

Lesson Plan of RDBMS & Computer Network

Name of the Teacher: Ravi Kumar Barwal
Class: B.Sc/BA III Yr
Session: Jan-June 2024
Internal Marks: 20/20

Subject: RDBMS & Computer Network
Semester: VI
External Marks: 80/50

Course Objectives

- To develop practical skills in SQL programming for effective data manipulation and retrieval.
- To equip students with practical skills in configuring, managing, and troubleshooting computer networks.

Course Outcome

At the end of the course, students will be able to:

- Understand relational model and its concepts.
- Implement relational algebra operators.
- Implement programming using PL/SQL.
- Understand and explain Data Communications System and its components.
- Identify the different types of network devices and their functions within a network.

Lesson Plan from 01.01.2024 to 30.04.2024

Month	Tentative Dates	Topic
January	01.01.24 to 06.01.24	Relational Model Concepts, Codd's Rules for Relational Model, Hierarchical Data Model– Introduction, Features, Components, Example, Network Data Model– Introduction, Features, Components, Example, Differences between Hierarchical Data Model and Network Data Model
	08.01.24 to 13.01.24	Comparison of Relational Data Model with Hierarchical Data Model and Network Data Model Relational Algebra:-Selection and Projection, Set Operation, Join and Division.
	16.01.24 to 24.01.24	Introduction to Data Communication and Computer Networks; Uses of Computer Networks; Types of Computer Networks and their Topologies; Network Hardware Components: Connectors, Transceivers, Repeaters, Hubs, Network Interface Cards and PC Cards, Bridges, Switches, Routers, Gateways;
	25.01.24 to 31.01.24	Network Software: Network Design issues and Protocols; Connection-Oriented and Connectionless Services; OSI Reference Model; TCP/IP Model;
February	01.02.24 to 10.02.24	Relational Calculus: Tuple Relational Calculus and Domain Relational Calculus. Functional Dependencies and Normalization -- Purpose, Data Redundancy, Update Anomalies
	12.02.24 to 17.02.24	Partial/Fully Functional Dependencies, Transitive Functional Dependencies, Characteristics of Functional Dependencies, Decomposition and Normal Forms (1NF, 2NF, 3NF & BCNF).
	19.02.24 to 29.02.24	Analog and Digital Communications Concepts: Analog and Digital data and signals; Bandwidth and Data Rate, Capacity, Baud Rate; Guided and Wireless Transmission Media; Communication

		Satellites; Switching and Multiplexing; Modems and modulation techniques;
March	01.03.24 to 09.03.24	SQL: Data Definition and data types, Create Table, Insert Data, Viewing Data, Filtering Table Data, Sorting data, Creating Table from a Table, Destroy table, Update, View, Delete, Join,
	11.03.24 to 16.03.24	Concatenating data from Table Specifying Constraints in SQL; Primary Key, Foreign Key, Unique Key, Check Constraint, Using Functions
	18.03.24 to 22.03.24	Data Link Layer Design issues; Error Detection and Correction methods; Sliding Window Protocols: One-bit, Go Back N and Selective Repeat; Media Access Control: ALOHA, Slotted ALOHA, CSMA, Collision free protocols; Introduction to LAN technologies: Ethernet, Switched Ethernet, Fast Ethernet, Gigabit Ethernet; Token Ring; Introduction to Wireless LANs and Bluetooth;
	23.03.24 to 31.03.24	HOLI BREAK
April	01.04.24 to 06.04.24	PL/SQL-Introduction, Advantages of PL/SQL The Generic PL/SQL Block: PL/SQL Execution Environment; PL/SQL Character Set and Data Types, Declaration and Assignment of Variables
	08.04.24 to 13.04.24	Control Structure in PL/SQL: Conditional Control, Iterative Control, Sequential Control
	15.04.24 to 20.04.24	Routing Algorithms: Flooding, Shortest Path Routing, Distance Vector Routing; Link State Routing, Hierarchical Routing; Congestion Control; Traffic shaping; Choke packets; Load shedding;
	22.04.24 to 30.04.24	Application Layer: Introduction to DNS, E-Mail and WWW services; Network Security Issues: Security attacks; Encryption methods; Firewalls; Digital Signatures;

Ravi Barwal
Teacher's Signature

Head/Coordinator Signature