NARSIMHA REDDY ENGINEERING COLLEGE

UGC AUTONOMOUS INSTITUTION

Maisammaguda (V), Kompally - 500100, Secunderabad, Telangana State, India

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UNIT WISE QUESTION BANK

UNIT–I

DISTRIBUTED DBMS ARCHITECTURE AND DESIGN

S.No		Questions	BT	CO	PO
Part – A (Short Answer Questions)					
1		What is a Distributed Database System (DDBS)?	L1	CO1	PO1
2		List the promises of DDBSs.	L1	CO1	PO1
3		What are the common problems in Distributed Data Processing?	L1	CO1	PO1
4		Define the term 'Architectural Models' in the context of DDBMS.	L1	CO1	PO1
5		List different architectural models for distributed DBMS.	L1	CO1	PO1
6		What is meant by DDBMS Architecture?	L1	CO1	PO1
7		Explain the concept of Fragmentation.	L1	CO1	PO1
8		What is Allocation in distributed database design?	L1	CO1	PO1
9		Mention any two design strategies used in DDBMS.	L1	CO1	PO1
10		Differentiate between centralized and distributed database systems.	L1	CO1	PO1
Part – B (Long Answer Questions)					
11	a)	Explain the components and architecture of a Distributed DBMS.	L2	CO1	PO1, PO2
	b)	Discuss the promises and problem areas of DDBSs.	L2	CO1	PO1, PO2
12	a)	Explain in detail the different Architectural Models for DDBMS.	L2	CO1	PO1, PO2
	b)	Discuss the design issues in Distributed Database Design.	L2	CO1	PO1, PO2
13	a)	Define fragmentation and explain its types with examples	L2	CO1	PO1, PO2
	b)	Explain allocation strategies in DDBMS.	L2	CO1	PO1, PO2
14	a)	Describe the need for Distributed Data Processing.	L2	CO1	PO1, PO2

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	b)	Compare centralized and distributed DBMS with suitable examples.	L2	CO1	PO1, PO2
15	a)	What are alternative design strategies for distributed database design?	L2	CO1	PO1, PO2
	b)	What are alternative design strategies for distributed database design?	L2	CO1	PO1,

UNIT–II

S.No		Questions	BT	CO	PO
Part – A (Short Answer Questions)					
1		Define query processing.	L1	CO2	PO1
2		What are the objectives of query processing?	L1	CO2	PO1
3		List the layers of query processing.	L1	CO2	PO1
4		What is query decomposition?	L1	CO2	PO1
5		Explain localization of distributed data.	L1	CO2	PO1
6		Define centralized query optimization.	L1	CO2	PO1
7		Define distributed query optimization.	L1	CO2	PO1
8		What is a query processor?	L1	CO2	PO1
9		List any two algorithms used in distributed query optimization.	L1	CO2	PO1
10		Differentiate between centralized and distributed optimization.	L1	CO2	PO1
Part – B (Long Answer Questions)					
11	a)	Explain the objectives and characterization of query processors.	L2	CO2	PO1, PO2
	b)	Describe the layers involved in query processing.	L2	CO2	PO1, PO2
12	a)	Explain query decomposition with an example.	L2	CO2	PO1, PO2
	b)	Discuss the process of localization of distributed data.	L2	CO2	PO1, PO2

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13	a)	What is centralized query optimization? Explain with an example	L3	CO2	PO1, PO2
	b)	Explain any two distributed query optimization algorithms	L2	CO2	PO1, PO2
14	a)	Discuss the components of distributed query optimization.	L4	CO2	PO1, PO2
	b)	Describe how query processing is handled in distributed systems.		CO2	PO1, PO2
15	a)	Describe the challenges in optimizing distributed queries..	L2	CO2	PO1, PO2
	b)	Compare centralized and distributed optimization strategies.	L2	CO2	PO1, PO2

UNIT–III
TRANSACTION MANAGEMENT

S.No	Questions	BT	CO	PO
Part – A (Short Answer Questions)				
1	What is a transaction in DBMS?	L1	CO3	PO1
2	List the properties of a transaction.	L1	CO3	PO1
3	What are the types of transactions?	L1	CO3	PO1
4	Define serializability in concurrency control.	L1	CO3	PO1
5	List any two concurrency control algorithms.	L2	CO3	PO1
6	What is a timestamp-based concurrency control?	L1	CO3	PO1
7	What is optimistic concurrency control?	L1	CO3	PO1
8	Define deadlock in distributed transactions.	L1	CO3	PO1
9	What is deadlock management?	L1	CO3	PO1
10	Compare centralized and distributed transaction control	L1	CO3	PO1
Part – B (Long Answer Questions)				
11	a) Explain the types and properties of transactions.	L2	CO3	PO1, PO2
	b) Discuss the concept of distributed concurrency control.	L2	CO3	PO1, PO2

