

DEPARTMENT OF INFORMATION TECHNOLOGY

VELAGAPUDI RAMAKRISHNA SIDDHARTHA ENGINEERING COLLEGE

B.TECH VR17 REGULATIONS – COURSE OUTCOMES

Course Code	Course Name	Course Outcomes
17MA1101	Matrices And Differential Calculus	<ol style="list-style-type: none">1. Determine Eigen values, Eigen vectors of a matrix.2. Estimate Maxima and Minima of Multi Variable Functions.3. Solve the Linear differential equations with constant coefficients.4. Solve the Linear differential equations with variable coefficients.
17PH1102B	Applied Physics	<ol style="list-style-type: none">1. Understand the importance of quantum mechanics.2. Analyse and understand various types of lasers and their applications.3. Elaborate different types of optical fibers and understand holography.4. Understand the fabrication of nanomaterials and carbon Nanotubes.
17CS1103	Problem Solving Methods	<ol style="list-style-type: none">1. Understand the Computer problem solving approaches, efficiency and analysis of algorithms2. Apply the factoring methods to solve the given problem3. Apply the array techniques to find the solution for the given problem4. Solve the problems using MATLAB
17EE1104	Basics of Electrical Engineering	<ol style="list-style-type: none">1. Analyze Electric Circuit fundamentals.2. Understand the basic concepts of Alternating Quantities and Magnetic Circuits3. Analyze the basic concepts of Electric Machines4. Understand Measuring Instruments & Solar Photo Voltaic System concepts
17HS1105	Technical English and Communication Skills	<ol style="list-style-type: none">1. Develop administrative and professional compilations including web related(On-line) communication with felicity of expression2. Demonstrate Proficiency in Interpersonal Communication, in addition to standard patterns of Pronunciation3. Apply the elements of functional English with sustained understanding for authentic use of language in any given academic and/or professional environment4. Execute tasks in Technical communication with competence
17PH1151	Applied Physics	<ol style="list-style-type: none">1. Use function generator, spectrometer and travelling

	Laboratory	<ul style="list-style-type: none"> microscope in various experiments 2. Test optical components using principles of interference and diffraction of light 3. Determine the V-I characteristics of solar cell and photo cell and appreciate the accuracy in measurements
17CS1152	Computing and Peripherals Laboratory	<ul style="list-style-type: none"> 1. Understand and Apply MS Office tools 2. Configure the components on the motherboard and install different operating systems 3. Understand and configure different storage media 4. Perform Networking, troubleshooting and system administration tasks
17ME1153	Basic Workshop	<ul style="list-style-type: none"> 1. Model and develop various basic prototypes in the Carpentry trade. 2. Develop various basic prototypes in the trade of Welding. 3. Model and develop various basic prototypes in the trade of Tin Smithy. 4. Familiarize with various fundamental aspects of house wiring.
17MC1106A	Technology and Society	<ul style="list-style-type: none"> 1. Understand the origins of technology and its role in the history of human progress. 2. Know the Industrial Revolution and its impact on Society 3. Interpret the developments in various fields of technology till Twentieth Century. 4. Distinguish the impacts of Technology on the Environment and achievements of great scientists.
17MA1201	Laplace Transforms And Integral Calculus	<ul style="list-style-type: none"> 1. Solve Linear Differential Equations using Laplace Transforms. 2. Examine the nature of the Infinite series. 3. Evaluate areas and volumes using Double, Triple Integrals. 4. Convert Line Integrals to Area Integrals and Surface Integrals to Volume Integrals.
17CH1202	Engineering Chemistry	<ul style="list-style-type: none"> 1. Analyze various water treatment methods and boiler troubles. 2. Apply the principles of spectroscopic techniques to analyse different materials and apply the knowledge of conventional fuels for their effective utilisation. 3. Apply the knowledge of working principles of conducting polymers, electrodes and batteries for their application in various technological fields. 4. Evaluate corrosion processes as well as protection methods.
17CS1203	Programming in C	<ul style="list-style-type: none"> 1. Understand the fundamentals and structure of a C

