


Course Title: Advanced Database Date: 23/ 03 / 2013 No. of Questions: 4 Questions Time: 1 hour Using Calculator (No)	University of Palestine  Midterm Exam 2nd semester 2012/2013 Total Grade: 40	Instructor Name: Eng. Eman Alajrami Student No.: _____ Student Name: _____ College Name: IT, Engineering Dep. / Specialist: _____ Using Dictionary (No)
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First Question	No. of Branches (2)	(10/40)
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Q1 B1		(5/10)
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Design an EER diagram for a hospital.

We want to keep track of patient information.

- For each patient, we want to keep track of patient ID, her or his name, admission date.
- There are two kinds of patient, outpatient and resident patient.
 - For outpatient, we want to know the check back date, while for resident patient we want to keep records about discharge date.
- A patient cannot be outpatient and resident patient at the same time.
- Each resident patient will be assigned with a bed.
- A bed has a bed ID.
- Each patient is treated by a responsible physician.
- A physician may provide one or several treatments for a patient.
- For each treatment, we want to know the treatment ID, treatment name and patient’s reaction.
- A responsible physician can take care of many patients. For each responsible physician, we want to keep track of her or his name, phone number, physician ID.

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Q1 B2

(5/10)

Given the following XQuery, explain what should it return. Rewrite it using SQL.

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for   $x in /bank-2/account
let   $acctno := $x/@account_number
where $x/balance > 400
return <account_number> { $acctno } </account_number>

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Second Question	No. of Branches (1)	(5/40)
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Q2 B1 Define the following:

(5/5)

1. XSLT

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2. DTD

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3. DDL

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4. MTTF

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5. RAID

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Third Question	No. of Branches (3)	(15/40)
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1. Explain in details the difference between RAID Level1 and RAID Level 5?

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2. Database system seeks to minimize the number of block transfers between the disk and memory. This can be done using buffering. Explain the strategy of buffering, what is it, how it works, and what are the replacement polices it use?

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3. What are the factors in choosing RAID level?

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Fourth Question	No. of Branches (2)	(10/40)
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Given the following Instance of the two tables person and orders.

The "Persons" table:

Id	LastName	FirstName
1	Hansen	Ola
2	Svendson	Tove
3	Pettersen	Kari

The "Orders" table:

O_Id	OrderNo	P_Id
1	77895	3
2	44678	3
3	22456	1
4	24562	1
5	34764	15

Show the results of each of the following Queries

```
1) SELECT Persons.LastName, Persons.FirstName, Orders.OrderNo
FROM Persons
RIGHT OUTER JOIN Orders
ON Persons.P_Id=Orders.P_Id
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2) SELECT Persons.LastName, Persons.FirstName, Orders.OrderNo
FROM Persons
FULL JOIN Orders
ON Persons.P_Id=Orders.P_Id
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End of Questions

Good Luck