COLLEGE OF ENGINEERING TRIVANDRUM

DEPARTMENT OF COMPUTER APPLICATIONS

RLMCA231 DATABASE LAB

TABLE DESIGN

Consider the following relational database.

1. Client_master

Description : Used to store client information

Client_master (Client_no First letter must start with 'C', Name Not null, Address1, Address2,

City, Pincode, State, Bal_due)

2. Product_master

Description : Used to store product information

Product_master(Product_no First letter must start with 'P', Description Not null, Profit_percent,

Unit_measure, Qty_on_hand, Reorder_lvl, Sell_price, Cost_price)

3. Salesman_master

Description : Used to store salesman working for the company

Salesman_master(Salesman_no First letter must start with 'S' , Salesman_name Not null, Address1

Not null, City, Pincode, State, Sal_amt Not null cannot be zero , Tgt_to_get Not null cannot be zero, Ttd_sales Not null, Remarks)

4. Sales_order

Description : Used to store client's orders

Sales_order(Order_no First letter must start with 'O',Order_date,Client_no Foreign key references

client_no of client_master,Dely_addr,Salesman_no,Dely_type Deliver:part(P)/full(F) Default 'F',

Billed_yn, Dely_date,Order_status Values('in process', 'fulfilled', 'backorder', 'cancelled')

5. Sales_order_details

Description : Used to store client's orders with details of each product ordered

Sales_order_details(Order_no Reference Order_no of the sales_order table, product_no Foreign key references Product_no of the product_master table,Qty_ordered,Qty_number, Product_rate)

TABLE DATA

1. Data for Client_master

Client_no	Name	Address1	Address2	City	Pincode	State	Bal_due
C00001	Ivan bayross	Wandon	Worli	Mumbai	450005	Maharashtra	15000
C00002	Vandana saitwa	Don Street	Bandra	Madras	780001	TamilNadu	0
C00003	pramadajagust	Mandon	Dadar	Mumbai	450007	Maharashtra	5000
C00004	Basu navindgi	Jerome	Juhu	Mumbai	450009	Maharashtra	0
C00005	Ravisreedharan	Dadar	Dadra	Delhi	100003	Delhi	2000
C00006	Rukmini	Rourk	Bandra	Mumbai	450002	Maharashtra	0

2.Data for Product_master

Product_no	Description	Profit_percent	Unit_measure	Qty_on_hand	Reorder_lvl	Sell_price	Cost_price
P00001	1.44 floppies	5	Piece	100	20	525	500
P03453	Monitors	6	Piece	10	3	12000	11280
P45789	Mouse	5	Piece	20	5	1050	1000
P44783	Keyboards	5	Piece	100	20	3150	3050
P45123	Cd drive	2	Piece	10	3	5250	5100
P35412	540 HDD	2.5	Piece	10	3	8400	8000

3.Data for Sales_master

Salesman_no	Salesman_name	Address	City	Pincode	State	Sal_amt	Tgt_to_get	Ttl_sales	Remarks
S00001	Kiran	a/14	Worli	450001	Bombay	3000	100	50	Good
S00002	Maneesh	j-65	Nariman	450001	Bombay	3000	200	100	Good
S00003	Ravi	p-7	Bandra	400003	Bombay	3000	200	100	Good
S00004	Ashish	a/5	Juhu	400041	Bombay	3000	200	150	Good

4. Data for Sales_order

Order_no	Order_date	Client_no	Dely_addr	Salesman_no	Delytype	Billed_yn	Dely_date	Order_status
O19001	12-jan-96	C00001	Wandon	S00001	F	N	20-jan-96	In Process
O19002	25-jan-96	C00002	Don Street	S00002	P	N	27-jan-96	Cancelled
O46865	18-feb-96	C00003	Mandon	S00003	F	Y	20-feb-96	Fulfilled
O19003	03-apr-96	C00001	Jerome	S00001	F	Y	07-apr-96	Fulfilled
O46866	20-may-96	C00004	Dadar	S00002	P	N	22-may-96	Cancelled
O19008	24-may-96	C00005	Rourk	S00004	F	N	26-may-96	In Process

5. Data for Sales_order_details

Order_no	Product_no	Qty_ordered	Qty_disp	Product_rate
O19001	P00001	4	4	525
O19002	P00001	10	0	525
O46865	P00001	10	10	525
O46865	P03453	4	4	1050
O19003	P03453	2	2	1050
O19008	P00001	10	5	525

Cycle I Deadline: 25/09/2019

1. Creation and Alteration of tables

a) Create the following tables: Client_master, Product_master, Salesman_master, Sales_order and

Sales_order_deatils.

b) Rename the Client_master table to clientmaster

c) Add constraint to the Sales_order table to ensure that dely_date should be followed by the order_date.

d) Alter the product_master table to add the constraint that the cost_price must be greater than zero.

e) Alter the product_master table to add the constraint that the cost_price should always has a value.

f) Alter the product_master table to add the constraint that the sell_price must be greater than zero.

