization using visualization tools in Python programming
C313.6	Design and implement Big Databases using the Hadoop ecosystem
317530: Cyber Security	
C314.1	Gauge the security protections and limitations provided by today's technology.
C314.2	Identify cyber security threats.
C314.3	Analyze threats in order to protect or defend it in cyberspace from cyber-attacks.
C314.4	Build appropriate security solutions against cyber-attacks
317531: Artificial Neural Network	
C315.1	Understand the basic features of neural systems and be able to build the neural model.
C315.2	Perform the training of neural networks using various learning rules
C315.3	Grasping the use of Associative learning Neural
C315.4	Describe the concept of Competitive Neural Networks
C315.5	: Implement the concept of Convolutional Neural Networks and its models
C315.6	Use a new tool /tools to solve a wide variety of real-world problems

317532	**Natural Language Processing**
C315A.1	Understand the fundamental concepts in field of NLP .
C315A.2	Understand morphological aspect and processing in NLP
C315A.3	Distinguish among various techniques of syntax parsing
C315A.4	Understand use of various parsing techniques to parse sentence and extract meaning from itsstructure
C315A.5	Apply different Machine translation techniques for translating a source to target language(s)
C315A.6	Design and implement different application using NLP
310254D	**Software Modeling and Architecture**
C315D.1	Analyze the problem statement (SRS) and choose proper design technique for designingweb-based/ desktop application
C315D.2	Design and analyze an application using UML modeling as fundamental tool
C315D.3	Evaluate software architectures
C315D.4	Use appropriate architectural styles and software design patterns
C315D.4	Apply appropriate modern tool for designing and modeling
317535: Internship	
C316.1	**CO1:** To demonstrate professional competence through industry internship. . .
C316.2	**CO2:** To apply knowledge gained through academics to a professional environment duringinternship
C316.3	**CO3:** To select appropriate technology and tools to solve a given real time problem
C316.4	**CO4:** To demonstrate abilities of a responsible professional and use ethical practices in day today life.
C316.5	**CO5:** To create professional and social network and develop relationships with industry people andget exposure to future employers.

C316.6	**CO6:** To explore various career opportunities in different domains and decide career goals.
317536:	**Mini Project**
C317.1	: Identify basic security attacks and services
C317.2	: Analyze the vulnerabilities and design a security solution.CO4:Demonstrate network security applications, Firewall, IDs.
C317.3	: Implement symmetric and asymmetric key algorithms
C317.4	:Demonstrate network security applications, Firewall, IDs.
31757A	**Audit Course6**
C317A.1	Understand the importance and fundamentals of digital marketing
C317A.2	Understand how the social media can be used for marketing
C317A.3	Analyze the effectiveness of digital marketing and social media over traditional process
	Academic Year 2022-23 Final Year Sem VII
417521: Machine Learning	
C401.1	Describe and compare different models of machine learning
C401.2	Design ML models to make predictions by using linear, non-linear and logistic regression techniques .
C401.3	Implement classification models for two class problems and multiclass problems
C401.4	Implement clustering models for unlabeled data
C401.5	Integrate multiple machine learning algorithms in the form of ensemble learning
C401.6	Apply reinforcement learning and its algorithms for different applications
417522:	**Data Modeling and Visualization**
C402.1	Summarize data analysis and visualization in the field of exploratory data science

C402.2	Analyze the characteristics and requirements of data and select an appropriate data model .
C402.3	Describe to load, clean, transform, merge and reshape data
C402.4	Design a probabilistic data modeling, interpretation, and analysis
C402.5	Evaluate time series data .
C402.6	Integrate real world data analysis problems
417524(B): Information Retrieval	
C403.1	Understand the concept of information Retrieval.
C403.2	Use an indexing approach for retrieval of documents
C403.3	Evaluate and analyze the retrieved information
C403.4	Apply appropriate method of Text Classification and Clustering.
C403.5	Design and implement innovative features in search engines.
	Analyze different real-life application of Information Retrieval
417524(C): UI/UX Design	
C404A.1	**CO1:** Understand the principles of User Interface
C404A.2	**CO2:** Describe user experience fundamentals
C404A.3	**CO3:** Explore strategies for managing design projects
C404A.4	**CO4:** Recognize the quality of service and data visualization
C404A.5	**CO5:** Explore the challenges associated with information visualization
C404A.6	**CO6:** Test the usability of a design through usability evaluations
417526: Computer Laboratory II: UI /UX Design	

