

PRAGATI ENGINEERING COLLEGE: SURAMPALEM
(AUTONOMOUS)

II B.Tech I Semester Supplementary Examinations, June - 2024

DATABASE MANAGEMENT SYSTEMS
(Common to CSE, CSE(AI&ML), CSE(AI), CSE(DS) & IT)

Time: 3 hours

Max. Marks: 70

Answer ONE Question from each Unit
All Questions Carry Equal Marks

Q. No.	Questions	BTL	CO	Marks
UNIT – I				
1.	a) Explain about Three Tier Schema Architecture for data independence.	K2	CO1	7M
	b) Briefly discuss about different types of users for a Database.	K2	CO1	7M
OR				
2.	a) Discuss about different Data Models with a neat diagram.	K2	CO1	7M
	b) Explain about symbols used in ER Diagram with Suitable example.	K2	CO1	7M
UNIT – II				
3.	a) Consider the Bank Management System. account (<u>account_number</u> , branch_name, balance) branch (<u>branch_name</u> , branch_city, assets) customer (<u>customer_name</u> , customer_street, customer_city) loan (<u>loan_number</u> , branch_name, amount) depositor (customer_name, account_number) borrower (customer_name, loan_number) Based on the above schema, write the corresponding SQL queries for the following? i) For all customers who have a loan from the bank, find their names, loan numbers, and loan amount. ii) Find the customer names, loan numbers, and loan amounts, for all loans at the Perryridge branch. iii) Find the names of all branches that have assets greater than those of at least one branch located in Brooklyn.	K3	CO2	7M
	b) Discuss about Arithmetic and logical operations in SQL.	K2	CO2	7M
OR				
4.	a) Discuss about DML commands with suitable example.	K2	CO2	7M
	b) Explain about the importance of null values with suitable example.	K2	CO2	7M
UNIT – III				
5.	a) Demonstrate the implementation of B+ Trees.	K3	CO3	7M
	b) Briefly discuss about key and Integrity constraints.	K2	CO3	7M
OR				
6.	a) Explain about following indexes with example. i) Cluster index ii) Primary index iii) Secondary index	K2	CO3	7M
	b) Discuss about different types of joins with example.	K2	CO3	7M

UNIT – IV					
7.	a)	What is functional dependency? Explain different types of functional dependencies with example.	K2	CO4	7M
	b)	Explain about second normal form with suitable example.	K2	CO4	7M
OR					
8.	a)	Explain about lossless join and dependency preserving decomposition with suitable example.	K2	CO4	7M
	b)	Write about third normal form with suitable example.	K2	CO4	7M
UNIT – V					
9.	a)	What is 2-phase locking protocol? Compare 2PL with Strict 2PL protocol.	K3	CO5	7M
	b)	What are ACID properties? Illustrate them through examples.	K2	CO5	7M
OR					
10.	a)	Explain the Wait/Die and Wound/Wait Schemes of concurrency control.	K2	CO5	7M
	b)	Why database management recovery is needed? Explain various data structures that are required for database management recovery by log-based schemes	K2	CO5	7M