

PADMASHREE KRUTARTHA ACHARYA INSTITUTE OF ENGINEERING & TECHNOLOGY, BARGARH



LESSON PLAN Session-2024-2025

Semester: 4th Discipline: Comp. Science And Engg.

Subject: DBMS

Name of the Teaching Faculty: Swita Mahapatra

Subject: DBMS No. of Days/per week class allotted : 04

Semester From Date : 4.2.2025 To Date: 17.05.2025 No. of Weeks : 15

Week	Class Day	Theory /Practical Topics
<u>1st</u>	1	Basic concepts of DBMS, purpose of Database system
	2	Data Abstraction concepts
	3	Database users
	4	Data definition language, Data dictionary
<u>2nd</u>	1	Data dictionary, data definition language
	2	Introduction to Data Models
	3	Data independence
	4	Entity - Relationship models
<u>3rd</u>	1	Entity sets, Relationship sets, Attributes
	2	Mapping constraints, E-R diagrams
	3	Relational Model
	4	Hierarchical Model

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Semester From Date : 04.02.2025 To Date: 17.05.2025 No. of Weeks : 15

Week	Class Day	Theory /Practical Topics
<u>4th</u>	1	Network Model
	2	introduction to relational Database
	3	Relational Algebra
	4	Set oriented operations (union, intersection)
<u>5th</u>	1	Difference, examples, cartesian product
	2	Relational based operations (select, Join)
	3	project, examples
	4	introduction to normalization in relational system
<u>6th</u>	1	Normalization Description
	2	functional dependencies
	3	Join Description
	4	Losses Join, importance of normalization

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Week	Class Day	Theory /Practical Topics
<u>7th</u>	1	First Normal form
	2	Second normal form
	3	Third normal form, BCNF
	4	introduction to SQL
<u>8th</u>	1	Data definition in SQL
	2	create command, drop, Alter
	3	Views in SQL
	4	Index in SQL
<u>9th</u>	1	Insert command, update command
	2	Select command, like operator
	3	Examples of queries
	4	Functions in SQL

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Week	Class Day	Theory / Practical Topics
<u>10th</u>	1	Introduction to transaction processing concepts
	2	Transaction states
	3	ACID properties of transaction
	4	Examples of transaction processing
<u>11th</u>	1	Schedules
	2	Types of Schedules
	3	Examples of Schedules
	4	Recoverable Schedules, cascades Schedules
<u>12th</u>	1	Introduction to concurrency control concepts
	2	Concurrency Advantages and Disadvantages
	3	Serializability
	4	view, conflict serializability

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Week	Class Day	Theory /Practical Topics
<u>13th</u>	1	concurrency control schemes
	2	locking scheme (exclusive, shared)
	3	Deadlock, Live lock, prevention
	4	Deadlock detection and recovery
<u>14th</u>	1	introduction to security and integrity
	2	Security and integrity threats
	3	Authorization
	4	objects and views
<u>15th</u>	1	Access types, Subjects
	2	Security measures, Security constraints
	3	Authorization grant tree
	4	Integrity constraints, Database constraints

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