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Question Paper Code : 80099

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2019.

Third/Fourth Semester

Information Technology

CS 8492 — DATABASE MANAGEMENT SYSTEMS

(Common to Computer Science and Engineering/Computer and Communication Engineering)

(Regulation 2017)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is a data model? List the types of data model used.
2. List any eight applications of DBMS.
3. Give the properties of decomposition.
4. Define the terms Entity set and Relationship set.
5. What are the states of transaction?
6. What is meant by log-based recovery?
7. Define dense index.
8. Mention all the operations of files.
9. Mention two features of Multimedia databases.
10. Compare sequential access devices versus random access devices with an example.

PART B — (5 × 13 = 65 marks)

11. (a) Explain the three different groups of data models with suitable examples.

Or

- (b) Describe about the static and dynamic SQL in detail.

12. (a) What is normalization? Explain in detail about all Normal forms.

Or

- (b) Briefly discuss about the functional dependency concepts.

13. (a) Discuss in detail about the testing of serializability.

Or

- (b) Explain deferred and immediate modification versions of the log based recovery scheme.

14. (a) What is RAID? Briefly discuss about RAID.

Or

- (b) Describe the structure of B+ tree and give the algorithm for search in the B+ tree with example.

15. (a) Discuss in detail about the distributed databases.

Or

- (b) Explain in detail about the Deductive DB and Spatial DB.

PART C — (1 × 15 = 15 marks)

(Application / Design / Analysis / Evaluation / Creativity / Case Study questions)

16. (a) Discuss in detail about the ACID properties of a transaction.

Or

- (b) What is concurrency control? How it is implemented in DBMS? Briefly elaborate with suitable diagrams and examples.