



### QUIZ 1 (Special Model)

**Choose the appropriate answer for each of the following questions** (5 marks)

1. Which one of the following languages is part of SQL:
  - a) VHDL
  - b) **DDL**
  - c) DISTINCT
  - d) LINQ
  
2. Which one of the following properties doesn't apply to a Unique constraint?
  - a) As long as it accepts null values, it can take only one Null value.
  - b) It is part of the primary key constraint.
  - c) Can't have repeated values.
  - d) **Links two tables together.**
  
3. The person responsible for authorizing access to the database is:
  - a) The Database Designer.
  - b) **The Database Administrator.**
  - c) The Systems Analyst.
  - d) The Application Programmer.
  
4. A database state or snapshot:
  - a) Represents some property of interest that further describes an entity, such as the employee's name or salary.
  - b) A collection of concepts that can be used to describe the structure of a database.
  - c) **The data in the database at a particular moment in time.**
  - d) A set of valid user-defined operations that are allowed on the database objects.
  
5. \_\_\_\_\_ is used to prevent the attribute from having repeated values.
  - a) Not Null Constraint.
  - b) Like Constraint.
  - c) **Unique Constraint.**
  - d) Foreign Key Constraint.

**Write the corresponding SQL statement for the following questions (10 marks)**

1. Given the following tables Course (CrsCode, CrsName) and Student (SID, SName, City) having the following data:

<u>CrsCode</u>	CrsName
CS112	Programming 1
CS213	Programming 2
IS211	Database Systems I

\*CrsCode data type is char(5)

<u>SID</u>	SName	City
101	Ahmed	Giza
102	Ali	Fayoum
103	Ibrahim	Cairo

\*SID data type is int

**Write a DDL statement that builds a new table called “Registered” that allows the following scenario to happen using both of the tables above:**

A student (using SID) register in many courses (using CrsCode) and the course has many registered students. The student register in a course in a specific semester for a given year. The registration is restricted to the Fall, Spring or Summer semesters. (Note: Table “Registered” should be linked to both Student and Course Tables through foreign key(s)).

```
CREATE TABLE Registered
(
    CrsCode char(5),
    SID int,
    Semester varchar(6),
    Year int,
    Primary Key(CrsCode,SID),
    Check (Semester IN ('Spring', 'Fall', 'Summer')),
    Foreign Key(CrsCode) references Course(CrsCode),
    Foreign Key(SID) references Student(SID)
)
```

0.5 mark for the create table syntax.

0.5 mark for writing all required attributes.

0.25 mark for SID to be int as SSN data type in table Student.

0.25 mark for CrsCode to be char(5) as CrsCode data type in table Course.

0.5 mark for the rest of data types (may differ between students).

1 mark for the composite primary key constraint.

1 mark for the check constraint.

1 mark for the 2 foreign keys (0.5 mark for each constraint).

2. Using the Northwind DB: Get the category names and their descriptions if the category name is not 10 characters long and starts with ‘C’ in addition to having a description that contains the word ‘breads’. (Note: \_ represents one character while % represents zero or more characters).

```
SELECT CategoryName,Description
FROM Categories
WHERE (CategoryName LIKE 'C%'
AND CategoryName NOT LIKE '_____' )      --Should be 10 underscores
AND Description LIKE '%breads%'
```

2 marks for selecting the correct attributes.

1 mark for the choosing the correct table.

1 mark for the CategoryName conditions (0.5 mark for each condition).

1 mark for the Description condition.