Lecture Schedule

Department of Computer Science Engineering

Branch & Section : II B.Tech - II Sem & CSE-1&2 **Regulation : R20**
Subject : DATABASE MANAGEMENT SYSTEMS **Academic Year :2020-2021**
Name of the Faculty : Dr. A Srinivasa Rao

Course Objectives

STUDENTS WILL learn the principles of systematically designing and using large scale Database Management Systems for various applications

Course Outcomes

- **Describe a relational database and object-oriented database.**
- **Create, maintain and manipulate a relational database using SQL**
- **Describe ER model and normalization for database design.**
- **Examine issues in data storage and query processing and can formulate appropriate solutions.**
- **Understand the role and issues in management of data such as efficiency, privacy, security, ethical responsibility, and strategic advantage.**

Unit No	Topic No	Date	Name of the Concept	No. of Classes
UNIT-1				
UNIT-1	1	30/01/2023	Introduction to database systems	1
	2	31/01/2023	Characteristics (Database VS File systems)	1
	3	01/02/2023	Database Users	1
	4	02/02/2023	Advantages of database systems	1
	5	04/02/2023	Database applications	1
	6	06/02/2023	Brief introduction of database models	1
	7	07/02/2023	Concepts of schema	1
	8	08/02/2023	Instance and data independence	1
	9	09/02/2023	Three tier architecture for data independence	1
	10	13/02/2023	Database system structure	1
	11	14/02/2023	Database environment	1
	12	15/02/2023	Centralized and client server architecture for database	1
TOTAL NUMBER OF HOURS				12
UNIT-2				
UNIT-2	1	16/02/2023	Introduction to relational model	1
	2	20/02/2023	Concepts of domain	1
	3	21/02/2023	Attributes, Tuple, Relation	1
	4	22/02/2023	Importance of null values	1
	5	23/02/2023	Constraints and their importance	1
	6	25/02/2023	Simple data base schema	1

	7	27/02/2023	Data types	1
	8	28/02/2023	Table definitions	1
	9	01/03/2023	Different DML operations	1
	10	02/03/2023	Basic SQL querying using where Clause	1
	11	04/03/2023	Arithmetic & Logic operations	1
	12	06/03/2023	SQL functions	1
TOTAL NUMBER OF HOURS				12
UNIT-3				
UNIT-3	1	07/03/2023	Introduction to entity-relationship model	1
	2	09/03/2023	Representation of entities attributes	1
	3	13/03/2023	Entity set, relationship, relationship set	2
	4	15/03/2023	Constraints, Sub classes	1
	5	16/03/2023	Super class, Inheritance	1
	6	17/03/2023	Specialization, generalization using ER diagram	2
	7	27/03/2023	SQL : Creating tables with relationship	1
	8	28/03/2023	Implementation of key and constraints	1
	9	29/03/2023	Nested queries, Sub queries, grouping, aggregation	1
	10	01/04/2023	Ordering, implementation of different types of joins	1
	11	03/04/2023	View(Update and non-updateable), relational set operations	1
TOTAL NUMBER OF HOURS				13
UNIT-4				
UNIT-4	1	04/04/2023	Schema refinement	1
	2	06/04/2023	Purpose of normalization	1
	3	07/04/2023	Concept of functional dependency	1
	4	10/04/2023	Normal forms based on functional dependency (1NF,2NF and 3NF)	1
	5	11/04/2023	Concept of surrogate key	1
	6	12/04/2023	Boyce-codd Normal form (BCNF)	1
	7	13/04/2023	Lossless join and dependency preserving decomposition	1
	8	15/04/2023	Fourth normal form(4NF) Fifth normal from (5NF)	1
TOTAL NUMBER OF HOURS				8
UNIT-5				
UNIT-5	1	17/04/2023	Transaction concept Transaction state	1
	2	18/04/2023	Implementation of Atomicity and Durability	1

	3	19/04/2023	Concurrent executions	1
	4	20/04/2023	Serializability	1
	5	24/04/2023	Recoverability	1
	6	25/04/2023	Implementation of Isolation	1
	7	26/04/2023	Testing for serializability	1
	8	27/04/2023	Failure classification	1
	9	29/04/2023	Storage, Recovery & Atomicity	1
	10	01/05/2023	Recovery algorithm	1
	11	02/05/2023	Indexing techniques	1
	12	03/05/2023	B+ Trees: Search, Insert and Delete algorithms	1
	13	04/05/2023	File organization and indexing	1
	14	06/05/2023	Cluster indexes	1
	15	08/05/2023	primary and secondary indexes	
	16	09/05/2023	Index Data Structures	1
	17	10/05/2023	Hash Based indexing	1
	18	11/05/2023	Tree based indexing	1
	19	12/05/2023	Comparison of file Organizations	1
	20	13/05/2023	Indexes and performance testing	1
TOTAL NUMBER OF HOURS			20	

Overall Number of classes required: 65

Text Books:

1. Database Systems, Raghurama Krishnan, Johannes Gehrke, TMH
2. Data base Management Systems, Concepts Silberschatz, korth, tmh

References:

1. Introduction to Data base Systems, CJ DATE, PEA
2. Database Management Systems, Ramez Elmasri, shamkant B, Navathe, PEA
3. Database principles Fundamentals of design implementation and Management, corlos coronel, Steven morris, Peter Robb, Cengage Learning

Signature of Faculty