Question Bank
DDAS
BE 7ᵗʰ IT (ATKT) Examination- 2013

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1.	What is query processing in a relational database? Explain in detail with an example. How does it differ from distributed query processing?
2.	What is distributed transaction and how does if differ from remote transaction? Explain with an example.
3.	Explain view management in centralized as well as distributed DBMS.
4.	Consider the following relation employee (person-name, street, city) works(person-name. company-name, salary) company(company-name, city) manages(person-name,, manager-name) Write following query in relational algebra form. (1) Find names of all employees who work for First Bank Corporation (FBC). (2) Find the names of all employees who live in the same city as the company for which they work. (3) Find names, street addresses and cities of residence of all employees who work for FBC and earn more than $10,000 per year.
5.	Distinguish between tightly coupled and loosely coupled systems.
6	Explain Reference architecture of DDBMS with proper diagram.
7	Explain the following terms: (i) Fragmentation transparency (ii) Replication transparency
8	Explain Client/Server database architecture.
9	Consider a failure that occurs during 2PC for a transaction. For each possible failure, explain how 2PC ensures transaction atomicity despite the failure?
10	Consider a relation that is fragmented horizontally by *plant-number*: employee (name, address, salary, plant-number) Assume each fragment has two replicas (1) stored at the New York site (2) locally at the plant site. Describe a good processing strategy for the following queries entered at the San Jose site. a. Find all employees at the Boca plant. b. Find the average salary of all employees. c. Find the highest-paid employee at each of the following sites: Toronto, Edmonton, Vancouver, Montreal d. Find the lowest-paid employee in the company
11	Under which situations will it be beneficial to have replication or fragmentation of data?

12	What is site autonomy in distributed DBMS? Explain in brief.
13	Explain Levels of data and process distribution in distributed environment.
14	What do you mean by query optimization? Explain System R (centralized) query optimization algorithm.
15	Explain peer-to-peer distributed systems.
16	Explain various transaction states and properties in detail.
17	Differentiate between partitioned and replicated databases. Discuss the fundamental issues while designing a distributed database.
18	Explain Following transparency for distributed database. (1) Network Transparency (2) Replication Transparency (3) Fragmentation Transparency
19	Explain Top Down Design Process for distributed database design.
20	Explain Layers of Query Processing.
	Describe following operation in context of relation algebra (1) Selection (2) Intersection (3) θ – Join
21	Explain Client – Server architecture with figure.
22	Describe COM_MIN algorithm used in horizontal fragmentation.
23	Describe BEA algorithm used in vertical fragmentation.
24	List Distribution design issue and explain any one of them.
25	Explain individual assertion for distributed semantic integrity control.
26	Give objective of query processing in view of distributed database.
27	List steps of query decomposition and explain any one from that.
28	What is normalization? Explain any one normal form.
29	Explain complicating factors of distributed DBMS.
30	Explain transaction management in DDBMS.
31	Give a real example of DDBMS and explain advantages and disadvantages of DDBMS.
32	Explain types of networks.
33	Explain fragmentation and its types with examples.
34	Explain allocation alternatives and allocation models in brief.
35	What is meant by view? Explain views in centralized DBMS and views in DDBMS.
36	Explain distributed transaction control and distributed transaction reliability.
37	Explain problems with multiple clients/single server.
38	Explain problem with multiple clients/ multiple servers.
39	What is meant by distributed database Application? How is it different from Database application system?
40	What is Multi-DBMS? Explain the components of Multi-DBMS.