DBMS/SQL Scenario QUIZ (15 MCQ)

Points: 6/15

1. Enter your KU ID *

   cc026

2. Enter your Name *

   SAY Sophea

3. Enter your Course Enter your Course (Cloud/Software/Security) *

   Cloud

✓ **Correct** 1/1 Points

4. You are a database administrator responsible for maintaining a customer database for an e-commerce website. Recently, you received a request from the marketing department to improve the performance of a specific query that retrieves customer order history. Upon investigation, you find that the query is taking longer than expected due to the large volume of data and multiple joins involved. What should be your approach to optimizing the query's performance? *

- ○ Create additional indexes on the relevant columns used in the query.
- ○ Denormalize the database schema to reduce the number of joins required.
- ○ Implement database partitioning to distribute the data across multiple storage devices.
- ◉ Rewrite the query using more efficient SQL syntax and query optimization techniques.

✗ **Incorrect** 0/1 Points

5. You are a database administrator responsible for managing a large company's database system. The database contains sensitive customer information, including personal details and financial data. Recently, you received a request from a department manager to provide direct access to the database for a new employee who will be responsible for generating reports. What should be your approach in this situation? *

- ○ Grant the new employee direct access to the database, but restrict their privileges to only the necessary tables and views.
- ◉ Provide the new employee with read-only access to the database, ensuring they cannot make any modifications or changes.
- ○ Deny the request and suggest that the department manager contacts the DBA team for the necessary reports.
- ○ Grant the new employee full access to the database and instruct them on how to use appropriate query tools.

✓ **Correct** 1/1 Points

6. You are working as a data analyst for a company that manages both employees and their assigned projects. The database schema includes two tables: "Employees" with columns "EmployeeID" and "EmployeeName," and "Projects" with columns "ProjectID," "EmployeeID," and "ProjectName." Your task is to retrieve a list of all employees and their assigned projects, including those who are not currently assigned to any project and

projects that have no assigned employees. Which SQL join should you use? *

- ( ) INNER JOIN
- ( ) LEFT JOIN
- ( ) RIGHT JOIN
- (•) FULL OUTER JOIN

✓ **Correct** 1/1 Points

7. You are a database administrator responsible for managing a company's customer database. One of the customer service representatives informs you that they accidentally deleted a crucial customer record from the database. The customer is a key client, and losing their information could have significant business implications. What is the most appropriate course of action in this situation? *

- ( ) Restore the customer record from the latest backup and notify the customer service representative about the importance of data management.
- (•) Perform a database recovery process to retrieve the deleted customer record and implement stricter access controls to prevent such incidents in the future.
- ( ) Contact the customer and explain the situation, requesting them to provide their information again to rebuild their record.
- ( ) Panic and attempt to manually reconstruct the customer record by searching through various sources.

✕ **Incorrect** 0/1 Points

8. You are a database administrator responsible for managing a company's customer database. Recently, the company has experienced significant growth, resulting in an increase in customer data. The current database server is struggling to handle the load, leading to performance issues and slow response times. What should you do to address this situation? *

- ○ Upgrade the hardware of the existing database server.
- ○ Implement database sharding to distribute the data across multiple servers.
- ◉ Optimize the existing database queries and indexes.
- ○ Archive or purge old and unnecessary data from the database.

✕ **Incorrect** 0/1 Points

9. You are working as a data analyst for an e-commerce company. The database schema includes two tables: "Customers" with columns "CustomerID" and "CustomerName," and "Orders" with columns "OrderID," "CustomerID," and "OrderDate." Your task is to retrieve all customers, along with their corresponding order information if available. Which SQL join should you use? *

- ○ INNER JOIN
- ○ LEFT OUTER JOIN
- ◉ RIGHT OUTER JOIN
- ○ FULL OUTER JOIN

✕ **Incorrect** 0/1 Points

10. You are working as a data analyst for a company that manages both customer and order data. The database schema includes two tables: "Customers" with columns "CustomerID" and "CustomerName", and "Orders" with columns "OrderID", "CustomerID", and "OrderDate". Your task is to retrieve a list of customers along with their corresponding order information. Which SQL join should you use? *

- ○ INNER JOIN
- ○ LEFT JOIN

- RIGHT JOIN
- FULL OUTER JOIN

Incorrect 0/1 Points

11. You are a database administrator for a large e-commerce company. The company's online store has been experiencing slow response times, especially during peak hours. After analyzing the situation, you discover that the database is not properly indexed, leading to inefficient query execution. What should be your next course of action? *

- Upgrade the server hardware to improve performance.
- Optimize the network infrastructure to enhance data transmission speed.
- Modify the database schema to eliminate redundant data.
- Identify the most frequently executed queries and create appropriate indexes.

