

Name. _____		Printed Pages:02		
Student Admn. No.: _____				
School of Computing Science and Engineering Backlog Examination, June 2023 [Programme: B.Tech] [Semester: IV] [Batch:]				
Course Title: DATA BASE MANAGEMENT SYSTEM		Max Marks: 100		
Course Code: BCSE2011		Time: 3 Hrs.		
Instructions:	1. All questions are compulsory. 2. Assume missing data suitably, if any.			
		K Level	COs	Marks
SECTION-A (15 Marks)		5 Marks each		
1.	Discuss the main characteristics of the database approach and specify how it differs from traditional file system.	K1	CO1	5
2.	Define is Data Abstraction? Explain about different views of data?	K1	CO1	5
3.	What is Primary Key? Explain some desirable Primary Key characteristics.	K2	CO2	5
SECTION-B (40 Marks)		10 Marks each		
4.	Draw and explain the detailed system architecture of DBMS.	K2	CO3	10
5.	What is Entity set? And also define Relationship set. List and explain the symbols used to draw ER Diagram.	K4	CO2	10
6.	Write short notes on i)DDL ii) DML	K3	CO3	10
7.	Determine the closer of the following set of functional dependencies for a relation scheme R(A,B,C,D,E,F,G,H), F={ AB→C, BD→EF, AD→G, A→H} List the candidate keys of R. OR Define trigger and explain its three parts? Compare row level and statement level triggers?	K3	CO3	10
SECTION-C (45 Marks)		15 Marks each		
8.	Explain ACID properties of Transaction and Illustrate them through examples?	K4	CO4	15
9.	Define decomposition and how does it address redundancy? Explain 1NF, 2NF, 3NF and BCNF Normal forms with example?	K5	CO4	15
10	Write SQL Queries for following set of tables: EMPLOYEE (EmpNo, Name, DoB, Address, Gender, Salary, DNumber) DEPARTMENT (DNumber, Dname, ManagerEmpNo, MnagerStartDate). i) Display the Age of 'male' employees. ii) Display all employees in Department named 'Marketing'. iii) Display the name of highest salary paid 'female' employee. iv) Which employee is oldest manger in company? OR Consider the following relational schema Employee (empno, name, office, age) Books(isbn, title, authors, publisher) Loan(empno, isbn, date) Write the following queries in relational algebra.	K6	CO3	15

i)	Find the names of employees who have borrowed a book Published by McGraw-Hill?			
ii)	Find the names of employees who have borrowed all books Published by McGraw-Hill?			
iii)	Find the names of employees who have borrowed more than five different books published by McGraw-Hill?			
iv)	For each publisher, find the names of employees who have borrowed?			