MCA SEM - I

Subject: Database Management Systems (PS01CMCA53)

Last Date of Submission: Before the Internal Exam

Note:

- **List May Be Appended Time to Time**
- **Make separate text file for each question & save the text file with Qn.txt. Where n represent Question number. E.g. Q1.txt contains the answers of all the subquestions a to n.**

Q.1 Client_Master (Client_No, Client_Name, Client_City, Gender, Birth_Date, Pincode)

Create table with Client_No as primary key and insert at least ten records.

a) Retrieve all records of Client_Master table
b) Display only the names of all clients.
c) List all the clients who are located in Mumbai.
d) Find the names of a client whose birthdate = '20-Oct-1980'
e) Find the names of a client whose Gender is Male and City is Anand
f) Display all records in sorted by Client Name;
g) Add a column Mobile_No with data type Number and size is 10 in Client_Master;
h) Change the data size of City_Name column in Client_Master to 50.
i) Change the city is equal to Bombay for client_no = 10.
j) Change the mobile number to 8989989898 of Harsh
k) Delete all the clients whose city belongs to Banglore.
l) Backup the Client_Master table in B_Client_Master.
m) Change the name of Client_Master table to Client_Mst.
n) Destroy the B_Client_Master table with its data.

Q.2 Employee (E_no, E_name, Join_Date, Dept_name, State, City, Post, Basic)

Create table with E_no as primary key and insert at least ten records.

a) Display employee name who's basic is maximum.
b) Display employee name who's basic is minimum.
c) Display total basic of organization.
d) Display today's day, month and year.
e) Display the Sales department employees order by basics.
f) List the various departments in an organization.
g) Increment the basic of purchase department by 10%.

h) Display department wise total number of employee
i) Display postwise number of employee.
j) Display basicwise total number of employee whose basic greater than 10000.
k) Display the statewise number of employee.
l) Display statewise, citywise total number of employee.
m) Display Employee name and Department name in single column.
n) Display today's day, month and year.
o) Display the Sales department employees order by basics.
p) List the various departments in an organization.
q) List the names start with 'S'.
r) List the names whose starting character is 'S' and ending character is 'H'.
s) List the names whose second character is 'H'.
t) Find the names in which character 'A' comes at any position.
u) To find the employees who are not clerk.
v) Increment the basic of purchase department by 10%.
w) Display all employee record with department wise. Within department it should be display by post in alphabetical order.
x) Insert new record in emp table with basic =$10000;
y) Display total number of employees.
z) Add join_dt field in emp table with constraint that it should be greater than 1st Jan 2017.
aa) Add constraint that salary should not be greater than 50000.
bb) Add constraint that post should be only 'CLERK', 'MANAGER' & 'ACCOUNTANT'.
cc) Add constraint that default department name is 'PURCHASE'
dd) Add constraint that name should be unique key.

Q.3 Cust_Master (Custno (Primary key) , cname, state, phone)
Bill_Detail (Bill_no (Primary key) , Cust_No (Foreign Key) , Bill_Amount)
Insert at least five records in both tables.

a) Add a column email to the Cust_Master table.
b) Sort all bill records in ascending order of bill_no field
c) Display all customer names in Upper case.
d) Display all customer names in Lower case.
e) Display total amount of all bills.
f) Display average amount of all bills.
g) Display total numbe of all bills.
h) Display bill_no and cust_no whose bill_amount is highest.
i) Display bill_no and cust_no whose bill_amount is minimum.
j) Display all customer names in with first letter in capital.

PL / SQL

Note:

- **For Q-1 to Q-32** create a file plsql-assignment.txt in network drive (not in Subdirectory) and store the solutions with question number.
- **For Q-33 to Q-44** create a separate file for each question like Q-XX.txt.
- **Decide the table constraints whenever required.**

Write PL/SQL blocks for the following:

