Re-Cap Exercises on PL/SQL

Q1:

Consider the following relations with underlined primary keys.
Product(P_code, Description, Stocking_date, QtyOnHand, MinQty, Price, Discount, V_code)
Vendor(V_code, Name, Address, Phone)
Here a vendor can supply more than one product but a product is supplied by only one vendor. Write SQL queries for the following :

(i) List the names of all the vendors who supply more than one product.

(ii) List the details of the products whose prices exceed the average product price.

(iii) List the Name, Address and Phone of the vendors who are currently not supplying any product.

Q2:

Consider the following database with primary keys underlined

Project(P_No, P_Name, P_Incharge)

Employee(E_No, E_Name)

Assigned_To(P_No, E_No)

Write the relational algebra for the following :

(i) List details of the employees working on all the projects.

(ii) List E_No of employees who do not work on project number DB2003.

Q3:

Construct an ER diagram for a hospital with a set of patients and a set of medical doctors. Associate with each patient a log of the various tests and examinations conducted. **(6)**

Q4:

Given the following relations :

vehicle (reg_no, make, colour)
Person (eno, name, address)
Owner (eno, reg_no)

Write expressions in relational algebra to answer the following queries :

(i) List the names of persons who do not own any car.

(ii) List the names of persons who own only Maruti Cars.

Q5:

Consider the following relations
Physician (rgno, phyname, addr, phno)
Patient (ptname, ptaddr)
Visits(rgno, ptname, dateofvisit, fees-charged)
Answer the following in SQL :

(i) Define the tables. Identify the keys and foreign keys.

(ii) Create an assertion that the total fees charged for a patient can not be more than Rs.1000/- assuming that patients can visit the same doctor more than once.

(iii) Create a view Patient_visits(name, times) where name is the name of the patient and times is the number of visits of a patient.

(iv) Display the ptname, ptaddr of the patient(s) who have visited more than one physician in the month of May 2000 in ascending order of ptname.

Q6:

Consider the following relation
Professor (Pfcode, dept, head, time)
It is assumed that

(i) A professor can work in more than one dept.

(ii) The time he spends in each dept is given.

(iii) Each dept has only one head

Draw the dependency diagram for the above relation by identifying the dependencies.

Q7:

Normalize the relation given Q.6. Justify each step.

Q8:

Consider the following relations with key underlined
Customer (C#, Cname, Address)
Item (I#, Iname, Price, Weight)
Order (O#, C#, I#, Quantity)
Write SQL queries for the following:

a. List the names of customers who have ordered items weighing more than 1000 and only those.
b. List the names of customers who have ordered atleast one item priced over Rs.500.
c. Create a view called "orders" that has the total cost of every order.

Q9:

Consider the following relations

Employee (E#, Ename, salary, Bdate, D#)

Department (D#, Dname, mgremp#, Location)

Dependent (E#, DependentName)

Write SQL Queries for the below:

(i) List the names of mangers who have at least one dependent.

(ii) List the names of employees working for 'research' department

(iii) List all the employees who earn more than the average salary of all employees

(iv) Increase the salary of managers by 10%.

(v) List the names of all employees working in Delhi.

(vi) Change the location of all departments to "Mumbai" which have location as "Bombay"

Q10:

Map the following ER diagram to a relational database. Give the relation names and attributes in them. Also mention the primary key and foreign keys if any for each table.