		<p>programming language</p> <ol style="list-style-type: none"> 2. Apply the loops, arrays, functions and string concepts in C to solve the given problem. 3. Apply the pointers and text input output files concept to find the solution for the given applications. 4. Use the Enumerated, Data types, Structures and Unions.
17EC1204A	Basic Electronic Engineering	<ol style="list-style-type: none"> 1. Fundamentals of electronic components, devices, transducers 2. Principles of digital electronics 3. Principles of various communication systems.
17ME1205	Engineering Graphics	<ol style="list-style-type: none"> 1. Understand the Scales, conics and Cycloidal curves. 2. Draw Orthographic projections of points, Lines, Planes and Solids 3. Understand Sectional views of Solids, Development of surfaces and their representation 4. Construct isometric scale, isometric projections ,isometric views and convert pictorial views to orthographic projections
17CH1251	Engineering Chemistry Laboratory	<ol style="list-style-type: none"> 1. Analyze quality parameters of water samples from different sources 2. Perform quantitative analysis using instrumental methods. 3. Apply the knowledge of mechanism of corrosion inhibition, metallic coatings and photochemical reactions.
17CS1252	Computer Programming Laboratory	<ol style="list-style-type: none"> 1. Implement the use of programming constructs in a structured oriented programming language 2. Analyze and implement user defined functions to solve real time problems 3. Implement the usage of pointers and file operations on data 4. Implement the user defined data types via structures and unions to solve real life problems
17MC1206B	Professional Ethics & Human Values	<ol style="list-style-type: none"> 1. Know the moral autonomy and uses of ethical theories. 2. Understand morals, Honesty and character. 3. Understand about safety, risk and professional rights. 4. Know the ethics regarding Global issues related to Environment, Computers and weapon's development.
17MA1301	Complex Analysis and Numerical Methods	<ol style="list-style-type: none"> 1. Determine analytic, non-analytic functions and evaluate complex integrals. 2. Analyze Taylor, Laurent series and evaluate real

		<p>definite integrals using residue theorem.</p> <ol style="list-style-type: none"> Solve Algebraic, transcendental, system of equations and estimate functions using polynomial interpolation. Solve initial and boundary value problems numerically.
17IT3302	Discrete Mathematical Structures	<ol style="list-style-type: none"> Understand the logical inference and counting techniques Classify functions, relations and concepts of generating functions. Solve recurrence relations and understand the concepts of Groups and their properties. Classify Groups and Graph isomorphism.
17IT3303	Data Structures	<ol style="list-style-type: none"> Analyze operations on linear data structures like stack, queue and linked Develop algorithms to solve a given problem using appropriate data structure Demonstrate the algorithms for operations on binary, binary search, AVL and B-trees Implement searching & sorting techniques and assess its performance.
17IT3304	Computer Organization	<ol style="list-style-type: none"> Design combinational & sequential circuits, digital components, arithmetic logic and control units Analyze the basic organization of computer, different instruction formats and addressing modes. Apply computer algorithms for performing arithmetic operations on binary number system. Analyze components of memory organization and modes of data transfer between CPU and I/O devices
15IT3305A	Yoga & Meditation	<ol style="list-style-type: none"> Equip better attitude and behaviour. Imbibe set of values enabling a balanced life focused on an ethical material life. Develop levels of concentration through mediation Apply conscience for the missions of life
17HS2305D	Philosophy	<ol style="list-style-type: none"> Understand major philosophical issues. Appreciate the philosophical doctrines of western thinkers. Understand the eminence of Indian classical thought. Appreciate relation between science and values.
17HS2305I	Foreign Language - German	<ol style="list-style-type: none"> Learn basics of German Language. Write German Writing Understand German Hearing Form sentence in Present, past and future tense
17HS2305J	Psychology	<ol style="list-style-type: none"> Relate biological and socio-cultural factors in understanding human Behaviour. Understand the nature of sensory processes, types of

