ADITYA UNIVERSITY

(Formerly Aditya Engineering College (A))

DATABASE MANAGEMENT SYSTEMS(231CS4T02)
QUESTION BANK

(Common to CSE, IT, AIML & CSE(DS))

	UNIT - 1
1	Explain the key differences between a database system and a file system and list characterstics of Database Systems.
2	A company is planning to shift from a file-based system to a database system. List and explain three key advantages they would gain by using a database system.
3	Describe the three-tier schema architecture in database systems
4	What are the different types of database users? Explain their roles with suitable examples.
5	Define Data Model and briefly explain the types of Data Models.
6	List and explain different types of attributes and differentiate between strong entity and weak entity in ER Model
7	Explain the concepts of specialization and generalization in an ER model with real-life examples.
8	Consider an online library management system. Design an ER diagram that includes entities like Books, Members, and Transactions. Specify attributes and relationships
	UNIT - 2
1	Describe the importance of NULL values in relational databases. In what situations is using NULL values beneficial?
2	Explain the difference between dropping, truncating and deleting a table, write example query for each one.
3	What are integrity constraints in a relational database? Explain key constraints and entity integrity constraints with example
4	Explain the key concepts of the relational model. How do domains, attributes, tuples, and relations contribute to database design?
5	List and explain any five Relational Algebra operators with suitable example for each
6	Compare Relational Algebra and Relational Calculus. How do they differ in their approach to querying databases?
7	Consider the relation: **Student Schema (Stu_ID, Stu_Name, Stu_Age, Stu_Dept, Stu_GPA)** Write SQL queries to: *insert, update, delete, alter , drop*

ER Diagrams, SQL Queries

8	Given a company database with relations **Employee(Emp_ID, Name, Salary, Dept_ID) and Department(Dept_ID, Dept_Name),** Demonstrate the usage of selection, projection, rename operators of relational algebra for the above relation
9	A relational schema contains the tables **Orders(Order_ID, Customer_ID, Order_Date, Amount) and Customers(Customer_ID, Name, City).** Write an SQL query to list all customers who have placed an order in the last 6 months. Write an SQL query to find no. of orders group by Order_Date. Write an SQL query to find no. of customers count group by City. Write an SQL query to find customers orderby City name in descending order. Write an SQL query to find maximum amount from orders.