# Assessment 1 on PostgreSQL Database   -45 Marks -24th Feb 2023

I.   **Consider the standard Emp and Dept tables to write the following queries.**

1.  Write the commands to apply foreign key on MGR column referring empno on the same table. And add On Delete cascade option.                                    **4Marks**
    a. Write this with Create table Column Level
    b. Write this with Alter table Table Level

2.  Write a query to list all the employees who are earning more than at least any one employee in 20th Department. Exclude the employees who are working as CLERKs.          **3M**

3.  Write a query to list the departments that are having their average salary more than 30th dept avg salary. Exclude the departments that are having less than 2 employees.   **4M**

4.  Write a select statement to list all the duplicated records.                                    **3M**

5.  Write a query to list the departments that are having at least 2 clerks with a minimum of 10,000 salary. Exclude clerks who have joined in 2020.                 **3M**

II.  Write a query to list all accounts with these fields of information (accno, op_date, currentbalance, last trans date, last trans amount). Use the standard Accounts and Transaction tables given below. Don't assume your own columns to write the query.   **4 M**

    Table : Accounts table (accno,name,op_date,currentbalance)
    Table : Transactions table (accno,tr_date,tr_type,amount)

III.  **Consider the below product tables**

Table : HSNCodes (hsncode ,gst) : This table stores hsn code wise **GST percentage.**
Table : Products (prod_id,name,description,hsncode,category) : This table stores all products info.
Table : ProductStock (prod_id,batchno,qty,unitprice,expdate) : This table stores the product stock.
Table : LocationWiseShippingCharges (state, charge) : This table stores state wise shipping charges. Irrespective of no of products ordered, shipping charges are considered as fixed).
Table : Orders (order_id,order_date,customer_name,state,total) : This table stores all the Orders made by customer.
Table : OrderProducts (order_id,prod_id,batchno,qty,gst)  : This table stores all the products ordered as part of an order. This is a child table of Orders.

1.  Write a query to list the products (prod_id, name, batchno, qty, unitprice, expdate,gsttax). Exclude the products that are expired already. And also exclude the products that are having gst more than 25%                                    **4 Marks**

2.  Write a query to list the orders (order_id, customer_name, order_date, total) that are having at least 5 products in their order.                                **4 Marks**

3.  Write a query to list the products (prod_id, name, gst, average gst percentage value of all products). Exclude the product categories of 'Electronics' and 'Mobile'.    **4 Marks**

4.  Write a query to list the Orders (order_id,order_date, customer_name, total, highest order total on that day)      4 M

IV.      **Answer all the following Questions.**

1.  Explain the importance of Atomicity of a transaction with a real time example. Explain the concept behind commit and rollback of transaction with DML statements like insert, update & Delete.  **4 Marks**

2.  Explain the isolation level with flow of steps and syntaxes.                **4 Marks**