

Semester-V

Course Code	Course Name	Course Outcomes (On completion of the course, learner will be able to-)
318541	Design and Analysis of Algorithm	<p>CO1: Calculate computational complexity using asymptotic notations for various algorithms.</p> <p>CO2: Demonstrate a familiarity with divide-conquer and greedy algorithms.</p> <p>CO3: Describe and analyze the dynamic-programming paradigm for optimal solution.</p> <p>CO4: Solve problems using backtracking approach.</p> <p>CO5: Compare different methods of Branch and Bound strategy.</p> <p>CO6: Classify P, NP, and NP Complete, NP hard problem.</p>
318542	IoT with Artificial Intelligence	<p>CO1: Understand internet of Things and its hardware and software components.</p> <p>CO2: Describe intelligent IOT systems.</p> <p>CO3: Analyze Protocol standardization for IOT.</p> <p>CO4: Perform an analysis of IOT security issues using AI technology.</p> <p>CO5: Identify the role of cloud computing in IOT.</p> <p>CO6: Develop IoT infrastructure for popular applications.</p>
318543	Web Technology	<p>CO1: Analyze behavior of web pages using web technologies</p> <p>CO2: Develop Static and Dynamic websites using technologies like HTML, CSS, Bootstrap</p> <p>CO3: Demonstrate the use of web scripting languages</p> <p>CO4: Develop web application with Front End & Back End Technologies</p> <p>CO5: Develop mobile website using JQuery Mobile</p> <p>CO6: Deploy web application on cloud using AWS</p>
318544	Management and Entrepreneurship for IT Industry	<p>CO1: Define management, organization, entrepreneur, planning, staffing, ERP and outline their importance in entrepreneurship</p> <p>CO2: Utilize the resources available effectively through ERP</p> <p>CO3: Make use of IPRs and institutional support in entrepreneurship</p> <p>CO4: Understand the role of entrepreneurs in economic development, barriers, Identification of business opportunities, feasibility studies.</p> <p>CO5: Understand the contents of project report, ERP and project.</p> <p>CO6: Understand IPRs and institutional support in entrepreneurship, Case Study of Entrepreneurs.</p> <p>CO7: Learners will explore entrepreneurial skills and management function of a company with special reference to SME sector.</p>
318545 (C)	Information Security	<p>CO1: Model the cyber security threats and apply formal procedures to defend the attacks.</p> <p>CO2: Apply appropriate cryptographic techniques by learning symmetric key cryptography.</p> <p>CO3: Apply appropriate cryptographic techniques by learning asymmetric key cryptography.</p> <p>CO4: Design and analyze web security solutions by deploying various cryptographic techniques along with data integrity algorithms.</p> <p>CO5: Identify and Evaluate Information Security threats and vulnerabilities in Information systems and apply security measures to real time scenarios.</p> <p>CO6: Demonstrate the use of standards and cyber laws to enhance Information Security in the development process and infrastructure protection.</p>
318546	Software Laboratory I (IoT with Artificial Intelligence)	<p>CO1: Understand IOT Application Development using Raspberry Pi/ Beagle board/ Arduino board</p> <p>CO2: Develop and modify the code for various sensor-based applications using wireless sensor modules and working with a variety of modules like environmental modules.</p> <p>CO3: Make use of Cloud platform to upload and analyze any sensor data</p>
318547	WT Laboratory	<p>CO1: Develop Static and Dynamic responsive website using technologies HTML, CSS, Bootstrap and AJAX.</p> <p>CO2: Create Version Control Environment.</p> <p>CO3: Develop an application using front end and backend technologies.</p> <p>CO4: Develop mobile website using JQuery Mobile.</p> <p>CO5: Deploy web application on cloud using AWS.</p>

