* 1. A company is setting up an Availability Group (AG) in Azure to ensure high availability for their databases. Which of the following cannot be used for creating an Availability Group in Azure?

T-SQL

SQL Server Management Studio (SSMS)

PowerShell

Azure load balancer

13/13 points

**Explanation**

The commonly used tools for creating Availability Groups (AG) in Azure are T-SQL, SQL Server Management Studio (SSMS), and PowerShell.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/explore-iaas-paas-platform-tools-for-high-availability-disaster-recovery/3-configure-always-availability-groups>

* 2. Your company's database system has been down for the past hour, causing significant disruption to your business operations. Upon investigation, you discover that a connection failure is the root cause. As the database administrator, you want to identify the cause and take preventative measures to avoid future downtime. In database administration, a connection failure can result from the following, except:

~~Incorrect login information~~

Connection timeouts

Network disruption

Reconfiguration

Firewall settings

0/12 points

**Explanation**

A connection failure can result from reconfiguration, firewall settings, connection timeouts, or incorrect login information.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/configure-database-authentication-authorization/6-identify-authentication-and-authorization>

* 3. Your company is developing a new application that requires the secure storage of sensitive customer information. The development team has proposed using the Always Encrypted option to encrypt the data. Match the following scenarios for Always Encrypted usage by selecting the appropriate answer from the given options and dropping it at the most appropriate definition in relation to each one of the scenarios.
  + Client and data on-premises
  + Client on-premises with data in Azure
  + Client and Data in Azure
  + Client and Data in Azure

In this scenario, the environment is fully hosted on Azure. While Always Encrypted doesn't completely isolate data from cloud administrators, the customer still benefits from the fact that the data is encrypted in the database.

* + Client on-premises with data in Azure

For scenarios where you need to protect your on-premises database from high-privileged users, for example, external vendors managing SQL Server.

* + Client and data on-premises

In this scenario, to ensure Microsoft cloud administrators have no access to the data, Always Encrypted a keys are stored in key store hosted on-premises, for SQL Database or SQL Server running in a virtual machine on Microsoft Azure.

* + Client and Data in Azure

In this scenario, the environment is fully hosted on Azure. While Always Encrypted doesn't completely isolate data from cloud administrators, the customer still benefits from the fact that the data is encrypted in the database.

* + Client and data on-premises

For scenarios where you need to protect your on-premises database from high-privileged users, for example, external vendors managing SQL Server.

* + Client on-premises with data in Azure

In this scenario, to ensure Microsoft cloud administrators have no access to the data, Always Encrypted a keys are stored in key store hosted on-premises, for SQL Database or SQL Server running in a virtual machine on Microsoft Azure.

4/12 points

**Explanation**

In Client and Data in Azure, both the client and data are fully hosted on Azure, with data encryption within the database enhancing security. In Client and data on-premises configuration, data is located on the local premises, and measures are implemented to protect the on-premises database from high-privileged users, such as external vendors managing SQL Server.In Client on-premises with data in Azure scenario, encryption keys are stored on-premises, ensuring that Microsoft cloud administrators have no access to the data, even when SQL Database or SQL Server runs in an Azure virtual machine.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/protect-data-transit-rest/4-explain-object-encryption-secure-enclaves>

* 4. Your organization has just migrated its most critical database to Azure SQL, and management has asked you to ensure the quickest possible recovery in case of a disaster or data loss event. Given that Recovery Time Objective (RTO) is a key metric for measuring disaster recovery readiness, In meeting the expectations of your stakeholders, how would you define the term recovery Time Objective (RTO)?

RTO is the minimum amount of time available to bring resources online after an outage or problem

RTO is the average amount of time available to bring resources online after an outage or problem

RTO is the overall amount of time available to bring resources online after an outage or problem

RTO is the maximum amount of time available to bring resources online after an outage or problem

13/13 points

**Explanation**

The maximum amount of time available to bring resources online after an outage or problem is regarded as the Recovery Time Objective (RTO).

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/describe-high-availability-disaster-recovery-strategies/2-describe-recovery-time-objective-recovery-point-objective>

* 5. ACME Corp is facing issues with their database performance due to a query that is taking a long time to execute. The query involves joining multiple tables and applying aggregate functions to determine each salesperson's total sales.  
  To enhance the query's efficiency, ACME Corp is exploring ways to optimize it. What steps should they take to achieve this goal?

Increase the number of indexes on the tables involved in the query

Rewrite the query to use subqueries instead of joins

Use query hints to force the use of specific indexes

Check wait statistics to identify bottlenecks and optimize them

Use a higher level of transaction isolation for the query

4/12 points

**Explanation**

Increasing the number of indexes can improve the performance of the query, especially if the query involves joins or aggregation. However, adding too many indexes can slow down the performance of write operations. Rewriting the query to use subqueries instead of joins may not necessarily improve the performance and can sometimes worsen it. Using query hints to force the use of specific indexes can be effective. Still, it may lead to suboptimal performance if the query optimizer is prevented from making the best choice. Checking wait statistics can help identify bottlenecks slowing down the query, allowing ACME Corp to address them. Using a higher level of transaction isolation for the query can cause more locking and blocking, potentially slowing down other queries.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/evaluate-performance-improvements/3-tune-and-maintain-indexes>

<https://docs.microsoft.com/en-us/sql/relational-databases/performance/subqueries?view=sql-server-ver15>

<https://learn.microsoft.com/en-us/training/modules/evaluate-performance-improvements/2-describe-wait-statistics>

<https://docs.microsoft.com/en-us/sql/relational-databases/sql-server-transaction-locking-and-row-versioning-guide?view=sql-server-ver15>

<https://docs.microsoft.com/en-us/sql/t-sql/queries/hints-transact-sql-query?view=sql-server-ver15>

* 6. As a cloud migration specialist, you assist a company in moving its on-premises environment to the cloud. The company wants to ensure that its performance and usage metrics are captured accurately in the cloud. While moving from an on-premises environment to the cloud, which one of the following is not an important metric to capture? Select the correct answer from the list below.

Average disk seconds/read

Average disk seconds/output Average disk seconds/write

~~I/O Operations per Second~~

0/12 points

**Explanation**

While moving from an on-premises environment to the cloud, the important metrics to capture include Average disk seconds/read, Average disk seconds/write and I/O Operations per Second.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/configure-sql-server-resources-optimal-performance/2-explain-how-optimize-azure-storage-virtual-machines>

* 7. An international company plans to migrate its on-premises SQL Server database to Azure SQL. They want to choose a PaaS deployment option that can provide high availability, automatic backups, and scalability. Which Azure SQL deployment option should they choose?

Azure SQL Database single database

~~Azure SQL Database managed instance~~

Azure SQL Database elastic pool

Azure SQL on a virtual machine

0/13 points

**Explanation**

Azure SQL Database single database provides a dedicated database with a fixed amount of resources and can provide high availability through geo-replication. However, it does not support automatic backups, and scaling requires moving to a higher pricing tier. Azure SQL Database managed instance provides a fully managed instance of SQL Server and can provide high availability through Always On availability groups. It supports automatic backups and scaling but may not be the most cost-effective option for small databases. Azure SQL Database elastic pool provides resources that can be shared across multiple databases and provide high availability through geo-replication. It supports automatic backups, and scaling can be done by adding or removing databases from the pool, making it a good option for databases with variable workloads. Azure SQL on a virtual machine provides the most flexibility, allowing the customer to install and manage their own SQL Server instance on a virtual machine in Azure. However, this option requires more maintenance and management than the other PaaS options.

