Vendor: Microsoft

Exam Code: 70-459

Exam Name: Microsoft Transition MCITP: DB Admin 08 or MCITP: DB Dev 08 to MCSE

Version: Demo

Topic 1, A.Datum

Overview
General Overview
A.Datum Corporation has offices in Miami and Montreal.

The network contains a single Active Directory forest named adatum.com. The offices connect to each other by using a WAN link that has a 5-ms latency.
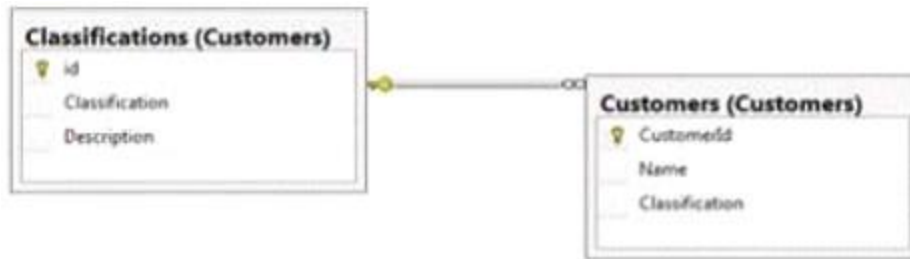
A.Datum standardizes its database platform by using SQL Server 2012 Standard edition.

Databases
Each office contains databases named Sales, Inventory, Customers, Products, Personnel, and Dev.

Servers and databases are managed by a team of database administrators. Currently, all of the databaseadministrators have the same level of permissions on all of the servers and all of the databases.

The Customers database contains two tables named Customers and Classifications. The following graphic shows the relevant portions of the tables:

The following table shows the current data in the Classifications table:

id	Classification	Description
1	Platinum	Yearly sales over 1,000,000
2	Gold	Yearly sales over 500,000
3	Silver	Yearly sales over 100,000

The Inventory database is used mainly for reports. The database is recreated every day. A full backup of the database currently takes three hours to complete.

Stored Procedures
A storedprocedure named sp1 generates millions of rows of data for multiple reports. Sp1 combines data from five different tables from the Sales and Customers databases in a table named Table1.

After Table1 is created, the reporting process reads data from a table in the Products database and searches for information in Table1 based on input from the Products table. After the process is complete, Table1 is deleted.

A stored procedure named sp2 is used to generate a product list. Sp2 takes several minutes to

run due to locks on the tables the procedure accesses.

A stored procedure named sp3 is used to update prices. Sp3 is composed of several UPDATE statements called in sequence from within a transaction. Currently, if one of the UPDATE statements fails, the stored procedure continues to execute.

A stored procedure named sp4 calls stored procedures in the Sales, Customers, and Inventory databases. The nested stored procedures read tables from the Sales, Customers, and Inventory databases. Sp4 uses an EXECUTE AS clause.

A stored procedure named sp5 changes data in multiple databases. Security checks are performed each time sp5 accesses a database.

You suspect that the security checks are slowing down the performance of sp5.

All stored procedures accessed by userapplications call nested stored procedures. The nested stored procedures are never called directly.

Design Requirements
Data Recovery
You must be able to recover data from the Inventory database if a storage failure occurs. You have a Recovery PointObjective (RPO) of one hour.

You must be able to recover data from the Dev database if data is lost accidentally. You have a Recovery Point Objective (RPO) of one day.

Classification Changes
You plan to change the way customers are classified. The new classifications will have four levels based on the number of orders. Classifications may be removed or added in the future.

Management requests that historical data be maintained for the previous classifications.

Security
A group of junior database administrators must be able to view the server state of the SQL Server instance that hosts the Sales database. The junior database administrators will not have any other administrative rights.

Storage
A.Datum has limited storage. Whenever possible, all storagespace should be minimized for all databases and all backups.

Error Handling
There is currently no error handling code in any stored procedure. You plan to log errors in called stored procedures and nested stored procedures. Nested stored procedures are never called directly.

QUESTION 1
You need to recommend a solution for the planned changes to the customer classifications. What should you recommend? (Each correct answer presents part of the solution. Choose all that apply.)

A. Add a table to trackany changes made to the classification of each customer.
B. Add columns for each classification to the Customers table.
C. Implement change data capture.
D. Add a row to the Customers table each time a classification changes.
E. Add a column to the Classifications table to track the status of each classification.

Correct Answer: AC
Explanation:
Reference:
http://msdn.microsoft.com/en-us/library/cc645937.aspx

QUESTION 2
You need to recommend a change to sp3 to ensure that the procedure completes only if all of the UPDATE statements complete. Which change should you recommend?

