

## Slip 1

### Section I : Problem Solving using Computer and 'C' Programming

Q 1) A i. Write a 'C' program to calculate area and perimeter of a rectangle. [5 marks]

ii Write a 'C' program to calculate the sum of facts of a number.

OR

Q 1) A Write a 'C' program to check if a matrix is upper triangular.

### Section II : Database Management Systems

Consider the following database

Room (room\_no,room\_name,room\_type,charges)

Guest(Guest\_code, Gname,city)

The relationship is as follows: Room-Guest: one-to-one. room\_type can have values as either 'AC' 'NonAC'.

Q 2) A Create the above database in PostGreSQL and insert sufficient recds. [5 marks]

B Execute the following queries in PostGreSQL (any 3)

i. List the details of the rooms having charges between 5000 and 10000.

ii. List the names of the guests in the sted der by city name.

iii. List the minimum charges of a room.

iv. Increase the charges of all AC rooms by 15%.

v. List the names of all the NONAC rooms whose charges are me  
than 10000.

[6 marks]

C Write a query to List the name of the guest to whom the room with highest charges is allotted.

Create a view to list the names of all the NonAC rooms that have their charges greater than at least one of the 'AC' room.

## Slip 2

### Section I : Problem Solving using Computer and 'C' Programming

Q 1) A i. Write a 'C' program to accept a character and check if it is uppercase  
lowercase

[5 marks]

ii. Write a 'C' program to display n terms of the Fibonacci series.

OR

Q 1) A Write 'C' program to find the maximum number from an array of n  
integers.

### Section II : Database Management Systems

Consider the following database

Employee(eno,ename,designation,salary)

Department(dno,dname,location)

The relationship is as follows: Employee-Department: many-to-one.

Q 2) A Create the above database in PostgreSQL and insert sufficient recds. [5 marks]

B Execute the following queries in PostgreSQL (any 3)

- i. Give a 5% raise in salary to all the employees.
- ii. Display average salary of an employee.
- iii. List the details of all the departments located at \_\_\_\_\_ city.
- iv. Display the details of employees whose names ends with an  
alphabet\_\_\_\_.
- v. Display the location of 'HR' department.

[6 marks]

C Write a query to List the details of employees who do not wk in any of  
the departments located at 'Calcutta'.

Create a view to list the names of employees whose salary is greater than  
all the employees wking in 'HR' department.

[4 marks]

### Slip 3

#### Section I : Problem Solving using Computer and 'C' Programming

Q 1) A i. Write a 'C' program to accept two integers from the user and interchange them. Display the interchanged numbers.

[5 marks]

ii. Write 'C' program to accept a single digit and display it in words. F

example, Input = 9 Output = Nine

OR

Q 1) A Write a 'C' program to add two matrices of order mXn

#### Section II : Database Management Systems

Consider the following database

Person (pnumber, pname, birthdate, income)

Area (aname, area\_type, pincode)

The relationship is as follows: Person-Area: many-to-one. The 'area\_type' can have values as either 'urban' 'rural'.

Q 2) A Create the above database in PostgreSQL and insert sufficient records. [5 marks]

B Execute the following queries in PostgreSQL (any 3)

i. List the details of all people whose name starts with the alphabet 'R'.

ii. List the names of all people whose birthday falls in the month of 'July'.

iii. Display the details of people in the descending order of their income.

iv. Display the count of areas of 'urban' type.

v. Change the pincode of 'kalyaninagar' to 411036.

[6 marks]

C Write a query to List the names of people who live in 'Camp' area and have income less than at least one person who lives in 'kalyaninagar' area.

Create a view to list the details of the person with second maximum income.

#### Slip 4

##### Section I : Problem Solving using Computer and 'C' Programming

Q 1) A i. Write a 'C' program to accept three dimensions length (l), breadth(b) and height(h) of a cuboid and print surface area (surface area= $2(lb+lh+bh)$ )

[5 marks]

ii. Write a 'C' program to accept an array of n float values and display them in the reverse der.

