PL/SQL MID SEMESTER REVISION QUESTIONS

1) What is PL SQL ?
2) Differentiate between % ROWTYPE and TYPE RECORD.
3) Explain uses of cursor.
4) Show code of a cursor for loop.
5) Define Implicit and Explicit Cursors.
6) When is a declare statement required?
7) If a cursor is open, how can we find in a PL SQL Block?
8) Show the cursor attributes of PL/SQL.
9) What are the uses of SYSDATE and USER keywords?
10) What does fetching a cursor do?
11) What does closing a cursor do?
12) Differ between Anonymous blocks and sub-programs
13) What is the difference between DDL and DML in SQL?
14) What are SQL statement used in DDL?
15) What are SQL statement used in DML?
16) What is an identifier in PL/SQL and give two examples of identifiers.
17) List and explain PL/SQL blocks
18) What are the advantages of PL/SQL over SQL?
19) Write a PL/SQL program that will check the position of the employee when the taken employee ID as input is entered by a user as follows:

    When the Salary >=17,000 : Manager

    When Salary <=10,000 : Officer

    When Salary between 10,000 and 17,000: Supervisor

Note: The output should look like this for employee ID: 100:

Employee ID	*Employee Names*	*Position*
100	*Steven King*	*Manager*

a. What would be the output of the same program if the salary of employees working in the purchasing department is increased by 5%. This should be shown in program.

20) Write a PL/SQL block that check how many employees are in a department. If there is more than 20 employees in a department, the program will display a message saying that the department is full with the name of the department. If not, the program should display a message saying that there is a need to recruit, the name of those department and number of employee in a department should be displayed.

Note: Tables to be used are "Employees and department", and use the Cursor.

The output should look like this:

Department Name	*Number of employees*	*Observation*
Sales	*10*	*There is a need to recruit*
IT	*30*	*The department is full*

21) Type and run the following program then update it accordingly make sure that the output does not change:

```
DECLARE
L_name varchar2(30);
Old_Salary number;
New_salary number;

BEGIN
SELECT salary INTO old_salary FROM employees WHERE employee_id = 100;
UPDATE employees SET salary = salary * 1.1 WHERE employee_id = 100;
select last_name, salary INTO L_name, New_salary from employees where employee_id=100;
DBMS_OUTPUT.PUT_LINE ('Salary of ' || L_name || ' raised from ' ||old_salary || ' to ' ||
New_salary);
END;
/
```

- Update accordingly the above program by using a **record typ**
- Update the same program and use **%type**;
- Update the same program and use **%rowtype**;
- Update the same program to display information of all employees, use a cursor

22) Write a PL/SQL block

- That includes declarations for the following variables:
  A VARCHAR2 datatype that can contain the string '**Introduction to Oracle PL/SQL**'
  A NUMBER that can be assigned 987654.55, but not 987654.567 or 9876543.55

- In the body of the PL/SQL block, put a DBMS_OUTPUT.PUT_LINE message for each of the variables that received a value.
- In a comment at the bottom of the PL/SQL block, state the value of your NUMBER datatype.
- In the body of the PL/SQL block, write a selection test (IF) that does the following :
  Checks whether the VARCHAR2 you created contains the course named '**Introduction to Oracle PL/SQL**'.
  If it does, put a DBMS_OUTPUT.PUT_LINE message on the screen that says so.
  If it does not, put a DBMS_OUTPUT.PUT_LINE message on the screen that states that the course could not be determined.

23) Write a query in SQL to display the full name (first and last) name, and salary, for all employees whose salary is out of the range 7000 and 15000 and make the result set in ascending order by the full name.

24) Write a query in SQL to display the full name (first and last name), and salary of those employees who working in any department located in London.

25) Write a query in SQL to display the first and last name, salary, and department ID for those employees who earn more than the minimum salary of a department which ID is 40.

26) Write PL/SQL that will display employee's names, department name and city of the employee whose employee ID is 104.

27) Update the above program using record type and the output of the program should not change.

28) Update the above program using %rowtype and the output of the program should not change.

29) Write a PL/SQL block which takes as input an employee's number and returns the employee's address. The program should have an SQL statement within to select the employee's name and location for a particular employee. This program must prompt the user to enter employee number.

```
CREATE TABLE  "EMPINFO"
( "FIRST" VARCHAR2(20),
  "LAST" VARCHAR2(20),
  "ID" NUMBER,
  "AGE" NUMBER(2,0),
  "CITY" VARCHAR2(20),
  "STATE" VARCHAR2(20),
  "PHONENUMBER" VARCHAR2(10),
```

```
       PRIMARY KEY ("ID") ENABLE
   )
/

CREATE TABLE  "COURSES"
   ( "COURSE_ID" NUMBER(*,0) NOT NULL ENABLE,
     "COURSE_NAME" VARCHAR2(30),
      PRIMARY KEY ("COURSE_ID") ENABLE
   )
/
```

1. Which SQL statement allows you to add a column "Course" on the above table?
2. Which SQL statement allows you to change data type and size of phonenumber to be able to capture such number: +250738867842

3. Which SQL statement allows you to delete column "Course"?
4. Change the above tables to create a relation between **empinfo** and **course**.

30) Below table empinfo with record;

FIRST	LAST	ID	AGE	CITY	STATE	PHONENUMBER
Eric	Edwards	88232	32	San Diego	California	-

1. Write a PL/SQL program to insert the above record using variables.
2. Update the same program to display the inserted record using %type.

31)

a. Write a PL/SQL program that display information of the employee having employee ID: 108 using record datatype.

b. Modify the above program to display the above employee name and department name using %rowtype.