Tshwane University of Technology

We empower people

YEAR: 2012
EXAMINATION: November Main

SUBJECT NAME:	DEVELOPMENT SOFTWARE 2B /SOFTWARE SKILLS 2 B
SUBJECT CODE:	DSO23BT/ SFW20BT
QUALIFICATION(S):	NATIONAL DIPLOMA: INFORMATION TECHNOLOGY NATIONAL DIPLOMA: FINANCIAL INFORMATION SYSTEMS

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:

INSTRUCTIONS TO CANDIDATES: Answer all questions

Ensure that your answers are saved in the specified location.
Save regularly.

TOTAL NUMBER OF PAGES INCLUDING COVER PAGE: 6

TOTAL NUMBER OF ANNEXURES: 0

EXAMINER: SM Marebane, TE Madzunye
MODERATOR: GO Leroke

FULL MARKS: 100
TOTAL MARKS: 100

EXAMINATION RULES

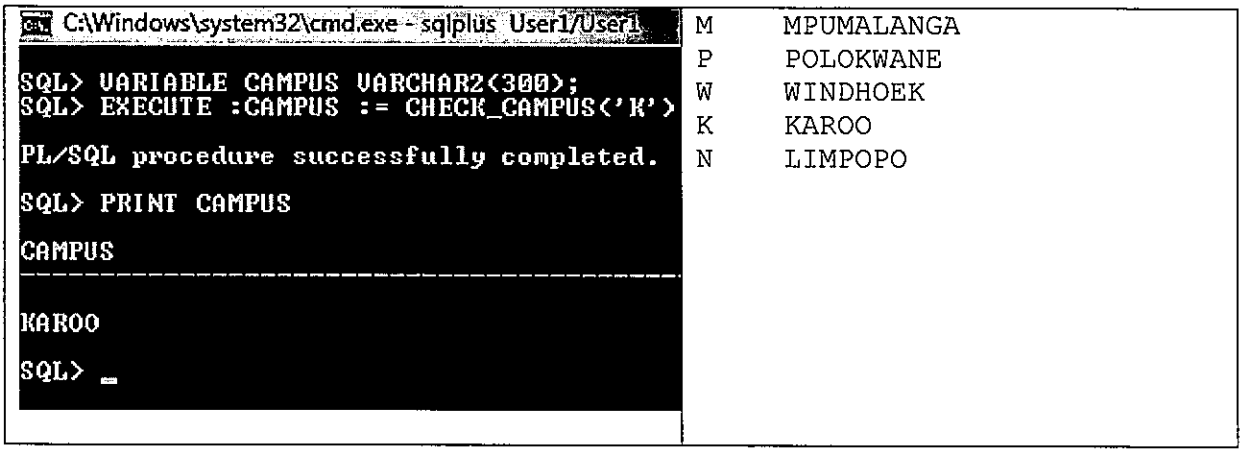
INSTRUCTIONS TO CANDIDATES

1. By writing your name and student number on this script you confirm that you are familiar with the examination rules and regulations of TUT.
2. Write your full first names and surname and student number, which appears on your student card, clearly and correct in the space provided on the test paper. Your student number must also be written in the right hand corner of every loose sheet of paper.
3. During practical tests the following must be written on the label of the disk: Student number, Surname, Initial, Program and Lecturer.
4. When answering Theory tests you must write neatly and clearly and answer in the spaces provided for it. If you answer in a separate book use both sides of the paper. Leave margins entirely free for use of examiner.
5. You need not commence with every new answer on a new page. After completing a question, draw a line across the page and start the new question. It must be clearly numbered. Group the answers to subsections of a question together.
6. During practical tests you are not allowed to have any application open other than the application on which the test is based.
7. While the test is in progress, you may not help or try to help another student, obtain assistance or try to obtain assistance, or communicate or try to communicate with anyone.
8. You may not have in your possession any book, memorandum, note(s), sketch, map, film or any other document (including unused paper) or any other aid with a bearing on the subject, with the exception of whatever is handed out to you in the test hall.
9. No cell phone may be in your possession or be used by you during the test.
10. You may not use any pocket calculator unless it is clearly authorized on test paper.
11. You will render yourself liable to disqualification if you make personal remarks to the examiner or invigilator. The writing or drawing of any offensive matter on the test material supplied to you will disqualify you.
12. No explanation of test questions may be asked or will be given
13. Your answers may be written in English or Afrikaans.
14. All work done must be submitted. If you wish any mark not to be marked, draw a line through it.
15. No pages may be removed or inserted to your script.
16. You must leave the test hall as soon as you submitted your work, but not before at least 30 minutes of the test time has expired. You are not allowed to leave the hall without the permission if the invigilator. After any test, no student is allowed to open the computer to access any other program than the test.
17. All test scripts; disks and aids handed out to you must be returned before you leave the test hall.
18. The invigilator may disqualify any candidate for unfair practices or unsatisfactory conduct.

