ITE302-Database Management Systems
Task-1

1. Create the following table

(i) Customer

Column name	Datatype	Size
Cus_no	Varchar2	6
Name	Varchar2	20
Address1	Varchar2	30
City	Varchar2	15
State	Varchar2	15
Pincode	Number	6
Bal_due	Number	10,2

Cus_no	Name	Address1	City	State	Pincode	Bal_due
0001	Ivan	12,first street	Vellore	Tamil Nadu	632009	15000
0002	Vandana	34, Second cross street	Bombay	Maharashtra	400057	0
0003	Basu	78,Third street	Bombay	Maharashtra	400058	5000
0004	Ravi	45,fourth street	Delhi		100001	10000

(ii) Product

Column name	Datatype	Size
Prod_no	Varchar2	6
Desc	Varchar2	20
Unit_price	Number	4
Qty_on_hand	Number	4
Category	Varchar2	10

(iii) Cust_prod

Column name	Datatype	Size
Cust-no	Varchar2	**6**
Prod_no	Varchar2	**6**
No_of_items_purchased	Number	**3**
Total_price	Number	15,4
Discount	Number	**4**
Netamount	Number	10,4

TASK- 2

Perform the following queries
(use update and delete command, aggregate functions like min( ), max( ), avg( ), count( ) and sum( )

1. Find out the names of all customers
2. Retrieve the list of names and cities of all customers
3. List the various products available in Product table.

4. List all the customers who are located in ‘Chennai’.
5. Display the details of Customer number 1001
6. Find the details of the products with description “XXX” and “YYY”
7. Find all the products whose unit price is greater than 2000.
8. Find the list of customers who stay in ‘Chennai’ or ‘Bangalore’ or ‘Hyderabad’.
9. Find the product whose unit price is greater than 1000 and less than or equal to 5000.
10. Increase the unit price of product number ‘1001’ by Rs.100.
11. Delete the customer number 1005 from the customer table.
12. Change the Address1 of customer number 1001 to new address.
13. Find out the customers who stay in ‘Chennai‘and whose name starts with ‘S’
14. Find out the details of customers whose name contains ‘a’ as the second letter.
15. List the customer name in the sorted order.
16. Count the total number of products
17. Calculate the average price of the products
18. List the product which has minimum price
19. List the product that has maximum price
20. Count the number of products having the unit price greater than 2000.

TASK- 3
(Table Constraints)

Create the following tables

(i) Salesman table

Column name	Datatype	Size	Attributes
Salesman_no	Varchar2	6	Primary key/ first letter must start with ‘s’
Salesman_name	Varchar2	20	Not null
Address	Varchar2		Not null
City	Varchar2	20	
State	Varchar2	20	
Pincode	Number	6	
Sal_amt	Number	8,2	Not null, cannot be 0

(ii) Order table

Column name	Datatype	Size	Attributes
Order_no	Varchar2	6	Primary/first letter must be 0
Order_date	Date	6	
Client no	Varchar2	25	Foreign key references customer_no in customer table
Salesman_no	Varchar2	6	Foreign key references salesman_no of salesman_master table
Del_type	Char	1	Delivery part(p)/full(f)
Del_date	Date		Cannot be less than order_date
Order_status	Varchar2	10	Values(‘Inprocess’;’fulfilled’;’backorder’;’canceled’

3. Sales_order_details

Column name	Datatype	Size	Attributes
S_order_no	Varchar2	6	Primary key/foreign key references order_no of order table
Product_no	Varchar2	6	Primary key/foreign key references product_no of product_master table
Qty_order	Number	8	
Qty_disp	Number	8	
Product_rate	Number	10,2	

Insert the data for salesman table

Salesman_no	Salesman_name	Address	City	State	Pincode	Sal_amt
500001	Kiran	A/14 worli	Bombay	Mah	400002	3000
500002	Manish	65,nariman	Bombay	Mah	400001	3000
500003	Ravi	P-7 Bandra	Chennai	TN	632002	5000
500004	Ashish	A/5 Juhu	Bombay	Mah	400044	7000

Order table

Order_no	Order_date	Client_no	Salesman_no	Del_type	Del_date	Order_status
019001	12-jan-96	0001	50001	F	20-jan-96	Ip
019002	25-jan-96	0002	50002	P	27-jan-96	C
016865	18-feb-96	0003	50003	F	20-feb-96	F
019003	03-apr-96	0001	50001	F	07-apr-96	F

