



LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING

(AUTONOMOUS)

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DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

DESCRIPTIVE QUESTIONS

Name of Course Instructor: Dr O Rama Devi

Course Name & Code : DBMS & 20CS03

L-T-P Structure : 3-0-0

Program/Sem/Sec : B.Tech/III/A&B

Reg: R23

Cycle :2

Credits: 3

A.Y : 2025-26

S.No	Question Description	Unit #	CO#	BL
1	Demonstrate the use of DDL, DML, DCL, and TCL commands in SQL with appropriate examples.	3	3	3
2	Describe the use of aggregate functions in SQL. List and explain any three.	3	3	2
3	Describe the purpose of joins in SQL. List different types of joins.	3	3	2
4	Construct a relation schema and write queries for following in SQL and Relational algebra form? Sailors (sid, sname, rating, age) Boats (bid, bname, colour) Reservers (sid, bid, day) i)Find the names of sailors who have reserved boat 103. ii)Find the Sid, names of sailors who have reserved a red boat.	3	3	3
5	a) Explain the purpose of normalization in relational database design. Why is schema refinement necessary? b) Define functional dependency and explain its role in normalization.	4	4	2
6	a) Describe the characteristics of First Normal Form (1NF), Second Normal Form (2NF), and Third Normal Form (3NF). b) Describe the Boyce-Codd Normal Form (BCNF) and how it differs from 3NF.	4	4	2
7	Apply the concept of multivalued dependency to normalize a relation into 4NF using a suitable example.	4	4	3
8	a) Explain the ACID properties of a transaction and their importance in database systems. b) Describe the different states a transaction goes through during its execution.	5	5	2
9	a) Use hash-based indexing to organize and retrieve data efficiently from a sample table. b) Apply conflict serializability rules to identify RW, WR, and WW conflicts in a given schedule.	5	5	2
10	Apply time-stamping protocols to resolve concurrency issues in a multi-transaction environment.	5	5	3

Title	Course Instructor	Course Coordinator	Module Coordinator	Head of the Department
Name of the Faculty	Dr O Rama Devi	Dr.O.Rama Devi	Dr D.Srinivas Rao	Dr.P.Bhagath
Signature				

