L60

B.Sc.Engg./HD CSE 5th Semester (58) 27 February (Morning)

ISLAMIC UNIVERSITY OF TECHNOLOGY (IUT)
ORGANISATION OF ISLAMIC COOPERATION (OIC)
Department of Computer Science and Engineering (CSE)

MID SEMESTER EXAMINATION **WINTER SEMESTER, 2011-2012**

DURATION: 1 Hour 30 Minutes **FULL MARKS: 50**

CSE 4507: RDBMS Programming

Programmable calculators are not allowed. Do not write anything on the question paper.

There are **4 (four)** questions. Answer **3 (three)** of them, **you must answer question no. 1**

Figures in the right margin indicate marks.

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1. a) Create the following table using SQL: 8.66

Table Name: **Accounts_Info**

Column name	Data type	Size	Restrictions (if any)
Account_ID	VARCHAR2	100	Can not be empty
Date_tran	DATE		Can not be empty
Amount	NUMBER	10, 2	Can not be empty, must be non-negative
Transaction_type	VARCHAR2	20	Only allowed values are 'Deposit' and 'Withdraw' (case-insensitive)
Primary Key: Account_ID and Date_tran together will be the primary key. Constraints should have user-defined names.			

Now add a new column **Comment** in this table with a suitable data type.

b) Consider the following table which contains many duplicate records (only a few are shown here). Write SQL or PL/SQL codes that will remove all the duplicate values from this table. 5

Table name: **Author_Info**

First_Name	Last_Name	Date_of_Birth
Emam	Hossain	17/03/1989
Hossain	Bari	22/09/1989
Emam	Hossain	17/03/1989
Hossain	Bari	22/09/1989
....	....	...

c) Consider the following table. Suppose, there are 1000 records in this table. 3

Table Name: **Salary_Info**

Column Name	Data Type
Employee_ID	VARCHAR2(100)
Salary	NUMBER

You have to write an update statement that will update the table data based on the following scheme: The **Salary** of an employee will be increased by 15%, only if after the increment the **Salary** remains less than 15000. Otherwise, the **Salary** will remain unchanged.

2. a) What is %TYPE and %ROWTYPE? Explain with suitable example. 6

   b) Describe 4 advantages of PL/SQL over SQL. 4

   c) If a code takes 100s to execute in Native Compilation mode, then how much time will it take in Interpreted mode? Explain your answer. 6.66

3. a) **A cursor is a pointer to records in the database** – Do you agree with this opinion? Justify your answer. 4

   b) Carefully examine the following code segment. Correct it (if necessary) and write down the corrected code with explanation: 8.66

```
DECLARE
ITER NUMBER;
COUNT NUMBER=0;
BEGIN
FOR ITER IN 1..10
COUNT=COUNT+ITER;
END LOOP;
DBMS_OUTPUT.PUT_LINE(The result is COUNT);
END;
```

   c) Consider the following table definition. Currently, there is no record in the table. 4

   Table Name: **Branch_Mstr**

Column Name	Data Type
Branch_No	VARCHAR2(10)
Branch_Name	VARCHAR2(100)

   Now two records have been inserted in this table using the following statements:

```
INSERT INTO Branch_Mstr VALUES('B1',NULL);
INSERT INTO Branch_Mstr VALUES('B1','');
```

   What will be the output for the following two queries? Explain your answer.

```
SELECT * FROM Branch_Mstr WHERE Branch_Name='';
SELECT * FROM Branch_Mstr WHERE Branch_Name IS NULL;
```

4. a) Write a function that will take 4 parameters as the input of numbers obtained in different quizzes. Then it will calculate the best 3 and return their sum. 8.66

   b) Consider the **Salary_Info** table in question 1.c). Suppose there are 50 records in this table. Now explain what will be the output of the following PL/SQL block: 4

```
SET SERVEROUTPUT ON
DECLARE
VAR Salary_Info%ROWTYPE;
BEGIN
SELECT * INTO VAR FROM Salary_Info;
DBMS_OUTPUT.PUT_LINE(VAR.Employee_ID);
END;
```

   c) What is the difference between **TRUNCATE TABLE** and **DELETE** in SQL? 4