VR14 Reg. No: | | | | | | | | | |

VELAGAPUDI RAMAKRISHNA

SIDDHARTHA ENGINEERING COLLEGE

(AUTONOMOUS)

III/IV B.Tech. DEGREE EXAMINATION, OCTOBER, 2017

Fifth Semester

COMPUTER SCIENCE AND ENGINEERING

14CS3501 DATABASE MANAGEMENT SYSTEMS

Time : 3 hours ***Max. Marks : 70***

Part-A is compulsory

Answer One Question from each Unit of Part - B

Answer to any single question or its part shall be written at one place only

PART-A

10 x 1 = 10M

1. a. Define Instance.
   b. What is OLAP?
   c. What is meta data?
   d. Define Role.
   e. What is Relational model?
   f. Define Trivial functional dependency.
   g. What is Concurrency control?
   h. What is Graph database?
   i. How MongoDB use memory?
   j. What is the functionality of HBase?

PART-B

4 x 15 = 60M

UNIT-I

2. a. Discuss DBMS architecture and data independence. **8M**

   b. What are the characteristics of the database approach? **7M**

(or)

3. a. Illustrate overview of distributed database and object database concepts. **8M**

   b. Write a brief note on Data Models. **7M**

UNIT-II

4. a. Explain ER-diagram for University database with neat diagram. **7M**

   b. Discuss about Relationship Types and Structural Constraints. **8M**

(or)

5. a. Explain relational model constraints and the relational database schemas. **8M**

   b. Explain basic relational algebra operations. **7M**

UNIT-III

6. a. Discuss about functional dependency and multi valued dependency with appropriate examples. **8M**

   b. Compare Third normal form and Boyce-Codd normal form with appropriate examples. **7M**

(or)

7. a. Illustrate desirable properties of transactions. **6M**

   b. Discuss in detail about Two phase locking techniques for concurrency control. **9M**

UNIT-IV

8. a. When NOSQL database can be used instead of a relational database? **5M**

   b. Summarize interfacing and interacting with NOSQL. **10M**

(or)

9. a. Illustrate HBase distributed storage architecture. **6M**

   b. Explain the concept of managing transactions and data integrity. **9M**

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