**Reference link**

<https://docs.microsoft.com/en-us/azure/azure-sql/database/single-database-manage>

<https://docs.microsoft.com/en-us/azure/azure-sql/managed-instance/sql-managed-instance-paas-overview>

<https://docs.microsoft.com/en-us/azure/azure-sql/database/elastic-pool-overview>

* 8. A company is evaluating different databases for their needs and wants to know which of the options do not require frequent updates. Which of the following databases does not need frequent updates? Select the correct answer from the options.

System database

User databases

~~Configuration database~~

Backup databases

0/13 points

**Explanation**

The nature of most system databases is that they're updated less frequently, although there are exceptions.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/backup-restore-databases/2-backup-restore-sql-server-running-azure-virtual-machines>

* 9. Your company runs on a high-traffic SQL Server database where data is constantly changing. As a database administrator, your CTO has engaged you on how to utilize the tools within a maintenance plan to effectively manage recovery to a specific point in time in case of data loss or corruption. In the SQL Server maintenance plan, which two of the following are used to manage recovery to a specific point in time?

Differential backup

Transaction log backup

Operational backup

Inferential backup

13/13 points

**Explanation**

Differential and transaction log backups are mostly used to manage recovery to a specific point in time.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/schedule-tasks-using-sql-server-agent/2-create-maintenance-plan>

* 10. Recently, your organization had a challenge in restoring a database from its backup. As a database administrator, which of the following will you recommend as Azure SQL deployment options that support natively restoring a database?

SQL Server on an Azure VM

Azure SQL Managed Instance

~~Azure SQL Database~~

SQL Server on an Azure VM and Azure SQL Managed Instance

0/12 points

**Explanation**

In an Azure VM, it's just SQL Server, so it is supported. In an Azure SQL Managed Instance, native restore from a URL is supported.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/azure-sql-deploy-configure/7-load-data>

* 11. A USA-based company plans to migrate its on-premises SQL Server databases to the Azure SQL Database. They want to ensure that the migration process is smooth and successful.  
  Which of the following PowerShell commands will accomplish the task?

New-AzSqlDatabaseExport -ResourceGroupName "resource-group" -ServerName "server-name" -DatabaseName "database-name" -StorageKeytype "StorageAccessKey" -StorageKey "storage-key" -StorageUri "storage-uri"

Start-AzSqlDatabaseMigration -MigrationName "migration-name"

New-AzSqlDatabaseImport -ResourceGroupName "resource-group" -ServerName "server-name" -DatabaseName "database-name" -StorageKeyType "StorageAccessKey" -StorageKey "storage-key" -StorageUri "storage-uri"

~~New-AzDataMigrationTask -ResourceGroupName "resource-group" -ServiceName "service-name" -ProjectName "project-name" -TaskName "task-name" -TargetDatabaseName "target-database-name" -TargetServerName "target-server-name" -ServerName "server-name" -DatabaseName "database-name" -MigrationType "Offline"~~

0/12 points

**Explanation**

Option A is incorrect because it exports the SQL Server database to an Azure storage account but does not import it to Azure SQL Database. Option B is incorrect because it starts an existing migration but does not create a new migration or specify any migration tasks. Option D is incorrect because it creates a new data migration task, not an Azure SQL Database migration task. Option C is correct because it imports the SQL Server database from the specified storage account to the Azure SQL Database. It provides the necessary connection information, storage account credentials, and import settings to complete the migration task.

**Reference link**

<https://learn.microsoft.com/en-us/powershell/module/az.datamigration/new-azdatamigrationtask?view=azps-9.5.0>

* 12. In SQL Server storage configuration, you are the lead database administrator for a growing financial services firm that is migrating its SQL Server databases to Azure Virtual Machines. During a recent performance review, you noticed that some databases were running slower than others. After investigating the storage configuration, you realize that some best practices were not followed during the migration. In SQL Server storage configuration, which of the following is not among the best practices for SQL Server on Azure VMs and their storage configuration?

Create a separate volume for data and transaction log files

Do not enable read caching on the data file volume

Enable read caching on the data file volume

Do not enable any caching on the log file volume

Enable instant file initialization to reduce the impact of file-growth activities

13/13 points

**Explanation**

Creating a separate volume for data and transaction log files, Enabling read caching on the data file volume, Do not enable any caching on the log file volume, and Enable instant file initialization to reduce the impact of file-growth activities are among the best practices for SQL Server on Azure VMs and their storage configuration.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/configure-sql-server-resources-optimal-performance/2-explain-how-optimize-azure-storage-virtual-machines>

* 13. In an Azure cloud infrastructure with multiple resources and complex deployment requirements, which of the following is not correct about the benefits of using Azure Resource Manager (ARM) templates?

Repeatable

Orchestration

Modular

~~Exportable code~~

Authoring tools

Integration

0/13 points

**Explanation**

The benefits of Azure Resource Manager (ARM) templates include repeatability, Orchestration, modularity, Exportable code, and Authoring tools.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/configure-automatic-deployment-azure-sql-database/3-automate-deployment-using-azure-resource-manager-bicep>

* 14. In the Azure SQL Database and Azure SQL Managed Instance, transient connectivity errors happen at any time. Examples of these errors are extended authentication, databases reaching resource limits, and login failures. Relate the following error types in defining each of these connectivity errors by selecting the appropriate answer from the given options and dropping it at the most appropriate definition in relation to each one of the error types.
  + Extended authentication
  + Database reaches resource limit
  + Login failures
  + Database reaches resource limit

Monitor your database's compute and storage resources carefully and take action when it reaches its resource limits to prevent transient failures.

* + Login failures

Look for any outages when the application reported the errors at Microsoft Azure Service Dashboard.

* + Extended authentication

File an Azure support request through the Azure portal if your application encounters a connectivity error for longer than 60 seconds or if it occurs more than once in a given day.

* + Database reaches resource limit

Monitor your database's compute and storage resources carefully and take action when it reaches its resource limits to prevent transient failures.

* + Login failures

Look for any outages when the application reported the errors at Microsoft Azure Service Dashboard.

* + Extended authentication

File an Azure support request through the Azure portal if your application encounters a connectivity error for longer than 60 seconds or if it occurs more than once in a given day.

12/12 points

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/configure-database-authentication-authorization/6-identify-authentication-and-authorization>

* 15. As a database administrator for your company, you are responsible for ensuring the performance and availability of your Azure SQL databases. You've been tasked with improving the performance of one of the databases, and you've been hearing about Azure SQL Insights as a useful tool. Which of the following statements is/are correct about Azure SQL Insights?

|  |  |
| --- | --- |
| It does not have in-built intelligence for troubleshooting activities | Yes  No |
| It helps with data collection and visualization | Yes  No |

12/12 points

**Explanation**

Azure SQL Insights has in-built intelligence for troubleshooting activities, and it also helps in data collection and visualization.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/describe-performance-monitoring/6-describe-azure-sql-insights>

* 16. Your company uses Azure virtual machines for its cloud infrastructure. By making use of default metrics, it intends to monitor the performance and health conditions of these machines. Which of the following is not among the default metrics that are captured by a Virtual Machine?