1. To find the given no. is ever or odd.
2. To accept two numbers and display its addition, subtraction, multiplication and division.
3. To find minimum & maximum from given three numbers.
4. To accept the day no. & display corresponding day name. **Use Switch Stat.**
   E.g. (1 – Monday , 2 – Tuesday, …… 7 – Sunday)
5. To accept the month no. & display corresponding month name. **Use Switch Stat.**
   E.g. (1 – January, 2 – February …….. 12 –Dec)
6. To find the sum of first N numbers.
7. To find the factorial of a given number.
8. To display the SUM = 1 + 3 + 5 + 7 + 9 + ……...
9. To display the SUM = 1 + 4 + 9 + 16 + 25 + ……...
10. To display multiplication table of given number.
11. To find sum of Even numbers and Odd numbers between entered two numbers.
12. To find out the total number of an odd digits within the given number and print the sum of all odd digits.
13. To find out the number is palindrome or not.
14. To find out the number is Armstrong or not.
15. To convert the given decimal number into binary number.
16. To check whether the given number is an octal number or not.
17. To display the following patterns.

```
*          1          * * * *    4 3 2 1    5 4 3 2      1 *
* *        1 2        * * *      3 2 1      5 4 3        1 * 2 * *
* * *      1 2 3      * *        2 1        5 4          1 * 2 * * 3 * * *
* * * *    1 2 3 4    *          1          5            1 * 2 * * 3 * * * 4 * * * *
```

18. Display the entered string in lower and upper case.
    E.g. **Input:** Suresh **Output:** suresh : SURESH

19. Input First Name, Middle Name & Last Name from user & display Full Name in Upper Case.

20. Accept two strings & find the length of each string and also combine the strings in one string.

21. Count the vowels in entered string.

22. Input two string and compare them.

23. Find the current date year is a leap year or not.

24. Convert input string into encrypted string. **E.g. Input:** HELLO **Output:** IFMMP
Hint: To encrypt the data replace the original alphabet with immediate next alphabet.

25. Display the current date into the following format.
E.g. Current Date: 23-Dec-19 **Output:** Day: 23 Month: December Year: 2019

26. Input a three-digit positive number and find the sum of all digits from the given number.
E.g. if the input number is 345, then the sum will be 12 (i.e. 3 + 4 + 5).

27. Calculate sum = 1 – 4 + 9 – 16 + 25 – 36 - … up to n terms

28. To convert the given decimal number into its equivalent binary number.
Hint: use floor function. E.g. num: = floor (num/2)

29. To convert the given decimal number into its equivalent octal number.

30. To convert the given decimal number into its equivalent hexadecimal number.

31. To convert the given binary number into its equivalent decimal number.

32. To check whether the given number is an octal number or not.

33.

Tables

CLIENT_MASTER [Client_Id (P.K) , C_Name, City_Id (F.K.), Gender, BirthDate, Pincode]
CITY_MASTER [City_Id (P.K.) , City_Name]

Constraints:

ClientNo must be startwith character 'C'.
By default value of gender is "M".
Name field is a unique key.
To insert a new record all field are compulsory except for pin code.

Note: Insert at least five records in both the tables.

1. Write a block to insert new record in client_master.
2. Write a block to delete a record form client_master for given client_id.
3. Write a block to change the pincode to 380013 for Client_Id = 1.
4. Write a block to display client information for given client_id. (Use variables)
5. Write a block to display client information for given client_id. (Use record type variable)
6. Write a block to update the pincode from 380061 to 380014 & Display how many rows are updated. (Use Implicit Cursor)
7. Write a block to display all city names. (Use Cursor & Simple Loop)
8. Write a block to display all client details.(Use Cursor & While Loop)
9. Write a block to display citywise client details.(Use Cursor For Loop)
10. Write a block to display names having birthday today. (Use Cursor & Simple Loop)
11. Write a block to display names having birthday in the given month. (Use Cursor & Simple Loop)

34.

Tables

Employee_Master (Emp_cd (P.K.), Emp_name, Emp_Address, Dept_id (F.K.), Salary)
Department_Master(Dept_cd (P.K.) , Dept_name)

Note: Insert at least five records in both the tables.

Use cursor variable for following query:

Display all employee code, name and salary.
Displays the employee code, name, salary for the employee whose salary >2000 and name start with 'a'.
Display the employee code, name, salary for sales department.
To increment the salary of a purchase department:

35.

Tables

Item_Master (It_code (P.K.) , It_name, It_unit, It_price)
Cust_Master (Cust_code (P.K.) , Cust_name, Cust_add)
Bill_Master (Bill_no (P.K), Bill_date, Cust_code (F.K.))
Bill_Details (Bill_no, It_code, It_qty) [Bill_no & It_code is a composite key.]