Sales_order_details

S-orderno	Product_no	Qty_order	Qty_disp	Product_rate
019001	P00001	4	4	525

019001	**P07885**	**2**	**1**	**5250**
019002	**P00001**	**10**	**0**	**525**
046865	**P07868**	**3**	**3**	**3150**
046865	**P07885**	**10**	**10**	**5250**
019003	**P00001**	**4**	**4**	**1050**

TASK - 4

(Use SQL*Plus functions such as date, numeric, character, group and conversion functions)

1. How many days are taken to deliver the product from ordered date?
2. Display one month later than the order date.
3. Print the month of delivery date of all the products
4. Display the customer name in upper case.
5. Print the product description with right padded symbols
6. Print the first three characters of customer names.
7. Print the length of longest customer name.
8. Print the delivery date in the format 22nd January 2016
9. Replace the 'e' character present in the customer name with 'a'
10. Display the next occurrence of 'Sunday' to the ordered date.
11. Display the first character of the customer name to capital letter
12. Print the string from the second position to sixth position of the customer name.
13. Display the current date.
14. Find the total sales of all the products.
15. Count the number of distinct product sold.

Task -5
(Note: Use Group by, having and SET operations. Refer the tables in Task-1 and Task-3)

(i) Display the number of products in each order
(ii) Display the order number with number of products more than 2
(iii) List the Salesman number who had sold maximum products
(iv) List the minimum, maximum, average and total price of product purchased by each customer (use cust_prod table).
(v) List the total price of each customer whose product purchased is more than 5.
(vi) Display the salesman number who have an order and whose name starts with 'A'
(vii) Display the product number which are not purchased by any customer
(viii) Print the description and total quantity sold for each product
(ix) Find the total value of each product sold.
(x) Display the product number and number of products ordered for each product.

TASK- 6
(Note: Use JOIN using the tables in Task-1 and Task-3)

1. Find out the product which has been sold to particular customer
2. Find out the product and their quantities that have to be delivered.
3. Find out the product number and description of ordered products
4. Find out the names of clients who have purchased "CD DRIVE"
5. List the product number and sales order number of customers having quantity ordered less than 5 from the order details table for the product "1.44 floppy"
6. Find the products and their quantities for the orders placed by particular sales man.
7. Find the products and their quantities for the orders placed by client number "C00001" and "C00002".
8. Find the order number, client number and salesman number where a client has been received by more than one salesman
9. Display the product names for the order number 019001.
10. Display the customer name with their purchased product names.

TASK- 7

1. Find the product_no and description of non-moving products
2. Find the customer name, address, city and pincode for the client who has placed order number “XXX”.
3. Find the clients who have placed order before the month of May 2016
4. Find out if product “CD Drive” is ordered by only client and print the client number, name to whom it was sold.
5. Find the names of client who have placed orders worth Rs. 10000 or more.
6. Select the orders placed by “Rahul”.
7. Select all the clients and the salesman in the city of “Bombay”.
8. Select salesman name in “Bombay” who has atleast one client located at “Chennai”
9. Select the product number, description, qty_on_hand, cost_price of non-moving items in the product_master table.
10. Display the details of salesman who does not have any sales order.

TASK-8

1. Write a PLSQL program to find the largest of three numbers.
2. Write a PLSQL program to find the factorial of a given number.
3. Write a PLSQL program to change the price of product ‘P00001’ to 4000 if the price is less than 4000 in the product_master table. Update the price in the other tables wherever necessary.
4. Write a program to display the following message using sales_order_details table.
   If Qty_disp is less than Qty_order then print the message “Order Incomplete” , otherwise if Qty_disp is equal to Qty_order then print ”Order completed”

5. Create a table Student(name, mark1,mark2,total,grade). Insert the values for all the attributes and the value of grade to be null. Using explicit Cursor, update the grade for all the students.

6. Add a new column Discount in Sales_order_details table. Create a cursor program to calculate and insert the discount amount in the new column based on the product rate as shown below

Product rate	Discount (%)
<1000	10%
1001-3000	15%
>3000	20%

7. Add a column “No_of_order” in salesman table. Write a procedure to update the column with number of order each salesman have for that particular year.

8. Write a procedure to indicate the stock level using the product table. If number of products is less than 2 then print the status as “Out of stock” or display “Stock Available”.

9. Write a function to return the number of orders in the month of January.

10. Write a function to return the rank of the salesman based on the sales amount using specification given below,

Sales_amt	Rank
>5000	1
<=5000	2