CPU

Network utilization

Disk read and write operations

Virtual Machine temperature

12/12 points

**Explanation**

The default metrics that are captured by Virtual Machine include CPU, network utilization, and disk read and write operations.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/describe-performance-monitoring/2-describe-performance-monitoring-tools>

* 17. You have discovered the implications of using physical ordering in the database index pages for querying data and how it affects the organization and retrieval of stored information. Select three of the following operations that can affect the physical ordering of the database index pages:

Update

Create

Select

Delete

Insert

13/13 points

**Explanation**

Update, Delete, and Insert are the major database operations that can affect the physical ordering of the database index pages.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/configure-databases-for-optimal-performance/2-explore-database-maintenance-checks>

* 18. Contoso's IT department intends to transfer its on-premises SQL Server database to an Azure Managed Instance. To avoid prolonged downtime and ensure data consistency between the on-premises database and the Azure Managed Instance, they are exploring various migration methods that can be utilized to achieve this objective. Multiple migration methods may be suitable for this purpose.

Use transactional replication to migrate the data to Azure Managed Instance

~~Use backup and restore to migrate the data to Azure Managed Instance~~

Use log shipping to migrate the data to Azure Managed Instance

Use a database migration service to migrate the data to Azure Managed Instance

4/13 points

**Explanation**

Transactional replication, log shipping, or a database migration service can minimize downtime during the migration process and ensure that the data remains consistent between the on-premises database and the Azure Managed Instance. Backup and restore can be used to migrate data, but it requires more downtime and is less efficient than other migration methods.

**Reference link**

<https://docs.microsoft.com/en-us/sql/relational-databases/replication/transactional/transactional-replication?view=sql-server-ver15>

<https://docs.microsoft.com/en-us/sql/database-engine/log-shipping/about-log-shipping-sql-server?view=sql-server-ver15>

<https://docs.microsoft.com/en-us/azure/dms/dms-overview>

* 19. Your organization's Azure SQL database is experiencing frequent data loss, and management has asked you to implement a disaster recovery plan that meets their Recovery Point Objective (RPO) requirements. Mark the following statements about RPO as true or false.

|  |  |
| --- | --- |
| It is the point in time to which a database should be upgraded and equates to the maximum amount of data loss that the business is willing to accept | True  False |
| It is the point in time to which a database should be recovered and equates to the minimum amount of data loss that the business is willing to accept | True  False |
| It is the point in time to which a database should be recovered and equates to the maximum amount of data loss that the business is willing to accept | True  False |

13/13 points

**Explanation**

The maximum amount of time available to bring resources online after an outage or problem is referred to as the Recovery Point Objective (RPO).

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/describe-high-availability-disaster-recovery-strategies/2-describe-recovery-time-objective-recovery-point-objective>

* 20. A company has enabled replication for an Azure SQL database and wants to understand the key aspects of the process. Which of the following is not a key factor to consider when replication is enabled for an Azure SQL database?

There's a Site Recovery Mobility extension configured on the VM.

Changes are sent continually unless Azure Site Recovery is configured or replication is enabled

~~Changes are sent continually unless Azure Site Recovery is unconfigured or replication is disabled~~

Crash consistent recovery points are generated every five minutes, and application-specific recovery points are generated according to what is configured in the replication policy.

0/13 points

**Explanation**

The key things to know when replication is enabled on a VM are: There's a Site Recovery Mobility extension configured on the VM. Changes are sent continually unless Azure Site Recovery is unconfigured or replication is disabled. Crash-consistent recovery points are generated every five minutes, and application-specific recovery points are generated according to what is configured in the replication policy.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/explore-iaas-paas-platform-tools-for-high-availability-disaster-recovery/3-configure-always-availability-groups>

* 21. Your organization is using Azure SQL, and an error has been encountered indicating that the maximum storage size of a managed database has been reached. What is the error code that is associated with this error in Azure SQL?

~~Message 1150~~

Message 1105

Message 0511

Message 5011

0/12 points

**Explanation**

The error code you receive when you reach the maximum storage size of a managed database.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/azure-sql-deploy-configure/5-configure-database>

* 22. Your organization intends to move its data-related operations into the cloud. You have been asked to make a case for the Azure cloud service. Select three options from below that are great benefits of the Azure SQL Database.

Scenario management

High availability

Optional selection

Disaster recovery

Backup and recovery

12/12 points

**Explanation**

The key benefits of Azure SQL Database include backup and recovery, high availability, disaster recovery, service scalability, security, and licensing. Both Scenario management and Optional selection are not on the list of key benefits.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/deploy-iaas-solutions-with-azure-sql/5-explain-high-availability-and-disaster-recovery-options>

* 23. Your boss has mandated that you look for the best options for loading data into the Azure SQL database and managed instances. Which of the following is not an example of how you can more efficiently load data into an Azure SQL Database or Azure SQL Managed Instance?

Use clustered column store indexes

Use batching with appropriately sized batches

Use simple recovery mode

~~All of the above will help in Azure SQL Database and Azure SQL Managed Instance~~

0/12 points

**Explanation**

This capability is not currently supported in the Azure SQL Database or Azure SQL Managed Instance. Full recovery mode is required to meet the SLA.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/azure-sql-deploy-configure/7-load-data>

* 24. In SQL Server workloads, the main characteristics to look for are the amount of memory available and the number of input and output operations (IOPs) the virtual machine can perform. Which of the following statements is/are true?

|  |  |
| --- | --- |
| The amount of memory available | Yes  No |
| The number of input and output operations (IOPs) the virtual machine can perform. | Yes  No |

13/13 points

**Explanation**

The amount of memory available and the number of input and output operations (IOPs) the virtual machine can perform are the main characteristics to look out for in SQL Server workloads.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/configure-sql-server-resources-optimal-performance/3-describe-virtual-machine-resizing>

* 25. Your company is storing a large amount of customer data in an Azure SQL Database and wants to ensure that the data is properly classified and protected. As the database administrator, you need to understand the different data classifications in the Azure SQL Database. Select the three categories of data classification in Azure SQL.

Public

~~Cloud-based~~

Confidential

~~Private~~

Highly confidential

4/12 points

**Explanation**

The three possible data classifications in a database table are public, confidential, and highly confidential.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/implement-compliance-controls-sensitive-data/2-explore-data-classification>

* 26. Your team is deploying the Azure SQL Database and wants to ensure that all necessary information is provided in the Azure portal. During deployment, which one of the following is not among the panes in the Azure portal to fill?

~~Basic~~

Networking

Cloud service

Security

Additional settings

Tags

Review and Create

0/12 points

**Explanation**

The six essential panes in the Azure portal to fill include Basic, Networking, Security, Additional Settings, Tags, and Review and Create.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/azure-sql-deploy-configure/2-plan-deploy-verify>

* 27. Your team is managing the connection policies for an Azure SQL database and wants to view the current policy. Which of the following Azure CLI commands would you use to display the current policy?

az -- sql server conn-policy show

az sql server conn-policy display

az sql server conn-policy show

az -- sql server conn-policy show

12/12 points

**Explanation**

The Azure CLI command to use to display the current policy is az sql server conn-policy show.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/azure-sql-deploy-configure/6-exercise-configure-database>

* 28. Fabrikam Inc.'s IT department is exploring utilizing a virtual machine to deploy an Azure SQL Server. They are interested in determining if this approach can offer effective disaster recovery measures and high availability.

|  |  |
| --- | --- |
| Does Azure SQL Server on a virtual machine provide built-in automatic failover? | ~~Yes~~  No |
| Can Azure SQL Server on a virtual machine be configured for geo-replication to enable disaster recovery? | Yes  No |
| Does Azure SQL Server on a virtual machine offer automatic backups to minimize data loss in the event of a disaster? | Yes  No |

8/12 points

**Explanation**

Azure SQL Server on a virtual machine does not provide built-in automatic failover like Azure SQL Database managed instance does. However, it can be configured for geo-replication to enable disaster recovery. It also offers automatic backups to minimize data loss in a disaster.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/deploy-iaas-solutions-with-azure-sql/2-explain-iaas-options-deploy-azure>

<https://learn.microsoft.com/en-us/training/modules/deploy-iaas-solutions-with-azure-sql/5-explain-high-availability-and-disaster-recovery-options>

* 29. In database administration, performance tuning helps greatly in identifying and managing the consumption of resources. Which of the following is a tool being used in the Azure SQL Database to perform this action?

