

22316

12425

3 Hours / 70 Marks

Seat No.

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- Instructions* – (1) All Questions are *Compulsory*.
(2) Illustrate your answers with neat sketches wherever necessary.
(3) Figures to the right indicate full marks.
(4) Assume suitable data, if necessary.
(5) Use of Non-programmable Electronic Pocket Calculator is permissible.
(6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

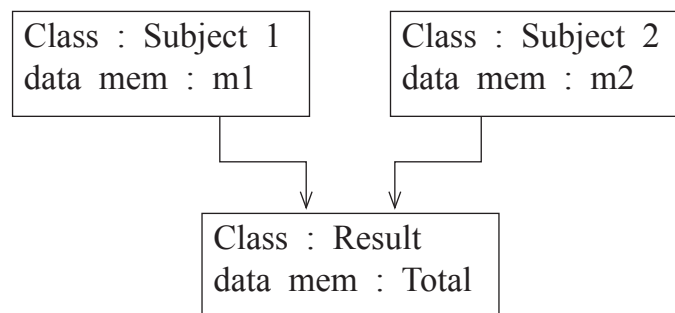
Marks

- 1. Attempt any FIVE of the following :** **10**
- a) Write any four features of OOP.
 - b) Define constructor. List types of constructor.
 - c) Describe use of static data member.
 - d) Define and state the types of inheritance.
 - e) State any four rules for Virtual functions.
 - f) Define polymorphism with its types.
 - g) Define file with its operations.

P.T.O.

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

- a) State the use of scope resolution operator and explain it with example.
- b) Write a C++ program to declare a class 'rectangle' with data members as length, breadth and area. Declare a function getdata to accept length and breadth and putdata to calculate and display area of rectangle.
- c) Write a program to implement multiple inheritance as shown in following figure.

**Fig. No. 1**

- d) Describe 'this' pointer with an example.

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

- a) Explain structure of C++ program with diagram.
- b) Write a C++ program to find greatest number among two numbers from two different classes using friend function.
- c) Differentiate between compile time polymorphism and Run time polymorphism.
- d) Write a C++ program to copy the contents of source file student 1.txt to a destination file student 2.txt using file operations.

- 4. Attempt any THREE of the following :** **12**
- a) Write a program to find whether the entered number is prime or not.
 - b) Write a C++ program to declare a structure employee with members as empid and empname. Accept and display data for one employee using structure variable.
 - c) Describe how memory is allocated to objects of class with suitable diagram.
 - d) Write a C++ program to overload binary operator '+' to concatenate two strings.
 - e) Explain virtual base class with suitable example.
- 5. Attempt any TWO of the following :** **12**
- a) i) State the use of an array.
ii) Write a program to accept array of five element, calculate and display the addition of element.
 - b) Define constructor with default argument with an example.
 - c) Write a C++ program to declare a class college with name and code. Derive a new class as student with members as name and enroll_no. Accept and display details of one student along with college data.
- 6. Attempt any TWO of the following :** **12**
- a) Write a C++ program to write 'Welcome to OOP' in a file. Then read the data from file and display it on screen.
 - b) State and explain the visibility modes used in inheritance with suitable diagram.
 - c) Write a C++ program to declare a class 'Account' with data members as accno. name and bal. Accept data for eight accounts and display details of accounts having balance less than 10,000.
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