2022

M.Sc.

2nd Semester Examination

COMPUTER SCIENCE

PAPER—COS–295

DBMS LAB

Full Marks : 50

Time : 3 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Group – A

Answer any *two* questions.   2×20

1. Relational schema :

   Emp(Empno, Ename, Job, Sal, Hiredate, Deptno)

   Department(Dnumber, Dname, Loc)

(a) Create the above database using SQL.

(b) List all employees who have a salary between 1500 and 2500.

(c) List the details of the employees in departments 10 and 20.

(d) Display all employees' names which have TH in last position of their names.

(e) To show all employees hired on February 22, 1981 (non-default format)

2. Relation schema:

Patient(p_id, p_name, p_age, p_address)

Doctor(d_id, d_name, d_add)

Attend(d_id, p_id)

Admitted(p_id, p_date_of_admission)

(a) List the names of patients with their doctor.

(b) Find the names of the doctors who attend more than three patients.

(c) Find name of the patient who lives at the same place as his/her doctor.

(d) Find name of the patient who have been admitted before 'Mr. XYZ'.

(e) Count total number of patients and total number of doctors.

3. Create the tables described below with the constraints / attributes specified

Table Name : **EMP1_XX(XX => Last two digits of your class roll number)**

Description : Used to store employee information

Column Name	Data Type	Size	Constraints /Attributes
Empno	Number	4	Primary key, values between 7000 and 7999
Ename	Varchar2	20	Not null, Name must be in Upper case
Deptno	Number	2	
Job	Varchar2	15	Not null
Mgr	Number	4	Foreign key references Empno of EMP1_XX, Values between 7000 and 7999
Hire Date	Date		Not null
Salary	Number	5	Default 0

(a) Display all the different job types.

(Turn Over)

(b) Display all employees who were hired during 1983.

(c) Find second highest salaried employee.

4. Consider the following relations:

Flights (flno, from, to, distance, departs)

Aircraft (aid, aname, range)

Certified (eid, aid)

Employees (eid, ename, salary)

(Pilots are those employees who are certified on at least one aircraft. An aircraft can be used for any flight provided it has sufficient range. Pilots can pilot any flight provided they are certified on an aircraft with sufficient range.)

Write down expressions in SQL for the following queries:

(a) Find names of pilots who are certified on Boeing.

(b) Find aid's of aircraft that can fly non-stop from LA to NY.

(c) Find eid of employee(s) with the second highest salary.

(Continued)

(d) Find names of pilots who can operate planes with a range greater than 3,000 miles.

(e) Find eid's of employees certified on exactly three aircraft.

5. Relation schema:

Employee (Employee_no, Employee_name, designation, Salary, Hiredate Department_no, Manager_name)

Department (Dnumber, Dname, Location)

(a) Find employees whose commission is greater than 60 % of their salaries.

(b) Find the names of anyone in dept. 20 who is neither manager nor clerk.

(c) Find the employees who do not receive commission or whose commission is less than 100/-.

(d) Find all the employees who were hired more than 2 years ago.

(e) List the employee names, department names and salary for those employees who have completed 1 year of service.

(Turn Over)

6. Relation schema:

Sales (order_no, cust_no, order_date)

Customer (cust_no, cust_name, cust_addr)

(a) Create the above database using SQL.

(b) Display the name of the customers who have placed order last month.

(c) Arrange names of the customers according to alphabetical order of their names.

(d) Add a constraint to check that the first letter of name of customer must be capital.

(e) List names of the customers with the placed order and arrange them according to order date.

7. Relation schema:

Borrower (customer_name, loan_number)

Depositor (customer_name, account_number)

Customer (customer_name, street_number, customer_city)

Loan (loan_number, branch_name, city, amount)

(Continued)

(a) List all the customers who have either an account or a loan or both.

(b) Find the names of all customers who have an account but not a loan.

(c) List the names of all customers who have a loan in "Perryridge" branch.

(d) List all the customers who have both a loan and an account.

(e) Find total number of customers who have at least one loan.

8. Relation schema:

   Student (sid, sName, sPhone, sProgramme)

   Subject (subid, subName, Instructor)

   Marks (sid, subid, MarkNo)

   Write the queries in SQL with the above schema

   (a) Create the above database using SQL.

   (b) List subject name and its instructor in alphabetical order.

   (c) Find the name of all students whose name starts with AB.

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(d) Add a constraint PRIMARY KEY to subid.

(e) Find the names of the students who have passed in all subjects

9. Write a PL/SQL program to find average salary from EMP table. If EMP table is not available; display appropriate message else print the average salary of employees.

10. Write a PL/SQL procedure/function for getting two numbers from key board and applying following one operation based on user's choice:

(a) Addition

(b) Subtraction

(c) Multiplication

(d) Division.

[PNB + Viva – 5+5 = 10]

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