

CRM08	Rev 1.16 (2024 rev)	CD	22/05/25
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### **CONTINUOUS INTERNAL EVALUATION - 2**

Dept: AI/CD/CS	Sem / Div: IV / A & B	Sub: Database Management System	S Code: BCS403
Date:29/05/25	Time: 9:30-11:00	Max Marks: 50	Elective:N

Note: Answer any 2 full questions, choosing one full question from each part.

QN	Questions	Marks	RBT	CO's
<b>PART A</b>				
1 a	Consider the following Schemas SAILOR( <u>SID</u> ,SNAME,RATING,AGE) BOAT( <u>BID</u> ,BNAME,COLOR) RESERVE( <u>SID</u> , <u>BID</u> ,DAY) Write the SQL Queries for 1.Retrieve the color of boats reserved by Raj. 2.Retrieve the sailor names who have reserved red or green boats. 3.Retrieve the SID of sailors with age over 20 who have not reserved a boat. 4.Retrieve the total count of boats reserved by each sailor. 5.Retrieve the Sailors name who have reserved boat no 103.	10	L3	CO3
b	Explain the states of transaction with a neat diagram and describe the desirable properties of transactions.	10	L2	CO5
c	Illustrate insert, delete, update, alter & drop commands in SQL.	5	L2	CO3
<b>OR</b>				
2 a	Consider the schema for Student Database	10	L3	CO3

Student(SID, SNAME, MAJOR, GPA) FACULTY(FID, FNAME, DEPT, DESIGNATION, SALARY) COURSE(CID, CNAME, FID) ENROLL(CID, SID, GRADE) Write the SQL Queries for 1. Give a 15% salary raise to all faculty. 2. List the name of all faculty members beginning with R and ending with U. 3. List all departments having an average salary of above 20,000. 4. List the name of students enrolled for course GS-23 5. List the name of all faculty who are teaching course no 27						
b	Discuss the problems of deadlock and starvation, and the different approaches to dealing with these problems	10	L2	CO5		
c	Explain the concept of assertions and triggers with example.	5	L2	CO3		
<b>PART B</b>						
3 a	Explain the Two phase locking protocol used for concurrency control.	10	L2	CO5		
b	What are document based NOSQL systems? Explain basic CRUD operations in MongoDB.	10	L2	CO6		
c	Write a note on Views in SQL.	5	L2	CO3		
<b>OR</b>						
4 a	What is multiple granularity locking? How is it implemented using intention locks?	10	L2	CO5		
b	List and explain the 4 major categories of NoSQL system	10	L2	CO6		
c	Describe the 6 clauses in the syntax of an SQL retrieval query.	5	L2	CO3		