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UG/2nd Sem/COMP/G/19(Pr)

2019

B.Sc. (General)

2nd Semester Examination

COMPUTER SCIENCE

Paper - DSC 1BP

[Practical]

[SET - I]

Full Marks : 20

Time : 2 Hours

*The figures in the margin indicate full marks.
Candidates are required to give their answers
in their own words as far as practicable.*

Answer any *one* question : $1 \times 15 = 15$

1. Consider the following 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.

[Turn Over]

- b. Find the minimum, maximum and average salaries of all employees.
- c. To calculate the average salary for each different job.

2. For the following relation schema :

employee (employee-name, street, city)

works (employee-name, company-name, salary)

company (company-name, city)

manages (employee-name, manager-name)

Give an expression in SQL for each of the following queries :

- a. Create the above database using SQL.
- b. Find the names, street address, and cities of residence for all employees who work for 'First Bank Corporation' and earn more than \$10,000.
- c. Find the names of all employees in the database who live in the same cities as the companies for which they work.

3. Consider the following relational database :

Student (s_id, s_name, total_marks)

Subject (sub_id, sub_name, s_id,sub_marks)

Write SQL query for the following :

- a. Create the above database using SQL.
- b. Find the student name who obtained the highest marks.
- c. List names of students who failed in all subjects (less than 40% marks)

4. 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. Find employees whose commission is greater than 60% of their salaries.
 - c. Find the names of anyone in dept. 20 who is neither manager nor clerk.
5. Consider the following database consisting of the following tables :

Branch (bname, bcity, assets)

Account (ano, starting date, balance)

Customer (cusid, name, address)

[Turn Over]

Deposit (ano, cusid, bname)

Transaction (ano, amount, mode, date of trans)

- a. Create the above database using SQL.
 - b. Find the average account balance at each branch and display only if it is greater than 10000.
 - c. Display the branch details located in a city starting with the letter 'S'.
6. Consider the following database consisting of the following tables :

Employee (ssn, first name, last name, gender, designation, date_of_joining, address)

Employee-salary (ssn, basic pay, DA, TA, pay)

Department (did, dname, mgrssn)

Employee-department (ssn, deptid)

Employee-dependency (ssn, depname, depgender, deprrelationship)

Queries :

- a. Create the above database using SQL.
- b. Retrieve the names of employees who have no dependents.
- c. Retrieve all the information about employees

working in 'Research' department including the department information.

7. Consider the following database consisting of the following tables :

Hostel (hno, hname, type [boys/girls])

Menu (hno, day, breakfast, lunch, dinner)

Warden (wname, qual, hno)

Student (sid, sname, gender, year, hno)

- a. Create the above database using SQL.
- b. Display the total number of girls and boys hostel in the college.
- c. Display the menu in the hostel 'x' on Tuesday.

8. Create the following tables with the mapping given below :

a. Customer (Cust_id, Cust_name, Addr, ph_no, pan_no)

b. Loan (Loan_id, Amount, Interest, Custwid)

- a. Create the above database using SQL.
- b. Display the Cust_name having both Loan and Account.

[Turn Over]

c. Display number of loans, the sum of Loan Amount of a Particular Cust_name ("LEENA")

9. 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. List the employee name, job, and salary & department name for everyone in the company except clerks. Sort on salary, display the highest salary first.
 - c. Display all employees who earn less than their managers.
10. Consider the following database consisting of the following tables:

Department (dept id, dept name)

Student (roll no, name, gender, mark1, mark2, mark3, total, average, dept. id)

Staff (staff id, name, designation, qualification, dept id)

Tutor (roll no., staff id)

(7)

- a. Create the above database using SQL.
- b. Display the student details who come under the tutor ship of the given staff name 'XI'
- c. Display the student details who got greater than overall average marks of their department.

PNB - 2

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[Practical]

[SET - II]

Full Marks : 20

Time : 2 Hours

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

Answer any *one* question :

1×15=15

1. Consider the following database consisting of the following tables :

Branch (bname, bcity, assets)

Account (ano, starting date, balance)

Customer (cusid, name, address)

Deposit (ano, cusid, bname)

[Turn Over]

Transaction (ano, amount, mode, date of trans)

- a. Create the above database using SQL.
- b. Find the number of depositors in each branch.
- c. Find total of last 5 deposit amount.

2. Consider the following relational database :

Student (s_id, s_name, total_marks)

Subject (sub_id, sub_name, s_id, sub_marks)

Write SQL query for the following :

- a. Create the above database using SQL.
- b. Find names of the students who obtained the higher than average of total obtained marks by the students.
- c. List names of students who failed in exactly one subject (less than 40% marks)

3. 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 names of employees with total salary according to alphabetical order.

- c. Find name of the highest paid employee.
4. Consider the following database consisting of the following tables:

Employee (ssn, first name, last name, gender, designation, date_of_joining, address)

Employee-salary (ssn, basic pay, DA, TA, pay)

Department (did, dname, mgrssn)

Employee-department (ssn, deptid)

Employee-dependency (ssn, depname, depgender, deprrelationship)

Queries :

- a. Create the above database using SQL.
- b. Retrieve the names of employees who have no dependents.
- c. Retrieve all the information about all employees except the employees of 'Research' department.
5. For the following relation schema :

employee (employee-name, street, city)

works (employee-name, company-name, salary)

company (company-name, city)

manages (employee-name, manager-name)

[Turn Over]

Give an expression in SQL for each of the following queries:

- a. Create the above database using SQL.
- b. Find the names of all employees in the database who live in the same cities and on the same streets as do their managers.
- c. Find the names of all employees in the database who earn more than every employee of Small Bank Corporation'. Assume that all people work for at most one company.

6. Consider the following database consisting of the following tables :

Hostel (hno, hname, type [boys/girls])

Menu (hno, day, breakfast, lunch, dinner)

Warden (wname, qual, hno)

Student (sid, sname, gender, year, hno)

- a. Create the above database using SQL.
- b. Display the menu in the hostel 'x' on Tuesday.
- c. Find the capacity (in term of no. of students) of each hostel

7. Consider the following 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. 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/-.

8. Relation schema :

Consider the following database consisting of the following tables :

Inventory (item, level, cost)

Minlevel (item, level)

Reorder (item, quantity)

Purchase (item, quantity, cost, customer name, date of purchase)

- a. Create the above database using SQL.
- b. Find highest cost item name.
- c. Write a query to display the item purchased by

[Turn Over]

a given customer name.

9. Create the following tables with the mapping given below :

a. Customer (Cust_id, Cust_name, Addr, ph_no, pan_no)

b. Loan (Loan_id, Amount, Interest, Cust_id)

a. Create the above database using SQL.

b. Display the Cust_name having both Loan and Account.

c. Add a column nol (number of loans)

10. Consider the following database consisting of the following tables:

Department (dept id, dept name)

Student (roll no, name, gender, mark1, mark2, mark3, total, average, dept id)

Staff (staff id, name, designation, qualification, dept id)

Tutor (roll no, staff id)

a. Create the above database using SQL.

b. How many students are there in CSE department?

- c. Count the total number of staffs for each department.

PNB - 2

Viva-Voce - 3
