



**Tshwane University
of Technology**

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YEAR: 2012
EXAMINATION: November Main

SUBJECT NAME:	DEVELOPMENT SOFTWARE II/SOFTWARE SKILLS II
SUBJECT CODE:	DSO23BT/SFW20BT
QUALIFICATION(S):	

PAPER DESCRIPTION: Closed Book **DURATION:** 4 Hrs **PAPER:** Only

SPECIAL REQUIREMENTS

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

OTHER:

COMPUTER LAB

INSTRUCTIONS TO CANDIDATES: Answer all questions

TOTAL NUMBER OF PAGES INCLUDING COVER PAGE: 9

TOTAL NUMBER OF ANNEXURES:

EXAMINER: PATRICK MUKALA

FULL MARKS: 105

MODERATOR: KLAAS MOGAPI

TOTAL MARKS: 105



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2012

EXAMINATION: JUNE

SUBJECT:

DEVELOPMENT SOFTWARE II

SUBJECT CODE:

DSO23BT

QUALIFICATION(S):

N-DIP:SOFTWARE DEVELOPMENT
N-DIP:BUSINESS INFORMATICS
N-DIP:TECHNICAL APPLICATIONS

PAPER:

ONLY

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INSTRUCTIONS TO CANDIDATES: ANSWER ALL QUESTIONS

DO NOT USE PENCILS FOR YOUR ANSWERS.

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QUESTION 1

[10]

The medical staff are on a two-month long training. Although all patients will be temporarily taken care of by nurses, all their relevant appointments with the doctors need to be rescheduled accordingly. Furthermore, for reason of technicalities, the patients can only be seen on Fridays after two months according to their initial appointment date. Write an anonymous PL/SQL block that receives a patient number and then prints the correct new date for the new rescheduled appointment as shown in the sample below:

Enter value for patientnumber: 8106070534083

NEW DATE FOR APPOINTMENT

=====

Mr. Johan De Waardt had an initial appointment on wed the 05th

The new date will be on : FRIDAY THE TENTH OF MARCH with Dr.ALBERTS CJ

PL/SQL procedure successfully completed.

QUESTION 2

[10]

The hospital needs some background information about their patients. Hence, making use of records, create a PL/SQL block that will receive as input a patient number and then displays the relevant medical history as shown in the sample below. Make provision to cater for incorrect and non-existing data.

EX1

Enter value for patientnumber: 7911020534084

Patient Medical HISTORY

=====

Petru De Waardt had a TONSILLECTOMY on saturday the 12th ofmarch 1994

PL/SQL procedure successfully completed.

EX2

Enter value for patientnumber: 7911020534088

Patient Medical HISTORY

=====

Sorry, we do not have any medical history about this patient

PL/SQL procedure successfully completed.

[15]

QUESTION 3

The hospital management has decided that no bank transfers be done for all payments. Hence, for notification purposes, you are required to retrieve the details of all patients that have made such transactions in the past. Create a PL/SQL block using an explicit cursor as well as a record to retrieve and display the requested details. Your output should resemble the sample below. Your output should also determine where to send the notification to by checking whether the payment was made personally by the patient or via his/her medical insurance.

```
BANK TRANSFER PAYMENTS
=====
R 500.00 was paid for Patricia L
PAYMENT DATE: 12,january 1999
PAYMENT METHOD: MEDFUND
Send Notification to Medical Insurance
*****
R 100.00 was paid for Patricia L
PAYMENT DATE: 12,july 1999
PAYMENT METHOD: MEDFUND
Send Notification to Medical Insurance
*****
R 256.00 was paid for Patricia L
PAYMENT DATE: 15,december 1999
PAYMENT METHOD: MEDFUND
Send Notification to Medical Insurance
*****
R 500.00 was paid for Liaan L
PAYMENT DATE: 12,january 1999
PAYMENT METHOD: MEDFUND
Send Notification to Medical Insurance
*****
R 100.00 was paid for Liaan L
PAYMENT DATE: 12,july 1999
PAYMENT METHOD: MEDFUND
Send Notification to Medical Insurance
*****
R 256.00 was paid for Liaan L
PAYMENT DATE: 15,december 1999
PAYMENT METHOD: MEDFUND
Send Notification to Medical Insurance
*****
R 500.00 was paid for Tania L
PAYMENT DATE: 12,january 1999
PAYMENT METHOD: MEDFUND
Send Notification to Medical Insurance
*****
R 100.00 was paid for Tania L
PAYMENT DATE: 12,july 1999
PAYMENT METHOD: MEDFUND
Send Notification to Medical Insurance
*****
R 256.00 was paid for Tania L
```

PAYMENT DATE: 15,december 1999
PAYMENT METHOD: MEDFUND
Send Notification to Medical Insurance

PL/SQL procedure successfully completed.

