COURSE OUTCOMES

Final Year (2019 Pattern)

C19401: Information and Storage Retrieval	
Students will be able to	
C19401.1	define and explain the key concepts and models relevant to information storage and retrieval and Recognize Automatic Text Analysis and illustrate algorithms used for clustering.
C19401.2	recognize Indexing, Searching Techniques and describe models like vector-space, probabilistic and language models to identify the similarity of query and document
C19401.3	evaluate performance of information retrieval systems and describe current trends in information retrieval such as information visualization.
C19401.4	describe various applications of information retrieval giving emphasis to Distributed and Multimedia Information Retrieval Systems.
C19401.5	define, Explain and Evaluate the core algorithms underlying a fully functional web search, including the indexing, retrieval, and ranking components.
C19401.6	explain the key concepts of XML Retrieval and define Collaborative Filtering and Content Based Recommendation.

C19402: Software Project Management	
Students will be able to	
C19402.1	describe the importance of project management, project activities covered in software project management, and the differentiation between traditional versus modern project management practices.
C19402.2	create a design for a problem statement using UML Diagrams and state evaluation and improvement processes of software development.
C19402.3	explain Project Planning and Risk Management activities.
C19402.4	list and discuss Project Tracking, Monitoring & Control activities, and software configuration management tools
C19402.5	identify Staff Selection Process, a method for staff selection, and the issues related to Staff Management.
C19402.6	list and explain metrics and tools in agile project management

C19403: Deep Learning	
Students will be able to	
C19403.1	identify and define mathematical functions for Deep learning Algorithms.
C19403.2	apply the concepts of Convolution Neural Networks and design and use of popular CNN architectures.
C19403.3	compare Feed Forward Neural Network and Recurrent Neural Network and select model based on RNN and LSTM
C19403.4	elaborate unsupervised deep learning algorithms like Autoencoders.
C19403.5	explore Representation Learning and Transfer Learning techniques using variants of CNN

C19403.6	evaluate the performance of deep learning algorithms and to provide solution for various real-world applications.

C19404A : Elective III - Mobile Computing

Students will be able to	
C19404A.1	describe mobile computing and the different wireless MAC Protocols.
C19404A.2	discuss and illustrate different cellular systems like GSM, GPRS, UMTS.
C19404A.3	classify and summarize the different generations of mobile communication technologies like 1G, 2G,3G,4G,5G.
C19404A.4	express Mobile IP, IPv6 and state the different routing protocols.
C19404A.5	explain Traditional TCP, World Wide Web and Wireless application protocol.
C19404A.6	identify different Mobile device Operating Systems and illustrate different Software Development Kit.

C19404B : Elective III - High Performance Computing

Students will be able to	
C19404B.1	explain concepts of parallel computing and parallel computing platforms
C19404B.2	apply different Parallel programming paradigm and Decomposition Techniques.
C19404B.3	compare various communication calls.
C19404B.4	analyze different Performance Metrics for parallel system
C19404B.5	write basic CUDA and OpenMP Programs.
C19404B.6	explain different parallel algorithms for high performance computing.

C19405B: Elective-IV-Introduction to DevOps

Students will be able to	
C19405B.1	describe the DevOps Culture.
C19405B.2	discuss Microservices Architecture & Cloud Native Development Practices
C19405B.3	describe the concept of continuous integration and continuous delivery process.
C19405B.4	enlist various stages of continuous deployment pipeline and test strategies.
C19405B.5	explain the importance of monitoring system and reliability engineering.
C19405B.6	select DevOps tools for continuous delivery

C19405C: Elective-IV-Computer Vision

Students will be able to	
C19405C.1	explain fundamentals of image processing techniques required for computer vision.
C19405C.2	analyze shapes in an image using different algorithms.
C19405C.3	apply feature extraction techniques in different applications
C19405C.4	apply Hough Transform for line, circle, and ellipse detections in images
C19405C.5	understand three-dimensional analysis techniques
C19405C.6	develop a small application using computer vision techniques.

C19406 : LP-III - Information and Storage Retrieval

Students will be able to

C19406.1	design, implement, and evaluate the core algorithms like document clustering and text categorization.
C19406.2	implement the indexing approach for retrieval of text and multimedia data and evaluate the performance of information retrieval systems.
C19406.3	design, implement key concepts and models relevant to Web search, including web crawling and recommendation system
C19406.4	build applications using the concepts of Information retrieval field.

C19407 : Lab Practice IV-Deep Learning

Students will be able to

C19407.1	learn and Use various Deep Learning tools and packages.
C19407.2	build and train a deep Neural Network models for use in various applications.
C19407.3	apply Deep Learning techniques like CNN, RNN Auto encoders to solve real word Problems.
C19407.4	evaluate the performance of the model build using Deep Learning.

C19408 : Project Stage-I

Group of students will be able to

C19408.1	identify domain, gather requirement and formulate the problem statement based on societal issues, real-world applications having technological challenges in the field of Information Technology.
C19408.2	analyze and design the feasible technological solution by applying fundamental engineering knowledge.
C19408.3	demonstrate algorithmic principles and usage of modern tools for system implementation.
C19408.4	exhibit project management, team-work, communication skills and ethical practices.

