

PADMASHREE KRUTARTHA ACHARYA INSTITUTE OF
ENGINEERING & TECHNOLOGY, BARGARH



LESSON PLAN
Session-2022-2023

Discipline: comp. sc. and engg. Engg. Semester: 4th (DBMS)

Name of the Teaching Faculty: Sunita mahapatra (B.S. leaf. in comp. sc. and engg.)

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

Semester From Date: 14.02.23 To Date: 23.05.23 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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DBMS

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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	Lossless 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 schedule, cascadeless 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, Livelock, 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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