Query Performance Analyzer

SQL Insight

Query Performance Insight

Analyzer

12/12 points

**Explanation**

Azure SQL Database offers a tool called Query Performance Insight that allows the administrator to quickly identify expensive queries.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/describe-performance-monitoring/7-explore-query-performance-insight>

* 30. Your company is looking to deploy, verify, and configure Azure SQL and is evaluating different command-line tools for this purpose. Which of the following are two common command-line tools for deploying, verifying, and configuring Azure SQL?

Azure portal

Azure CLI

Azure PowerShell

Rest API

Azure Resource Manager

12/12 points

**Explanation**

Among various options, the two common command-line tools for deploying, verifying, and configuring Azure SQL are Azure CLI and Azure PowerShell.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/azure-sql-deploy-configure/9-summary>

* 31. A company wants to set up an internal load balancer (ILB) in Azure to provide high availability for its services. The absence of which one of the following components will prevent the ILB listener from functioning properly?

Socket

Network interface card

Probe port

~~Listener’s IP address~~

0/13 points

**Explanation**

The absence of a probe port will not allow the listener to work properly while creating an internal load balancer.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/explore-iaas-paas-platform-tools-for-high-availability-disaster-recovery/3-configure-always-availability-groups>

* 32. You need to recommend to your organization that it upgrade to the latest version of SQL Server. Your manager would like you to brief him on the benefits of running on the latest release of SQL Server. Which of the following is not part of the enhancements in the new version?

Accountability

Performance

Security

Availability

~~Query functionality~~

0/12 points

**Explanation**

In terms of running on the latest release of SQL Server, its benefits in areas of enhancement include Performance, Security, Availability, and Query functionality.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/evaluate-strategies-for-migrating-to-azure-sql/2-understand-compatibility-level>

* 33. A company is concerned about its ability to recover from an outage. If a SQL Server and its databases can be brought online in five minutes, but it takes application servers 20 minutes to do the same, the overall RTO would be how many minutes?

5

10

15

20

13/13 points

**Explanation**

In the Recovery Time Objective (RTO), we give concern to the maximum amount of time available to bring resources online after an outage or problem. In this case, the resources of concern are application servers. The SQL Server environment could still have an RTO of five minutes; it will not change the overall time for recovery.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/describe-high-availability-disaster-recovery-strategies/2-describe-recovery-time-objective-recovery-point-objective>

* 34. Adventure Works wants to ensure its customer data is secure and protected in transit and at rest. They have a SQL Server database running on Microsoft Azure and want to enable Transparent Data Encryption (TDE) and configure the firewall for the database.  
  Which of the following Azure CLI commands will accomplish the task?

az sql server update -g ResourceGroup -n ServerName --encryption protector-type ServiceManaged

az sql db tde set -g ResourceGroup -s ServerName -n DatabaseName --status Enabled

~~az sql server firewall-rule create -g ResourceGroup -s ServerName -n AllowAll --start-ip-address 0.0.0.0 --end-ip-address 255.255.255.255~~

az sql db update -g ResourceGroup -s ServerName -n DatabaseName --set firewallRuleIgnored:true

0/12 points

**Explanation**

Option A is incorrect because it updates the SQL Server encryption protector type to ServiceManaged but does not enable TDE on the database. Option C is incorrect because it creates a firewall rule that allows all IP addresses to connect to the SQL Server. This is a security risk. Option D is incorrect because it sets the firewallRuleIgnored parameter to true, meaning the database ignores the firewall rules. Option B is the correct answer because it enables TDE on the database by setting the TDE status to Enabled.

**Reference link**

<https://learn.microsoft.com/en-us/cli/azure/sql/db/tde?view=azure-cli-latest#az_sql_db_tde_set>

* 35. A database administrator is trying to match the components of transactional replication in Azure SQL to their proper definitions. Select the appropriate answer from the given options and drop it at the most appropriate definition, in relation to each of the components.
  + Publisher
  + Subscriber(s)
  + Article
  + Standardization
  + Publication
  + Subscription
  + Subscription

A request from a Subscriber for a Publication from a Publisher.

* + Article

A database object; for example, a table that's included in the Publication.

* + Publication

A collection of one or more articles from the database being replicated.

* + Publisher

A database instance that hosts the data to be replicated (source).

* + Subscriber(s)

A database instance that receives the data being replicated by the Publisher (target(s)).

* + Subscription

A request from a Subscriber for a Publication from a Publisher.

* + Article

A database object; for example, a table that's included in the Publication.

* + Publication

A collection of one or more articles from the database being replicated.

* + Publisher

A database instance that hosts the data to be replicated (source).

* + Subscriber(s)

A database instance that receives the data being replicated by the Publisher (target(s)).

12/12 points

**Explanation**

This quickstart shows how to deploy your first ASP.NET web app to the Azure App Service. When you're finished, you'll have an App Service plan. You'll also have an App Service app with a deployed web application.

**Reference link**

<https://learn.microsoft.com/en-us/azure/app-service/overview>

<https://learn.microsoft.com/en-us/azure/app-service/quickstart-dotnetcore?tabs=netframework48&pivots=development-environment-vs>

* 36. Your client is thinking about the impact of scalability, reliability, and manageability of the database maintenance tasks when utilizing Azure Elastic Jobs for automated database maintenance. In a multi-database SQL Server environment, which of the following is not part of the Elastic Jobs framework?

Elastic gateway

Elastic Job agent

Job database

~~Target group~~

Job

0/13 points

**Explanation**

The main components of elastic jobs are the Elastic Job agent, the job database, the target group, and the job.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/manage-azure-paas-resources-using-automated-methods/2-explore-elastic-jobs>

* 37. As a database administrator, the management team of your organization has asked you about the crucial need for automation in providing real-time status notifications for maintenance tasks in a SQL Server environment with complex data operations and multiple stakeholders. What is your opinion on the following as regards the importance of automation in providing task status notifications?

|  |  |
| --- | --- |
| It is useful in the event of job failure | Yes  No |
| It helps to know if certain system errors are encountered | Yes  No |

13/13 points

**Explanation**

The importance of automation in providing task status notifications includes its usage in the event of job failure and in knowing if certain system errors are encountered.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/schedule-tasks-using-sql-server-agent/3-describe-task-status-notifications>

* 38. The IT team at Fabrikam Inc. wants to migrate their on-premises SQL Server database to Azure SQL Database. They want to use Azure CLI to automate the migration process. Which Azure CLI command(s) can they use to accomplish this task?  
  Choose all that apply.

az sql db import

az sql server create

az sql db copy

az sql mi create

7/13 points

**Explanation**

The "az sql db import" command can import a BACPAC file to an Azure SQL Database. This command helps migrate an existing on-premises SQL Server database to Azure SQL Database. The "az sql db copy" command can copy data from one Azure SQL Database to another. This command is useful for migrating data between Azure SQL Databases. The "az sql server create" command creates a new Azure SQL Server. The "az sql mi create" command creates an Azure SQL-managed instance.