C404B.1	**CO1:** Apply user-centered design methodologies
C404B.2	**CO2:** Create effective user interfaces / user experiences
C404B.3	**CO3:** Develop proficiency in design tools
C404B.4	**CO4:** Design for multiple platforms and devices
C404B.5	**CO5:** Conduct usability testing and analysis
C404B.6	**CO6:** Develop a portfolio of UI/UX design projects
417527: Project Stage I	
C404C.1	Solve real life problems by applying knowledge
C404C.2	Analyze alternative approaches, apply and use most appropriate one for feasible solution
C404C.3	Write precise reports and technical documents in a nutshell
C404C.4	Participate effectively in multi-disciplinary and heterogeneous teams exhibiting team work
C404C.5	Inter-personal relationships, conflict management and leadership quality
417528: MOOC	
	To acquire additional knowledge and skill
	Explore new areas of interest in a relevant field

	Final Year Sem VIII
417530: Computational Intelligence	
C408.1	Understand Computational Intelligence techniques to solve real-life problems
C408.2	Apply fuzzy logic techniques to solve real life problems
C408.3	Design and implement evolutionary algorithms to solve optimization problem
C408.4	Analyze and evaluate the performance of genetic algorithms in terms of convergence and computational efficiency
C408.5	Interpret and analyze the results obtained from computational intelligence models in NLP, providing meaningful insights and recommendations
C408.6	Design and Develop Artificial Immune System to solve complex problems
417531: Distributed Computing	
C409.1	Understand the features and properties of Distributed computing system with integration of AI
C409.2	Analyze the Concept of data management and storage in distributed computing
C409.3	Understand the algorithm used in distributed computing by applying artificial intelligence
C409.4	Understand the integration of machine learning algorithm and advanced tools used in distributed computing
C409.5	Analyze how big data is processed in distributed computing
C409.6	Identify Security and privacy issues of distributed computing and apply on specific application
Elective V 417532(B): Big Data Analytics	
C410A.1	Apply the techniques to handle missing data for real world applications.
C410A.2	Exemplify Analytical Methods like Clustering and Association Rule for Big Data Analytics
C410A.3	Use the novel architectures and platforms introduced for Big data, in particular Hadoop and Map Reduce
C410A.4	Differentiate the advanced predictive analytics algorithms in various applications like Retail, Finance, Healthcare
C410A.5	Evaluate needs, challenges, and techniques for big data visualization

Elective V 417532(D): Deep Learning	
C410B.1	Interpret the need of Software Defined networking solutions.
C410B.2	Analyze different methodologies for sustainable Software Defined Networking solutions
C410B.3	: Select best practices for design, deploy and troubleshoot of next generation networks
C410B.4	Develop programmability of network elements.
C410B.5	Demonstrate virtualization and SDN Controllers using Open Flow protocol
C410B.6	Design and develop various applications of SDN
Elective VI 417533(B): Business Intelligence	
C410C.1	Apply conceptual knowledge on how BI is used in decision support systems
C410C.2	Use Modelling Concepts in Business Intelligence
C410C.3	Understand and apply the concept of data provisioning and data Visualization
C410C.4	Apply different data pre-processing techniques on data set
C410C.5	Implement machine learning algorithms as per business needs
C410C.6	Identify role of BI in Management, Inventory, Production, Logistics and Management
Elective VI 417533(C): Information Systems Management	
C410D.1	Understand the concepts of Information systems and design the strategies
C410D.2	Illustrate the need of Ethical and Social Issues to Information Systems
C410D.3	Identify and evaluate the knowledge for Decision-Making Process
C410D.4	Analysis and Design of system development in project management

C410D.5	Apply the concept of Enterprise System Management and its Applications
C410D.6	Analysis how E-Commerce Business Models used in global marketplace
410256: Project Work Stage II	
C410E.1	Show evidence of independent investigation
C410E.2	Critically analyze the results and their interpretation.
C410E.3	Report and present the original results in an orderly way and placing the open questions in the right perspective.
C410E.4	Link techniques and results from literature as well as actual research and future research lines withthe research.
C410E.5	Appreciate practical implications and constraints of the specialist subject
410257: Audit Course 8	
C410F.1	Develop an effective interface for conversation **CO2:** Explore advanced concepts in user interface
C410F.2	Develop an effective interface for conversation **CO2:** Explore advanced concepts in user interface