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(Following Paper ID and Roll No. to be filled in your Answer Book)

Paper ID :110756 Roll No. | | | | | | | | | | |

B.Tech.

(SEM. VII) THEORY EXAMINATION, 2015-16

DISTRIBUTED DATABASE

[Time:3 hours] **[Total Marks:100]**

Note: Attempt questions from all Sections as per directions.

Section-A

Attempt **all** parts of this section. Answer in brief.

(10×2=20)

1. (a) What are the three kinds of distributed DBMS architecture?

   (b) Briefly explain the concept of vertical fragmentation.

   (c) Define query processing and query decomposition.

   (d) What are the steps to build the allocation models?

   (e) Discuss various centralized distribution issues.

   (f) Describe the R* algorithm.

(g) Write short notes on classifications of concurrency control.

(h) What are the types of failures in distributed DBMS?

(i) What do you mean by horizontal class partitioning?

(j) Distinguish between 2 NF and 3 NF.

Section-B

Attempt **any five** questions from this section : (10×5=50)

2. Explain about DBMS standardization? Give suitable examples.

3. Describe the characterization of query processors.

4. Describe the difference between the following approaches for the integration of database management system with distributed database: query decomposition and data localization.

5. Explain timestamp-based concurrency algorithms in detail.

6. What is hierarchical architecture? Explain the parallel execution of hierarchical architecture.

7. State the method involved in architectural issues in distributed object DBMS.

8. Draw a diagram for state transactions in 3PC protocols.

9. Describe distributed query optimization algorithms.

Section-C

Attempt **any two** question from this section : (15x2=30)

10. Decompose R : R(A, B, C, D, E, F, G)
    $C \rightarrow D, E, F, G$
    $G \rightarrow A, B$ that are in relations at least 3 NF and identify the key.

11. State which database system architecture you will prefer for the following applications. Support your answer with brief explanation.
    i) Airline reservation system
    ii) Banking system

12. Explain through diagrams the following
    i) Shared disk architecture.
    ii) Hierarchical architecture.
    iii) Cache-only memory architecture.

—x—