



**Tshwane University
of Technology**

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YEAR: 2014
EXAMINATION: A May Supplementary

SUBJECT NAME:

Development Software IIB/Software Skills IIB

SUBJECT CODE:

DSO23BT/SFW20BT

QUALIFICATION(S):

ND: Business Informatics
ND: Software Engineering
ND: Cost and Management Accounting
ND Technical Programming

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:

INSTRUCTIONS TO CANDIDATES: Answer all questions

TOTAL NUMBER OF PAGES INCLUDING COVER PAGE:

6

TOTAL NUMBER OF ANNEXURES:

0

EXAMINER: Mr. G.O. Leroke

FULL MARKS: 100

MODERATOR: Mr S.K. Mogapi

TOTAL MARKS: 100

Question 1

[11]

1.1 Write a PL/SQL block that will display the number, asterisk '*' resembling the number, the spelled out number and it should indicate if the number is odd or even. Use any type of loop.

```

1*one Odd Number
2**two Even Number
3***three Odd Number
4****four Even Number
5*****five Odd Number
6*****six Even Number
7*****seven Odd Number
8*****eight Even Number
9*****nine Odd Number
10*****ten Even Number

PL/SQL procedure successfully completed.
    
```

Question 2

[12]

2.1 Write a PL/SQL block that prompts user for a shape then must calculate the area o-f the entered shape. Use a case statement to select the correct formula and ensure the use of only bind variables.

Shape	Area Formula
Triangle	Length * width * half
Rectangle	Length * width
Any other shape	INVALID SHAPE

```

Enter value for shape: triangle
old 2:          :g_shape := '&Shape';
new 2:          :g_shape := 'triangle';
Enter value for length: 5
old 3:          :g_length := &length;
new 3:          :g_length := 5;
Enter value for width: 5
old 4:          :g_width := &width;
new 4:          :g_width := 5;

PL/SQL procedure successfully completed.

SQL> PRINT g_message
G_MESSAGE
-----
The area of thetriangle is 12.5cm squared.

SQL>
    
```

Question 3

[27]

3.1 Create a record `wot_record` that has the following fields:

Department name

Employee initials: first and last letters of first name

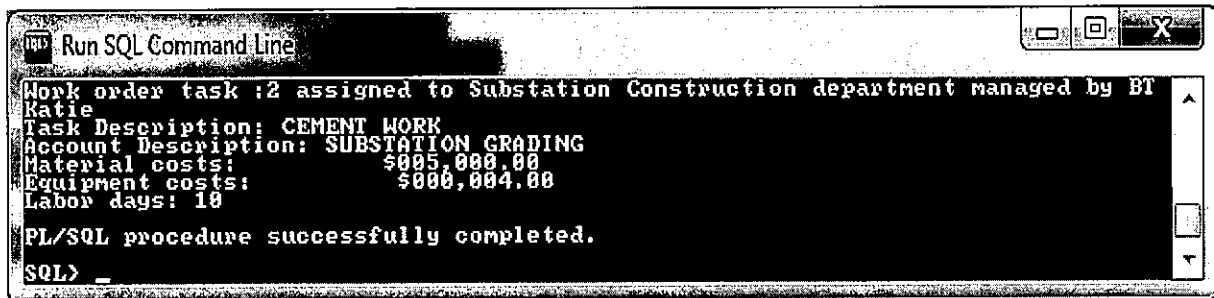
Task description

Material and Equipment costs

Labor days

Initialize work order task id to 2.

Create a user-defined exception that will be raised if a user uses a non-existent work order task id. Format display like below:



```
Run SQL Command Line
Work order task :2 assigned to Substation Construction department managed by BT
Ratie
Task Description: CEMENT WORK
Account Description: SUBSTATION GRADING
Material costs:      $885,000.00
Equipment costs:    $880,004.00
Labor days: 10
PL/SQL procedure successfully completed.
SQL>
```

Question 4

[19]

4.1 Create a cursor called `project cursor`; the cursor must store the project name, work order description, surname and first name, for both employees that approved and were assigned the work orders. Test if cursor is open. Make provision for the following pre-defined errors:

Error	Message
Cursor already open	Cursor already opened
Invalid cursor	Illegal cursor operation occurred
Row type mismatch	Host variable and PL/SQL cursor variable involved in an assignment have incompatible return types

```
Run SQL Command Line
Project: Build 345 kv substation 3467 work order: Sub 3467 - Construct Equipment
Foundations
Approved by:TYSON STELLA
Assigned by:BRVSON LEAH
=====
Project: Build 50 miles of transmission line to substation 3467 work order:
Construct 15 miles of 345 kv transmission line from North Bend to Fremont
Approved by:PALINSKI MATTHEW
Assigned by:PALINSKI JANE
=====
Project: Build feeder circuit 102 work order: Construct electrical backbone for
lots 1 - 50 in the Turtle Creek Subdivision
Approved by:MILCZSKI WILLIAM
Assigned by:GUNIA NICK
=====
Project: Build 345 kv substation 3467 work order: Sub 3467 - Construct Building
Approved by:TYSON STELLA
Assigned by:BRVSON LEAH
=====
Project: Build feeder circuit 207 work order: Construct electrical backbone for
lots 68 - 102 in the Gorzelanski Acres Subdivision
Approved by:MILCZSKI WILLIAM
Assigned by:HAMPSON JOEL
=====
Project: Upgrade transformer for Lozier Foods work order: Replace transformer
3PM8790 with 3PM98034 at Lozier Foods
Approved by:MILCZSKI WILLIAM
Assigned by:GUNIA NICK
=====
Project: Build 345 kv substation 3467 work order: Sub 3467 - Grade Foundation
Approved by:TYSON STELLA
Assigned by:BRVSON ALEX
=====
Project: Build 50 miles of transmission line to substation 3467 work order:
Construct 15 miles of 345 kv transmission line from Fremont to Sub 3467
Approved by:PALINSKI MATTHEW
Assigned by:LAUENDER JESSICA
=====
Project: Build 345 kv substation 3467 work order: Sub 3467 - Install Transformer
and Circuit Breakers
Approved by:TYSON STELLA
Assigned by:BRVSON ALEX
=====
Project: Build 50 miles of transmission line to substation 3467 work order:
Construct 20 miles of 345 kv transmission line from Fremont to Elkhorn
Approved by:PALINSKI MATTHEW
Assigned by:LAUENDER JESSICA
=====
Project: Build 50 miles of transmission line to substation 3467 work order:
Construct 20 miles of 345 kv transmission line from Fremont to Elkhorn
Approved by:PALINSKI MATTHEW
Assigned by:LAUENDER JESSICA
=====
PL/SQL procedure successfully completed.
SQL> _
```

Question 5 [31]

5.1 Create a function that will return the total costs for a work order task which is the sum of the material and equipment cost. (6)

5.2 Create a procedure that will retrieve work order task description, task descriptions, department name and account description. Ensure that the above function is called and its results are displayed. Make provision for the following errors: (17)

Error	Message
No data found	Work order task id does not exist
To many rows	Duplication of Work order task id
Others	Invalid Input

5.3 Execute the procedure without using a pl/sql block. (8)

