



## Question 1: Multiple Choice

(10 marks)

1. DCL stands for : \_\_\_\_
  - a) Data Console Language
  - b) Data Control Language
  - c) Data Command Language
  - d) Data Control Level
2. You are managing the database systems. You need to ensure that the users SMITH and ANY can preview and edit data of the Employees table. What SQL statement sequence will you use?
  - a) Grant Select, Update ON Employees TO AMY, SMITH
  - b) Grant Select ON Employees TO ALL
  - c) Grant Select, Insert ON Employees TO SMITH, AMY
  - d) Grant ALL Privileges ON Employees TO AMY, SMITH
3. Which of the following locks the item from change but not from read?
  - a) Implicit lock
  - b) Exclusive lock
  - c) Explicit lock
  - d) Shared lock
4. Consider this:
 

```
Create function dept_count(@deptName varchar(20))
Begin
    Declare @d_count int;
    Set @d_count = (Select count(*) from instructor
    where instructor.dept_name= @deptName);
    return @d_count;
End
```

Find the error in the above statement

  - a) Dept\_name is mismatched
  - b) Reference relation is not mentioned
  - c) Return type missing
  - d) All of the mentioned
5. What are the **after** triggers?
  - a) Triggers generated after a particular operation.
  - b) These triggers run after an insert, update or delete on a table.
  - c) These triggers run after an insert, views, update or delete on a table and view.
  - d) Both b and c.
6. In order to undo the work of transaction after last commit which one should be used?
  - a) Commit Transaction
  - b) Flashback Transaction
  - c) Undo Transaction
  - d) Rollback Transaction
7. All of the following are characteristics of a data warehouse, except the data is \_\_\_\_?
  - a) subject oriented
  - b) integrated
  - c) allow modifying data
  - d) non-volatile
8. Data that can be modelled as dimension attributes and measure attributes are called \_\_\_\_\_.
  - a) Multi-dimensional model
  - b) Class diagram model
  - c) Relational database model
  - d) Distributed component object model

9. Data administration is mainly ____ function. a) a programming c) an operational, day-to-day monitoring and management	b) a planning and analysis d) a hardware maintenance
10. Point out the correct statement: ____. a) Using differential backups can save available space. c) Using full backups can save available space.	b) Making differential backups does not need a full backup. d) None of the mentioned.
11. All of the following are responsibilities of data administration, except ____. a) DBMS performance monitoring c) data planning	b) documentation and publicity d) data standards

**Question 2: Answer Five (5) Questions only (25 marks)**

- Construct and compare **triggers** and **Stored Procedures** in a database application. Illustrate your answer with examples.
- Why is it important to have data and database administration specialists from the point of view of efficiency in job specialization?
- What are the benefits of data warehouse?
- Describe the star schema, fact tables, and dimension tables.
- List the types of SQL Server Backup approaches and Explain why backup and recovery is important.
- Define the terms ACID, and discuss the problems happen during the time concurrent access.

**Question 3: (15 marks)**

**Borrowing**

<b>BorrowId</b>	<b>BorrowDate</b>	<b>ReturnDate</b>	<b>ISBN</b>	<b>StudentId</b>
1	1-Jul-02	31-Ogos-04	4521409875	S76
2	1-Sep-02	1-Sep-04	9856214047	S76
3	1-Sep-02	10-Jun-04	4521409875	S56
4	10-Okt-02	1-Dis-05	9856214047	S56
5	1-Jan-02	10-Ogos-02	1000254478	S56

**Books**

<b>ISBN</b>	<b>BookName</b>	<b>NoOfCopy</b>	<b>PubId</b>
4521409875	Java Programming	3	CO40
9856214047	Oracle Database	5	CO93
1000254478	Android Programming	4	CO93

Consider a database containing the tables above and answer the following questions:

- Create an **updateBook** stored procedure to update the book data. You should consider some business requirement.
- Create the **InsertBorrowing** trigger to prevent borrowing books more than available number of copies.

**I wish you great success**