

Course  
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Test Series

Self-Made Assignment - Data and Database Management System

Database Architecture

You have to write the answers to the questions in your notebook and write the descriptive questions in your own language

Multiple Choice Questions (MCQs):

Ques 1- Which DBMS architecture is most commonly used in modern web applications?

- A) 1-Tier
- B) 2-Tier
- C) 3-Tier
- D) 4-Tier

Ques 2- Which component of a DBMS is responsible for planning the fastest way to run a SQL query?

- A) Parser
- B) File Manager
- C) Optimizer
- D) Translator

Ques 3- In 2-Tier architecture, how does the client communicate with the database?

- A) Through the application server
- B) Directly with the database server
- C) Using a web browser
- D) Through metadata

Ques 4- Which DBMS component helps restore data after a crash?

- A) Catalog Manager
- B) Recovery Manager
- C) File Manager
- D) Optimizer

Ques 5- Which part of the query processor checks for syntax errors in SQL queries?

- A) Translator
- B) Optimizer
- C) Parser
- D) Catalog Manager

True/False Questions:

1. The 1-Tier architecture requires a network or server to operate.
2. The client in 3-Tier architecture directly accesses the database server.
3. The Catalog Manager stores the actual data in the database.
4. The Transaction Manager ensures data consistency when multiple users access the same data.
5. Disk storage is where permanent data is stored in a DBMS.

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Matching the following:

Column A - Component	Column B - Function
A. Parser	1. Checks for syntax errors in SQL queries
B. Optimizer	2. Plans the most efficient way to execute queries
C. Transaction Manager	3. Ensures data consistency during multiple simultaneous accesses
D. Catalog Manager	4. Stores metadata like table names and column types
E. Recovery Manager	5. Restores data after a crash or failure

Ques 1- Explain the differences between 1-Tier, 2-Tier, and 3-Tier DBMS architectures with real-life examples.

Ques 2- Describe the role of the Storage Manager in a DBMS. List its components and explain how each one contributes to data handling.

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