OR

Q 1) A Write a menu driven program to perform the following operations on an integer. Write separate functions.

1. Check if is even odd
2. Check if it is prime
3. Exit

##### Section II : Database Management Systems

Consider the following database

Policy (pno,pname,premium\_amt,policy\_type)

Customer(cno,cname.city, agent\_name)

The relationship is as follows: Policy-Customer: many-to-one. The 'policy\_type' can have values as 'Yearly', 'Half-yearly' 'Monthly'.

Q 2) A Create the above database in PostgreSQL and insert sufficient recds. [5 marks]

B Execute the following queries in PostgreSQL (any 3)

- i. List the details of all customers who live in \_\_\_\_\_ city.
- ii. Display the average premium amount.
- iii. Count the number of customers who have taken 'Jeevan Anand' policy.
- iv. Increases the premium amount f 'Monthly' policies by 10%.
- v. Display the policy\_type wise count of policies. [6 marks]

C Write a query to List the name of a policy\_type with highest average premium amount.

Create a view to list the name of the customer who has taken highest number of policies.

Slip 5

Section I : Problem Solving using Computer and 'C' Programming

Q 1) A i. Write a 'C' program to check whether the given year is leap year not. [5 marks]

ii. Write a 'C' program to display all numbers between two given numbers.

OR

Q 1) A Write 'C' program to subtract two matrices of order mXn

Section II : Database Management Systems

Consider the following database

Doct (dno, dname, city)

Patient (pno, pat\_name, city, disease)

The relationship is as follows: Doct-Patient: many-to-many with Fee as a descriptive attribute .

Q 2) A Create the above database in PostgreSQL and insert sufficient recds. [5 marks]

B Execute the following queries in PostgreSQL (any 3)

- i. List the details of all the doctors from \_\_\_\_\_ city.
- ii. Display count of patients.
- iii. List the names of the patients suffering from 'cancer' disease.
- iv. Change the city of 'Dr. Patil' to Pune.
- v. List the names of patients that start with alphabet 'A'

[6 marks]

C Write a query to Find the number of patients suffering from "Asthma"

and have been charged a fee of Rs 200, by "Dr. Kumar".

Create a view to find the name of a doctor who treats maximum number of patients

## Slip 6

### Section I : Problem Solving using Computer and 'C' Programming

Q 1) A i. Write a 'C' program to find maximum of two numbers. [5 marks]

ii. Write a recursive function in 'C' to calculate factorial of a number. Use this function in main.

OR

Q 1) A Write a 'C' program with menu to perform the following operations on a character.

1. Check uppercase lowercase
2. Display its ASCII value
3. Display its next and previous character
4. Exit

### Section II : Database Management Systems

Consider the following database

Student (rno,name,city)

Teacher(tno,tname,phone\_no,salary)

The relationship is as follows: Student-Teacher: many-to-many with subject as a descriptive attribute .

Q 2) A Create the above database in PostgreSQL and insert sufficient records. [5 marks]

B Execute the following queries in PostgreSQL (any 3)

- i. List the names of students from \_\_\_\_\_city.
- ii. Display the count of students from 'Mumbai'city.
- iii. Change the phone number of 'Prof. Patil' to '9822131226'
- iv. List the details of the teachers in the order of their name.
- v. List the names of the teachers who have salary less than 50000.

[6 marks]

C Write a query to List the names of all teachers who do not teach any subject that is taught by 'Mr. Patil' Create a view to list the details of students who have taken 'DBMS' subject.

Section I : Problem Solving using Computer and 'C' Programming

Q 1) A i. Write a 'C' program to calculate area and circumference of a circle. [5 marks]

ii. Write a 'C' program to accept a character and check if it is alphabet, digit special symbol. If it is an alphabet, check if it is uppercase lowercase.

OR

Q 1) A Write a 'C' program to read a matrix and calculate the sum of its diagonal elements.