**Reference link**

<https://learn.microsoft.com/en-us/cli/azure/sql/db?view=azure-cli-latest#az-sql-db-import>

<https://learn.microsoft.com/en-us/cli/azure/sql/db?view=azure-cli-latest#az-sql-db-copy>

* 39. With respect to the various methods and tools available for managing maintenance operations in an Azure SQL Database, you have been asked about the issues that have to do with ensuring efficient and effective database management. Which of the following is not the way to manage maintenance operations for a SQL Database? Select the correct answer from the options listed below.

Azure SQL elastic jobs

Azure Automation runbooks

~~SQL Agent Job from SQL Server in an Azure Virtual Machine (remote call)~~

Azure SQL runtime

0/13 points

**Explanation**

The three ways to manage maintenance operations for SQL are: Azure SQL elastic jobs; Azure Automation runbooks; and SQL Agent Jobs from SQL Server in an Azure Virtual Machine (remote call).

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/configure-databases-for-optimal-performance/2-explore-database-maintenance-checks>

* 40. A company is evaluating Azure Site Recovery (ASR) as a disaster recovery solution for its infrastructure. Which of the following is not a characteristic of Azure Site Recovery?

The disks of a VM configured to use Azure Site Recovery are not replicated to another region.

~~Recovering to a specific data point may not be possible with Azure Site Recovery in the same way it is for a SQL Server-centric solution.~~

Azure Site Recovery is a viable option to manage disaster recovery.

Azure Site Recovery can potentially protect you against ransomware.

0/13 points

**Explanation**

Some of the characteristics of Azure site recovery include: The disks of a VM configured to use Azure Site Recovery are replicated to another region, Recovering to a specific data point may not be possible with Azure Site Recovery in the same way it is with a SQL Server-centric solution, but Azure Site Recovery is a viable option to manage disaster recovery, and Azure Site Recovery can potentially protect you against ransomware.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/explore-iaas-paas-platform-tools-for-high-availability-disaster-recovery/3-configure-always-availability-groups>

* 41. Your team is preparing a pre-deployment plan for Azure SQL and wants to ensure that all necessary considerations are taken into account. Some of the issues to look at in pre-deployment planning for Azure SQL include the following except:

Deployment method

Deployment option

~~Purchasing model~~

Service tier

Hardware

Software

Sizing

0/12 points

**Explanation**

Deployment method, Deployment option, Purchasing model, Service tier, Hardware, and Sizing are some of the issues to look at in pre-deployment planning for Azure SQL.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/azure-sql-deploy-configure/2-plan-deploy-verify>

* 42. In a large-scale SQL Server environment with multiple databases and complex data operations, select what is correct on the key differences between using Elastic jobs and SQL Agent jobs for automating and managing database maintenance tasks.

|  |  |
| --- | --- |
| Elastic Jobs are limited to executing T-SQL | Yes  No |
| SQL Agent jobs are used for task automation in SQL Server and Azure SQL Managed Instances | Yes  ~~No~~ |

6/13 points

**Explanation**

Both Elastic jobs and SQL Agent jobs work similarly. In the case of Elastic jobs, they are limited to executing T-SQL, while in the case of SQL Agent jobs, they are used for task automation in SQL Server and Azure SQL Managed Instances.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/manage-azure-paas-resources-using-automated-methods/2-explore-elastic-jobs>

* 43. You are presenting to a new client whose current infrastructure is struggling to keep up with their growing business. You have recommended the use of Azure-managed disks. Which of the following is not among the various types of Azure-managed disks?

~~Ultra disk~~

Premium SSD

General SSD

Standard SSD

Standard HDD

0/12 points

**Explanation**

Azure-managed disks come in four types: ultra disk, Premium SSD, Standard SSD, and Standard HDD.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/configure-sql-server-resources-optimal-performance/2-explain-how-optimize-azure-storage-virtual-machines>

* 44. The CTO of your company has asked you to research the various monitoring tools available in Azure and has mentioned Azure Monitor Insights, Azure Log Analytics, and Log Analytics. Relate the following terms to available definitions by selecting the appropriate answer from the given options and dropping it at the most appropriate definition.
  + Azure Monitor Insights
  + Azure log Analytics
  + Log Analytics
  + Log Analytics

It is the primary tool in Azure for storing and querying log files of all kinds.

* + Azure Monitor Insights

It is queried by a SQL-like language called Kusto Query Language (KQL).

* + Azure log Analytics

It helps to collect additional data points like storage latency, available memory, and disk capacity.

* + Azure log Analytics

It is the primary tool in Azure for storing and querying log files of all kinds.

* + Log Analytics

It is queried by a SQL-like language called Kusto Query Language (KQL).

* + Azure Monitor Insights

It helps to collect additional data points like storage latency, available memory, and disk capacity.

0/12 points

**Explanation**

Azure Monitor Insights is a comprehensive monitoring and diagnostics service that provides in-depth visibility into the performance and health of Azure resources, helping users gain actionable insights to optimize their applications. Azure Log Analytics, a component of Azure Monitor, collects and analyzes log data from various sources, enabling users to query and visualize data for troubleshooting and operational insights. Both services work in tandem to enhance monitoring, with Log Analytics being the log data repository and query engine within Azure Monitor.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/describe-performance-monitoring/2-describe-performance-monitoring-tools>

* 45. Your organization is considering upgrading to the latest release of SQL Server and wants to understand the benefits. Which of the following is not considered one of the benefits of running on the latest release of SQL Server?  
  Select the correct answer from the below options.

Integration

Performance

Security

Availability

~~Query functionality~~

0/12 points

**Explanation**

Performance, Security, Availability, and Query functionality are some of the benefits of running on the latest release of SQL Server.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/evaluate-strategies-for-migrating-to-azure-sql/2-understand-compatibility-level>

* 46. Your organization is considering the need to enforce consistent policies and governance across the cloud environment. In an Azure cloud environment, which of the following resource types is not within the scope of assignment for Azure policies, a platform for enforcing organizational standards and compliance requirements?

A network

A management group

A resource group

A subscription

~~An individual~~

0/13 points

**Explanation**

The specific scopes to which Azure policies are assigned include a management group, a resource group, a subscription, and an individual.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/manage-azure-paas-resources-using-automated-methods/3-understand-azure-automation>

* 47. A company has created an Availability Group (AG) in Azure and wants to access the databases in the AG. Without configuring an internal load balancer (ILB), which of the following cannot make use of the AG listener?

Applications

End users

Administrators

Network buffer

13/13 points

**Explanation**

Applications, End users, and Administrators make use of the listener unless they are connected to the VM that hosts an AG’s primary replica.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/explore-iaas-paas-platform-tools-for-high-availability-disaster-recovery/3-configure-always-availability-groups>

* 48. You are considering the options for managing the retention of data stored in Azure Storage. How many days can active data in Azure Storage stay there? Select the correct answer from the options listed below.