A. Set the IMPLICIT_TRANSACTIONS option to off.
B. Set the XACT_ABORT option to off
C. Set the IMPLICIT_TRANSACTIONS option to on.
D. Set the XACT_ABORT option to on.

Correct Answer: D
Explanation:
References:
http://msdn.microsoft.com/en-us/library/ms188792.aspx
http://msdn.microsoft.com/en-us/library/ms188317.aspx
http://msdn.microsoft.com/en-us/library/ms187807.aspx

QUESTION 3
You need to recommend a solution to meet the security requirements of the juniordatabase administrators. What should you include in the recommendation?

A. a shared login
B. a database role
C. a credential
D. a server role

Correct Answer: D
Explanation:
References:
http://msdn.microsoft.com/en-us/library/ms188659.aspx
http://msdn.microsoft.com/en-us/library/ms189121.aspx
http://msdn.microsoft.com/en-us/library/ms161950.aspx
http://msdn.microsoft.com/en-us/library/ms188642.aspx
http://msdn.microsoft.com/en-us/library/aa337562.aspx

QUESTION 4
You need to recommend a solution to minimize the amount oftime it takes to execute USP_1.
With what should you recommend replacing Table1?

A. a temporary table
B. a function
C. a view
D. a table variable

Correct Answer: C
Explanation:
References:
http://msdn.microsoft.com/en-us/library/ms175503.aspx
http://msdn.microsoft.com/en-us/library/ms190174.aspx

QUESTION 5
You need to recommend a disaster recovery strategy for the Inventory database. What should
you include in the recommendation?

A. Log shipping
B. Always on availability groups
C. SQL Server Failover Clustering
D. Peer-to-peer replication

Correct Answer: A
Explanation:
References:
http://msdn.microsoft.com/en-us/library/cc645993.aspx
http://msdn.microsoft.com/en-us/library/ms187103.aspx
http://msdn.microsoft.com/en-us/library/ms190640.aspx

QUESTION 6
You need to recommend a solution to ensure that USP_4 adheres to the security requirements.
What should you include in the recommendation?

A. Configure data manipulation language (DML) triggers.
B. Enable SQL Server Audit.
C. Enable trace flags.
D. Enable C2 audit tracing.

Correct Answer: B
Explanation:
References:
http://msdn.microsoft.com/en-us/library/ms178110.aspx
http://msdn.microsoft.com/en-us/library/cc280386.aspx
http://msdn.microsoft.com/en-us/library/ms188396.aspx
http://msdn.microsoft.com/en-us/library/ms187634.aspx

QUESTION 7
You need to recommend a change to sp3 to ensure that the procedure continues to execute even if one of the UPDATE statements fails. Which change should you recommend?

A. Set the IMPLICIT_TRANSACTIONS option to on.
B. Set the XACT_ABORT option to off.
C. Set the IMPLICIT_TRANSACTIONS option to off.
D. Set the XACT_ABORT option to on.

Correct Answer: B
Explanation:
References:
http://msdn.microsoft.com/en-us/library/ms188792.aspx
http://msdn.microsoft.com/en-us/library/ms188317.aspx
http://msdn.microsoft.com/en-us/library/ms187807.aspx

Topic 2, Contoso Ltd

Overview
Application Overview
Contoso, Ltd., is the developer of an enterprise resource planning (ERP) application.

Contoso is designing a new versionof the ERP application. The previous version of the ERP application used SQL Server 2008 R2. The new version will use SQL Server 2012.

The ERP application relies on an import process to load supplier data. The import process updates thousands of rows simultaneously, requires exclusive access to the database, and runs daily.

You receive several support calls reporting unexpected behavior in the ERP application. After analyzing the calls, you conclude that users made changes directly to the tables in the database.

Tables
The current database schema contains a table named OrderDetails. The OrderDetails table contains information about the items sold for each purchase order. OrderDetails stores the product ID, quantities, and discounts applied to each product in a purchase order. The product price is stored in a table named Products.

The Products table was defined by using the SQL_LatinI_General_CP1_CI_AS collation. A column named ProductName was created by using the varchar data type.

The database containsa table named Orders. Orders contains alt of the purchase orders from the last 12 months. Purchase orders that are older than 12 months are stored in a table named OrdersOld.

The previous version of the ERP application relied on table-level security.

