GANAPATI INSTITUTE OF ENGINEERING AND TECHNOLOGY(POLYTECHNIC)
Mathasahi , Jagatpur , Cuttack - 754200

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
LESSON PLAN
Session (2025-2026)(S)

Discipline: Computer Science & Engineering	Semester:4th, Summer/2025	Name of theTeaching Faculty: Mrs. Rajlaxmi Sahoo
Subject: Database Management System Theory-2	No. Of Days/Week:03	Start Date:22.12.2025 End Date:18.04.2026

Week	Class Day	Theory Topics
1st	1st	Data vs Information, Database Definition
	2nd	Need for DBMS, Applications of DBMS
	3rd	Database vs File System
2nd	1st	DBMS Architecture, Components
	2nd	Views of Data (Physical, Logical, External)
	3rd	Data Models: Hierarchical & Network
3rd	1st	Relational Model (Tables, Tuples, Attributes)
	2nd	Introduction to RDBMS
	3rd	Advantages & Disadvantages of DBMS
4th	1st	ER Model Introduction, Entities
	2nd	Attributes and Types of Attributes
	3rd	Relationships, Cardinality, Degree
5th	1st	Keys: Super Key, Candidate Key
	2nd	Primary Key, Foreign Key, Constraints
	3rd	ER Diagram Symbols & Components
6th	1st	ER Diagram Design (Examples)
	2nd	Converting ER Diagram to Relational Model
	3rd	Unit II Revision & Practice
7th	1st	Relational Algebra: Selection, Projection
	2nd	Union, Intersection, Difference
	3rd	Cartesian Product

	2nd		SQL Introduction, DDL Commands
	3rd		CREATE, ALTER, DROP
9th	1st		DML Commands: INSERT, UPDATE, DELETE
	2nd		Basic SQL Queries (WHERE, ORDER BY)
	3rd		Aggregate Functions, GROUP BY
10th	1st		Inner Join, Cross Join
	2nd		Left Join, Right Join
	3rd		Outer Join, Unit III Revision
11th	1st		Database Design Concepts, Data Redundancy
	2nd		Anomalies: Insert, Delete, Update
	3rd		Functional Dependencies
12th	1st		Normalization: First Normal Form (1NF)
	2nd		Normalization: Second Normal Form (2NF)
	3rd		Normalization: Third Normal Form (3NF)
13th	1st		Boyce-Codd Normal Form (BCNF)
	2nd		Decomposition of Relations
	3rd		Unit IV Revision
14th	1st		Transactions, ACID Properties
	2nd		Transaction States, Schedules
	3rd		Serializability & Recoverability
15th	1st		Concurrency Control: Locks, Deadlocks
	2nd		Timestamp Ordering, User Management
	3rd		Security, Backup & Recovery, Full Revision

Rajlaxmi
22/12/21
Sign.of faculty

S.R.Parttnaik
Sr. Lecturer 22-12-25
Sign of Computer Science & En
Dept. of Computer Science & En

22/12/21
Sign of Principal