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PG/2nd Sem/COS-295(M1)/24

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M.Sc. 2nd Semester Examination

Computer science

PAPER : COS-295(M1)

(DBMS Lab)

(Practical)

Full Marks : 25

Time : 2 hours

The figures in the right-hand margin indicate marks.

Answer *any one* question : 20

1. 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 700 and 7999
Ename	Varchar2	20	Not null, Name must be in Uppercase
Deptno	Number	2	
Job	Varchar2	15	Not null
Mgr	Number	4	Foreign key reference Empno of EMP1_XX, Values between 7000 and 7999
HireDate	Date		Not null
Salary	Number	5	Default 0

- (a) Display all the different job types.
- (b) Display all employees who were hired during the 1st half of 1983.
- (c) Find the highest salaried employee.

2. 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) Display the total number of students enrolled in each programme along with the average marks obtained by them.

8. Create a comprehensive PL/SQL program to calculate multiple salary-related metrics such as average salary by department, total salary expense incurred by the company and the highest salary across all employees. Display the results as required. If the EMP table is not available, show an appropriate error message.
9. Write a PL/SQL program that prompts the user to input a number from the keyboard. Based on whether the input number is even or odd, display a message indicating whether the number is event or odd.

Viva—3

Practical Notebook—2

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(6)

- (d) Identify customers who have both a loan and an account, along with their city and branch details.
- (e) List all customers who have both a loan and an account, sorted by their account numbers.

7. Relation schema :

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

Department_no, Manager_name

Department(Dnumber, Dname, Location)

- (a) Create the above database using SQL.
- (b) Display the department names along with the number of employees who are neither managers nor clerks.
- (c) List the names of anyone in department 20 who is not a manager and whose salary is above the department average.
- (d) Identify employees who either do not receive commission or whose commission is less than \$100, along with their salaries.
- (e) Retrieve all employees who were hired more than two years ago, sorted by hire date.

(3)

- (c) List subject name and its instructor in alphabetical order.
- (d) Find the names of all students whose name starts with AB.
- (e) Find the names of the students who have passed in all subjects.

3. Relation schema :

Employee (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 more than the average salary.
- (c) List the details of the employees who work at the same place.
- (d) Display the name of the most experienced employee.
- (e) To show all employees hired on February 22, 1981 (non-default format).

(4)

4. Relation schema :

Sales (order_no, cust_no, order_date)

Customer (cust_no, cust_name, cust_addr)

- (a) Create the above database using SQL.
- (b) Identify customers who have placed orders last month and their order dates.
- (c) Arrange names of the customers according to alphabetical order of their names and display their total order amounts.
- (d) Add a constraint to ensure that the first letter of the name of a customer must be capitalized.
- (e) List names of the customer with the placed order and arrange them according to order date.

5. Relation schema :

Patient(p_id, p_name, p_age, p_address)

Doctor(d_id, d_name, d_addr)

Attend(d_id, p_id)

Admitted(p_id, p_date_of_admission)

- (a) Create the above database using SQL.
- (b) List the names of patients with date of admission.

(5)

- (c) Find the names of the doctors who attend at least three patients.
- (d) Find the names of the patients who lives at the same place as his/her doctor.
- (e) Find the names of the doctors along with the number of patients under his/her supervision.

6. 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)

- (a) Create the above database using SQL.
- (b) Find the total number of customers who have either an account or a loan or both.
- (c) Find the names of all customers who have an account but not a loan.