		<p>attentions.</p> <ol style="list-style-type: none"> 3. Explain different types of learning and the procedures, distinguishes between different types of memory, 4. Demonstrate an understanding of some cognitive processes involved in Problem solving and decision-making.
17TP1306	Logic & Reasoning	<ol style="list-style-type: none"> 1. Think reason logically in any critical situation 2. Analyze given information to find correct solution 3. Reduce the mistakes in day to day activities in practical life 4. Develop time management skills by approaching different shortcut methods 5. Use mathematical based reasoning to make decisions 6. Apply logical thinking to solve problems and puzzles in qualifying exams for companies and in other competitive exams
17IT3308	Object Oriented Programming	<ol style="list-style-type: none"> 1. Examine the characteristics of object oriented approach 2. Demonstrate the concept of polymorphism in overload of functions and operators 3. Construct object oriented programs through inheritance and templates 4. Apply exception handling mechanism to handle errors occur at runtime
17IT3351	Data Structures Lab	<ol style="list-style-type: none"> 1. Implement various operations of stack, queue and linked list data types. 2. Analyze and solve a given problem using appropriate data structure. 3. Implement operations on different trees data structures like binary, binary search, AVL and Btrees. 4. Design various searching and sorting algorithms.
17HS1352	Communication Skills Lab	<ol style="list-style-type: none"> 1. Execute rational pronunciation of speech sounds including accentuation. 2. Apply elements of listening comprehension in professional environments. 3. Develop the abilities of rational argumentation and skills of public speaking. 4. Demonstrate proficiency in the elements of professional communication including the competitive examination
17MC1307	Environmental Studies	<ol style="list-style-type: none"> 1. Understand the various natural resources, analyze and explore degradation management 2. Understand the Ecosystems and need of Biodiversity 3. Realize and Explore the Problems related to

		<p>Environmental pollution and its management</p> <ol style="list-style-type: none"> 4. Apply the Role of Information Technology and analyze social issues, Acts associated with Environment.
17IT3401	Statistics With R	<ol style="list-style-type: none"> 1. Comprehend the semantics, data handling and control statements in R 2. Analyze the libraries for data manipulation and to data visualization in R 3. Demonstrate the knowledge of probability and conduct hypothesis tests for statistical inference 4. Synthesize data to fit linear and nonlinear models
17IT3402	Database Management Systems	<ol style="list-style-type: none"> 1. Analyze the characteristics, architecture of DBMS and constraints of relational model 2. Formulate solutions to a broad range of query problems using SQL and relational algebra 3. Design the databases using ER model and normalization for a given requirement specification 4. Implement the isolation property using serializability and concurrency control techniques
17IT3403	Design And Analysis of Algorithms	<ol style="list-style-type: none"> 1. Analyze the performance of algorithms using time and space complexities. 2. Synthesize design techniques like Divide & Conquer, Greedy and choose appropriate technique to solve novel problems. 3. Apply algorithm design techniques using non-linear data structures to solve problems. 4. Classify problems as P, NP, NP-hard and NP-complete and analyze the significance
17IT3404	Python Programming	<ol style="list-style-type: none"> 1. Understand the basic building blocks in python programming language to construct different applications. 2. Apply the necessary data structures to solve a given problem. 3. Extract and import packages for developing different solutions for real time problems. 4. Implement the problems in terms of real-world objects using concept of OOPS.
17TP1405	English For Professionals	<ol style="list-style-type: none"> 1. Present themselves effectively in the professional world by shedding off their inhibitions about communicating in English 2. Introduce themselves as well as others appropriately. 3. Use vocabulary to form sentences and narrate stories by using creative thinking skills 4. Involve in practical activity oriented sessions. 5. Learn about various expressions to be used in