Stored Procedures
The current version of the database contains stored procedures that change two tables. The following shows the relevant portions of the two stored procedures:

```
CREATE PROC Sales.Proc1
AS
BEGIN TRAN
UPDATE Sales.Table1 ...
UPDATE Sales.Table2 ...
COMMIT TRAN
GO

CREATE PROC Sales.Proc2
AS
BEGIN TRAN
UPDATE Sales.Table2 ...
UPDATE Sales.Table1 ...
COMMIT TRAN
GO
```

Customer Problems
Installation Issues
The current version of the ERPapplication requires that several SQL Server logins be set up to
function correctly. Most customers set up the ERP application in multiple locations and must
create logins multiple times.

Index Fragmentation Issues
Customers discover that clustered indexes often are fragmented. To resolve this issue, the
customers defragment the indexes more frequently.

All of the tables affected by fragmentation have the following columns that are used as the
clustered index key:

Column	Data type
id	uniqueidentifier
lastModified	datetime
modifiedBy	varchar(200)

Backup Issues
Customers who have large amounts of historical purchase order data report that backup time is
unacceptable.

Search Issues
Users report that when they search product names, the search results exclude product names
that contain accents, unless the search string includes the accent.

Missing Data Issues
Customers report that when they make a price change in the Products table, they cannot retrieve
the price that the item was sold for in previous orders.

Query Performance Issues
Customers report that query performance degrades veryquickly. Additionally, the customers

report that users cannot run queries when SQL Server runs maintenance tasks.

Import Issues
During the monthly import process, database administrators receive many supports call from users who report that they cannot access the supplier data. The database administrators want to reduce the amount of time required to import the data.

Design Requirements
File Storage Requirements
The ERP database stores scanned documents that are larger than 2 MB. These files must onlybe accessed through the ERP application. File access must have the best possible read and write performance.

Data Recovery Requirements
If the import process fails, the database must be returned to its prior state immediately.

Security Requirements
You must provide users with the ability to execute functions within the ERP application, without having direct access to the underlying tables.

Concurrency Requirements
You must reduce the likelihood of deadlocks occurring when Sales.Proc1 and Sales.Proc2 execute.

QUESTION 8
You need to recommend a solution that addresses the concurrency requirement. What should you recommend?

A. Make calls to Sales.Proc1 and Sales.Proc2 synchronously.
B. Modify the stored procedures to update tables in the same orderfor all of the stored procedures.
C. Call the stored procedures in a Distributed Transaction Coordinator (DTC) transaction.
D. Break each stored procedure into two separate procedures, one that changes Sales.Table1 and one that changes Sales.Table2.

Correct Answer: B
Explanation:
References:
http://msdn.microsoft.com/en-us/library/ms191242%28v=SQL.105%29.aspx
http://msdn.microsoft.com/en-us/library/bb677357.aspx
http://msdn.microsoft.com/en-us/library/ms378149.aspx

QUESTION 9
You need to recommend a solution thataddresses the backup issue. The solution must minimize the amount of development effort. What should you include in the recommendation?

A. filegroups
B. indexed views
C. table partitioning
D. indexes

Correct Answer: A
Explanation:
References:

http://msdn.microsoft.com/en-us/library/ms187048.aspx
http://msdn.microsoft.com/en-us/library/ms189563.aspx
http://msdn.microsoft.com/en-us/library/ms190174.aspx
http://msdn.microsoft.com/en-us/library/ms190787.aspx
http://msdn.microsoft.com/en-us/library/ms175049.aspx

QUESTION 10
You need to recommend a solution that addresses the index fragmentation and index width issue.
What should you include in the recommendation? (Each correct answer presents part of the
solution. Choose all that apply.)

A. Change the data type of the lastModified column to smalldatetime.
B. Remove the modifiedBy column from the clustered index.
C. Change the data type of the id column to bigint.
D. Remove the lastModified column from the clustered index.
E. Change the data type of the modifiedBy column totinyint.
F. Remove the id column from the clustered index.

Correct Answer: BCD
Explanation:
References:
http://technet.microsoft.com/en-us/library/ms190639.aspx
http://msdn.microsoft.com/en-us/library/ms190457.aspx
http://msdn.microsoft.com/en-us/library/ms186342.aspx
http://msdn.microsoft.com/en-us/library/ms189280.aspx
http://stackoverflow.com/questions/255569/sql-data-type-for-primary-key-sql-server
http://sqlservernet.blogspot.com/2012/01/which-data-type-is-good-for-primary-key.html
http://msdn.microsoft.com/en-us/library/jj591574.aspx
http://www.informit.com/articles/article.aspx?p=25862&seqNum=5

QUESTION 11
You need to recommend a solution that meets the data recovery requirement. What should you
include in the recommendation?