Incorrect 0/1 Points

12. You are a database administrator responsible for managing a company's customer data. The company has recently experienced rapid growth, and the customer database has become too large to handle efficiently. As a result, queries and reports are taking longer to execute, causing a delay in business operations. What should you do to address this issue? *

- Implement database partitioning to distribute the data across multiple storage devices.
- Optimize the existing database schema and indexes to improve query performance.
- Archive older customer data to a separate database to reduce the size of the main database.
- Upgrade the hardware resources, such as increasing memory and storage capacity, to handle the larger database.

Incorrect 0/1 Points

13. You are designing an E-R diagram for a university system. The system should store information about students, courses, and their enrollment. Each student can enroll in multiple courses, and each course can have multiple students. Additionally, each course is associated with a single instructor. Which relationship notation should be used to

represent the association between courses and instructors? *

- ( ) One-to-One (1:1)
- ( ) One-to-Many (1:N)
- (•) Many-to-Many (N:N)
- ( ) Many-to-One (N:1)

✓ **Correct** 1/1 Points

14. You are designing an E-R diagram for a university's student management system. The system should keep track of students, courses, and their enrollment details. A student can enroll in multiple courses, and each course can have multiple students. Which option represents the correct relationship notation between the "Students" and "Courses" entities in the E-R diagram? *

- ( ) One-to-One (1:1) relationship
- ( ) One-to-Many (1:N) relationship
- (•) Many-to-Many (N:N) relationship
- ( ) Many-to-One (N:1) relationship

✗ **Incorrect** 0/1 Points

15. You are the administrator of a large e-commerce database. One of your database tables stores customer orders, including order details and payment information. Recently, you received a request from the finance department to generate a report that shows the total revenue for each month over the past year. Which approach would be the most efficient for retrieving this information? *

- ○ Write a complex SQL query that joins the order table with the payment table, grouping the results by month and calculating the total revenue.
- ○ Export the entire order table into a spreadsheet and use spreadsheet functions to calculate the total revenue for each month.
- ◉ Implement a stored procedure that aggregates the revenue data and stores it in a separate table updated periodically.
- ○ Use a data warehousing tool to create a separate reporting database, specifically optimized for generating revenue reports.

✓ **Correct** 1/1 Points

16. You are a database administrator responsible for managing a company's customer database. Recently, you received a request from the marketing department to generate a report that shows the total number of customers grouped by their geographical locations. Which SQL query will you use to retrieve the required information? *

- ○ SELECT COUNT() FROM customers GROUP BY location;
- ○ SELECT COUNT(DISTINCT (location)) FROM customers;
- ◉ SELECT location, COUNT(*) FROM customers GROUP BY location;
- ○ SELECT SUM(COUNT(*)) FROM customers GROUP BY location;

✗ **Incorrect** 0/1 Points

17. You are a database administrator for a large e-commerce company. The company's database contains customer information, including names, addresses, email addresses, and purchase history. Recently, there has been an increase in the number of customer complaints about receiving promotional emails despite unsubscribing from the mailing list. Upon investigation, you discover that the promotional email module is not properly querying the customer table for unsubscribed customers. Which action should you take to resolve this issue? *

- ( ) Modify the application code to fix the query logic in the promotional email module.
- (•) Create a new table to store unsubscribed customer email addresses and update the query logic to exclude those addresses.
- ( ) Restore the database from a previous backup to eliminate the incorrect data.
- ( ) Contact the email service provider and request them to block emails to unsubscribed customers.

✓ **Correct** 1/1 Points

18. You are a database administrator for a large e-commerce company. The company's database contains sensitive customer information, including personal details and credit card data. The CEO wants to improve the security of the database and reduce the risk of data breaches. Which of the following measures would be most appropriate to achieve this? *

- ( ) Implementing strong encryption algorithms for data stored in the database.
- ( ) Implementing regular database backups to an offsite location.
- (•) Enforcing strict access control policies and user permissions.
- ( ) Implementing a distributed database system across multiple servers.

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