C19409A : Audit Course 7-Copyrights and Parents

Students will be able to

C19409A.1	understand the concepts of Intellectual Property Rights.
C19409A.2	understand the knowledge about Copyrights and Trademark.
C19409A.3	understand the knowledge how to protect trade secrets.

C19409B: Audit Course 7 - Stress Management by Yoga

Students will be able to

C19409B.1	understand the reasons for Stress.
C19409B.2	understand the role of Yoga.
C19409B.3	develop healthy mind in a healthy body.

C19409C: Audit Course 7 - English for Research Paper Writing

Students will be able to

C19409C.1	understand that how to improve writing skills and level of readability.
C19409C.2	identify and categorize about what to write in each section.
C19409C.3	ensure the good quality of paper at very first-time submission.

C19410: Distributed Systems	
Student will be able to	
C19410.1	explain core concepts, goals and challenges underlying distributed systems design and architectures in complex application through large systems.
C19410.2	explain the concept of middleware of distributed systems, classify the types of middleware, and discuss middleware issues.
C19410.3	illustrate interprocess communication using high level abstraction, and how processes cooperate using coordination mechanisms in distributed systems.
C19410.4	comprehend the importance of replication to achieve fault tolerance in distributed systems.
C19410.5	elaborate the design and functioning of existing distributed file systems, distributed multimedia, and distributed web-based systems.
C194110.6	describe various recent trends in distributed systems.

C19411B: Elective V- Social Computing	
Students will be able to	
C19411B.1	define the social media data, data gathering phase and differentiate between different types of data in social media channels.
C19411B.2	apply various network measures on social media data
C19411B.3	list, explain and compare different data mining and text mining algorithms in social media.
C19411B.4	identify social similarities.
C19411B.5	analyze, model and predict behaviors of entities in social media.
C19411B.6	discuss different API's used to collect social media data and analysis of the collected data.

C19412D: Elective VI-Blockchain Technology	
Students will be able to	
C19412D.1	describe the concept of cryptography and decentralized system with respect to blockchain
C19412D.2	explain fundamental knowledge of blockchain with issues associated with it.
C19412D.3	illustrate the knowledge of Ethereum blockchain platform.
C19412D.4	use the hyper ledger fabric platform to design blockchain.
C19412D.5	utilize the knowledge of tokenization and consensus mechanism to develop blockchain
C19412D.6	describe the applications and risk involved in blockchain.

C19413: Startup and Entrepreneurship	
Students will be able to	
C19413.1	identify and analyze the business opportunities for start-up ecosystem.

C19413.2	design a model for product or service with 'canvas' as business model.
C19413.3	apply appropriate business model on proposed product/ services.
C19413.4	create and iterate Minimum Viable Product of the proposed product/ services.
C19413.5	prepare financial plan for the proposed product/ services.
C19413.6	propose strategy for branding, marketing, and using technology for sustainable product development.

C19414: Lab Practice-V- Distributed Systems

Students will be able to	
C19414.1	demonstrate knowledge of the core concepts and techniques in distributed systems.
C19414.2	apply principles of state-of-the-art distributed systems in practical application.
C19414.3	design, build and test application programs and mini project on distributed systems.

C19415: Lab Practice VI - Elective VI (Blockchain Technology)

Students will be able to	
C19415.1	demonstrate knowledge of the core concepts and techniques in crypto wallet.
C19415.2	design and deploy test application on Ethereum blockchain network.
C19415.3	identify Consensus mechanism and apply it to build blockchain application.

C19416 : Project Stage-II

Group of students will be able to	
C19416.1	refine project design and implement the problem definition with the help of state-of-the-art technologies.
C19416.2	evaluate implementation using testing techniques and tools.
C19416.3	interpret project results and report the findings with the help of tools (e.g. Latex) and demonstrate their work to the professional engineering community.
C19416.4	inculcate the lifelong ethical practice and will cultivate Industrial professionalism within oneself and develop effective communication skills.

C19417A: Audit Course 8 - Functional Programming in Haskell

Students will be able to	
C19417A.1	understand the paradigm of programming.
C19417A.2	develop insight about 'lazy' execution.
C19417A.3	learn the syntax and semantics of the Haskell programming language.
C19417A.4	learn 'idioms' of Haskell programming

C19417B: Audit Course 8 - Cyber Laws and Use of social media

Students will be able to	
C19417B.1	understand the importance of IT Act.
C19417B.2	understand the significance of cyber laws and its practice.
C19417B.3	identify and Analyze software vulnerabilities and security solutions to reduce the risk of exploitation.

C19417B.4	study various privacy and security concerns of Online social media.
C19417C: Audit Course 8 - Constitution of India	
Students will be able to	
C19417C.1	understand the Principles of the Indian Constitution.
C19417C.2	understand and identify the growth of the demand for civil rights in India.
C19417C.3	understand the organizations of governance.
C19417C.4	understand the role and functions of local administration.