		<p>different situations.</p> <p>6. Respond positively by developing their analytical thinking skills.</p>
17IT3406	Operating Systems	<ol style="list-style-type: none"> 1. Analyze different Operating Systems and its Services & Functions 2. Implement CPU scheduling & synchronization algorithms 3. Demonstrate the techniques for handling deadlock & memory management 4. Analyze various I/O management, File systems and disk scheduling techniques
17IT3451	Database Management Systems Lab	<ol style="list-style-type: none"> 1. Experiment DDL and DML commands with different integrity constraints 2. Apply functions and operators in SQL queries 3. Formulate solutions to query problems using nested queries and aggregate operators 4. Demonstrate PL/SQL concepts on the given database
17IT3452	Python Programming Lab	<ol style="list-style-type: none"> 1. Implement python programming constructs to build small to large scale applications. 2. Implement the problems in terms of real-world objects using OOPs technology. 3. Evaluate and handle the errors during runtime involved in a program. 4. Extract and import packages for developing different solutions for real time problems.
17IT3453	Web Programming Lab	<ol style="list-style-type: none"> 1. Understand the importance of the web as an effective medium of communication 2. Develop basic skills in analyzing the usability of a web site using HTML. 3. Develop hands on experience using open source technologies such as HTML, CSS, 4. JavaScript, PHP and MySQL 5. Generate an application based upon the concepts of HTML & PHP
17MC1407B	Indian Constitution	<ol style="list-style-type: none"> 1. Know the fundamental law of the land 2. Understand how fundamental rights are protected 3. Perceive the structure and formation of the Indian Government System 4. Explain when and how an emergency can be imposed and what are the consequences.
17IT3501	Software Engineering	<ol style="list-style-type: none"> 1. Identify an appropriate software model that would implement the customer requirements. 2. Analyze the requirements and identify the suitable architecture for the problem. 3. Discriminate the specifications at each stage of

		<p>Software Development Life Cycle.</p> <ol style="list-style-type: none"> 4. Implement various software testing strategies for verification and validation of the software products.
17IT3502	Data Mining	<ol style="list-style-type: none"> 1. Understand the basic concepts of warehousing and mining. 2. Derive various interesting patterns and associations in datasets. 3. Design and develop classifier models to predict future trends. 4. Apply unsupervised learning techniques for a given application.
17IT3503	Computer Networks	<ol style="list-style-type: none"> 1. Analyze the reference models and physical connections of network systems 2. Apply different protocols functioning at Application layer and Transport layer. 3. Evaluate various Routing algorithms for finding the optimal path. 4. Understand the concepts of wireless communication , mobility and security
17IT2504A	Ai Tools, Techniques And Applications	<ol style="list-style-type: none"> 1. Identify problems that are amenable to solution by AI methods and Represent knowledge of the world using logic and Infer new facts from that knowledge 2. Demonstrate the capability to create simple AI applications using Natural Language Processing and machine learning. 3. Elucidate the best practices for Chatbot development 4. Explicate the purpose of Reinforcement Learning and apply Reinforcement Learning to real life planning problems.
17IT2504B	Linux Programming	<ol style="list-style-type: none"> 1. Apply Linux utilities and Shell scripting language (bash) to solve Problems. 2. Develop the skills necessary for working with files 3. Understanding of Linux environment which includes program arguments and Environment variables. 4. Familiar with the skills necessary for memory Management, process management and Locks.
17IT2504C	Mobile Application Development	<ol style="list-style-type: none"> 1. Comprehend the basics of Android development framework. 2. Develop an application using the interfaces, Intents & Layouts 3. Create the User Interface Programmatically. 4. Demonstrate the saving of data & Navigation using Maps.
17IT2505A	Database Management Systems	<ol style="list-style-type: none"> 1. Analyze the information storage issues and derive an information model in the form of an entity relation diagram.

