Seat No. : _____

AI2-117

April-2016

M.Sc., Sem.-II

Database Management System Using SQL and PL/SQL

Time : 3 Hours] **[Max. Marks : 100**

1. (A) Answer the following : **(10)**

(1) Explain with examples what do you mean by DDL, DML, DCL and DQL statements.

(2) What is the difference between primary key and unique key ? Explain the characteristics of unique key with its syntax and a proper example.

(B) Create Customer table having following fields and implement the following constraints : **(10)**

Table name : Customer

Fields : cust_id (primary key and must start with 'c'), cust_name (should be in upper case only) , occupation , birth_date , acc_type (either savings or current).

Write queries for the following operations : (any **three**)

(1) Display columns of a table by eliminating duplicate rows.

(2) Sorting data in a table in descending order.

(3) Adding a new column to a table.

(4) Inserting records into a table.

(5) Destroying a table.

2. Answer the following :

(A) Consider the following tables and write queries : **(15)**

Employee (Emp_id, First_name, last_name, email, ph_no, jdate, job_id, salary, comm, manager_id, dept_id)

Job (job_id, title, min_sal, max_sal)

Department (dept_id, dept_name, manager_id, location)

Manager (manager_id, manager_name)

Customer (cust_id, cust_name, city, state, occupation)

ltem_ordered (order_id, cust_id, order_date, item, quantity, item_price)

(1) Find the names (first_name, last_name), salary of the employees who earn the same salary as the minimum salary for all departments.

(2) Write a query to find the names (first_name, last_name) and salaries of the employees who have higher salary than the employee whose last_name = 'Ravi'

(3) Find the names (first_name, last_name) of the employees who works for a department based in United States.

(4) Write a query using a join to determine which items were ordered by each of the customers in the customers table. Select the cust_id, cust_name, order_date, item, and price for everything each customer purchased in the item_ordered table.

(5) How many orders did each customer make ? Use the items_ordered table. Select the customer id, number of orders they made, and the sum of their orders, if they purchased more than 1 item.

(B) Write one example for following functions : (any **five**) **(5)**

(1) MOD()

(2) SQRT()

(3) INITCAP()

(4) SUBSTR()

(5) NEXT_DAY()

(6) TRIM()

3. Answer the following : **(4 × 5 = 20)**

(1) Explain the advantages of PL/SQL over SQL.

(2) Explain the PL/SQL execution environment.

(3) Write a PL/SQL block that will accept acc_no and min_balance from user. Check if user's account balance is less than min_balance, then deduct ₹ 100 from his balance.

Table name : Account (acc_no, acc_type, open_date, balance)

(4) Write a PL/SQL block for inverting a number. Take number from the user. (eg : 5639 to 9365)

4. Answer the following :

(A) What is a cursor ? Write a short note on steps involved in using an explicit cursor along with their syntax. **(10)**

(B) Write the following blocks : (any **two**) **(2 × 5 = 10)**

(1) Write a function which accepts emp_id as parameter and function will return salary.

(2) Write a PL/SQL block to print empno, ename and joining date of the employees working in given deptno.

(3) Write a procedure which accepts salary and returns number of employees equal to the given salary in same variable.

5. Answer the following : (any **4**) **(4 × 5 = 20)**

(1) Write a PL/SQL block which displays the records of the employee based on emp_id. If emp_id does not exists then display appropriate message.

(2) Create a trigger restriction the user for any updation or deletion on employee for Saturday and Sunday.

(3) Explain Oracle's Named Exception Handlers.

(4) Explain the types of triggers.

(5) Explain the logical structure of the database.

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