

# Lesson Plan

**Name:** Ms. Sunita Arora

**Class:** B.Sc- III (6<sup>th</sup> Semester)

**Subject:** B23-CSE-601: Computer Networks

**Months:** January to May'26

Month and week	Topics
Jan III	Introduction to Computer Networks: Overview of computer networks, types of networks (LAN, WAN, MAN), network topologies,
Jan IV	Network models (OSI and TCP/IP).
Feb I	Physical Layer: Data transmission methods, signal encoding techniques, transmission media, and network devices (hubs, switches, routers).
Feb II	Data Link Layer: Error detection and correction,
Feb III	flow control, MAC 11 protocols, Ethernet, and switching
Feb IV	Network Layer: IP addressing and subnetting, routing algorithms
March II	IPv4 vs. IPv6, and ARP. Transport Layer: Transport layer protocols (TCP, UDP)
March III	congestion control, and quality of service (QoS). Application Layer: Application layer protocols (HTTP, FTP, DNS, SMTP)
March IV	web services, and network applications.
April I	Network Security: Fundamentals of network security, cryptography, firewalls, VPNs, and intrusion detection systems (IDS).
April II	Wireless Networks: Wireless communication principles, Wi-Fi, Bluetooth, mobile networks, and ad hoc networks.
April III	Revision
April IV	Revision
May I	Revision

# Lesson Plan

**Name:** Ms. Sunita Arora

**Class:** PGDCA (2<sup>nd</sup> Semester)

**Subject:** M24-CAP-203: Database Management System

**Months:** January- May'26

Month and week	Topics
Jan III	Database System Concepts and Architecture: Three Schema Architecture and Data In-dependence, Entity Relationship Model: Entity Types, Entity Sets, Attributes & keys,
Jan IV	Relationships Types & instances, ER Diagrams, Naming conventions and Design Issues. Relational Model Constraints, Concept of Keys.
Feb I	Relational Algebra: Unary and Binary Relational Operations, Functional Dependencies, Normal Forms Based on Primary Keys- (1NF, 2NF, 3NF, BCNF)
Feb II	Multi-valued Dependencies, 4 NF, Join dependencies, 5 NF, Domain Key Normal Form. Query Processing and Optimization
Feb III	Transaction Processing Concepts: Introduction to Transaction Processing, Transaction & System Concepts, Properties of Transaction, Schedules and Recoverability
Feb IV	Serializability of Schedules. Concurrency Control Techniques: Locking Techniques. Time stamp ordering, Multi-version Techniques
March II	Database backup, recovery and security. SQL: Data Definition and Data Types, DDL, DML, and DCL
March III	Join Operations, Views & Queries in SQL
March IV	Specifying Constraints & Indexes in SQL, aggregate functions min, max, count, average, sum. Group by, Order by and Having clauses,
April I	PL/SQL: Architecture of PL/SQL, Basic Elements of PL/SQL
April II	PL/SQL Transactions, Cursors and Triggers.
April III	Revision
April IV	Revision
May-I	Revision

# Lesson Plan

**Name:** Ms Sunita Arora

**Class:** BCA –I (2<sup>nd</sup> Semester) & B.Sc-I(2<sup>nd</sup> Semester)

**Subject:** B23-SEC-201: Cloud Computing

**Months:** January- May'26

Month and week	Topics
Jan III	Basic Concepts of Cloud Computing Computer Network Basics.
Jan IV	Concepts of Distributed Systems. Concepts of Cloud Computing and its Necessity.
Feb I	Cloud Service Providers in use and their Significance.
Feb II	Cloud Infrastructure Cloud Pros and Cons. Cloud Delivery Models.
Feb III	Cloud Deployment Models. Cloud Storage Management
Feb IV	Concept of Virtualization and Load Balancing.
March II	Overview on Virtualization used for Enterprise Solutions. Key Challenges in managing Information.
March III	Identifying the problems of scale and management in big data.
March IV	Building Cloud Networks Designing and Implementing a Data Center-Based Cloud
April I	Installing Open Source Cloud service. Amazon Web Services (AWS).
April II	Google Cloud Platform.
April III	Revision
April IV	Revision
May-I	Revision