QUESTION 4

[10]

The hospital management has decided to switch banks. Reset the number to 350 for all payments made using the bank number 346, and to 250 for all payments made using the bank number 213. Making use of an explicit cursor as well as the FOR UPDATE OF statement, create a PL/SQL block that will modify this information according as shown in the sample below:

New bank numbers successfully implemented!!!

3 payment transactions have been corrected for bank number 346
9 payment transactions have been corrected for bank number 213

PL/SQL procedure successfully completed.

NOTE:

USE THE SOFTWARE DATABASE FOR QUESTION 5 & 6

QUESTION 5

[15]

Write a PL/SQL anonymous block that will make use of an index by table to store all the recorded scores and display the highest score as demonstrated in the sample below:

I have retrieved the following scores :

***** 90

***** 85

***** 90

***** 100

***** 75

***** 90

The highest score is : 100

PL/SQL procedure successfully completed.

QUESTION 6

[10]

Making use of an index by table of records, create an anonymous block that will retrieve all the information there is about projects and display data relevant to the user input. The user is requested to input a letter and the program displays the information related to a project name that ends with that letter. Study the sample below:

Enter value for letter: e

Project(s) matching your letter "e" description:

=====

Project => 2, <<Hardware Support Interface>> from client number:2

Project => 3, <<Hardware Support Database>> from client number:2

Project => 7, <<Exploration Database>> from client number:5

PL/SQL procedure successfully completed.

Enter value for letter: t

Project(s) matching your letter "t" description:

=====

Project => 1, <<Hardware Support Intranet>> from client number:2

PL/SQL procedure successfully completed.

QUESTION 7

[10]

Making use of cursor with sub queries, create a procedure called **treatment_proc** that receive as input a particular doctored and then retrieves and displays details about patients treated by that doctor. Use the appropriate procedure to track and handle any exceptions that may be encountered during execution as demonstrated in the example below:

Using (5302140156083) as doctor number, the output should resemble:

Details about patient treatment

DOCTOR:ALBERTS CJ

PATIENT:PETRU DE WAARDT

TREATMENT:INJECTION - VOLTAREN 40

DATE:05-JAN-00

=====

DOCTOR:ALBERTS CJ

PATIENT:PETRU DE WAARDT

TREATMENT:STITCHES REMOVE

DATE:05-JAN-00

=====

```
DOCTOR:ALBERTS CJ
PATIENT:PETRU DE WAARDT
TREATMENT:FULL MEDICAL
DATE:05-JAN-00
=====
```

```
DOCTOR:ALBERTS CJ
PATIENT:JOHAN DE WAARDT
TREATMENT:CONSULTATION
DATE:13-JAN-00
=====
```

```
DOCTOR:ALBERTS CJ
PATIENT:WANDA DE WAARDT
TREATMENT:CONSULTATION
DATE:13-JAN-00
=====
```

```
DOCTOR:ALBERTS CJ
PATIENT:PATRICIA LEWIS
TREATMENT:CONSULTATION
DATE:13-JAN-00
=====
```

PL/SQL procedure successfully completed.

QUESTION 8

[25]

Details about medical funds are requested outside of South Africa. For precautionary measures, the management has decided that the phone number in the report be reformatted adding the country code.

8.1 Create a function named **change_phone** that receives as a parameter a single phone number in the format 012-9999999 and then changes the format of the phone number into (+27) 12 999 9999. **[10]**

8.2 To get the details about local medical funds, you are required to create a procedure called **fund_details_proc** that receives as a parameter a specific medical fund name and then making use of the **change_phone** function, the procedure formats the phone number accordingly and then displays a compiled report as shown in the sample below. To retrieve the data, you are required to use a cursor with parameters inside the procedure. Show how you execute all your PL/SQL blocks. **[15]**

SAMPLE OUTPUT 1:

When a user specifies TOPMED, the output should resemble this one:

