

Academic Lesson Plan of SUMMER 2026

Department : CSE	Semester : 4TH	Name of the teaching faculty: NALINIKANTA MOHAPATRA
Subject: DBMS	No. of days/per week class allotted . 3p/week.	Semester from :22nd December 2026
		No. of weeks:15 weeks
		Topics to be covered:
1 st week	1 st	Definition of dbms, Need, and Applications of DBMS
	2 nd	Database vs File System, DBMS Architecture: Components, Views of Data
	3 rd	Database vs File System, DBMS Architecture: Components, Views of Data
2 nd week	1 st	Data Models (Hierarchical, Network, Relational),
	2 nd	Data Models (Hierarchical, Network, Relational),
	3 rd	Introduction to RDBMS, Advantages and Disadvantages of DBMS.
3 rd week	1 st	Entities, Attributes, Relationships
	2 nd	Entities, Attributes, Relationships
	3 rd	Constraints, Keys: Primary, Foreign
4 th week	1 st	Constraints, Keys: Candidate
	2 nd	Constraints, Keys: Super Keys
	3 rd	ER Diagrams and their components
5 th week	1 st	Converting ER Diagrams to Relational Models.
	2 nd	Converting ER Diagrams to Relational Models.
	3 rd	Relational Algebra: Selection, Projection
6 th week	1 st	Union, Intersection
	2 nd	Difference, Cartesian Product
	3 rd	Joins
7 th week	1 st	SQL Basics: Data Definition Language and Data Manipulation Language
	2 nd	SQL Queries: Create, Alter, Drop, Insert, Update, Delete.
	3 rd	SQL Queries: Create, Alter, Drop, Insert, Update, Delete.
8 th week	1 st	SQL Queries: Create, Alter, Drop, Insert, Update, Delete.
	2 nd	Basic and Advanced Queries: Filtering, Sorting,
	3 rd	Aggregate Functions, and Group By
9 th week	1 st	Joins: Inner, Outer, Left, Right, and Cross Joins.
	2 nd	Joins: Inner, Outer, Left, Right, and Cross Joins.
	3 rd	Data Redundancy and Anomalies
10 th week	1 st	Functional Dependencies,
	2 nd	Normal Forms: 1NF
	3 rd	Normal Forms: 2NF
11 th week	1 st	Normal Forms: 3NF
	2 nd	Normal Forms: BCNF
	3 rd	Decomposition of Relations
12 th week	1 st	Transactions: Properties (ACID)
	2 nd	States, and Schedules
	3 rd	Serializability and Recoverability
13 th week	1 st	Concurrency Control: Locks,
	2 nd	Deadlocks, and Timestamp Ordering.
	3 rd	Deadlocks, and Timestamp Ordering.
14 th week	1 st	User Management in DBMS
	2 nd	Privileges and Roles, Backup and Recovery
	3 rd	Privileges and Roles, Backup and Recovery
15 th week	1 st	Database Security: Authentication, Authorization,
	2 nd	Database Security: Authentication, Authorization,
	3 rd	Data Encryption

Signature of Faculty

HOD, CSE