THE STATE UNIVERSITY OF ZANZIBAR
Department of Computer Science and IT
INF 2112: Database Application I

TIME 70 minutes   Answer all Questions   Date: 22nd December, 2023

Question 1: Select the best answer and write only a letter of your selection from each of the following multiple choice question [1 mark each]

i. How many data types and categories are available in T-SQL?

    A. 8

    B. 9

    C. 4

    D. 7 ✓

ii. What will be the output of the below LIKE query?

    WHERE SALARY LIKE '9000%'

    A. It will find any value that starts with 9000 ✓

    B. It will find any value that ends with 9000

    C. It will find any value whose range is between 9000

    D. It will find the value where salary is less than 9000

iii. Which of the following Statements are True with regards to Categories of T-SQL?

    A. DML statements are focused only on Managing security and Permissions such as GRANT, REVOKE and DENY.

    B. DCL statements handles lifecycle of database objects such as tables, views and procedures.

    C. DDL statements include CREATE, ALTER, AND DROP ✓

    D. None of the Above

iv. SQL Server includes 5 System Databases. Which one of the following is used only for Reporting Services?

    A. Master

    B. Model

    C. Msdb

    D. None of the above ✓

v.   Choose the best answer that describes the correct Logical Query Processing Order.

    A. SELECT, ORDER BY, WHERE, GROUP BY, HAVING, FROM

    B. FROM, SELECT, WHERE, GROUP BY, HAVING, ORDER BY.

✓ C. FROM, WHERE, GROUP BY, HAVING, SELECT, ORDER BY.

    D. FROM, WHERE, GROUP BY, SELECT, HAVING, ORDER BY.

Question 2:

a) What do you understand by the following terms? [3 marks]

    i.   CMD Parser

    ii.   SQL Server Agent

    iii. SQL Server Browser

b) Mention any four advantages of instances [2 marks]

c) Explain the three components that are available on the protocol layer in SQL server architecture. [3 marks]

Question 3:

a) Briefly explain how T-SQL statements can be written and submitted to the Database engine? [2 marks]

b) Write T-SQL commands to perform the following tasks,

    i.   Create a table called Books with fields BookID(varchar(10)) as primary key and NOT NULL, BookName(varchar(20)), Authhour(varchar(20)) and price(decimal(5,2)). [1 mark]

    ii.   Verify that the table above has been created [1 mark]

    iii. Populate all the data inserted from Books into another table called NewBooks, assume that all fields are the same. [1 mark]

b) Assume you have Sales.LineItem table which includes the following columns:

ProductID (integer)

Quantity (integer)

Price (decimal)

The Price column contains decimal numeric values, for example 14.79.

Write a query that returns each ProductID and a column named Subtotal, in which the values for Quantity and Price are multiplied together. [2 marks]