LENDI INSTITUTE OF ENGINEERING AND TECHNOLOGY

An Autonomous Institution
Approved by AICTE & Permanently Affiliated to JNTUK, Kakinada
Accredited by NAAC with "A" Grade and NBA
Jonnada (Village), Denkada (Mandal), Vizianagaram Dist – 535005
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DEPARTMENT OF COMPUTER SCIENCE & SYSTEMS ENGINEERING

(R19 REGULATION COURSE OUTCOMES)

COURSE CODE & NAME	CO	CO Statement
SEMESTER-V(III-I)		
Data Warehousing and Mining	C301.1	Understand stages in building a Data Warehouse and correlate the various system architectures.
	C301.2	Understand the need and importance of reporting and query tools.
	C301.3	Understand the need and importance of data mining functionalities.
	C301.4	Understand the process of classification.
	C301.5	Apply the Clustering techniques on sample data.
Computer Networks	C302.1	Understand and Compare the Reference Models.
	C302.2	Identify the Network Components and learn about their functionality.
	C302.3	Analyze the services provided by the Data Link Layer to the Network Layer.
	C302.4	Understand the use of Data Link Layer protocols.
	C302.5	Understand the architecture of IEEE 802.11
Compiler Design	C303.1	Understand the different types of parsing and implement parser for any language
	C303.2	Understand the different intermediate code representations and use Syntax directed
	C303.3	Definitions to design a intermediate code generators for any language construct.
	C303.4	Understand the basics of data flow analysis, optimizations, and run time environment required for handling recursive procedures
	C303.5	Understand the issues in the code generation and code generation algorithms.
Advanced Data Structures	C304.1	Understand how to handle massive amounts of data which resides in external memory i.e. disks and CDs etc using external sorting algorithms and apply external sorting algorithm on massive amounts of data.
	C304.2	Understand and implement indexing techniques using hashing techniques.
	C304.3	Apply concepts of Binary Heap and binomial queues in real time applications.
	C304.4	Apply the data structures such as Red-Black trees, splay trees and M-way search trees.
	C304.5	Apply data structures such as B trees and B+ trees in data base indexing. Understand digital search trees and tries.
Embedded Systems (Professional Elective-1)	C305.1	Interpret embedded system and its hardware and software.
	C305.2	Comprehend the knowledge of microcontrollers
	C305.3	Develop interfacing with hardware
	C305.4	Illustrate different types of operating systems and Multitasking
	C305.5	Apply embedded Software development tools and Design and develop the embedded system

	C306.1	Hands on experience with Unix System Calls.
Computer Networks and Compiler Design Lab	C306.2	Understand and explain the basic concepts of networking commands
	C306.3	Hands on experience with C language.
	C306.4	Understand and explain the basic concepts of networking commands
	C306.5	Understand and Implement different analyzer's, precedence Grammars
Advanced Data structures Lab	C307.1	Analyze External sorting Techniques.
	C307.2	Analyze the concepts of hashing techniques
	C307.3	Apply various operations on binary heaps and AVL-trees.
	C307.4	Implementation various operations on different advanced Trees.
	C307.5	Implementation various operations on B+ Trees
Data Mining and Data Warehousing Lab	C308.1	The data mining process and important issues around data cleaning, pre-processing and integration.
	C308.2	The principle algorithms and techniques used in data mining, such as clustering, association mining, classification and prediction.
Employability Skills- 2	C309.1	understand the grammatical forms of English and the use of these forms in specific communicative and career context
	C309.2	use a wide range of reading comprehension strategies appropriate to texts, to retrieve information
	C309.3	strengthen their ability to write paragraphs, essays, emails and summaries
	C309.4	Improve their speaking ability in English both in terms of fluency and comprehensibility by participating in Group discussion and oral assignments
	C309.5	prepare their own resume and answer interview related questions unhesitatingly with acceptable soft skills

COURSE CODE & NAME	CO	CO Statement
		SEMESTER-V(III-II)
Web Technologies	C311.1	Demonstrate knowledge on web page design elements.
	C311.2	Design web pages with dynamic content
	C311.3	Create Responsive layout with customized forms
	C311.4	Write simple client-side scripts using AJAX
	C311.5	Build web applications using PHP
Functional Programming	C312.1	Analyze syntax and semantic of programming languages and design parsers for the grammars.
	C312.2	Design and implement the concepts of data types, arrays, pointers and control structures in various programming languages.
	C312.3	Design and implement basic concepts of subprograms in various programming
	C312.4	Design and implement basic concepts of OOPs, Multithreading and Exception handling in various programming languages.
	C312.5	Acquire the basic knowledge of lambda calculus, functional programming languages, Programming with Scheme, Programming with ML and Acquire the basic knowledge of Logic programming, Prolog and Multi-paradigm languages.
Design and Analysis of Algorithms	C313.1	Analyse the performance of an Algorithm in terms of Space, Time and Amortized Complexity.
	C313.2	Apply the Divide and Conquer techniques to the Algorithms.
	C313.3	Apply the greedy paradigm to the Algorithms.
	C313.4	Apply the dynamic-programming paradigms for the Analasys of algorithms
	C313.5	Apply the Backtracking and branch and bound paradigms for the analasys of Algorithms
Human Computer Interaction	C314.1	Having the capabilities of both humans and computers from the viewpoint of human information processing.

