PRS/KS/24/2886/2896

Faculty of Science & Technology

Seventh Semester B.Tech. (Computer Science and Engineering/CE/IT) (C.B.C.S.) Examination

BASIC OF DATABASE MANAGEMENT SYSTEM (DBMS)

Open Elective—II

Time—Three Hours] [Maximum Marks : 70

INSTRUCTIONS TO CANDIDATES

(1) All questions carry marks as indicated.
(2) Solve Question No. **1 OR** Question No. **2**.
(3) Solve Question No. **3 OR** Question No. **4**.
(4) Solve Question No. **5 OR** Question No. **6**.
(5) Solve Question No. **7 OR** Question No. **8**.
(6) Solve Question No. **9 OR** Question No. **10**.
(7) Due credit will be given to neatness and adequate dimensions.
(8) Assume suitable data wherever necessary.
(9) Illustrate your answers wherever necessary with the help of neat sketches.
(10) Use of non-programmable calculator is permitted.

1. (a) Explain three levels of Architecture of DBMS. 8
   (b) Explain various keys used in DBMS. 6

OR

2. (a) Write short notes on :
      (i) Attributes
      (ii) Entity
      (iii) Constraints. 6
   (b) Explain different types of File Organizations in DBMS. 8
3. (a) Define Indexing and different types of Indexing in DBMS. 7
   (b) What is Static Hashing ? Explain in detail. 7

OR

4. (a) Differentiate between Static Hashing and Dynamic Hashing. 6
   (b) State and explain ER diagram with example. 8

5.	(a)	Explain in detail functional dependency with appropriate example.	8
	(b)	What are Data Integrity Rules ?	6
		OR	
6.		What is Normalization ? Explain in detail the various Normal forms.	14
7.	(a)	What is Concurrency Control in DBMS ? Also explain their types.	6
	(b)	What is ACID Properties ? Explain in detail.	8
		OR	
8.	(a)	What are the conditions necessary for Deadlock ?	8
	(b)	What is Serializability ?	6
9.	(a)	Explain Time Stamp based protocol.	7
	(b)	Define SQL and State its characteristics.	7
		OR	
10.	(a)	Differentiate between DDL & DML.	8
	(b)	Explain various types of JOIN with example.	6

SKR/KW/24/2596/2606/2618

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(7) Due credit will be given to neatness and adequate dimensions.
(8) Assume suitable data wherever necessary.

1. (a) Explain Three Level Architecture of Database. 7
   (b) Enlist & explain Database Languages. 7

OR

2. Write short notes on :
   (1) Entity
   (2) Attributes
   (3) Relationship
   (4) Constraints
   (5) Keys
   (6) ER Diagram
   (7) ER model design process. 14

3. (a) Explain in detail different types of File Organizations in DBMS (any **two**). 7
   (b) Write in detail about Static Hashing. 7

OR

Model Questions

4. (a) "Hashing is an efficient technique to directly search the location of desired data on the disk". Justify this statement. 8

(b) What is Indexing ? Explain different types of Indexing in DBMS. 6

5. (a) What do you mean by Data Integrity rules ? 6

(b) Explain in detail Functional dependency with appropriate example. 8

OR

6. Write short notes on :

(1) First Normal Form 4

(2) Second Normal Form 4

(3) Third Normal Form 4

(4) Need of Normalization. 2

7. (a) Enlist & explain ACID properties of transaction. 8

(b) What is concurrency control in DBMS ? Explain their types. 6

OR

8. (a) What are the necessary conditions for Deadlocks ? 8

(b) What is recoverability in DBMS ? Explain in detail. 6

9. (a) Explain with proper examples :

(1) DDL

(2) DCL

(3) DML

(4) Aggregate Functions. 8

(b) Explain four SET Operations in SQL with example. 6

OR

10. (a) Assuming proper data explain with example use of "group by", "order by", & "having" clauses in SQL. 8

(b) Explain various types of Joins with example. 6