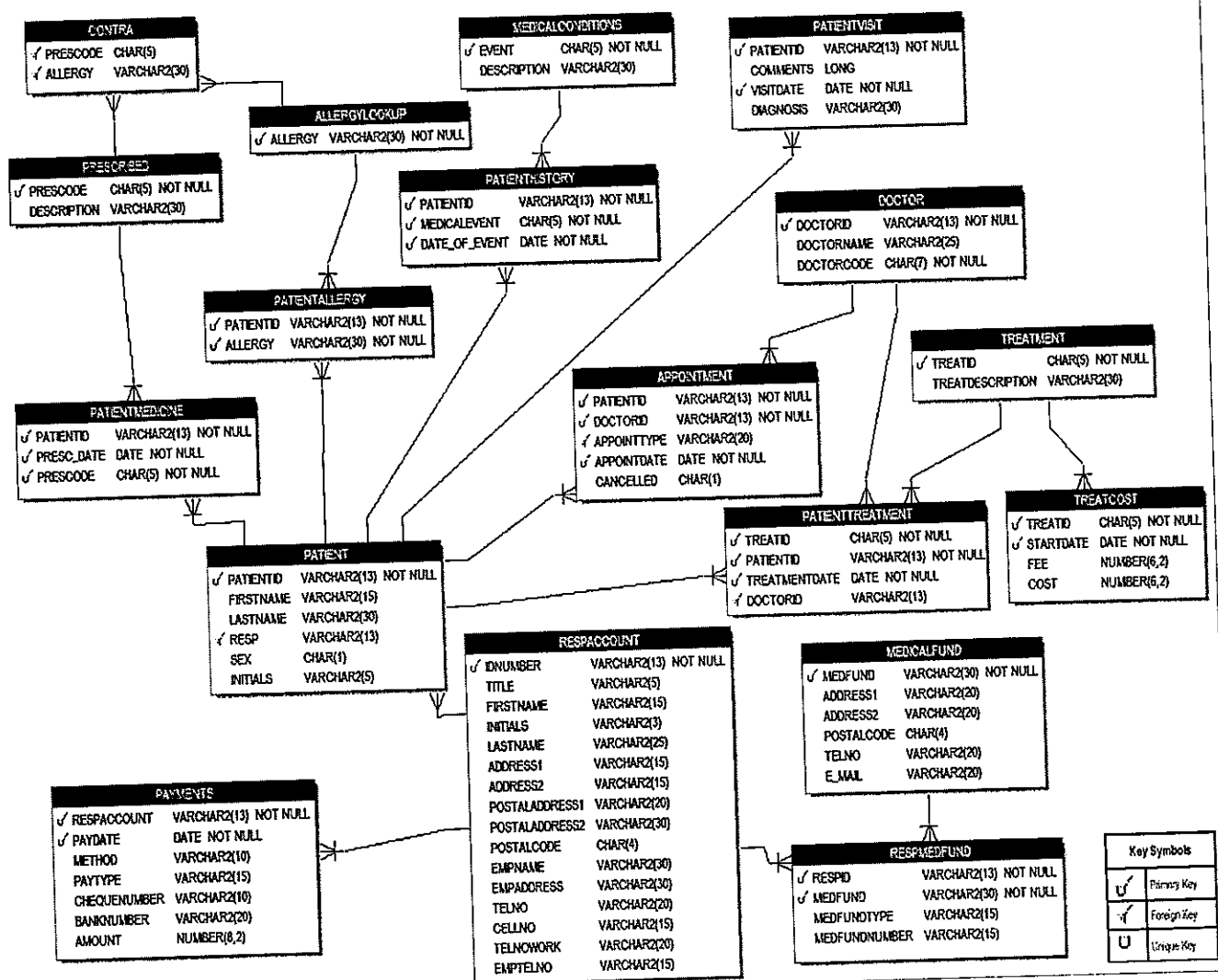
```
MEDICAL AID:TOPMED
POSTAL ADDRESS:P.O.BOX 2467
CITY:PRETORIA
TELEPHONE:(+27) 12 653 4747
EMAIL:topmed@mweb.com
=====
```

SAMPLE OUTPUT 2:

When the medical fund is MOMENTUM DISCOVERY, the output should be as follows:

```
MEDICAL AID:MOMENTUM DISCOVERY
POSTAL ADDRESS:P.O.BOX 5367
CITY:PRETORIA
TELEPHONE:(+27) 12 572 4848
EMAIL:discovery@medweb.com
=====
```


DOCTOR DATABASE



SOFTWARE DATABASE