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12	a)	Describe the mechanism of timestamp-based concurrency control	L2	CO3	PO1, PO2
	b)	Explain optimistic concurrency control algorithms.	L3	CO3	PO1, PO2
13	a)	Describe deadlock and how it is managed in distributed systems.	L2	CO3	PO1, PO2
	b)	Explain serializability with a suitable example.	L3	CO3	PO1, PO2
14	a)	Discuss different concurrency control mechanisms.	L2	CO3	PO1, PO2
	b)	Explain locking techniques and timestamp ordering.	L3	CO3	PO1, PO2
15	a)	What are the challenges of distributed transaction management?	L2	CO3	PO1, PO2
	b)	Compare the different concurrency control strategies	L2	CO3	PO1, PO2

UNIT–IV
RELIABILITY AND PARALLEL DATABASES

S.No	Questions	BT	CO	PO
Part – A (Short Answer Questions)				
1	Define reliability in DDBMS.	L1	CO4	PO1
2	What is fault tolerance?	L1	CO4	PO1
3	List different types of failures in distributed systems.	L1	CO4	PO1
4	What are site failures?	L1	CO4	PO1
5	Define network partitioning.	L1	CO4	PO1
6	What is a parallel database system?	L1	CO4	PO1
7	List types of parallel architectures.	L1	CO4	PO1
8	Define load balancing.	L1	CO4	PO1
9	What is parallel query processing?	L1	CO4	PO1
10	Explain database clusters.	L1	CO4	PO1
Part – B (Long Answer Questions)				
11	a) Explain the concept of reliability and fault tolerance in DDBMS.	L2	CO4	PO1, PO2
	b) Discuss local and distributed reliability protocols.	L3	CO4	PO1, PO2
12	a) Describe the types of failures in distributed DBMS	L2	CO4	PO1, PO2

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	b)	Explain site failure and network partitioning with examples.	L3	CO4	PO1, PO2
13	a)	Explain parallel DBMS architectures.	L2	CO4	PO1, PO2
	b)	Describe load balancing techniques used in parallel systems.	L3	CO4	PO1, PO2
14	a)	How is parallel query processing achieved?	L2	CO4	PO1, PO2
	b)	Discuss the role of parallel data placement.	L2	CO4	PO1, PO2
15	a)	What are database clusters?	L2	CO4	PO1, PO2
	b)		L2	CO4	PO1, PO2

UNIT–V

DISTRIBUTED OBJECT AND OODBMS

S.No	Questions	BT	CO	PO
	Part – A (Short Answer Questions)			
1	Define object-oriented database.	L1	CO5	PO1
2	What are object concepts and models?	L1	CO5	PO1
3	Explain object identity.	L1	CO5	PO1
4	What is object persistence?	L1	CO5	PO1
5	Define persistent programming languages.	L2	CO5	PO1
6	What is distributed object storage?	L1	CO5	PO1
7	Define object query processing.	L1	CO5	PO1
8	List the architectural issues in object DBMS.	L1	CO5	PO1
9	Differentiate between OODBMS and ORDBMS.	L1	CO5	PO1
10	What is inheritance in object-oriented data models?	L1	CO5	PO1

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Part – B (Long Answer Questions)					
11	a)	Discuss the fundamental object concepts and models.	L2	CO5	PO1,PO2
	b)	Explain distributed object design and management.	L3	CO5	PO1, PO2
12	a)	Describe distributed object storage mechanisms.	L2	CO5	PO1, PO2
	b)	Explain the process of object query processing.	L3	CO5	PO1, PO2
13	a)	What are persistent programming languages?	L2	CO5	PO1, PO2
	b)	Discuss how object identity is maintained in distributed systems	L2	CO5	PO1, PO2
14	a)	Compare OODBMS and ORDBMS.	L3	CO5	PO1, PO2, PO3
	b)	Explain object-oriented data models with inheritance.	L2	CO5	PO1, PO2
15	a)	Discuss the architectural issues in distributed object DBMS.	L3	CO5	PO1, PO2, PO3
	b)	Describe object persistence and its implementation.	L2	CO5	PO1, PO2