Department of Artificial Intelligence and Data Science

Third Year of Artificial Intelligence and Data Science (2019 course)

310241 Data Base Management System

CO1: Analyze and design Database Management System using ER model.

CO2: Implement database queries using database languages.

CO3: Normalize the database design using normal forms.

CO4: Apply Transaction Management concepts in real-time situations.

CO5: Use NoSQL databases for processing unstructured data.

CO6: Differentiate between Complex Data Types and analyze the use of appropriate data types.

317521: Computer Networks

CO1: Summarize fundamental concepts of Computer Networks, architectures, protocols and technologies.

CO2: Analyze the working of physical layer protocols.

CO3: Analyze the working of different routing protocols and mechanisms.

CO4: Implement client-server applications using sockets.

CO5: Illustrate role of application layer with its protocols, client-server architectures.

CO6: Summarize concepts of MAC and Ethernet.

310252: Web Technology

CO1: Implement and analyze behavior of web pages using HTML and CSS.

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CO2: Apply the client side technologies for web development.

CO3: Analyze the concepts of Servlet and JSP.

CO4: Analyze the Web services and frameworks.

CO5: Apply the server side technologies for web development.

CO6: Create the effective web applications for business functionalities using latest web development platforms.

310253: Artificial Intelligence

CO1: Identify and apply suitable intelligent agents for various AI applications.

CO2: Build smart system using different informed search / uninformed search or heuristic approaches.

CO3: Identify knowledge associated and represent it by ontological engineering to plan a strategy to solve given problem.

CO4: Apply the suitable algorithms to solve AI problems.

CO5: Implement ideas underlying modern logical inference systems.

CO6: Represent complex problems with expressive yet carefully constrained language of representation.

314445 (C): Design Thinking (Elective- I)

CO1: Identify need and features of design thinking.

CO2: Identify the opportunities and challenges for design thinking innovation.

CO3: Learn the process of design thinking using various tools.

CO4: Summarize and learn the various prototyping techniques.

CO5: Enlist the activities carried out in Test and reflect phase of design thinking.

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CO6: Interpret the design thinking disruptive innovations through case studies.

317523: Software Laboratory I

CO1: Implement SQL queries for given requirements, using different SQL concepts.

CO2: Implement NoSQL queries using MongoDB.

CO3: Design and develop application using database considering specific requirements.

CO4: Design a system using different informed search / uninformed search or heuristic approaches.

CO5: Apply basic principles of AI in solutions that require problem solving, inference, perception, knowledge representation, and learning.

CO6: Design and develop an interactive AI application.

317524: CN Laboratory

CO1: Analyze the requirements of network types, topology and transmission media.

CO2: Demonstrate error control, flow control techniques and protocols and analyze them.

CO3: Demonstrate the subnet formation with IP allocation mechanism and apply various routing algorithms.

CO4: Develop Client-Server architectures and prototypes.

CO5: Implement web applications and services using application layer protocols.

317525: Elective I Laboratory Design Thinking

CO1: Frame and Design Challenge by performing STEEP Analysis, Conduct Interviews, design and ask 5x Why and 5W+H questions.

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CO2: Demonstrate the activities to empathize with the users by creation of Empathy Map, Persona Development, Customer Journey Map.

CO3: Define and ideate process of design thinking and perform brainstorming, selection of ideas, create a storyboard and design paper prototyping or digital prototyping for chosen design challenge.

317526: Seminar and Technical Communication

CO1: Analysis specialized topic of interest from core area.

CO2: Enhance Technical writing skills.

CO3: Targeting specific problem and identify working solution to resolve it.

CO4: Developing professional communication skill.

317527: Environmental Studies

CO1: Aware the importance of environment.

CO2: Understand the water pollution.

CO3: Know the Air and noise pollution.

CO4: Understand the E-waste and green computing.

317529: Data Science

CO1: Analyze needs and challenges for Data Science

CO2: Apply statistics for Data Analytics

CO3: Apply the lifecycle of Data analytics to real world problems

CO4: Implement Data Analytics using Python programming

CO5: Implement data visualization using visualization tools in Python programming

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CO6: Design and implement Big Databases using the Hadoop ecosystem

317530: Cyber Security

CO1: Gauge the security protections and limitations provided by today's technology.

CO2: Identify cyber security threats.

CO3: Analyze threats in order to protect or defend it in cyberspace from cyber-attacks.

CO4: Build appropriate security solutions against cyber-attacks

317531: Artificial Neural Network

CO1: Understand the basic features of neural systems and be able to build the neural model.

CO2: Perform the training of neural networks using various learning rules.

CO3: Grasping the use of Associative learning Neural Network

CO4: Describe the concept of Competitive Neural Networks

CO5: Implement the concept of Convolutional Neural Networks and its models

CO6: Use a new tool /tools to solve a wide variety of real-world problems

310254(C): Cloud Computing - Elective II

CO1: Understand the different Cloud Computing environment

CO2: Use appropriate data storage technique on Cloud, based on Cloud application

CO3: Analyze virtualization technology and install virtualization software

CO4: Develop and deploy applications on Cloud

CO5: Apply security in cloud applications

CO6: Use advance techniques in Cloud Computing

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317533: Software Laboratory II

CO1: Model artificial Neural Network, and to analyze ANN learning, and its applications

CO2: Perform Pattern Recognition, Linear classification.

CO3: Develop different single layer/multiple layer Perception learning algorithms

CO4: Design and develop applications using neural networks.

317534: Software Laboratory III

CO1: Apply principles of Data Science for the analysis of real time problems

CO2: Implement data representation using statistical methods

CO3: Implement and evaluate data analytics algorithms

CO4: Perform text preprocessing

CO5: Implement data visualization techniques

CO6: Use cutting edge tools and technologies to analyze Data

317535: Internship

CO1: To demonstrate professional competence through industry internship.

CO2: To apply knowledge gained through academics to a professional environment during internship.

CO3: To select appropriate technology and tools to solve a given real time problem.

CO4: To demonstrate abilities of a responsible professional and use ethical practices in day today life.

CO5: To create professional and social network and develop relationships with industry people and get exposure to future employers.

CO6: To explore various career opportunities in different domains and decide career goals.

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317536: Mini Project

CO1: Identify basic security attacks and services

CO2: Analyze the vulnerabilities and design a security solution.

CO3: Implement symmetric and asymmetric key algorithms

CO4: Demonstrate network security applications, Firewall, IDs.

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Principal