	C314.2	Learning about human. computer interaction (HCI) models, styles, and various historic HCI paradigms.
	C314.3	Apply an interactive design process and universal design principles to designing HCI systems.
	C314.4	Describe and use HCI design principles, standards and guidelines.
	C314.5	Analyzed tasks and dialogs of relevant HCI systems based on task analysis and dialog design.
Internet of Things	**C315.1**	Recognize the factors that contributed to the emergence of IoT
	C315.2	Design and program IoT devices like Microcontrollers, sensors and actuators.
	C315.3	Use real IoT protocols for communication.
	C315.4	Define the infrastructure for supporting IoT deployment.
	C315.5	Design an IoT device to work with a Cloud Computing infrastructure and Transfer IoT data to the cloud and in between cloud providers.
Managerial Economics and Financial Accountancy	**C316.1**	Equipped with the knowledge of fundamentals of economics, estimating the Demand for a product, Capable of analyzing Elasticity & Forecasting methods(L2)
	C316.2	Apply production concepts, assess the costs and Determine Break Even Point (BEP) of an enterprise for managerial decision making(L4)
	C316.3	Identify the influence and price determination of various markets structures and knowledge of the forms of business organization and Business cycles(L4)
	C316.4	Analyze and interpret the process & principles of accounting & apply financial statements for appropriate decisions to run the business profitably(L4)
	C316.5	Analyze how to invest adequate amount of capital in order to get maximum return from selected business activity.(L4)
Web Technology Lab	**C317.1**	Students will be able to develop static web sites using XHTML and Java Scripts
	C317.2	To implement XML and XSLT for web
	C317.3	Develop Dynamic web content using Java Servlets and JSP
	C317.4	To develop JDBC connections and implement a complete Dynamic web application

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COURSE CODE & NAME	CO	CO Statement
		SEMESTER-III(II-I)
Mathematical Foundations Of Computer Science	C201.1	Test the validity of an argument through enhanced logical capabilities. (L3)
	C201.2	Implement Shortest path algorithm for different graphs.(L3)
	C201.3	Construct minimal spanning tree using algorithms for the graphs.(L3)
	C201.4	Understand the algebraic structures and their properties. (L3)
	C201.5	Find a general solution of recurrence equation using suitable method and apply the different properties of lattice to simplify Boolean expressions.(L3)
Software Engineering	C202.1	Understand the software development process models.
	C202.2	Demonstrate the Requirements and Design SRS document of the Software Systems process.
	C202.3	Implement different modules and objects to organise data.
	C202.4	Apply coding standards and software testing approaches.
	C202.5	Analyze various testing techniques, Risk management and Software quality of the software products.
Python Programming	C203.1	Understand program structure python REPL shell environment.
	C203.2	Implement iterators and functions for data processing.
	C203.3	Implement different modules and objects to organise data.
	C203.4	Implement different data structures and their functionalities.
	C203.5	Understand Object oriented concepts and handle different errors through exceptions.
Digital Systems Design	C204.1	Manipulate numeric information in different forms, e.g. different bases, signed integers, various codes such as Gray and BCD and understand the minimization techniques.
	C204.2	Design and analyze small combinational circuits and to use standard combinational functions/building blocks to build larger more complex circuits.
	C204.3	Design sequential circuits and devices and to use standard sequential functions/building blocks to build larger more complex circuits.
	C204.4	Design synchronous and asynchronous counters and registers for different applications.
	C204.5	Understand the concepts of memory elements and PLDs
Operating System	C205.1	Understand the importance of operating systems and different types of system calls(L2)
	C205.2	Analyze process scheduling algorithms and various IPC mechanisms.(L4)

	C205.3	Understand the process synchronization, different ways for deadlocks handling.(L2)
	C205.4	Analyze different page replacement methods, various File management techniques (L4).
	C205.5	Understand Linux and Android environment and behavior (L2).
Python Programming Lab	C206.1	Understand the working environment of Python and its program structure.
	C206.2	Implement conditional and iterative statements.
	C206.3	Create custom modules and functions to handle different operations.
	C206.4	Implement Object oriented concepts through real time scenarios and handle errors.
Operating Systems Lab	C207.1	Implement various process scheduling programs
	C207.2	Implement various memory management algorithms.
	C207.3	Identify various solutions for critical section problems and also implement different algorithms that are applied in virtual memory .
	C207.4	Implement various file allocation algorithms
	C207.5	Describe and write shell scripts in order to perform basic shell programming.
Software Engineering lab	C208.1	Ability to translate end-user requirements into system and software requirements
	C208.2	Ability to generate a high-level design of the system from the software requirements
	C208.3	Will have experience and/or awareness of testing problems and will be able to develop a simple testing report
Employability Skills-1	C209.1	Enable students to identify Parts of Speech and use them flawlessly, write Emails in formal correspondence effectively, participate confidently by introducing oneself in any formal discussion.
	C209.2	Attain Language Proficiency & Accuracy through Contextualized Vocabulary, Verb forms, Tense and subject verb agreement, produce coherent expressions for professional writing, introduce themselves unhesitatingly with Task-Based Activities.
	C209.3	Develop the fluency and accuracy to write Technical Reports and Emails for professional communication by using appropriate vocabulary and participate confidently in any formal discussion.
	C209.4	Assimilate lifelong reading habit to comprehend a passage for its gist. Avoid the errors in both Speech & Writing and write Letters and Emails for official communication.
	C209.5	Realise the technical communicative competence and attainment of grammatically correct structures for formal communication.
Intellectual Property Rights & Patents	C210.1	Knowledge on Intellectual Property Law, Innovations and Inventions of Trade related Intellectual
	C210.2	Property Rights.(L3)State the principles and rights afforded by Copyright. (L3)
	C210.3	Analyze Patent Requirements, Patent Law, Infringement and Litigation.(L3)
	C210.4	Outline the registration Processesof Trade Mark and Dilution of Ownership of Trade mark (L2)
	C210.5	State the main ideas of Employee Confidentiality Agreement and Trade Secret Litigation and also identify the legal procedures to prevent cybercrimes. (L2)

