DADI INSTITUTE OF ENGINEERING & TECHNOLOGY

An Autonomous Institute

Approved by AICTE& Permanently affiliated to JNTU GV

Accredited by NAAC with 'A' Grade and Inclusion u/s 2(f) & 12(B) of UGC Act

An ISO 9001:2015, ISO 14001:2015 & ISO 45001:2018 Certified Institute.

NH-16, Anakapalle – 531002, Visakhapatnam, A.P.

Website: www.diet.edu.in, 9963993229 E-mail:, principal@diet.edu.in

I-I DR-24

BUSINESS COMMUNICATION

- Explain the purpose, process, and objectives of communication and apply effective listening skills to overcome barriers in communication.

- Demonstrate the ability to manage formal, informal, intrapersonal, and interpersonal communication effectively within an organization.

- Interpret and use non-verbal communication, body language, and business etiquette appropriately in professional and cross-cultural contexts.

- Develop clear, well-structured written communication such as reports, letters, and meeting documents using correct writing mechanics.

- Deliver effective presentations and perform confidently in group discussions and interviews using assertive communication strategies.

MATHEMATICAL AND STATISTICAL FOUNDATIONS

- Apply the basic rules and theorems of probability theory such as Baye's Theorem, determine probabilities that help to solve engineering problems and to determine the expectation and variance of a random variable from its distribution.

- Able to perform and analyze of sampling, means, proportions, variances and estimates the maximum likelihood based on population parameters.

- Learn how to formulate and test hypotheses about sample means, variances and proportions and to draw conclusions based on the results of statistical tests.

- Design various ciphers using number theory

- Apply graph theory for real time problems like network routing problem.

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COMPUTER ORGANIZATION & OPERATING SYSTEMS

- Understand the basic organization of computer and different instruction formats and addressing modes
- Analyze the concept of pipelining, segment registers and pin diagram of CPU.
- Understand and analyze various issues related to memory hierarchy
- Evaluate various modes of data transfer between CPU and I/O devices
- Examine various inter connection structures of multi processors

DATA STRUCTURES

- Implement basic programs by using C concepts.
- Select the data structures that efficiently model the information in a problem
- Assess efficiency trade-offs among different data structure implementations or combinations
- Implement and know the application of algorithms for sorting and pattern matching.

OBJECT ORIENTED PROGRAMMING WITH JAVA

- Describe the uses OOP concepts
- Apply OOP concepts to solve real world problems
- Distinguish the concept of packages and interfaces
- Demonstrate the exception handing, multithread applications with synchronization
- Design the GUI based applications using AWT and Swings
- Discuss the Collection Framework

OPERATING SYSTEMS AND LINUX LAB

- Implement various CPU scheduling algorithms and compare results
- Implement various disk scheduling algorithms and compare results
- Implement page replace algorithms
- Implement various memory management techniques.
- Execute basic Linux commands

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DATA STRUCTURES LAB

- Implement various basic data structures and its operations.
- Apply sorting and searching algorithms to given numbers
- Implement various tree operations.
- Implement various graphs algorithms.
- Develop applications using various data structures

JAVA PROGRAMMING LAB

- Apply OOP concepts to solve real world problems
- Implement different forms of inheritance
- Create packages and to reuse them.
- Implement multi threaded programs using synchronization concepts
- Create user defined exceptions

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I-II (DR24)

DATABASE MANAGEMENT SYSTEMS

- Illustrate the concept of databases, database management systems, database languages, database structures and their work
- Apply ER modeling and Relational modeling for designing simple databases.
- Summarize the concepts related to relational model and SQL and Write database queries using relational algebra and structured query language
- Design and develop databases from the real world by applying the concepts of Normalization
- Outline the issues associated with Transaction Management and Recovery, Tree Structured and Hash-Based Indexing

COMPUTER NETWORKS

- Explain the network architecture, TCP/IP and OSI reference models
- Identify and understand various techniques and modes of transmission
- Demonstrate the data link protocols, multi-channel access protocols and IEEE 802 standards for LAN
- Describe routing and congestion in network layer with routing algorithms and classify IPV4 addressing scheme
- Discuss the elements and protocols of transport layer
- Develop network security and define various protocols such as FTP, HTTP, Telnet, DNS

SOFTWARE ENGINEERING AND DESIGN PATTERNS

- Define various software application domains and remember different process model used in software development.
- Explain needs for software specifications also they can classify different types of software requirements and their gathering techniques.
- Convert the requirements model into the design model and demonstrate use of software and user interface design principles.
- Illustrate the appropriate design patterns to solve object-oriented design problems.
- Apply structural patterns to solve design problems
- Evaluate the design solutions by using behavioral patterns.

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DATA WAREHOUSING AND MINING

- Understand the basics of types of data, quality of data, suitable techniques required for preprocessing and measures required to perform data analysis
- Describe the need of classification, identify suitable technique(s) to perform classification, model building and evaluation
- Identify the requirements and usage of association rule mining on categorical and continuous data
- Compare and Identify suitable clustering algorithm(s) (apply with open source tools), interpret, evaluate and report the result
- Describe the requirements and the need of web mining

DESIGN AND ANALYSIS OF ALGORITHMS

- Describe asymptotic notation used for denoting performance of algorithms
- Analyze the performance of a given algorithm and denote its time complexity using the asymptotic notation for recursive and non-recursive algorithms
- List and describe various algorithmic approaches
- Solve problems using divide and conquer, greedy, dynamic programming, backtracking and
  branch and bound algorithmic approaches
- Apply graph search algorithms to real world problems
- Demonstrate an understanding of NP- Completeness theory and lower bound theory

DBMS LAB

- Utilize SQL to execute queries for creating database and performing data manipulation operations
- Examine integrity constraints to build efficient databases
- Apply Queries using Advanced Concepts of SQL
- Build PL/SQL programs including stored procedures, functions, cursors and triggers

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COMPUTER NETWORKS LAB

Comprehend the software simulation and hardware implementation of encoding and error control schemes.

Illustrate various graphs in computer using various data structures algorithm.

Apply the algorithm of shortest path in a graph for single source to single/all destination.

Analyze the throughput for random access protocol.

Analyze the throughput on hardware for error control method and random-access protocols in data link layer.

SOFTWARE ENGINEERING AND DESIGN PATTERNS LAB

- Understand software engineering principles involved in building large software programs and process of requirements specification and requirements validation.
- Understand the concepts of object orientation and development of class models
- Analyze system models for designing patterns.
- Recognize the importance of software maintenance and complexities involved in software evolution
- Apply estimation techniques, schedule project activities and compute pricing.
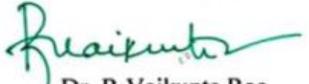
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