بسم الله الرحمن الرحيم

University of Palestine

Course No:
Course Title: Database M. S.
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No. of Questions: 3 Questions
Time: 2 hours
Using Calculator (No)

Final Exam
1st semester 2010/2011
Total Grade: 100
-A-

Instructor Name: Mr.Nael Alian
Student No.: _____
Student Name: _____
College Name: Eng. & IT
Dep. / Specialist: _____
Using Dictionary (No)

First Question [10 points]

1. **The actual data stored in a database at a particular moment in time. Also called database state**
   a) Database Instance
   b) Database Schema
   c) Database Catalog
   d) Database Constraints

2. **Responsible to define the content, the structure, the constraints, and functions or transactions against the database. They must communicate with the end-users and understand their needs.**
   a) Database administrators
   b) Database Designers
   c) End-users

3. **Provide concepts that describe details of how data is stored in the computer.**
   a) Implementation (representational) data models
   b) Physical (low-level, internal) data models
   c) Conceptual (high-level, semantic) data models

4. **Just one of the following languages is a Non Procedural DML**:
   a) Relational Algebra
   b) Relational Calculus
   c) PL/SQL
   d) SQL

5. **Relationship types of degree 3 are called**
   a) binary
   b) ternary
   c) n-ary

Second Question [12 points]

- **Data Abstraction**

- **Determinant (Functional Dependency)**

- **Logical Data Independence**

- **Data dictionary / repository**

Third Question (40 points)

Draw an ER Diagram for the following university:

University has many students. Each student registers for many courses. Each course has many sections. Teacher teaching the sections in certain classroom. Teachers and Administrators are University staffs. University staff could have children.

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Forth Question (40 points)

The following tables form part of a database held in a relational DBMS:

Hotel	(**Hotel_No**, Name, Address)
Room	(**Room_No**, **Hotel_No**, Type, Price)
Booking	(**Hotel_No**, Guest_No, Date_from, Date_to, Room_No)
Guest	(**Guest_No**, Name, address)

Where:

Hotel contains details and Hotel_No is the primary key
Room contains details for each hotel and (Room_No, Hotel_No) forms the primary key.
Booking contains details of the booking and the primary key comprises (Guest_No, Hotel_No and date_from)

and Guest contains guest details and Guest_No is the primary key.

By using SQL solve he following questions:

1-	Create the above tables.	2-	Insert record into Hotel Table.
3-	Update the price of all rooms by 5%.	4-	How many hotels in Palestine.
5-	What is the average price of a room?	6-	List all guest currently staying at the Gaza Hotel.
7-	List the number of rooms in each hotel	8-	List the rooms that are unoccupied at the Nables Hotel.

1-		2-	
3-		4-	
5-		6-	
7-		8-	

Fifth Question (40 points)

From the Following Table:

Project number	Project name	Employee number	Employee name	Rate category	Hourly rate
1023	Madagascar	11 12 16	Ahmed Mohammed Mohammed Jamal Khaled Abd	A B C	60 50 40
1056	estate	11 17	Ahmed Mohammed Anwar Ali	A B	60 50

1. **Normalize the above table in (1NF and 2NF)**

End of Questions
Best wishes

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