		<ol style="list-style-type: none"> 2. Transform information model into a relational database schema. 3. Formulate solutions to a broad range of query problems using formal and 4. Informal query languages. 5. Understand the normalization theory and construct normalized databases.
17IT2505B	Object Oriented Programming	<ol style="list-style-type: none"> 1. Examine the characteristics of object oriented approach 2. Demonstrate the concept of polymorphism in overload of functions and operators 3. Construct object oriented programs through inheritance and templates 4. Apply exception handling mechanism to handle errors occur at runtime
17IT2505C	Python Programming	<ol style="list-style-type: none"> 1. Analyze the constructs, conditional and iterative statements in python 2. Demonstrate the applicability of file and string handling in python 3. Interpret the knowledge of python modules and packages 4. Synthesize data structures such as list, dictionary, set and tuple to solve a given problem
17TP1507	Personality Development	<ol style="list-style-type: none"> 1. Understand the corporate etiquette. 2. Make presentations effectively with appropriate body language 3. Be composed with positive attitude 4. Understand the core competencies to succeed in professional and personal life
17IT3509	Java Programming	<ol style="list-style-type: none"> 1. Paraphrase the fundamental concepts of object oriented approach 2. Analyze exception handling techniques and I/O streams to handle user input and output 3. Demonstrate the usage of multi threads and collection framework for structures 4. Synthesize Graphical User Interfaces using applets and event handling
17IT3551	Java Programming Lab	<ol style="list-style-type: none"> 1. Design Java Applications on object oriented concepts 2. Implement techniques to handle run time errors and different types of inheritance 3. Develop java applications on multithreading and collection classes 4. Design GUI applications through Swing components and handle the raised events.
17IT3552	Advanced	<ol style="list-style-type: none"> 1. Demonstrate the knowledge to find solutions that

	Programming Lab I	uses structured and object oriented languages 2. Implement data structures linear, non-linear and python structures to solve real world problems
17MC1508A	Biology For Engineers	1. Describe the fundamental Principles and methods of engineering 2. Identify the functions of different types in bio-molecules 3. Describe mechanisms underlying the working of molecular biological processes including enzyme catalysis, metabolic pathways, gene expression. 4. Use Excel, MATLAB and other computational tools to quantitatively analyze biological processes.
17IT3601	Machine Learning	1. Recognize the characteristics of machine learning , binary classification and Bayesian learning 2. Solve classification problems using concept learning and decision trees 3. Apply Linear and distance based learning models 4. Analyze Genetic and Neural network algorithms
17IT3602	Web Programming And Development	1. Develop secure and dynamic web pages using JavaScript 2. Design applications that interact with relational databases through Java Database Connectivity 3. Develop and deploy Servlets and JSP technologies 4. Design single page web applications through Angular technology
17IT4603A	Fundamentals of Data Science	1. Understand the need and significance of data life cycle. 2. Apply statistical techniques to visualize the data and evaluate Type I and II errors. 3. Design classifier model to predict future trends and validate accuracy of the classifier and to implement clustering techniques on the datasets. 4. Implement Linear model selection methods for real time applications/ 5. Analyze algorithms for dimensionality reduction on data.
17IT4603B	Network Security	1. Understand security attacks, services, mechanisms and encryption algorithms to mitigate security issues in a network 2. Apply authentication techniques to safeguard the data transfer. 3. Analyze security practices in IP and web based systems. 4. Identify malicious activities and incorporate counter measures on digital data.
17IT4603C	Automata And	1. Construct finite state machines and regular

