

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

Paper ID :110756

Roll No.

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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 → D, E, F, G
G → 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.

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