A. a differential backup
B. snapshot isolation
C. a transaction log backup
D. a database snapshot

Correct Answer: D
Explanation:
References:
http://msdn.microsoft.com/en-us/library/ms175158.aspx
http://msdn.microsoft.com/en-us/library/ms378149.aspx
http://msdn.microsoft.com/en-us/library/ms187048.aspx

QUESTION 12
You need to recommend changes to the ERP application to resolve the search issue. The solution must minimize the impact on other queries generated from the ERP application. What should you recommend changing?

A. the data type of the ProductName column
B. the collation of the Products table
C. the collation of the ProductName column
D. the index on the ProductName column

Correct Answer: C
Explanation:
References:
http://msdn.microsoft.com/en-us/library/ff848763.aspx
http://msdn.microsoft.com/en-us/library/ms143726.aspx
http://msdn.microsoft.com/en-us/library/ms190920.aspx

Topic 3, Litware, Inc

Overview
You are a database administrator for a company named Litware, Inc. Litware is a book publishing house.

Litware has a main office and a branch office.

You aredesigning the database infrastructure to support a new web-based application that is being developed. The web application will be accessed at www.litwareinc.com. Both internal employees and external partners will use the application.

You have an existingdesktop application that uses a SQL Server 2005 database named App1_DB. App1_DB will remain in production.

Requirements
Planned Changes
You plan to deploy a SQL Server 2012 instance that will contain two databases named Database1 and Database2. All database files will be stored in a highly available SAN.

Database1 will contain two tables named Orders and OrderDetails. Database1 will also contain a stored procedure named usp_UpdateOrderDetails. The stored procedure is used to update order information. The stored procedure queries the Orders table twice each time the procedure executes. The rows returned from the first query must be returned on the second query unchanged along with any rows added to the table between the two read operations.

Database1 will contain several queries that access data in the Database2 tables.

Database2 will contain a table named Inventory. Inventory will contain over 100 GB of data. The Inventory table will have two indexes: a clustered index on the primary key and a nonclustered index. The column that is used as the primary key will use the identity property.

Database2 will contain a stored procedure named usp_UpdateInventory. usp_UpdateInventory will manipulate a table that contains a self-join that has an unlimited number of hierarchies.

All data in Database2 is recreated each day ad does not change until the next data creation process.

Data from Database2 will be accessed periodically by an external application named Application1. The data from Database2 will be sent to adatabase named App1_Db1 as soon as changes occur to the data in Database2.

Litware plans to use offsite storage for all SQL Server 2012 backups.

Business Requirements
You have the following requirements:

▪ Costs for new licenses must be minimized.
▪ Privateinformation that is accessed by Application must be stored in a secure format.
▪ Development effort must be minimized whenever possible.
▪ The storage requirements for databases must be minimized.
▪ System administrators must be able to run real-time reports ondisk usage.
▪ The databases must be available if the SQL Server service fails.
▪ Database administrators must receive a detailed report that contains allocation errors and data corruption.
▪ Application developers must be denied direct access to the database tables.
▪ Applications must be denied direct access to the tables.
▪ You must encrypt the backup files to meet regulatory compliance requirements.
▪ The encryption strategy must minimize changes to the databases and to the applications.

QUESTION 13
You need torecommend an isolation level for usp_UpdateOrderDetails. Which isolation level should recommend?

A. repeatable read
B. serializable
C. read uncommitted
D. read committed

Correct Answer: A
Explanation:
References:
http://msdn.microsoft.com/en-us/library/ms378149.aspx
http://msdn.microsoft.com/en-us/library/ms173763.aspx

QUESTION 14
You need to recommend a solution for Application1 that meets the security requirements. What should you include in the recommendation?

A. Encrypted columns
B. Certificate Authentication
C. Signed stored procedures
D. Secure Socket Layer (SSL)

Correct Answer: A
Explanation:
References:
http://msdn.microsoft.com/en-us/library/ms179331.aspx

QUESTION 15
You need to recommend a solution to improve the performance of usp_UpdateInventory. The solution must minimize the amount of development effort. What should you include in the recommendation?

A. a table variable
B. a subquery
C. a common table expression
D. a cursor

Correct Answer: C

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70-336	**70-417**	**70-486**	**70-668**
70-337	**70-461**	**70-487**	**70-680**
70-341	**70-462**	**70-488**	**70-687**
70-342	**70-463**	**70-489**	**70-688**
70-346	**70-464**	**70-513**	**70-689**