B.E.Sixth Semester (Computer Engineering) (C.B.S.)

Database Management System (DBMS)

P. Pages : 2 **NKT/KS/17/7418**

Time : Three Hours * 0 3 4 1 * Max. Marks : 80

Notes : 1. All questions carry marks as indicated.
2. Solve Question 1 OR Questions No. 2.
3. Solve Question 3 OR Questions No. 4.
4. Solve Question 5 OR Questions No. 6.
5. Solve Question 7 OR Questions No. 8.
6. Solve Question 9 OR Questions No. 10.
7. Solve Question 11 OR Questions No. 12.
8. Illustrate your answers whenever necessary with the help of neat sketches.

1. a) Explain the DBMS architecture with neat diagram. **10**

b) What are different limitations of file system? **3**

OR

2. a) What are different types of formal relational query languages? Explain with example. **13**

3. a) Consider the relational schema
Sailors (Sid, Sname, rating, age)
Boats (bid, bname, color)
Reserves (Sid, bid, day)
Obtain the solution for following queries in SQL.

i) Find the name & ages of all the sailors. **1**

ii) Find all sailors with a rating above 7. **1**

iii) Find the Sid of sailors who have reserved boat no. 123. **1**

iv) Find the names of sailors who have reserved boat no. 123. **1**

v) Find the names of sailors who have reserved a red or green boat. **2**

b) Explain different types of join expression with proper examples. **8**

OR

4. a) Write short note on. **7**

i) QUEL

ii) QBE

b) What are different aggregate functions? Explain with example. **3**

c) Write a short note on B^+ tree index files. **4**

5.		Define normalization? Explain various normal forms with example.	**13**

OR

6.	a)	Explain CODD'S rules for RDBMS.	**8**
	b)	Explain various components of E-R diagram.	**5**
7.	a)	What is query optimization? Give various techniques of query optimization & explain it briefly.	**7**
	b)	How statistics of Expression results can be estimated?	**6**

OR

8.	a)	Elaborate query Evaluation process with neat sketch.	**7**
	b)	Discuss materialized view with proper example.	**6**
9.	a)	What is the two phase locking protocol? How does it guarantee serializability.	**7**
	b)	How deadlock is handled in DBMS? Explain with example.	**6**

OR

10.		Write short note on **any three.**	**13**
		i) Time stamp based protocol.	
		ii) ACID properties.	
		iii) Recovery failure classification.	
		iv) Log based recovery.	
11.	a)	Define distributed databases. How distribute data storage is performed.	**8**
	b)	Describe following **any two.**	**6**
		i) Distributed Query processing.	
		ii) Distributed Transactions.	
		iii) Distributed concurrency control.	

OR

12.	a)	Explain the concept distributed commitment and recovery.	**8**
	b)	Describe security and protection mechanism of distributed databases.	**6**

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