	Compiler Design	<p>expressions for modeling and solving computation problems.</p> <ol style="list-style-type: none"> 2. Implement top down and bottom up parsing techniques on context free grammars 3. Apply techniques for code generation and code optimization. 4. Design Pushdown Automata and Turing machines for the given grammar or language.
17IT4603D	Agile Software Development	<ol style="list-style-type: none"> 1. Understand the nature of agile software development to establish a professional software development environment and build teams. 2. Analyze the customer role and time related problems in agile development environments. 3. Apply measures for quality assurance and Test Driven Development in agile software development environments. 4. Analyze the abstraction levels in agile software development and develop trust among team members in learning environment.
17IT4604A	Big Data	<ol style="list-style-type: none"> 1. Analyze Hadoop Architecture—Name Node, Big Data Lifecycle. 2. Master the concepts of Hadoop Distributed File System. 3. Acquire knowledge on Map Reduce Framework. 4. Apply Pig and Hive concepts for Data Processing.
17IT4604B	Internet of Things	<ol style="list-style-type: none"> 1. Understand the design concepts, protocols, privacy and security of Internet of Things 2. Analyze the methods of data acquiring, organizing and analytics using 3. Cloud platform for IoT applications. 4. Design IoT applications using Raspberry Pi board using Python interfacing various sensors. 5. Apply the steps of the design methodology in developing IoT applications.
17IT4604C	Dot Net Technologies	<ol style="list-style-type: none"> 1. Understanding the architecture and benefits of Dot Net Frame work.. 2. Analyze the importance of object oriented features in Dot Net frame work. 3. Design dynamic web applications using web Controls and validation controls. 4. Build web applications that include database interactivity with different databases.
17IT4604D	Software Testing Methodologies	<ol style="list-style-type: none"> 1. Understand the differences between testing and debugging 2. Analyze the testing techniques for performing

		<p>Transaction-Flow and Data-Flow testing</p> <ol style="list-style-type: none"> 3. Implement transaction flow testing, domain testing and state testing for a given application and apply in commercial environments. 4. Interpret the control flow graph and identify the path products, path sums and path expressions.
17IT2605A	Cyber Security	<ol style="list-style-type: none"> 1. Identify the assets of information and significance of security. 2. Apply data leakage, protection and security policies on digital systems. 3. Analyze log files and backup strategies for securing the data in real time environment. 4. Implement the issues in handling web vulnerabilities.
17IT2605B	Data Visualization	<ol style="list-style-type: none"> 1. Illustrate visualizations that represent the relationships contained in complex data sets and their interpretation. 2. Analyze and select appropriate data that can be used in order to create a visualization 3. that answers a particular research application 4. Identify the statistical analysis needed to validate the trends present in data visualizations. 5. Choose leading open source software packages to create and publish visualizations that enable clear interpretations of big, complex and real world data.
17IT2605 C	M Commerce	<ol style="list-style-type: none"> 1. Understand the application of tools and services to the development of small scale E-Commerce applications 2. Identify the benefits and limitations of M-Commerce to support mobile marketing 3. Recognize the impact of technology advances in Wireless devices for M-Commerce 4. Analyze the factors influencing the adoption of Mobile Gaming Services and M-Commerce Business Models.
17TP1606	Quantitative Aptitude	<ol style="list-style-type: none"> 1. Solve various Basic Mathematics problems by following different methods 2. Follow strategies in minimizing time consumption in problem solving Apply shortcut methods to solve problems 3. Confidently solve any mathematical problems and utilize these mathematical skills both in their professional as well as personal life. 4. Analyze, summarize and present information in quantitative forms including table, graphs and formulas

