22316

Instructions – (1) All Questions are *Compulsory.*

(2) Answer each next main Question on a new page.

(3) Illustrate your answers with neat sketches wherever necessary.

(4) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. Attempt any <u>FIVE</u> of the following: **10**

a) State any two features of object oriented programming.

b) Define class and object.

c) What are the rules for virtual function (write any two)

d) State the use of Memory Management Operator and explain it with example.

e) List different types of inheritance.

f) List C++ stream classes along with their function (any two classes)

g) Give the syntax of fclose () method.

2. Attempt any <u>THREE</u> of the following: **12**

a) Develop a program to find factorial of a given number using for loop.

b) Explain friend function with suitable example.

c) What is multilevel inheritance? Develop a C++ program for multilevel inheritance.

d) Explain virtual function with example. Give the rules for virtual functions.

Marks

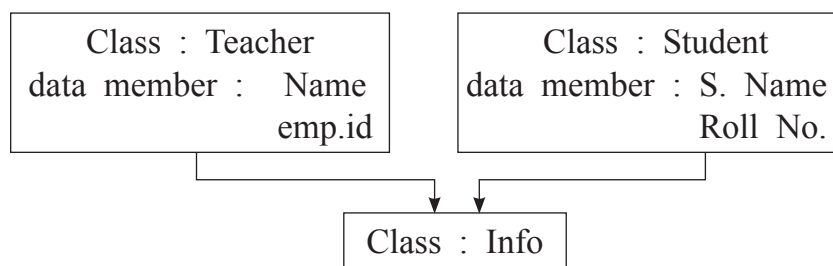**3. Attempt any THREE of the following:**   **12**

  a) Develop a program to declare a class student the data members are rollno, name and marks accept and display data for one object of class student.

  b) Describe the concept of virtual base class with suitable example.

  c) Write a C++ program to declare a class college with name and code. Derive new class as student with member as name. Accept and display details of one students along with college data.

  d) Write a program to count number of lines in a file.

4. Attempt any THREE of the following: **12**

  a) Describe all visibility modes and effects with example.

  b) Differentiate between constructor and destructor (any 4 points)

  c) Describe function overloading and function overriding with suitable example.

  d) Develop a C++ program to read content of file abc.txt

  e) With suitable example describe structure of C++ program.

5. Attempt any TWO of the following: **12**

  a) Write a C++ program to implement inheritance shown in Fig.

Class : Teacher	Class : Student
data member : Name emp.id	data member : S. Name Roll No.

Class : Info

  b) Develop a program to declare class book containing data members as title, authorname, publication, price Accept and display the information for one object using pointer to that objects.

  c) Develop a C++ program to add two 3×3 matrices and display addition.

Marks

6. **Attempt any TWO of the following:** **12**

   a) Develop a C++ program to create structure book with data members name, cost and author. Accept and display data for 5 books using structure.

   b) Develop a C++ program using parameterized constructor.

   c) Write a C++ program to overload "+" operator so that it will perform concatenation of two strings. (Use class get data function to accept two strings.)

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