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Total No. of Pages : 02

Total No. of Questions : 09

**B.Tech.(IT) (2011 Onwards) (Sem.-5)**  
**DATABASE MANAGEMENT SYSTEM**  
Subject Code : BTIT-503  
M.Code : 70596

Time : 3 Hrs.

Max. Marks : 60

**INSTRUCTION TO CANDIDATES :**

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

**SECTION-A****1. Answer briefly :**

1. Differentiate between Strong and Weak entity sets. How are they represented in an E-R Diagram?
2. What do you mean by a Data Base instance and a Data Base schema?
3. What is DDL in SQL? List the different DDL commands used in SQL.
4. Explain the Cartesian Product operation in Relational Algebra.
5. What is a Database View and how does it help in Database Security?
6. Differentiate between char and varchar2 data types in oracle.
7. What do you mean by integrity of data? List any two integrity constraints.
8. What is Two-Phase Locking?
9. What is Data Farming?
10. What are NoSQL Databases?

### SECTION-B

2. List various advantages of Data Base approach over Traditional File system approach.
3. What is ER Diagram? What are the symbols used in it? Design and Draw an ER diagram for a banking system.
4. Explain the different set operations used in SQL.
5. Discuss the Shadow Paging Recovery Technique. Under what circumstances does it not require a log?
6. What are Multimedia Databases? How data is stored and indexed in Multimedia Databases?

### SECTION-C

7. Explain XML with the help of an example.
8. What do you mean by Normalization? What do you mean by Multi-valued and Join Dependency. Also Explain 4<sup>th</sup> and 5<sup>th</sup> Normal forms with the help of examples.
9. Discuss the architecture of Data Warehousing? What are the different challenges in maintaining these? Discuss any two applications of Data Warehouses.

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**