Bill Format:

Customer : <code> Bill No : <no>
<name> Bill Date : <date>
<address>

Sr No.	Item Name	Qty	Unit	Price	Amount
1.					
2.					
3.					
			Total Amount :		

1. Display all customer name and address.
2. Display all Item name and Item Price.
3. Display customer name wise bill numbers.
4. Display customer wise total number of bills generated.Display the Bill for given Bill Number.
5. Display Item Name , Item Price ,Item Quantity and total price for particular bill number.
6. Display Item Name and Total quantity sold for each item.
7. Display the Bills for given Customer Name.
8. Display the Bills for given Bill Date.
9. Display the Bills in order of bill number.
10. Display the Bills Customer Name wise.

36.

Patient_Info (Patient_code, Patient_name, Age, Gender)

Que: Prepare following report from given table.

Gender	Patients in Age group					Total
	1-20	21-40	41-60	61-80	81-100	
Male						
Female						
Total						

37.

Empmaster:

Emp_no
Ename
Pf_no
Basic

Holidays:

Month
Year
Weekly_off
Holidays

EmpTran

Emp_no
Month
Year
Presence
Loan amount

Note: 1. HRA is 15% of basic salary
2. DA is 70% of basic salary
2. Medical is 2% of basic salary
3. P.F. is 10% of basic salary
4. Salary is given for (Attendance + Holidays + weekly off) days

I. Display salary slip for given employee no, month and year.
II. Display month wise salary slips for given employee no and year.
III. Display year wise, month wise salary slips for given employee no.
IV. Display salary slips of employees for given month and year.

An organization want to print the pay slips in following formats

Month :		Issue Date:	
Year :	Days in Month:		
Emp No:		P.F. No :	
Name :			
Presence:	Holidays:	Absence:	
Salary Days:			
Earning		Deductions	
Basic	:	P.F.	:
Medical	:	Loan	:
HRA	:	Prof. Tax	: 20Rs.
DA	:		
Total Earning	:	Total Deduc.	:
Total Amount To pay	:Rs. _____		

Write a procedure to display the above report. Procedure takes three arguments Employee Code, Month and Year.

38.

Compitition

- Comp_code
- Comp_name (Dressing , Personality etc.)
- Weightage

Participants

- Par_no
- Par_name
- Age
- Country
- Height
- Weight

Marks

- Par_no
- Comp_code
- Judge_no [1, 2, 3]
- Marks

Que: Display the report for all Participants and at the last display the name of winner.

Miss World 2020:
Participant Name:

Compitition name	Judge1	Judge2	Judge3	Total
Dressing				
Personality				
General Knowledge				
Quick Reply				
			Total Marks:	_____

The winner is: Ms. _____

Note: The winner is the person who is getting the maximum total marks in a competition.

39. **Employee** (Emp_Id , f_name , m_name , l_name, birth_date)

- **Create a package** for the following.
  To display the name in format: 'A. P. Shah'
  To display the name in format: 'Amit P. Shah'
  To display the name in format: 'Amit Parimalbhai Shah'

40. **Employee** (Emp_Id , f_name , m_name , l_name, birth_date)

- Write a procedure to accept birth date from the user & returns the name of an employee. If more than one employee meets the above condition then user defined exception should be raised.

41.

Employee (Emp_Id, Emp_name, Emp_Address, Birth_date, Salary)

- Create a package, which stores Procedures for insert, delete & display operations on above table.
- Create a function which return the names of employee whose birth date is between the two passing date.
- Create a function which returns the name of an employee who having the highest salary.

42.

Customer(cust_cd, cust_name, cust_addr, cust_city)
Newspaper (np_id, np_name, rate)
Subscription (cust_cd, np_id, start_date, end_date)

- Make a procedure, which accept the newspaper id and return the newspaper name and rate of it.
- Create a function to return the No. of customers in city Ahmadabad are reading 'Gujarat Samachar'.
- Write a block for user defined exception that will not allow inserting more than 5 records in Newspaper table.

43. Create a trigger to update the 'product_price_history' table when the price of the product is updated in the 'product' table.

Product
Product_Cd
Product_name
Product_price

Product_Price_History
Product_Cd
Product_name
Product_price
Date

44.

Write a trigger that affect Product_Stock for the insert, update and delete operations on Product_Purchase table

Product_master

Product_Cd
Product_name
Product_price

Product_Purchase

Product_Cd
Month
Year
Day
Purchase_qty

Product_stock

Product_cd
Month
Year
Product_stock