17IT3651 A	Big Data Lab	<ol style="list-style-type: none"> 1. Understand the concepts and challenges in analyzing big data. 2. Learn to work with ecosystems available in Hadoop. 3. Understand the impact of big data for business strategies & decisions.
17IT3651B	IoT Lab	<ol style="list-style-type: none"> 1. Analyze the architecture of various embedded platforms 2. Implement basic IoT applications on embedded platform reading the data from analog and digital sensors
17IT3651C	Dot Net Technologies Lab	<ol style="list-style-type: none"> 1. Develop applications that make use of data types and control structures 2. Implement object oriented features in Dot Net framework. 3. Design dynamic web applications using web Controls and validation controls. 4. Build web applications that include database interactivity with different databases.
17IT3651D	Software Testing Methodologies Lab	<ol style="list-style-type: none"> 1. Develop test suits for applications. 2. Understand the JUnit tool to perform testing. 3. Understand Selenium tool to perform testing. 4. Analyze bug tracking and QTP tool.
17IT3652	Web Programming And Development Lab	<ol style="list-style-type: none"> 1. Develop secure and dynamic web pages using JavaScript and Angular 2. Implement the basics of XML and JDBC Objects 3. Develop and deploy Servlets, JSP technologies
17IT3654	Advanced Programming Lab II	<ol style="list-style-type: none"> 1. Demonstrate the knowledge to find solutions that uses structured and object oriented languages 2. Implement data structures linear, non-linear and python structures to solve real world problems
17IT5653	Project Work	<ol style="list-style-type: none"> 1. Identify societal problem from the villages or towns with well-defined objectives. 2. Build a model for the problem chosen using modern tools and technology. 3. Organize the Technical report effectively.
17IT3701	Cloud Computing	<ol style="list-style-type: none"> 1. Analyze the architecture, services and models of cloud computing 2. Deploy applications for storing data and accessibility in different cloud ecosystems 3. Interpret local cloud and virtualization techniques based on application requirements 4. Identify real time cloud applications in different scenarios appropriate to society
17IT4702 A	Data Analytics	<ol style="list-style-type: none"> 1. Understand the basics and Life cycle of Data Analytics 2. Apply probability and Sampling distributions for

		<p>data modeling.</p> <ol style="list-style-type: none"> 3. Develop forecasting and Monte Carlo simulation models 4. Solve linear optimization and Decision problems
17IT4702B	Computer Vision	<ol style="list-style-type: none"> 1. Understand the basic concepts and methods in computer vision 2. Analyze various feature extraction and image segmentation techniques. 3. Apply various clustering and classification techniques for different applications. 4. Explore video processing methods in computer vision.
17IT4702C	Routing And Switching Essentials	<ol style="list-style-type: none"> 1. Determine the role of dynamic routing protocols in the context of modern network design. 2. Apply the configuration steps for static and dynamic routing in the topology. 3. Compare the working of various routing protocols. 4. Apply distance routing protocols in network communication.
17IT4703A	Deep Learning	<ol style="list-style-type: none"> 1. Understand linear and non linear activation functions, over fitting, different neural network architectures, dimensionality reduction 2. Analyze feed forward neural network and auto encoder architecture for various applications 3. Apply convolution, pooling operations in convolution neural networks and choose various encoding frameworks for a given application. 4. Identify a suitable RNN architecture for the given sequence modeling.
17IT4703B	Blockchain Technologies	<ol style="list-style-type: none"> 1. Understand blockchain terminologies and its properties and the emerging models for blockchain technology 2. Familiarize with the functional/operational aspects of crypto currency ecosystem. 3. Design, code, deploy and execute a smart contract – the computational element of the blockchain technology using Solidity and Remix IDE 4. Build private-permissioned blockchain-based applications for enterprises and businesses
17IT4703C	Information Retrieval System	<ol style="list-style-type: none"> 1. Interpret the functional processes and effectiveness of information storage and retrieval systems 2. Utilize techniques and architectures necessary to speed up the retrieval process for information retrieval systems 3. Apply metadata organization for effective information access.

