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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:**

- 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?

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### **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. Discus the architecture of Data Warehousing? What are the different challenges in maintaining these? Discus 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.

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