DP-300: Administering Relational Databases on Microsoft Azure

	Plan and Implement Data Platform Resources (15-20%)
	Deploy resources by using manual methods
1	deploy database offerings on selected platforms
2	configure customized deployment templates
3	apply patches and updates for hybrid and IaaS deployment
	Recommend an appropriate database offering based on specific requirements
4	evaluate requirements for the deployment
5	evaluate the functional benefits/impact of possible database offerings
6	evaluate the scalability of the possible database offering
7	evaluate the HA/DR of the possible database offering
8	evaluate the security aspects of the possible database offering
	Configure resources for scale and performance
9	configure Azure SQL Database for scale and performance
10	configure Azure SQL Managed Instance for scale and performance
11	configure SQL Server in Azure VMs for scale and performance
12	calculate resource requirements
13	evaluate database partitioning techniques, such as database sharding
14	set up SQL Data Sync
	Evaluate a strategy for moving to Azure
15	evaluate requirements for the migration
16	evaluate offline or online migration strategies
17	evaluate requirements for the upgrade
18	evaluate offline or online upgrade strategies
	Implement a migration or upgrade strategy for moving to Azure
19	implement an online migration strategy
20	implement an offline migration strategy
21	implement an online upgrade strategy
22	implement an offline upgrade strategy

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	Implement a Secure Environment (15-20%)
	Configure database authentication by using platform and database tools
23	configure Azure AD authentication
24	create users from Azure AD identities
25	configure security principals
	Configure database authorization by using platform and database tools
26	configure database and object-level permissions using graphical tools
27	apply principle of least privilege for all securables
	Implement security for data at rest
28	implement Transparent Data Encryption (TDE)
29	implement object-level encryption
30	implement Dynamic Data Masking
31	implement Azure Key Vault and disk encryption for Azure VMs
	Implement security for data in transit
32	configure server and database-level firewall rules
33	implement Always Encrypted
	Implement compliance controls for sensitive data
34	apply a data classification strategy
35	configure server and database audits
36	implement data change tracking
37	perform a vulnerability assessment

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	Monitor and Optimize Operational Resources (15-20%)
	Monitor activity and performance
38	prepare an operational performance baseline
39	determine sources for performance metrics
40	interpret performance metrics
41	assess database performance by using Intelligent Insights for Azure SQL Database and Managed Instance
42	configure and monitor activity and performance at the infrastructure, server, service, and database levels
	Implement performance-related maintenance tasks
43	implement index maintenance tasks
44	implement statistics maintenance tasks
45	configure database auto-tuning
46	automate database maintenance tasks
47	manage storage capacity
	Identify performance-related issues
48	configure Query Store to collect performance data
49	identify sessions that cause blocking
50	assess growth/fragmentation of databases and logs
51	assess performance-related database configuration parameters
	Configure resources for optimal performance
52	configure storage and infrastructure resources
53	configure server and service account settings for performance
54	configure Resource Governor for performance
	Configure a user database for optimal performance
55	implement database-scoped configuration
56	configure compute resources for scaling
57	configure Intelligent Query Processing (IQP)

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	Optimize Query Performance (5-10%)
	Review query plans
58	determine the appropriate type of execution plan
59	identify problem areas in execution plans
60	extract query plans from the Query Store
	Evaluate performance improvements
61	determine the appropriate Dynamic Management Views (DMVs) to gather query performance information
62	identify performance issues using DMVs
63	identify and implement index changes for queries
64	recommend query construct modifications based on resource usage
65	assess the use of hints for query performance
	Review database table and index design
66	identify data quality issues with duplication of data
67	identify normal form of database tables
68	assess index design for performance
69	validate data types defined for columns
70	recommend table and index storage including filegroups
71	evaluate table partitioning strategy
72	evaluate the use of compression for tables and indexes
	Perform Automation of Tasks (10-15%)
	Create scheduled tasks
73	manage schedules for regular maintenance jobs
74	configure multi-server automation
75	configure notifications for task success/failure/non-completion
	Evaluate and implement an alert and notification strategy
76	create event notifications based on metrics
77	create event notifications for Azure resources
78	create alerts for server configuration changes
79	create tasks that respond to event notifications
	Manage and automate tasks in Azure
80	perform automated deployment methods for resources
81	automate backups
82	automate performance tuning and patching
83	implement policies by using automated evaluation modes

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	Plan and Implement a High Availability and Disaster Recovery (HADR) Environment
	Recommend an HADR strategy for a data platform solution
84	recommend HADR strategy based on RPO/RTO requirements
85	evaluate HADR for hybrid deployments
86	evaluate Azure-specific HADR solutions
87	identify resources for HADR solutions
	Test an HADR strategy by using platform, OS, and database tools
88	test HA by using failover
89	test DR by using failover or restore
	Perform backup and restore a database by using database tools
90	perform a database backup with options
91	perform a database restore with options
92	perform a database restore to a point in time
	Configure HA/DR by using OS, platform, and database tools
93	configure long-term backup retention
94	configure replication
95	create an Availability Group
96	configure auto-failover groups
97	integrate a database into an Always On Availability Group
98	configure quorum options for a Windows Server Failover Cluster
99	configure an Always On Availability Group listener
100	configure failover cluster instances on Azure VMs
	Perform Administration by Using T-SQL (10-15%)
	Examine system health
101	evaluate database health using DMVs
102	evaluate server health using DMVs
103	perform database consistency checks by using DBCC
	Monitor database configuration by using T-SQL
104	assess proper database autogrowth configuration
105	report on database free space
106	review database configuration options
	Perform backup and restore a database by using T-SQL
107	prepare databases for Always On Availability Groups
108	perform transaction log backup
109	perform restore of user databases
110	perform database backups with options
	Manage authentication by using T-SQL
111	manage certificates
112	manage security principals
	Manage authorization by using T-SQL
113	configure permissions for users to access database objects
114	configure permissions by using custom roles