		<ol style="list-style-type: none"> Evaluate and use different information retrieval techniques in various application areas
17IT4704 A	Natural Language Processing	<ol style="list-style-type: none"> Comprehend the concepts of natural language processing, its applications and language modeling techniques Evaluate probabilistic language models and Solve NLP sub problems using tokenizing and tagging Analyze linguistic structure in text using parsing and CFG Interpret Methods to recognize syntactic and semantics structures of a sentence
17IT4704B	Cloud Based CRM Platform (Salesforce)	<ol style="list-style-type: none"> Understand the basic concepts and framework of salesforce platform. Explore data modelling and management techniques. Analyze various levels to control data access and issues in lightning flow & apex programming Apply testing for various functionalities of applications.
17IT4704C	Devops Essentials	<ol style="list-style-type: none"> Understand the basic concepts of Devops, Kubernetes and trends of microservices. Apply Docker file syntax for developing a Dockerfile. Analyze Kubernetes resources, objects, namespaces which is a portable, extensible open-source platform for managing. Create kubernetes namespaces for monitoring and logging external resources.
17HS1705	Engineering Economics And Finance	<ol style="list-style-type: none"> Understand various forms of organizations and principles of management. Understand the various aspects of business economics Acquire knowledge on Human resources and Marketing functions Understand different methods used in calculating depreciation and evaluating alternatives economically
17IT3751	Cloud Computing Lab	<ol style="list-style-type: none"> Analyze the applications in cloud environment Develop applications in IaaS, PaaS and SaaS cloud models. Develop applications in different cloud ecosystems.
17IT4752 A	Deep Learning Lab	<ol style="list-style-type: none"> Understand the installation process and basics of tensor flow Construct a Multi Layer Neural Network Build a convolution neural network model for image classification

		4. Implement a sentiment analysis model using LSTM
17IT4752 B	Blockchain Technologies Lab	<ol style="list-style-type: none"> 1. Build smart contracts using Remix IDE, Ganache and Myether Wallet in Ethereum Platform. 2. Build private-permissioned blockchain-based applications for enterprises and businesses. 3. Develop IPFS file system using peer to peer networks
17IT4752C	Information Retrieval System Lab	<ol style="list-style-type: none"> 1. Demonstrate genesis and diversity of information retrieval situations for text and hyper media. 2. Analyze the usage of different data/file structures in building computational search engines.. 3. Implement applications for the performance of information retrieval using classification, clustering, and filtering over multimedia.
17IT5753	Mini Project	<ol style="list-style-type: none"> 1. Identify the problem, define objectives and scope of the project. 2. Analyse the problem from state of the art for arriving at feasible solutions. 3. Prepare an organized report employing elements of technical writing & critical thinking. 4. Summarize and communicate the content to audience in an effective manner.
17IT4801A	Business Intelligence	<ol style="list-style-type: none"> 1. Describe the concepts and components of business intelligence 2. Evaluate the use of BI for supporting decision making in an organization. 3. Discover the requirements need to design a business intelligence model. 4. Implement a behavioural model to assess the behaviour of the customer..
17IT4801B	Mobile Computing	<ol style="list-style-type: none"> 1. Understand the concept of mobile computing paradigm, its novel applications and access techniques. 2. Analyze cellular systems that adapt mobility for wireless data transmissions 3. Analyze wireless data transmission techniques in mobile communications 4. Evaluate mechanisms extended in network layer for mobility and satellite systems for supporting mobile communications
17IT4801C	Service Oriented Architecture	<ol style="list-style-type: none"> 1. Build applications based on XML using Document Object Model and Simple API for XML 2. Understand the basic principles and standards of Service-Oriented Architecture 3. Analyze web services using technology elements 4. Build SOA-based applications for intra-enterprise

		and inter-enterprise applications.
17IT4801D	Software Metrics And Quality Management	<ol style="list-style-type: none"> 1. Understand different metrics associated with Software Development and evaluation 2. Apply quality measurement , metrics and quality plan for software projects. 3. Analyze various SQA standards and software process assessments 4. Identify quality factors, quality metrics and SQA models and their impact on the final product.
17IT5851	Major Project	<ol style="list-style-type: none"> 1. Apply appropriate research methodology to provide a solution to the chosen problem 2. Design, develop and test software using current techniques. 3. Prepare a comprehensive report of the project work using modern tools 4. Demonstrate and Communicate the project objectives and outcomes in an effective manner.