7. Exam Paper.

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1. **Write a SQL query which will sort out the customer and their grade who made an order. Every customer must have a grade and be served by at least one seller, who belongs to a region.**

**ANS 1 .** Select Customer.cust\_name as Customer , Customer.grade as Grades

from Orders , Salesman , Customer

where Orders.customer\_id = Customer.custemor\_id

and Orders.salesman\_id = Salesman.salesman\_id

and salesman.city IS NOT NULL and Customer.grade IS NOT NULL ;

**2. Write a query for extracting the data from the order table for the salesman who earned the maximum commission**.

**ANS 2 .** SELECT ord\_no, purch\_amt, ord\_date, salesman\_id FROM Orders

WHERE salesman\_id IN(SELECT salesman\_id FROM Salesman

WHERE commision = (SELECT MAX(commision) FROM salesman));

**3.From orders retrieve only ord\_no, purch\_amt, ord\_date, ord\_date, salesman\_id where salesman’s city is Nagpur(Note salesman\_id of orderstable must be other than the list within the IN operator.)**

**ANS 3.**SELECT ord\_no, purch\_amt, ord\_date, ord\_date FROM exam.orders a

right outer join salesman b on a.salesman\_id = b.salesman\_id where city='Nagpur' ;

**4. Write a query to create a report with the order date in such a way that the latest order date will come last along with the total purchase amount and the total commission for that date is (15 % for all sellers).**

**ANS 4 .** Select ord\_date Order\_Date , SUM(purch\_amt) Purchase\_Amount, round((SUM(purch\_amt)\*0.15),2) As Commission\_Amount\_15

from Orders GROUP BY ord\_date ORDER BY ord\_date;

**5. Retrieve ord\_no, purch\_amt, ord\_date, ord\_date, salesman\_id from Orders table and display only those sellers whose purch\_amt is greater than average purch\_amt**.

**ANS 5 .** Select ord\_no , purch\_amt , ord\_date , salesmen\_id from Orders where purch\_amt > AVG(purch\_amt) ;

**6. Write a query to determine the Nth (Say N=5) highest purch\_amt from Orders table.**

**ANS 6 .** Select purch\_amt from Orders ORDER BY purch\_amt DESC LIMIT N-1, 1 ;

**7. What are Entities and Relationships?**

**ANS 7 .**

Entity – Entity can be real-world object. It is a collection of related attributes or properties.

Example: Employee, Department, etc

Relations - Cardinality defines the number of entities in one entity set, which can be associated with the number of entities of other set called relations.

Relationships are defined on the basis of matching key columns. In SQL server, these relationships are defined using Primary Key-Foreign Key constraints. Rhombus/Diamond represents relationship.

**8. Print customer\_id, account\_number and balance\_amount, condition that if balance\_amount is nil then assign transaction\_amount for account\_type = "Credit Card"**

**ANS 8 .**

Select custemor\_id , a.Account\_Number

Case when ifnull(balance\_amount,0) = 0 then Transaction\_amount else balance\_amount end as balance\_amount

from Bank\_Account\_Details a

inner join

Bank\_Account\_Transaction b

on a.Account\_Number = b.Account\_Number

and Account\_type = "Credit Card”;

**9. Print customer\_id, account\_number, balance\_amount, conPrint account\_number, balance\_amount, transaction\_amount from Bank\_Account\_Details and bank\_account\_transaction for all the transactions occurred during march, 2020 and april, 2020.**

**ANS 9 .**

Select a.Account\_Number, Balance\_amount, Transaction\_amount,Transaction\_Date

from Bank\_Account\_Details a

inner join

Bank\_Account\_Transaction b

on a.Account\_Number = b.Account\_Number

And ( Transaction\_Date between "2020-03-01" and "2020-04-30");

**10. Print all of the customer id, account number, balance\_amount, transaction\_amount from bank\_cutomer, bank\_account\_details and bank\_account\_transactions tables where excluding all of their transactions in march, 2020 month .**

**ANS 10.**

Select a.custemor\_id,

a.Account\_Number, Balance\_amount, Transaction\_amount, Transaction\_Date

from Bank\_Account\_Details a

Left join Bank\_Account\_Transaction b

on a.Account\_Number = b.Account\_Number

And NOT ( date\_format(Transaction\_Date , '%Y-%m') = "2020-03" );