~~90~~

93

63

60

80

0/12 points

**Explanation**

Active data in Azure Storage can stay for 93 days.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/describe-performance-monitoring/3-describe-critical-performance-metrics>

* 49. As a database administrator, you have noticed that your current Azure Virtual Machine is running slowly and that you need to increase its performance. You know of three options for addressing this issue. Based on your experience, which one of the following options do you think is the most preferable when it comes to resizing Azure Virtual Machines?

Direct restarting of a virtual machine

Deallocation of your virtual machine and then resize

Resizing during a power outage

13/13 points

**Explanation**

Depending on what virtual machine type you are switching to and from, it is highly advisable that you may need to deallocate your virtual machine and then resize it.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/configure-sql-server-resources-optimal-performance/3-describe-virtual-machine-resizing>

* 50. Contoso has recently migrated its SQL Server database to Azure SQL Database. They are now exploring options to protect their data in transit and at rest. Which of the following methods can they use for data protection?

Transparent Data Encryption (TDE)

Server and database firewalls

Object Encryption

Secure Enclaves

13/13 points

**Explanation**

Transparent Data Encryption (TDE) protects data at rest. It encrypts the database files, including backups, at the storage level. Server and database firewalls can protect data in transit by controlling network traffic to and from the database server. Object Encryption is used to encrypt individual columns or objects within a database. Secure Enclave is a feature that enables the processing of sensitive data within a secure and trusted environment within the SQL server.

**Reference link**

<https://docs.microsoft.com/en-us/azure/azure-sql/database/transparent-data-encryption-byok-overview>

<https://docs.microsoft.com/en-us/azure/azure-sql/database/firewall-configure>

* 51. As a database administrator who is working in a high-availability SQL Server environment with constantly changing data, you have been engaged in issues that have to do with the scheduling and automation of routine maintenance activities to ensure smooth operation and minimize downtime. Which one of the following is not a typical activity that you can schedule for regular SQL Server maintenance?

Index maintenance

Statistics updates

Database sorting

Database and transaction log backups

~~Database Consistency Checks~~

0/13 points

**Explanation**

The typical activities that you can schedule for regular SQL Server maintenance include Index maintenance, Statistics updates, Database sorting, Database and transaction log backups, and Database Consistency Checks.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/schedule-tasks-using-sql-server-agent/2-create-maintenance-plan>

* 52. Fabrikam has a web application hosted on Azure App Service that connects to an Azure SQL Database for data storage. They want to ensure that the web application can only access the database and not directly from any other source. They also want to create a new user with read-only access to a specific table in the database.  
  Which of the following Azure CLI commands will accomplish the task?

~~az webapp config set -g ResourceGroup -n AppName --connection-string-type Custom --connection-string "Data Source=ServerName.database.windows.net;Initial Catalog=DatabaseName;User Id=UserName;Password=UserPassword"~~

az sql server update -g ResourceGroup -n ServerName --public-network-access Disabled

az sql db create -g ResourceGroup -s ServerName -n DatabaseName --service-objective S0 --collation SQL\_Latin1\_General\_CP1\_CI\_AS --max-size 2GB

az sql db user defined-role create -g ResourceGroup -s ServerName -n DatabaseName --role-name ReadonlyRole

0/12 points

**Explanation**

Option A is incorrect because it sets the connection string for the web app to use the database but does not restrict access to the database from other sources. Option C is incorrect because it creates a new database with a specific service objective and collation but does not restrict access to the database from other sources. Option D is incorrect because it creates a new user-defined role in the database but does not restrict access to the database from other sources or provide read-only access to a specific table. Option B is the correct answer because it disables public network access to the SQL Server, ensuring that the database can only be accessed from within the virtual network or from specific IP addresses.

**Reference link**

<https://learn.microsoft.com/en-us/cli/azure/sql/server?view=azure-cli-latest#az_sql_server_update>

<https://learn.microsoft.com/en-us/azure/app-service/configure-common?tabs=portal#configure-connection-strings>

* 53. The management of your organization has invited you to a meeting that is focused on discussing the key features of an Azure SQL Database-managed instance with a client. Which of the following are among the key features of an Azure SQL Database-managed instance? Select the correct answers.

~~Backward compatibility~~

Forward compatibility

Easy lift and shift

Fully managed PaaS

Security features

Secure network isolation

Instance failover groups

8/12 points

**Explanation**

Backward compatibility, Easy lift and shift, Fully managed PaaS, Security features, Secure network isolation, and Instance failover groups are among the key features of an Azure SQL Database managed instance. The only exception is Forward compatibility.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/migrate-sql-workloads-azure-managed-instances/2-evaluate-migration-scenarios>

* 54. Your client has been struggling to migrate his organization’s data assets to the cloud. When you were contacted for support, you were asked for an explanation of the tools available to help with the migration of the database platform to Azure SQL. Which of the following is not among such tools?

Azure Migrate tool

Data Migration Assistant

~~Azure Database Migration Service~~

Database Migrator

0/12 points

**Explanation**

The common tools for migrating database platforms to Azure SQL include the Azure Migrate tool, Data Migration Assistance, and Azure Database Migration Service. They offer ease in migration processes.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/evaluate-strategies-for-migrating-to-azure-sql/>

* 55. Your client has a critical Azure SQL Database and wants to ensure that all activities are monitored for security and compliance purposes. The security team has asked you to review the audit logs for any suspicious activity. The audit logs in the Azure SQL database can be found in the following locations, except:

Azure Storage account

Azure Resource manage

~~Azure IoT~~

Log Analytics workspace

Event Hubs

4/12 points

**Explanation**

Azure SQL auditing tracks database events and writes them to an audit log in your Azure Storage account, Log Analytics workspace, or Event Hubs.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/implement-compliance-controls-sensitive-data/3-explore-server-and-database-audit>

* 56. In a cloud-based infrastructure with multiple databases and data operations, which two of the following are the programming models that are used for cloud deployments?

~~Forest tree~~

~~Random tree~~

Imperative

Declarative

0/13 points

**Explanation**

The two programming models that are used for cloud deployments are imperative and declarative.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/configure-automatic-deployment-azure-sql-database/2-describe-deployment-models-azure>

* 57. In a scenario where a database administrator needs to restore a SQL Database to a specific Point in Time (PiT), you can make use of the following restore options except:

Azure portal

Azure PowerShell

Azure SQL Agent

Azure CLI

~~REST API~~

0/13 points

**Explanation**

The Azure portal, Azure PowerShell, Azure CLI, and REST API are the options you can use to restore a database to a specific Point in Time (PiT) on a SQL Database.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/backup-restore-databases/4-use-azure-sql-database>

* 58. A company has deployed a distributed Availability Group (AG) across multiple Azure regions and wants to access the databases in the AG. What is the default port used for the AG endpoint?

2205

5022

~~2025~~

5202

0/13 points

**Explanation**

The dedicated port for the endpoint is 5022.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/explore-iaas-paas-platform-tools-for-high-availability-disaster-recovery/3-configure-always-availability-groups>

* 59. You are tasked with implementing row-level security in a database. Consider the three steps for implementing row-level security in a database and re-arrange the options provided in a sequential order into the answer area.
  + Create a security policy for the table, assigning the function created above.
  + Create the users or groups you want to isolate access.
  + Create the inline table-valued function that will filter the results based on the predicate defined.
  + Create the users or groups you want to isolate access.
  + Create the users or groups you want to isolate access.
  + Create the inline table-valued function that will filter the results based on the predicate defined.
  + Create a security policy for the table, assigning the function created above.