Update the state of C00001 to TamilNadu in clientmaster table.

2. Insertion of values into the tables

Insert data into the following tables: Client_master, Product_master, Salesman_master, Sales_order and Sales_order_deatils.

3. Computation of table data

a) Find the names of all salesman having 'A' as second letter in their name.

b) Find all client whose name starts with 'R' and stays in 'Delhi' from client master table.

c) List the name and address of client who stays in 'Delhi' or 'Maharshtra' from client_master table.

d) List the product which cost more than Rs.5000 from product_master table.

e) Print the information of orders placed in the month of 'May' from sales_order table.

f) Display the information of salesman whose salesman numbers are 's00001' and 's00002' from salesman_master.

g) Find out the product whose selling price is greater than 2000 and less than or equal to 5000 from product_master table.

h) Find out the product whose selling price is more than 3000 and calculate a new selling-price as

20% of the original selling-price and display both from the product_master.

i) Count the total number of product from product_master table.

j) Count the total number of orders 'fulfilled' in sales_order table.

k) Calculate the average price of all product from product_master table.

4. Date manipulation

a) Display the order_no and day on which clients placed their orders.

b) Display the month and date which the order must be delivered.

c) Display the order_date in the format 'dd/month/yy'.

d) Find the date,15 days after today's date.

e) Find the no. of days elapsed between order-date and delivery date of the order placed by the clients.

5. Having and Group by clauses

a) Display total cost price of each item.

b) Display the items ordered by each customer.

c) Display the items that are ordered from the same address.

d) Display the name of customers whose ordered price is greater than 200.

6. Subqueries

a) Find customer_name, address1, address2, city,pincode for clients who has placed order_no 'o19001'.

b) Find the client names that have placed orders before the month of 01-may-96

c) Find out if the product '1.44 floppies' has been ordered by any client and print the client_no, name to whom it was sold.

d) Find the product_no and description of non-moving products i.e, products not being sold.

e) Find the names of clients who have placed orders worth Rs. 10000 or more.

7. Views in SQL

a) Create a view of the table client_master (Client_no, Name, City)

b) Updating the view and checking the table data.

Cycle II Deadline: 20/10/2019

Simple PL/SQL programs

8. Write a pl/sql block to display the fibanocci series of a given number.

9. Write a pl/sql block to find the largest of three numbers.

10. Write a pl/sql block to find the sum of n odd numbers.

11. Write a pl/sql block to find the factorial of a number.

12. Write a pl/sql block to reverse a string.

13. Write a pl/sql block to find the reverse of a number.

14. Write a pl/sql block which will accept product_no from user and subtract an amount of 200 from cost_price if the cost_price has a minimum of Rs.3000 after the subtraction the process is to be performed on product_master table.(use exception to handle standard error conditions.)

Cursor

15. List the contents of Product_master table

16. List the contents of the table sales_order for the particular salesman_no.(Use parameterized cursor).

17. List the details of the client in the state of maharashtra.

Cycle III Deadline: 14/11/2019

Procedures and functions

18. Write a procedure to describe the names of all clients having the specified character as the ith letter in the names. From the main program read the values for character and i.

19. Write a function to find sum total of all billed orders for a specific month. The month name is accepted from the main program and the result is also displayed in the main program.

20. Write a procedure to find the maximum and minimum product price. Display this value in the main program.

21. Write a function to count the number of orders and display that value in the main program.

Trigger

22. Create a trigger on Product_master table which allows the updation when profit percent value given now is greater than the earlier value else it should give error message.

23. Create a trigger to control the insertion operation on the Product_master table. Insertion is possible if profit percent of the current entry is greater than the maximum profit percent of the values available else it should give an error message.

Application

24. Develop a sample application using Oracle as back end.