PADMASHREE KRUTARTHA ACHARYA INSTITUTE OF ENGINEERING & TECHNOLOGY, BARGARH

LESSON PLAN

Session-2023-2024

Discipline: Comp. Sc. and Engg. Semester: 4th

Subject: DBMS

Name of the Teaching Faculty: Sunita Mahapatra

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

Semester From Date :16-01-2024 To Date :26-04-2024 No. of Weeks : 15

Week	Class Day	Theory /Practical Topics
1st	1	Basic concepts OF DBMS, Purpose of Database System
	2	Data Abstraction Concepts
	3	Database users
	4	Data definition language, Data dictionary
2nd	1	Data dictionary, Data definition language
	2	Introduction to Data Models
	3	Data Independence
	4	Entity – Relationship Models
3rd	1	Entity sets, Relationship sets, Attributes
	2	Mapping Constraints, E-R diagrams
	3	Relational Model
	4	Hierarchical Model

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Week	Class Day	Theory /Practical Topics
4th	1	Network Model
	2	Introduction to relational Database
	3	Relational Algebra
	4	Set oriented operations (Union, Intersection)
5th	1	Difference, examples, cartesian product
	2	Relational based operations (Select, Join)
	3	Project, examples
	4	Introduction to normalization in relational System
6th	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
7th	1	First Normal Form
	2	Second normal form
	3	Third normal form, BCNF
	4	Introduction to SQL
8th	1	Data definition in SQL
	2	Create command, drop, Alter
	3	views in SQL
	4	index in SQL
9th	1	insert command, update command
	2	Select command, like operator
	3	Examples or queries
	4	Functions in SQL

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Week	Class Day	Theory /Practical Topics
10th	1	Introduction to transaction processing concepts
	2	Transaction States
	3	ACID properties of transaction
	4	Examples of transaction processing
11th	1	Schedules
	2	Types of Schedules
	3	Examples of Schedules
	4	Recoverable Schedule, cascadeless Schedules
12th	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
13th	1	Concurrency control schemes
	2	Locking Scheme (exclusive, shared)
	3	Deadlock, Livelock, prevention
	4	Deadlock detection and Recovery
14th	1	Introduction to Security and Integrity
	2	Security and integrity threats
	3	Authorization
	4	Objects and views
15th	1	Access types, Subjects
	2	Security measures, Security constraints
	3	Authorization grant tree
	4	Integrity constraints, Database constraints

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