4/12 points

**Explanation**

Implementing row-level security restricts data access at the row level based on user roles or attributes, ensuring that users only see data that they are authorized to access within a database.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/implement-compliance-controls-sensitive-data/5-implement-row-level-security>

* 60. Your company is looking to move its sensitive customer data to the Azure SQL Database for better security and accessibility. As a database administrator, you want to ensure that only authorized users have access to the database. Identify the two modes of authentication supported by the Azure SQL Database.

SQL Server authentication

SQL Login

Azure Active Directory authentication

Azure Cloud Defender

12/12 points

**Explanation**

SQL Server authentication and Azure Active Directory authentication are the two modes of authentication supported by the Azure SQL Database.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/configure-database-authentication-authorization/3-describe-authentication-identities>

* 61. In an Azure SQL Database with a large volume of constantly changing data, select the two correct statements below that are the common guidance for index maintenance.

~~> 10% but < 35% - Reorganize the index~~

> 5% but < 30% - Reorganize the index

> 35% - Rebuild the index

> 30% - Rebuild the index

6/13 points

**Explanation**

The common guidance for index maintenance are: > 5% but < 30% - Reorganize the index and > 30% - Rebuild the index.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/configure-databases-for-optimal-performance/2-explore-database-maintenance-checks>

* 62. An organization has engaged you on some best practices for ensuring efficient and reliable operation through the utilization of automation tools to schedule and manage services in SQL Server running on an Azure Virtual Machine. Which of the following are not automation tools for scheduling services in SQL Server on an Azure Virtual Machine?

Windows Task Scheduler

SQL Server Agent

SQL Insights

Log analytics automation

13/13 points

**Explanation**

Windows Task Scheduler and SQL Server Agent are automation tools for SQL Server on Azure Virtual Machines.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/configure-databases-for-optimal-performance/2-explore-database-maintenance-checks>

* 63. In a SQL Server environment with multiple databases and a need for both proactive and reactive maintenance activities, which one of the following is not an example of a maintenance plan that can be included in a comprehensive SQL Server maintenance plan?

Back-up of login audits

Back-up system databases

Back-up user databases

~~Special handling of the backup of one very large user database~~

0/13 points

**Explanation**

Backup system databases, backup user databases, and Special handling of the backup of one very large user database are examples of SQL Server maintenance plans.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/schedule-tasks-using-sql-server-agent/2-create-maintenance-plan>

* 64. As a database administrator, you have noticed that the performance of your company's database has been degrading over time. Upon investigation, you have found out that several resource-consuming queries are causing the issue. In dealing with resource-consuming queries in a database, which one of the following is not the way to sort queries?

Sorting by CPU

Sorting by Data IO

Sorting by IO metrics

Sorting by the Query analyzer

12/12 points

**Explanation**

Resource-consuming queries in the database can be sorted by CPU, Data IO, and Log IO metrics.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/describe-performance-monitoring/7-explore-query-performance-insight>

* 65. Your organization is considering the various licensing subscription models that are used for Azure SQL Database-managed instances. You have been asked to submit a list of the various models and their current prices. Which of the following is not among the licensing subscription models that are being used for Azure SQL Database-managed instances?

Enterprise Agreement (EA)

Pay-as-you-go

Cloud Service Provider (CSP)

Pay-per-seconds

Enterprise Dev/Test

~~Pay-as-you-go Dev/Test~~

Subscriptions with monthly Azure credit for Visual Studio subscribers

0/12 points

**Explanation**

Pay-per-second is not among the six types of subscription models.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/migrate-sql-workloads-azure-managed-instances/2-evaluate-migration-scenarios>

* 66. Your company is planning to deploy Azure SQL and has sought your advice on the best series of virtual machines (VMs) to use. Which of the following is not an option among the VM series?

~~GPU~~

Networking optimized

Storage optimized

High Performance compute

Memory optimized

General purpose

High performance compute

Compute optimized

0/12 points

**Explanation**

The series or families of virtual machines include all the options except Networking optimization.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/deploy-iaas-solutions-with-azure-sql/2-explain-iaas-options-deploy-azure>

* 67. A company is considering Azure Site Recovery (ASR) for disaster recovery of their Azure SQL databases. Which one of the following is a benefit of using Azure Site Recovery (ASR) for disaster recovery of Azure SQL databases? Select the correct answer from the options listed below.

It saves time

It is less costly

~~It enhances data migration~~

It allows us to test disaster recovery without needing to bring down production

0/13 points

**Explanation**

One major benefit of Azure Site Recovery is that it allows testing of disaster recovery without needing to bring down production.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/explore-iaas-paas-platform-tools-for-high-availability-disaster-recovery/3-configure-always-availability-groups>

* 68. Your client is considering the need for a cloud deployment process while maintaining the robustness and reliability of the cloud infrastructure. In an Azure cloud infrastructure with complex deployment requirements. Which of the following are not the two benefits of using Azure Bicep, a domain-specific language for authoring Azure Resource Manager (ARM) templates?

Continuous full support

Simple syntax

Easy to use

System integration

Continuous integration

6/13 points

**Explanation**

Some of the benefits of Azure Bicep include Continuous full support, Simple syntax, and ease of use.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/configure-automatic-deployment-azure-sql-database/3-automate-deployment-using-azure-resource-manager-bicep>

* 69. Your team needs to load data into Azure SQL and is evaluating different options for doing so. Which of the following is not an option for loading data into Azure SQL?

Bulk Copy Program

Bulk insert

SSIS packages

Get Data

12/12 points

**Explanation**

Bulk Copy Program, Bulk Insert, and SSIS packages are among the options for loading data into Azure SQL.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/azure-sql-deploy-configure/7-load-data>

* 70. A company is using a temporal history table in an Azure SQL database to track changes to its data over time. Which of the following is not one of the four ways to manage, store, and delete historical data in an Azure SQL database temporal history table? Select the correct answer from the options listed below.

Stretch Database

Custom Database

Table Partitioning

Custom Cleanup Script

~~Retention Policy~~

0/13 points

**Explanation**

In a temporal history table, Stretch Database, Table Partitioning, Custom Cleanup Script, and Retention Policy are the four major ways to manage, store, and delete historical data.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/explore-iaas-paas-platform-tools-for-high-availability-disaster-recovery/4-describe-temporal-tables-azure-sql-database>

* 71. You have been hired as an external by ABC company. ABC company is seeking to create a database for its e-commerce website, focusing on optimizing query speed and efficiency. What steps can be taken to accomplish this objective?

Use highly normalized tables to avoid data redundancy

Use only string data types for all columns

Use clustered indexes on all columns

Use non-clustered indexes on columns used in WHERE clauses

13/13 points

**Explanation**

Using non-clustered indexes on columns used in WHERE clauses can help to speed up queries, as the database engine can quickly locate the relevant rows. Normalization is also a good practice but may increase query complexity and reduce performance. Using only string data types for all columns can lead to inefficient storage and indexing. Clustered indexes should be used only on columns frequently for sorting and not on all.

