Tshwane University of Technology

We empower people

YEAR: 2011

EXAMINATION: MAY MAIN

SUBJECT: DEVELOPMENT SOFTWARE IIB

SUBJECT CODE: DSO23BT

QUALIFICATION(S):

PAPER DESCRIPTION: CLOSED BOOK **DURATION:** 4 HOURS **PAPER:** ONLY

SPECIAL REQUIREMENTS

- [x] NONE
- [ ] NON-PROGRAMMABLE POCKET CALCULATOR
- [ ] SCIENTIFIC CALCULATOR
- [ ] COMPUTER ANSWER SHEET
- [ ] GRAPH PAPER
- [ ] DRAWING INSTRUMENTS

OTHER:

INSTRUCTIONS TO CANDIDATES: ANSWER ALL QUESTIONS

TOTAL NUMBER OF PAGES INCLUDING COVER PAGE: 5

TOTAL NUMBER OF ANNEXURES:

EXAMINER: Mr SK Mogapi **FULL MARKS:** 150

MODERATOR: Mr D Masethe **TOTAL MARKS:** 150

Question 1 [15]

Write a PL/SQL program to display the total remuneration spent on employees per job prompted by the user. The program must display the total number of employees and the total remuneration (salaries and bonuses) per job.

```
Enter the value for Job: LECTURER

The total remuneration spend on 12 LECTURER(s) is R1019824

Enter the value for Job: LIBRARIAN

The total remuneration spend on 4 LIBRARIAN (s) is R127200
```

Question 2 [17]

Create a PL/SQL program that displays the highest, lowest, total and average salaries of all deans. Your output should resemble the one below.

```
The salaries of DEAN(s) are as follows:
**************************************
Maximum: 180000
Minimum: 144000
Total: 324000
Average: 162000

PL/SQL procedure successfully completed.
```

Question 3 [20]

Write PL/SQL statement to display the student number, surname, and initials of a male student that was born in the same year as the student with SMIT. The report must exclude SMIT and an initial that contain letter 'C' in it.

```
The Student BARNARD (97003650) has registered for COST AND MANAGEMENT on
january twenty of 1997
```

Question 4 [6]

Write a PL\SQL block that will compute the factorial of an input positive integer and display the factorial of N. Where N is any positive integer. The output will show the factorial of ten to be 36288000, 5 factorial to be 120, Factorial =Factorial * I, where I is an incremental variable.

Sample output:	Sample Output
5	10
4	9
3	8
2	:
1	1
The factorial is 120	The factorial is 36288000

Question 5 [25]

An application is needed to determine if an employee is rated HIGH, MED, or LOW based on his or her bonus. Create a PL/SQL block that declare a cursor **staff_bonus_cur** that makes use of a basic loop to display according to the order of employee's name all Directors, Deans and Specialists that are earning more than 20 000. The program must exclude any employees that are not earning a bonus. Use **CASE Expression.**

Please refer to the table below for more information and your program

Bonus	RATING
0 - 12000	LOW
12500 - 18000	MED
48000 and above	HIGH

SAMPLE

BUYS(800700) earns a bonus of 18000 and therefore rated MED
ENGELBRECHT(900001) earns a bonus of 48000 and therefore rated HIGH
MASEKO(400300) earns a bonus of 48000 and therefore rated HIGH
NKOSI(900003) earns a bonus of 12000 and therefore rated LOW

Question 6 [9]

It was decided that two (2) Faculties of the Tshwane University of Technology has to relocate from Pretoria campuses to satellite Campuses. The affected faculties are: INFORMATION SCIENCES and NATURAL SCIENCES.

Create a PL/SQL program that allows the user to enter faculty code. The record of that supplied / specified faculty code must be retrieved from the s_faculty table and stored into the **FAC_REC** variable, which must be declared using the %ROWTYPE attribute. Information about the relocating faculty must be added to a table (**S_RELOCATED_FACULTY**) that holds information about relocated faculties. Raise and handle a user-defined exception when the user enters a wrong faculty code.

The s_Relocated_faculty table must contain the following data when you confirm the table's contents. (Use SELECT * FROM S_RELOCATED_FACULTY)

FA	FACR_NAME	FACR_HEAD
--	----------	----------
IS	FACULTY OF INFORMATION SCIENCES	800700
NS	NATURAL SCIENCES	400300

Question 7 [14]

Write a PL\SQL block to create an index-by table that store the details of staff members that has a staff number that lies between the 808080 and 808083;. Make use of two for loops. One loop to retrieve information of subjects, and the other one to display the information below.

ELS	CLEANER	12000
NKOSI	CLEANER	60000
JANSEN	CLEANER	12600
BASSON	CLEANER	15000

Question 8 [30]

Write a PL/SQL cursor named ***STAFF_CURSOR*** to retrieve all employee numbers, names, salaries of all employees who share the same office (office number S34). Use column aliases. Populate a table named ***STAFF_TABLE*** with the type of the cursor created to show all this information. Use a loop to retrieve this information and print them on the screen

Question 9 [14]

The faculty of ICT advised TUT's management to add a levy fee on all subjects that has a word SYSTEMS in each subject. The levy fee is calculated 25% of that subject fee.

Create a procedure (**stud_levy**)that accept one parameter (subject name) and declares a **cursor** named **SUBJECT_LEVY_CUR** and define a **record** based on that cursor with the %ROWTYPE attribute. The cursor must retrieve the Subject code, name, fee, and the 25% of levy fee, name 25% the levy fee as "**LEVY FEE**". Use an explicit cursor to FETCH values INTO a record from the **s_subject** table.

Also write an anonymous block that would call the procedure (**stud_levy**) to produce the following report.

```
Subjects With Levies
**********************************************
INFORMATION SYSTEMS 1[IS1] fee is R1200 and its levy is R300
INFORMATION SYSTEMS 2[IS2] fee is R1430 and its levy is R357.5
INFORMATION SYSTEMS 3[IS3] fee is R1540 and its levy is R385
SYSTEMS PROGRAMMING 1[SP1] fee is R1540 and its levy is R385
MANAGEMENT INFORMATION SYSTEMS 3[MI3] fee is R1995 and its levy is R498.75
PRICIPLES OF INFORMATION SYSTEMS[POI] fee is R1200 and its levy is R300
```