GUJARAT TECHNOLOGICAL UNIVERSITY
DIPLOMA IN INFORMATION TECHNOLOGY
Semester: 4

Subject Name: SOFTWARE PRACTICES

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1.	**Introduction of PL/SQL** 1.1 **PL/SQL block structure** 1.1.1 Declare 1.1.2 Begin 1.1.3 Exception 1.1.4 End **1.2 Execution of block with oracle engine** **1.3 Character set** 1.3.1 Uppercase alphabets 1.3.2 Lowercase alphabets 1.3.3 Numerals 1.3.4 Special Symbols **1.4 Literals**
2.	**PL/SQL Data Types,Variables,Constants** 2.1 **Default datatypes** 2.1.1 Number 2.1.2 Char 2.1.3 Date 2.1.4 Boolean 2.2 **Variables** 2.2.1 Declaring Variables 2.2.2 Assigning values to variables 2.2.3 Passing as parameters of a subprogram 2.3 **Constants** 2.4 **Subtypes** 2.4.1 Defining Subtypes 2.4.2 Using Subtypes 2.4.3 Using %Type & %RowType
3.	**PL/SQL Control Structure** 3.1 **Conditional Control** If then – else if – else – end if 3.2 **Iterative Control** 3.2.1 Simple Loop Loop …… End Loop 3.2.2 While Loop While<condition> Loop…...End Loop 3.2.3 For Loop

	For variable IN[Reverse] start_end Loop…….End Loop 3.3 **Sequential Control** **Goto Statement** Goto <codeblock name>
4.	**Cursor** 4.1 **What are transactions .** 4.2 **Transactions** 4.2.1 Using Commit 4.2.2 Using Rollback 4.2.3 Savepoint 4.3 **What is Cursor** 4.3.1 Open Command 4.3.2 Fetch Command 4.3.3 Close Command 4.3.4 General Attributes 4.4 **Types of cursor** 4.4.1 Implicit Cursor and its attributes 4.4.2 Explicit Cursor and its attributes
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6.	**Controls used in Visual Basic** 6.1 Data Grid Control 6.2 Data Combo 6.3 Data List
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8.	**Report Generation in Visual Basic** 8.1 Data Report 8.2 Crystal Report.

TUTORIALS

1. Explain the PL/SQL Block structure with each section in detail.

Declare
Begin
Exception

End

2. Which are the basic data types in PL/SQL.Describe each with their usage in detail with block code.

3. Describe conditional (If….End_If), Iterative (Simple, While, For loop) and Sequential control (Goto) in brief with an example.(For each Section, Declare, begin, end should be specified precisely)

4. What is cursor? Explain its usage. Explain different types of cursors with their attributes.

5. What are procedures and functions? Explain its functionality with an example.

6. Give a detailed overview of database trigger.

7. Explain Data Grid Control with its properties, events and methods in detail

8. Explain Data Combo, Data List Control with its properties, events and methods in detail

9. Explain ADO Controls for Bound connectivity

10. Explain ADO unbound Controls with its properties, events and methods in detail.

11. Describe Data Environment & Data Report in Visual Basic in detail.

12. Give a detailed overview of Crystal Report.

PRACTICALS

1.(**Using if….end if)**

Create a table stud_muster (st_id, st_name, report_date,contact,sem,status) and write a PL/SQL block to update the status of stud_muster by checking the difference of current date and report_date,if it happens to be greater than 5 yrs set the status to “disqualified” else “pursuing” using conditional operator if…end if.

2.(**Using Loop)**

Write a PL/SQL code block to print the records of the students whose id ranges from 015 to 025 using for, while, simple loop. (Use stud_muster table as mentioned above).

3.(**Using Implicit Cursor)**

The bank manager of a branch say "ABC" has decided to activate all those accounts which were previously marked inactivate for not performing transactions in last 365 days. Write a Pl/ SQL block to update the status of accounts. Display an appropriate message for the rows affected.

4**.(Using Explicit Cursor)**

Write a PL/SQL block that will display the customer name, the fixed deposit number and the fixed deposit amount of the first 10 customers holding highest amount in fixed deposits.
(Hint: Declare explicit cursor in the query).

5.(**Using Procedure)**

Write a procedure to check the status of various orders taken by an enterprise XYZ and display the appropriate message using IN parameter.

Using OUT parameter –write a procedure to check the quantities ordered for various orders

6.(**Using Functions)**

Write a function and block code to execute to know the quantity on hand and reorder level .Before ordering of new goods it is needed to check if they exceeded the maximum limit of particular item.
If yes then they should be stored in some other function if no then they should be placed in orders.

7. Design a form which insert & Delete a record of Student Details in Data Grid.

8. Develop a small Database entry form using ADO(Bounded) for Student Profile.
and Perform the Following operation.

- Insert a Record
- Delete a Record
- Update a Record
- Search a Record

9. Develop a small Database entry form using ADO(Unbounded) for employee profile
and Perform the Following operation.

- Insert a Record
- Delete a Record
- Update a Record
- Search a Record

10. Develop a small Database Management System for Student profile using following
Data Awareness Control with ADO.

- Data Grid

- Data Combo
- Data List

11. Develop a small Database entry form using ADO(Unbounded) for employee Profile. Fetch the Record through Function or Store Procedure. Perform the Following operation.

- Insert a Record
- Delete a Record
- Update a Record
- Search a Record

12. Design a different Data Report for Employee/Student Profile.
(Fetch the Record from Database through Stored Procedure or Function)

- Singular Report
- All Employee/Student Report
- Joining Date Wise Report
- Age Wise Report
- Designation/Semester Wise Report

Reference Books:

1. PL/SQL -Ivan Bayross

2. Visual Basic -Black book

3. Mastering VB 6.0 - BPB