**Reference link**

<https://learn.microsoft.com/en-us/sql/relational-databases/indexes/clustered-and-nonclustered-indexes-described?view=sql-server-ver15>

<https://learn.microsoft.com/en-us/azure/azure-sql/database/monitor-tune-overview?view=azuresql>

* 72. In order to effectively design, deploy, and manage cloud infrastructure and services, your organization is trying to understand the scope and capabilities of Azure Automation. In an Azure cloud environment, which of the following features is not a component of Azure Automation, a platform for automating and managing cloud infrastructure and workloads?

Notebooks

Runbooks

Modules

~~Credentials~~

Schedules

0/13 points

**Explanation**

Runbooks, Modules, Credentials, and Schedules are the components of Azure Automation needed to execute automated tasks.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/manage-azure-paas-resources-using-automated-methods/3-understand-azure-automation>

* 73. Your company is storing sensitive customer information in an Azure SQL Database and wants to ensure that the data is protected during transmission. The CTO has asked you to research the use of Transport Layer Security (TLS) in the Azure SQL Database. Select the appropriate answers for the two key roles of Transport Layer Security (TLS).

|  |  |
| --- | --- |
| It is a protocol for encrypting connections | Yes  No |
| It decreases the security of data being transmitted across networks between instances of SQL Server and applications. | Yes  No |

12/12 points

**Explanation**

The two key roles of Transport Layer Security (TLS) are that it is a protocol for encrypting connections and that it increases the security of data being transmitted across networks between instances of SQL Server and applications.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/protect-data-transit-rest/5-enable-encrypted-connections>

* 74. A company has several SQL Server databases for different departments. They want to ensure that they can recover the databases in case of a data loss. Which of the following is not a database recovery model in SQL Server?

END-TO-END

SIMPLE

FULL

~~BULK\_LOGGED~~

0/13 points

**Explanation**

The three database recovery models are SIMPLE, FULL, and BULK\_LOGGED.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/backup-restore-databases/2-backup-restore-sql-server-running-azure-virtual-machines>

* 75. Given the definitions of full database Backup, differential Backup, and transaction Log backup, Match each one of the following backups to the definition that correctly defines the database backup type by selecting the appropriate answer from the given options and dropping it at the most appropriate definition in relation to each one of the Database backups.
  + It is used to achieve Recovery Point Objective (RPO)
  + It is a backup of a single database
  + It contains all the database pages that have changed since the last time a full backup was made
  + It is a backup of a single database

Full database backup

* + It is used to achieve Recovery Point Objective (RPO)

Differential backup

* + It contains all the database pages that have changed since the last time a full backup was made

Transaction log backup

* + It is a backup of a single database

Full database backup

* + It contains all the database pages that have changed since the last time a full backup was made

Differential backup

* + It is used to achieve Recovery Point Objective (RPO)

Transaction log backup

4/13 points

**Explanation**

A full database backup captures the entire database, while a differential backup only includes the pages that have changed since the last full backup, helping achieve specific Recovery Point Objectives (RPOs); transaction log backups capture changes made since the last log backup, aiding in point-in-time recovery and minimizing data loss

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/backup-restore-databases/2-backup-restore-sql-server-running-azure-virtual-machines>

* 76. You are considering adopting the Azure storage platform to store your data. Which one of the following data storage methods is commonly used to store or dump data?

Azure container

Azure blobs

~~Azure file shares~~

Azure queues

Azure tables

0/12 points

**Explanation**

Azure blobs are commonly used to store or dump data.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/azure-sql-deploy-configure/8-exercise-load-data>

* 77. You are worried about the roles that execution plans will play in utilizing automatic tuning for database optimization and how they can be used to identify and resolve performance bottlenecks in an Azure SQL database. When using automatic tuning in the database, execution plans evolve due to:

|  |  |
| --- | --- |
| Schema changes | True  False |
| Index modifications | True  False |
| Changes to the data that cause updates to the statistics | True  ~~False~~ |

9/13 points

**Explanation**

Execution plans evolve due to schema changes, index modifications, or changes to the data that cause updates to the statistics.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/configure-databases-for-optimal-performance/4-describe-automatic-tuning>

* 78. In Azure, choosing the right deployment model when deploying and managing cloud resources has a great impact on factors such as scalability, reliability, and the cost-effectiveness of the cloud infrastructure. Match the following items according to their characteristics by selecting the appropriate answer from the given options and dropping it alongside the most appropriate definition.
  + Azure Resource Manager templates
  + PowerShell
  + Azure CLI
  + Azure portal
  + Azure DevOps
  + Azure portal

It is a graphical interface for Azure Resource Manager

* + Azure Resource Manager templates

It provides a mechanism to deploy or modify Azure Resources

* + Azure DevOps

Deployments in it are carried out using Azure Pipelines

* + PowerShell

It allows you to create and deploy an entire infrastructure in a declarative framework.

* + Azure CLI

It provides a core module that has child resource providers for nearly all Azure services.

* + Azure portal

It is a graphical interface for Azure Resource Manager

* + Azure CLI

It provides a mechanism to deploy or modify Azure Resources

* + Azure DevOps

Deployments in it are carried out using Azure Pipelines

* + Azure Resource Manager templates

It allows you to create and deploy an entire infrastructure in a declarative framework.

* + PowerShell

It provides a core module that has child resource providers for nearly all Azure services.

4/13 points

**Explanation**

Deployment models in Azure refer to different ways of provisioning and managing cloud resources, including Azure Resource Manager (ARM) templates for infrastructure as code, PowerShell and Azure CLI for scripting, Azure portal for web-based management, Azure DevOps for continuous integration and continuous deployment (CI/CD).

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/configure-automatic-deployment-azure-sql-database/2-describe-deployment-models-azure>

* 79. Your organization is using an Azure SQL Managed Instance or Azure SQL Database and wants to understand the resource limits that may be impacted. Which of the following may not be affected by resource limits? Select the correct answer from the below options.

Memory

Max log size

Transaction log rate

Data IOPS

Size of tempdb

Max concurrent workers

~~Backup retention~~

Networking integration

0/12 points

**Explanation**

Memory, Max log size, Transaction log rate, Data IOPS, Size of tempdb, Max concurrent workers, and Backup retention are some of the resource limits affected by an Azure SQL Managed Instance or Azure SQL Database.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/azure-sql-deploy-configure/2-plan-deploy-verify>

* 80. Your company handles sensitive customer information and needs to ensure the data is protected against unauthorized access. The CTO has asked you to evaluate different data encryption methods. Match the following three scenarios when evaluating data encryption methods by selecting the appropriate answer from the given options and dropping it at the most appropriate definition in relation to each one of the components.
  + Data in use
  + Data in transit
  + Data at rest
  + Data at rest

Encrypting it while it's on file storage.

* + Data in use

Encrypting it while it's in RAM or CPU caches.

* + Data in transit

Encrypting it while it travels through private or public network communication channels.

* + Data at rest

Encrypting it while it's on file storage.

* + Data in use

Encrypting it while it's in RAM or CPU caches.

* + Data in transit

Encrypting it while it travels through private or public network communication channels.

12/12 points

**Explanation**

Data at rest is Protecting data by encrypting it while it resides in file storage. Data in use is Safeguarding data by encrypting it while it's actively processed in RAM or CPU caches. Data in transit Ensure data security by encrypting it as it traverses private or public network communication channels.

**Reference link**

<https://learn.microsoft.com/en-us/training/modules/protect-data-transit-rest/1-introduction>