

Object-Oriented Database (OODB) and Distributed Database

Part A – Short Answer Questions

1. Define Object-Oriented Database (OODB).
2. What are the main features of Object-Oriented Databases?
3. Differentiate between Object-Oriented Databases and Relational Databases.
4. What is Encapsulation in OODB?
5. Explain Inheritance with an example.
6. What is the Object Model of ODMG?
7. Define Object Definition Language (ODL).
8. What is Object Query Language (OQL)?
9. Define Object Identity and explain its importance in OODB.
10. What is meant by Data Fragmentation in Distributed Databases?

Part B – Descriptive Questions

1. Discuss the main components of the Object Model defined by ODMG.
2. Describe the syntax and usage of Object Definition Language (ODL) with a suitable example.
3. Explain how Object Query Language (OQL) is similar to or different from SQL.
4. Illustrate the Object Database Conceptual Design process with an example.
5. Describe types of data fragmentation and give examples of each.
6. Discuss the role of replication in distributed databases and its advantages and disadvantages.
7. What are allocation techniques in distributed database design? Explain with examples.
8. Compare homogeneous and heterogeneous distributed database systems.
9. Explain query processing in distributed databases.
10. What are the concurrency control techniques used in distributed databases?

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Part C – Analytical / Problem-Based Questions

1. Explain the steps involved in distributed query processing with an example of a query that spans multiple sites.
2. Describe a recovery mechanism for a distributed database in case one site fails during transaction execution.
3. Evaluate how distributed databases enhance scalability and reliability in cloud environments.
4. Compare OODBMS and ORDBMS (Object-Relational DBMS) in terms of architecture and application areas.
5. Explore the future trends and research challenges in Object-Oriented and Distributed Databases.