Tshwane University of Technology

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NOVEMBER SUPPLEMENTARY

YEAR: 2014
EXAMINATION: C

SUBJECT NAME:	Development Software IIA	/	Software Skills IIA
SUBJECT CODE:	DSO23BT	/	SFW20BT
QUALIFICATION(S):	Software Development	/	Financial Information Systems

PAPER DESCRIPTION: Computer-based **DURATION:** 4 Hrs **PAPER:** Only

SPECIAL REQUIREMENTS

- ☐ **NONE**
- ☐ **NON-PROGRAMMABLE POCKET CALCULATOR**
- ☐ **SCIENTIFIC CALCULATOR**
- ☐ **COMPUTER ANSWER SHEET**
- ☐ **GRAPH PAPER**
- ☐ **DRAWING INSTRUMENTS**

OTHER: The question paper comes along with the softcopy database structure and file

INSTRUCTIONS TO CANDIDATES: Answer all questions

The instructions are on the cover page. Please do not remove the cover page of all DSO23BT/ SFW20BT exam papers

TOTAL NUMBER OF PAGES INCLUDING COVER PAGE: 5

TOTAL NUMBER OF ANNEXURES: 1

EXAMINER: Mr SM Marebane **FULL MARKS:** 104

MODERATOR: Mr O Leroke **TOTAL MARKS:** 100

Class List No:

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EXAM

INSTRUCTIONS TO CANDIDATES

1. Type your answer on the document and saved as ***StudNumCT1.sql*** in the relevant folder as instructed by your lecturer
2. **NO CALCULATORS** or **ELECTRONIC DEVICE** may be used
3.
4. **Use Doctor Database** answer all questions
5. Use **%type** for all questions that refers to a table or database
6. **Sign** the declaration before proceeding

November 2014

TOTAL MARKS: 100

FULL MARKS: 104

TIME: 240 MINUTES

PAGES: 5 (Excl. cover)

1ST EXAMINER: SM Marebane

MODERATOR: G Leroke

I declare that I am familiar with, and will abide to the Examination rules of Tshwane University of Technology – ***Annexure A***

_____

SIGNATURE

FACULTY: INFORMATION AND COMMUNICATION TECHNOLOGY

DEPARTMENT: SOFTWARE ENGINEERING

DSO23BT \SFW20BT

Exam

CH1 - CH 10

LECTURER's NAME:

VENUE :

STUDENT NUMBER:

SURNAME	**INITIALS**	**%**

QUESTION 1 **[10]**

Write a PL/SQL program that prompts the user to enter the first four digits of the patient id and displays the message as shown in the output below:

```
Patient 8110102467081 s last appointment was 18-JAN-00 which is 14 years ago
PL/SQL procedure successfully completed.
SQL>
```

QUESTION 2 **[14]**

The doctors' rooms are undergoing renovations as part of the maintenance routine that will take a month. Write a PL/SQL program to interactively reschedule Consultation appointments by a month using the relevant SQL function as per the output below. Make provision for user defined exception to handle entry of wrong user input.

```
PL/SQL procedure successfully completed.
SQL> PRINT g_output
G_OUTPUT
--------------------------------------------------------------------------------
2 rows updated
SQL> _
```

QUESTION 3 **[23]**

Declare a cursor that will retrieve the patient details and the number of consultations for which the patient had. Create an explicit record that contains the same information contained in the cursor. Declare a table that is the same type as the record. Code a FOR-loop that will populate the values in the table from the cursor. Code another FOR-loop to display the information in the table as seen in the example.

```
 37  /
Patient (1): 8106070534083 DE WAARDT JOHAN
No of Consultations : 1
===================================
Patient (2): 7809124123456 MHLANGA JAMES
No of Consultations : 2
===================================
Patient (3): 8110102467081 LEWIS LIAAN
No of Consultations : 2
===================================

PL/SQL procedure successfully completed.
```

Question 4 **[30]**

4.1 Write a FUNCTION that determines total amount of payments by a specific account payer. **(7)**

```
Function created.

SQL> execute :total := resp_total(3806070156084);

PL/SQL procedure successfully completed.
```

4.2 Write a PL/SQL named block procedure (RESP_DETAILS) that declares a cursor named RESP_DET_CUR and define a record based on that cursor with the %ROWTYPE attribute. The cursor must retrieve the id number, names, town and cell number and total payments of persons responsible for payments of patient's bills for all patients who have received the same postal code as 'DE WAARDT'. Use an explicit cursor to FETCH values INTO a record from the RESPACCOUNT table. The block uses the above function to display the amount paid. Create an exception that will be raised if the cursor fails to open. Create provision to handle errors such as unavailability of data. **(23)**

```
Procedure created.

SQL> execute resp_details;
Id Number          Names              TOWN          CELLNO          AMOUNT
7504157082085      MAHLANGU PETRUS    MIDDELBURG                        0
7412087432082      DE WET LUCAS       MIDDELBURG                     1180
4909085015089      MHLANGA PETRUS     MIDDELBURG    082-8912370          0
5601145053083      DE WAARDT WOUTER   MIDDELBURG    082-6712309          0

PL/SQL procedure successfully completed.
```

QUESTION 5 **[7]**

Write a PL/SQL program that removes the treatment **IVN40 INJECTION - VOLTAREN 40** from the database. In case there are dependent records trap and handle the oracle server error accordingly.

```
 13  /
Cannot delete this treatment. Child record exists

PL/SQL procedure successfully completed.

SQL> _
```

Question 6 **[20]**

The management of a university classifies students according to the year of study in order to apply certain conditions such as which residence a student must stay, mentoring, tutoring, etc., for better management. Table below illustrates.

Year of Study	Classification	Condition(s)
1	FRESHMAN	Must stay in Residence I – III, sharing, participate in sport
2	SOPHOMORE	Must stay in residence IV – V, sharing
3	JUNIOR	Must stay in residence VI - VIII in single room, can work as warden
4	SENIOR	Can stay in single room in residence IX – X, can work as student assistant
5	POSTGRADUATE	Can stay in University apartment, can work as research assistant

Construct a PL/SQL named program (procedure) that inputs the year of study for a student using the variable **v_year**, and displays both classification and applicable condition using the variables **v_class** and **v_condition** respectively. Please refer to the table above for more information and your program must use the **CASE** structure. **NOTE: DO NOT REFER TO A TABLE OR DATABASE.**

Program should display the output in the format below

```
Enter the year of study: 1

Year: 1, your classification is: FRESHMAN and the condition: Must stay in
Residence I – III, sharing, participate in sport

PL/SQL procedure successfully completed
```