

Code No: 07A80506

R07**Set No. 2**

IV B.Tech II Semester Examinations, APRIL 2011

DISTRIBUTED DATABASES

Computer Science And Engineering

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. Write about transaction management in distributed databases. [16]
2. (a) Explain deadlock prevention in detail.
(b) Explain the two approaches to the problem of false deadlocks. [10+6]
3. What is query processing? Discuss how a query over global relation can be transformed into a query over the fragments. [16]
4. (a) Write about various control algorithms.
(b) How deadlocks are managed. [8+8]
5. Discuss in detail about the following:
(a) Schema Translation
(b) Schema integration
(c) Homogenization. [4+8+4]
6. Write about the following in brief:
(a) Integrity constraints in distributed databases
(b) Access primitives used in DDB. [8+8]
7. Discuss the following for distributed databases
(a) Post-optimization
(b) Transmission requirements
(c) AHY approach for semi-Joins. [5+5+6]
8. Explain the following Authorization and Protection problems:
(a) Site-to-site Protection
(b) Enforcing Authorization Rules. [8+8]

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R07**Set No. 4**

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1. Explain the following for distributed databases
 - (a) Simplification of horizontally fragmented relations
 - (b) Simplification of vertically fragmented relations. [8+8]
2. (a) Explain Distributed deadlock detection in detail?
 (b) Explain how to build a tree of deadlock detectors? [10+6]
3. Explain in detail about object servers and page servers with diagram. [8+8]
4. (a) Write about the atomicity of transactions in distributed databases with emphasis on failures and logs and recovery methods.
 (b) Explain the 2-phase commitment protocol. [8+8]
5. Explain the following in detail:
 - (a) Distributed Component Object Model.
 - (b) CORBA and Database Interoperability. [8+8]
6. (a) What are the effects of commuting Joins and Unions?
 (b) Discuss the problems in query optimization. [8+8]
7. (a) Write a short notes on restart protocols for 3-phase-commitment
 (b) Write the structure of a centralized termination protocol for the quorum-based 3-phase-commitment protocol. [6+10]
8. (a) Write about the completeness, reconstruction, and disjointness condition rules for defining fragmentation.
 (b) Given a global relation
 EMP(EMPNUM,NAME,SAL,TAX,MGRNUM,DEPTNUM)
 Write the mixed fragmentation definition and fragmentation tree of relation EMP. [8+8]

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R07**Set No. 1**

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1. Explain the following for Distributed Data bases
 - (a) Operations in a parametric query
 - (b) GROUP BY operation for evaluating aggregate functions. [8+8]
2. Write a short note on:
 - (a) Synchronizing access to objects
 - (b) Management of Type lattice.
 - (c) Explain about transaction models and object structures. [5+5+6]
3. Write about the following:
 - (a) Horizontal fragmentation
 - (b) Vertical fragmentation
 - (c) Mixed fragmentation. [6+6+4]
4.
 - (a) Discuss the properties of distributed transactions.
 - (b) Write about the communication structure of distributed transactions. [8+8]
5. Explain the following in detail:
 - (a) World Wide Web Architecture and Protocols
 - (b) Database Access in World Wide Web
 - (c) Semistructured data
 - (d) Mediator - wrapper architecture. [4×4]
6. Write a short note on the following:
 - (a) Prewriters
 - (b) Centralized controller method
 - (c) Pseudo-simultaneous
 - (d) Schedule. [4×4]
7.
 - (a) Explain about semi-join reduction in DDB.
 - (b) Discuss about the distribution of access strategy to different sites. Explain the issues involved and how they are tackled. [8+8]

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8. Write a short note on the following:

- (a) Object Naming with Site Autonomy
- (b) Catalog Management with Site Autonomy
- (c) Usage of Catalogs.

[6+6+4]

FIRSTRANKER

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Set No. 3

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DISTRIBUTED DATABASES
Computer Science And Engineering

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. Explain how simplification of vertically fragmented relations can be done with example. [16]
2. Discuss the levels of distribution transparency. [16]
3. Explain about World Wide Web in detail. [16]
4. (a) Explain distributed wait-for graph and local wait-for graph with diagrams?
(b) Explain Validation using only transaction time stamps. [8+8]
5. (a) Discuss the effect of commuting Joins and Unions in DDB.
(b) Discuss how query optimization is done using AHY algorithm. [8+8]
6. Explain the following:
 - (a) Checkpoints
 - (b) Usage of Catalogs
 - (c) User Identification
 - (d) Systemwide names. [6+4+4+2]
7. A new class of applications that object DBMSs support are interactive and deal with large objects. Which cache consistency algorithm is suitable for this class of applications operating across wide area networks? [16]
8. (a) Discuss concurrency control for distributed structures.
(b) Explain the following:
 - i. Granularity of locking
 - ii. Checkpoints and recovery. [8+8]
