

Name:Roll Number:*****WRITE BRIEF AND PRECISE ANSWERS. READ THE QUESTION AND ANSWER ONLY WHAT IS ASKED*****

1. **A) What is the purpose of blob storage tiers?**
B) What are the 2 key features of Azure Datalake storage?
C) How do you automate movement of data between access tiers?
D) How do you access data from archive tier?

Answers:

- A) to balance access latency and storage cost
- B) file & directory level access control, and hierarchical namespace
- C) through lifecycle management policies for blobs
- D) To retrieve a blob from the Archive tier, you must change the access tier to Hot or Cool. The blob will then be rehydrated. You can read the blob only when the rehydration process is complete.

2. **A) What is the purpose of Azure files compared to blobs?**
B) What protocols are used by Azure files?
C) Mention the protocols used by windows, linux and macos.

Answers:

- A) File Sharing between multiple users/systems, which is not possible in blobs
- B) SMB and NFS
- C) SMB file sharing is commonly used across multiple operating systems (Windows, Linux, MacOS). NFS shares are used by Linux and MacOS versions.

3. **A) What is the use of partitions in table storage?**
B) How partition key helps in data lookup?
C) How do Azure table storage columns differ from columns in a relational database?

Answers:

- A) Partitioning not only helps to organize data, it can also improve scalability and performance
- B) It helps to narrow down the volume of data to be examined, and improves performance by reducing the amount of I/O (reads and writes) needed to locate the data.
- C) columns in each row can vary. There can be different columns for different rows. This usage allows storage of semi structured data efficiently.

4. **A) What is the purpose of DDL statements in an RDBMS? B) Which data structure is used in indexes? C) How do indexes help improved query performance?**

Answers:

- A) Data Definition Language (DDL) is used to manage (create/delete/alter) database objects such as tables, views, procs, etc.
- B) Tree-based data structure, possible B-Trees
- C) Tree based search on index, which contains hash values of a specific column, and each record in index has pointers to the original table data, instead of searching the entire table.

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5. **A) What is the selection criteria between Azure SQL Managed Instance (Azure SQL MI) vs Azure SQL Database? B) What is the difference between a database view and a stored procedure?**

Answers:

- A) SQL MI: Migration from On-Premises, Azure SQL: New Cloud Native Development
- B) View acts as virtual tables, allows us to encapsulate complex queries and treat the result set as a table, from where we can select, filter, etc., whereas stored procedures allow us to update data and encapsulate all the complex SQL logic and business rules in a procedure that is created within the database.