A student who does not comply with these rules shall be subject to disciplinary steps in terms of the Examination rules and Regulations of TUT.

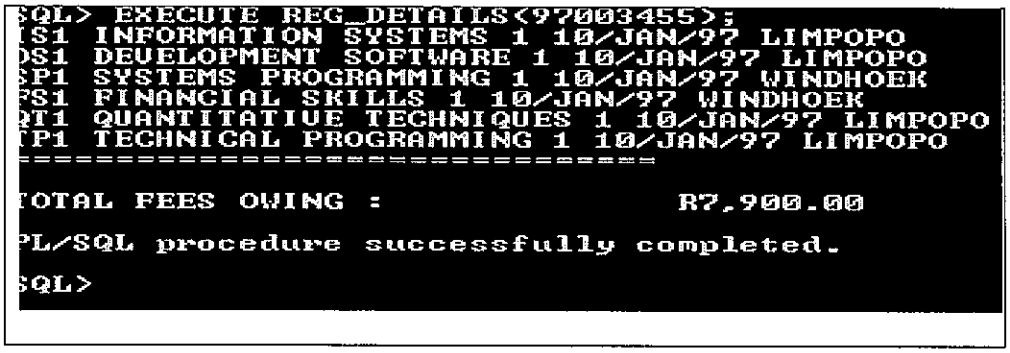
Question 1 **[7]**

Write a function CHECK_CAMPUS that determines campus names using CASE selection as per the output below. If the letter supplied is not the same as those listed below the function must return UNKNOWN.



Question 2 **[16]**

Write a procedure named REG_DETAILS that uses a cursor for loops to print registration details of a student as per the output below. The procedure calls the function in Question 1 to obtain campus names.



Question 3 **[16]**

Create an anonymous block that retrieves the biographical details of a student and prints them as per the output below. This block calls the procedure in question 2 to display the student registration details. Create provision for the below predefined exceptions within the PL/SQL block.

Predefined Exception	Error Message
No data found	Wrong student number
Too many rows	Many registrations for the student
Others errors	Program failed

```
Enter value for stdnr: 97003455
old  10: from S_student where studnr = &stdnr;
new  10: from S_student where studnr = 97003455;
This serves to confirm that Smuts JH Student no: 97003455 born 43 years ago registered for the following subjects:

================================

IS1 INFORMATION SYSTEMS 1 10/JAN/97 LIMPOPO
DS1 DEVELOPMENT SOFTWARE 1 10/JAN/97 LIMPOPO
SP1 SYSTEMS PROGRAMMING 1 10/JAN/97 WINDHOEK
FS1 FINANCIAL SKILLS 1 10/JAN/97 WINDHOEK
QT1 QUANTITATIVE TECHNIQUES 1 10/JAN/97 LIMPOPO
TP1 TECHNICAL PROGRAMMING 1 10/JAN/97 LIMPOPO
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TOTAL FEES OWING :              R7,900.00

PL/SQL procedure successfully completed.
```

Question 4 **[30]**

Write a block to display the total remuneration per employee title and bonuses as per the following output. Use the cursor to keep the values and table of index to parse and display the data. Use relevant properties to test the status of the cursor, if it fails to open raise an application error using CURSOR_REFUSING exception. Also handle other failures that might occur.

```
Managed to open the cursor!!!

Job
1   LIBRARIAN       4   126000      1200
2   LECTURER       12   985600     34224
3   DEAN        2   324000     66000
4   ARTISAN       2   114000      600
5   SPECIALIST        3   480000      204000
6   CLERK       2   54000      3000
7   RECTOR       1   132000      0
8   CLEANER       4   99600      73800
9   DIRECTOR       3   522000      60000
10   ASSISTANT       2   42000      13800
nO DATA

PL/SQL procedure successfully completed.

SQL>
```

QUESTION 5 **(7)**

Write a program to register student 94001111 for 3 subjects in the new term. Create provision for exceptions to catch errors that may result from registering subjects that do not exist. The program should also block the registration of non-existing students.

QUESTION 6 **[8]**

You have been requested to clean the database by removing staff members who have no job titles. Make provision to trap for oracle server error number -2292, an integrity constraint.

```
Record linked to other recocrds, thus cannot be deleted
PL/SQL procedure successfully completed.
SQL> _
```

Question 7 **[16]**

The Institution determines the students' year marks using the system of weighing the continuous assessment marks that the student obtained from series of test written. The system also determines whether the student has 'Passed or failed' and equally prints the symbols. Write a program to Accept two test marks from the user, compute the weighted average (test1 weight is 40%, test2 weight is 60%), determine whether the student has 'Passed' or 'Failed' (a pass mark is 50% and above) and print the symbol based on the following table:

Average marks	Symbol
75 and above	A
70 - 74	B
65 - 69	C
55 - 64	D
40 - 54	E
30 - 39	R
29 and below	F

/// THE END ///

Student Database