318548 (C)	Information Security Laboratory	CO1: Use tools and techniques in the area of Information Security. CO2: Use cryptographic techniques for problem solving. CO3: Design and develop security solutions. CO4: Protect and defend information systems.
318549	Seminar / Mini Project	CO1: Analyze a latest topic of professional interest. CO2: Identify an engineering problem, analyze it and propose a work plan to solve it. CO3: Communicate with professional technical presentation skills. CO4: Design solution to real life problems and analyze its concerns through shared cognition. CO5: Tackle technical challenges for solving real world problems with team efforts.
318550	Environmental Studies	CO1: The understand nature of environment studies & Importance. CO2: Design the Structure and function of ecosystem CO3: The use of Natural Resources in real time environment CO4: Undesirable changes occurring in the physical, chemical, and biological composition of natural environment consisting of air, water, and soil. CO5: The commitment of an organization or government to the laws, regulations, and other policy mechanisms concerning environmental issues CO6: Humans impact their environment through their habits, actions, and choices.
318551 (D)	Mandatory Audit Course 5	On completion of the course, the learner will acquire additional knowledge of computer and programming skills.

Semester-VI

Course Code	Course Name	Course Outcomes <i>(On completion of the course, learner will be able to–)</i>
318552	Machine Intelligence for Data Science	CO1: Apply data preprocessing methods on open access data and generate quality data for analysis CO2: Apply appropriate statistical measures for machine learning applications. CO3: Apply regression techniques to machine learning problems. CO4: Apply and build classification models using SVM. CO5: Apply decision tree and ensembles methods to solve real time applications. CO6: Apply and build clustering models using clustering methods and its corresponding algorithms.
318553	Data Mining & Warehousing	CO1: Ability to understand the various kinds of tools. CO2: Apply frequent pattern and association rule mining techniques for data analysis CO3: Apply appropriate classification and clustering techniques for data analysis CO4: Apply frequent pattern and association rule mining techniques for data analysis & Study Warehouse with design and Components. CO5: Apply suitable pre-processing and visualization techniques for data analysis CO6: Design a Data warehouse system and perform business analysis with OLAP tools.
318554	Artificial Neural Networks	CO1: Recognize Learning Tasks and Learning Problems CO2: Differentiate between Learning in humane and Learning in Artificial Neural Networks. CO3: Understand Predictive learning with Feed Forward Neural Networks and Limitations CO4: Analyze Neural network architectures for solving Optimization Problems CO5: Investigate neural network architecture for descriptive tasks CO6: Understand learning type in Deep Neural Networks and their Applications
318555 (C)	AI for Cyber Security	CO1: Understand the fundamental of AI and Cyber Security. CO2: Analyze the cyber security threats and malware threats with AI. CO3: Analyze and apply network anomaly detection techniques to machine learning problems. CO4: Apply various algorithms to protect the sensitive information. CO5: Understand and apply tools for the various GANs attacks. CO6: Understand to evaluate algorithms.
318556	Software Laboratory II	CO1: Demonstrate proficiency with statistical analysis of data. CO2: Use statistical analyses with professional statistical software. CO3: Apply data science concepts and methods to solve problems.
318557	Software Laboratory III	CO1: Ability to understand the various kinds of tools. CO2: Demonstrate the classification, clustering and etc. in large data sets. CO3: Ability to add mining algorithms as a component to the exiting tools. CO4: Demonstrate proficiency with statistical analysis of data. CO5: Use statistical analyses with professional statistical software. CO6: Apply data science concepts and methods to solve problems.

318558	Internship / Skill Development / Global Certification Program	CO1: To demonstrate professional competence through industry internship. CO2: To apply knowledge gained through internships to complete academic activities in a professional manner. CO3: To choose appropriate technology and tools to solve given problem. CO4: To demonstrate abilities of a responsible professional and use ethical practices in day to day life. CO5: Creating network and social circle, and developing relationships with industry people. CO6: To analyze various career opportunities and decide carrier goals.
318559	Seminar & Technical Communication	CO1: Analyze a latest topic of professional interest. CO2: Enhance technical writing skills. CO3: Identify an engineering problem, analyze it and propose a work plan to solve it. CO4: Communicate with professional technical presentation skills.
318560 (D)	Mandatory Audit Course 6	On completion of the course, learner will acquire additional knowledge and skill