Section II : Database Management Systems

Consider the following database

Item (item\_no, name, quantity)

Supplier (s\_no, name, city)

The relationship is as follows: Item-Supplier: many-to-many with rate as a descriptive attribute .

Q 2) A Create the above database in PostGreSQL and insert sufficient recds. [5 marks]

B Execute the following queries in PostGreSQL (any 3)

- i. Change the quantity of item 'Mouse' to 80.
- ii. List the details of the suppliers whose name begins with the alphabet 'M'.
- iii. Display the count of items.
- iv. List the names of suppliers who do not live in \_\_\_\_\_city.
- v. List the names of items with quantity less than 10.

[6 marks]

C Write a query to Display the names of all suppliers who do not supply 'CD' and 'Mouse'.

Create a view to display supplier-wise list of items.

Slip 8

Section I : Problem Solving using Computer and 'C' Programming

Q 1) A i. Write a 'C' program to accept an integer and check if it is divisible by 3 and 5.

[5 marks]

ii. Write a function in 'C' to calculate sum of digits of an integer. Use this function in main

OR

Q 1) A Write a 'C' program to accept n integers in an array and search of a specific number.

[15 marks]

Section II : Database Management Systems

Consider the following Student-Teacher database

Student (sno , s\_name, s\_class) s\_class can be either "FY", "SY" "TY"

Teacher (tno , t\_name, yrs\_experience )

The relationship is as follows: Student-Teacher: M-M with descriptive attribute Subject.

Q 2) A Create the above database in PostgreSQL and insert sufficient recds. [5 marks]

B Execute the following queries in PostgreSQL (any 3)

- i. List teachers having > 5 yrs of experience.
- ii. List all students studying in "FY."
- iii. Count the number of teachers who teach subject "\_\_\_\_\_"
- iv. Delete recd of student whose sno "\_\_\_\_\_"
- v. Add designation column in teacher table

[6 marks]

C Write a query to List the names of all teachers with their subjects along with the total number of students they are teaching

Create a View to find the teacher teaching maximum number of subjects



## Slip 9

Section I : Problem Solving using Computer and 'C' Programming Q 1) A i. Write a 'C' program to interchange two numbers and display the interchanged numbers.

[5 marks]

ii. Write a function in 'C' to reverse an integer. Use this in main.

OR

Q 1) A Write a 'C' program to accept n integers in an array and count the frequency of each element of an array.

## Section II : Database Management Systems

Consider the following Student-Teacher database

Student (sno , s\_name, s\_class) s\_class can be either "FY", "SY" "TY"

Teacher (tno , t\_name, yrs\_experience )

The relationship is as follows: Student-Teacher: M-M with descriptive attribute Subject.

Q 2) A Create the above database in PostgreSQL and insert sufficient recds. [5 marks]

B Execute the following queries in PostgreSQL (any 3)

- i. Give class-wise number of students.
- ii. List all students studying in class "TY".
- iii. Count the number of students who have taken subject "\_\_\_\_\_"
- iv. Delete recd of student whose sno "\_\_\_\_\_"
- v. Add designation column in teacher table

[6 marks]

C Write a query to List the names of all teachers with their subjects along with the total number of students they are teaching

Create a View to find the teacher teaching maximum number of subjects

Slip 10

Section I : Problem Solving using Computer and 'C' Programming

Q 1) A i. Write a 'C' program to check whether a given number is even odd. [5 marks]

ii. Write a 'C' program to accept n integers in an array and display the array in reverse der.

OR

Q 1) A Write a 'C' function to check if a number is prime. Use this function to display all prime numbers between 100 and 500.

Section II : Database Management Systems

Create the following tables ( primary keys are underlined).

Person (pnumber, pname, birthdate, income),

Area( aname,area\_type).

There exists a one-to-many relationship between Area and Person. The attribute 'area\_type' can have

values as either urban rural.

C Write a query to Count the total number of people staying in "urban" area and having average income.

Create a View to print the person details along with their area name.