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		SEMESTER-IV(II-II)
Probability and Statistics	C210.1	Evaluate correlation and regression for the given data.(L2)
	C210.2	Apply Baye's theoremto probabilistic experiments.(L3)
	C210.3	Apply discrete and continuous probability distributions to the real time problems .(L3)
	C210.4	Design the components of a classical hypothesis test.(L3)
	C210.5	Infer the statistical inferential methods based on small sampling tests. (L3)
Object Oriented programming through Java	C211.1	Understand the environment of JRE and Control Statements.
	C211.2	Implement real world objects using class Hierarchy.
	C211.3	Implement generic data structures for iterating distinct objects.
	C211.4	Implement error handling through exceptions and file handling through streams.
	C211.5	Design thread-safe GUI applications for data communication between objects.
Computer Organization and Architecture	C212.1	Identify the Architecture of modern computer.
	C212.2	Measure the performance of a computer.
	C212.3	Explain different instruction types, addressing modes
	C212.4	Demonstrate the concepts of interrupts and memory accessing methods.
	C212.5	Illustrate different memory types and the functions of control unit.
Data Base Management Systems	C213.1	Understand File System Vs Databases.
	C213.2	Design and implement ER-model and Relational models.
	C213.3	Construct simple and Complex queries using SQL.
	C213.4	Analyze schema refinement techniques.
	C213.5	Design and build database system for a given real world problem
Managerial Economics and Financial Accountancy	C214.1	Equipped with the knowledge of fundamentals of economics, estimating the Demand for a product, Capable of analyzing Elasticity & Forecasting methods(L2)
	C214.2	Apply production concepts, assess the costs and Determine Break Even Point (BEP) of an enterprise for managerial decision making(L4)
	C214.3	Identify the influence and price determination of various markets structures and knowledge of the forms of business organization and Business cycles(L4)
	C214.4	Analyze and interpret the process & principles of accounting & apply financial statements for appropriate decisions to run the business profitably(L4)
	C214.5	Analyze how to invest adequate amount of capital in order to get maximum return from selected business activity.(L4)
Object Oriented programming through Java LAB	C215.1	Create classes and objects for real world entities.
	C215.2	Implement polymorphic and abstract behaviour in objects.
	C215.3	Implement the parent-child relationships between objects with access protection.

	C215.4	Create exceptions for handling runtime errors during text processing.
	C215.5	Implement generic data structures for iterating distinct objects.
Computer Organization and Architecture Lab	C216.1	Acquire the knowledge of numbering systems and logic gates.
	C216.2	Design of logic gates using IC.s.
	C216.3	Design of combinational circuits using IC.s.
	C216.4	Design of Sequential circuits using IC.s.
	C216.5	Design of synchronous and asynchronous counters using flip-flops.
Data Base Management Systems Lab	C217.1	Understand the procedure for creating the database.
	C217.2	Apply querying techniques to create Database tables by properly specifying Integrity constraints.
	C217.3	Apply SQL commands such as DDL, DML, DCL, TCL to access data from database objects
	C217.4	Understand the procedure to write Nested queries.
	C217.5	Develop PL/SQL stored procedures, stored functions, cursors and packages.
Linux System Administration lab (Skill Oriented Course)	C218.1	Explain the fundamental concepts of open-source operating system Linux
	C218.2	Understand the basic set of commands and editors in Linux Operating Systems.
	C218.3	Discuss shell programming in Linux Operating System.
	C218.4	Demonstrate the role and responsibilities of a Linux System Administration.
	C218.5	Distinguishavarious filter and server commands.
Essentials of Indian Tradition Knowledge	C219.1	Knowledge about the concept of traditional knowledge(L2)
	C219.2	Apply significance of traditional knowledge protection(L3)
	C219.3	Analyze various enactments related to the protecting facets of traditional knowledge.
	C219.4	Evaluate the significance Traditional Knowledge and modern food.
	C219.5	Compare the traditional knowledge in various sectors

HOD-CSSE