

22316

23124

3 Hours / 70 Marks

Seat No.

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- Instructions* – (1) All Questions are *Compulsory*.
- (2) Answer each next main Question on a new page.
- (3) Illustrate your answer with neat sketches wherever necessary.
- (4) Figures to the right indicate full marks.
- (5) Assume suitable data, if necessary.
- (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) Differentiate between C and C++. (Any two points)
 - b) Give the syntax of class.
 - c) Explain any four applications of OOP.
 - d) Give the syntax and use of fclose() function.
 - e) Explain inline member function.
 - f) Explain the input operator in C++.
 - g) Explain reference and dereference operators w.r.t. pointer.

P.T.O.

- 2. Attempt any THREE of the following:** **12**
- a) Explain the rules for naming variables in C++. (Any four points)
 - b) Explain the access specifiers in C++.
 - c) What is inheritance? Give different types of inheritance.
 - d) Write a C++ program to find out whether the given number is even or odd (taking input from keyboard).
- 3. Attempt any THREE of the following:** **12**
- a) Write a C++ program to find the area of rectangle using class rectangle which has following details –
 - i) Accept length and breadth from the user.
 - ii) Calculate the area
 - iii) Display the result.
 - b) Explain multilevel inheritance with an example.
 - c) Write a C++ program to define structure student having data members name, roll no., age. Accept and display data for one student.
 - d) Write a C++ program for write into a file using file operations.
- 4. Attempt any THREE of the following:** **12**
- a) Write a C++ program to copy data from one file to another.
 - b) Differentiate between compile time polymorphism and run time polymorphism. (Any four points)
 - c) Explain the characteristics of Friend function.
 - d) Write a program to declare a class measure having data members add₁, add₂ and add₃. Initialize the data members using constructor and store their addition in third data member using function and display the addition.
 - e) Differentiate between constructor and destructor in C++. (Any four points)

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

- a) Write a C++ program to implement multiple inheritance as shown in Figure No. 1. Accept and display data of test marks and sport's marks using object of class 'result'.

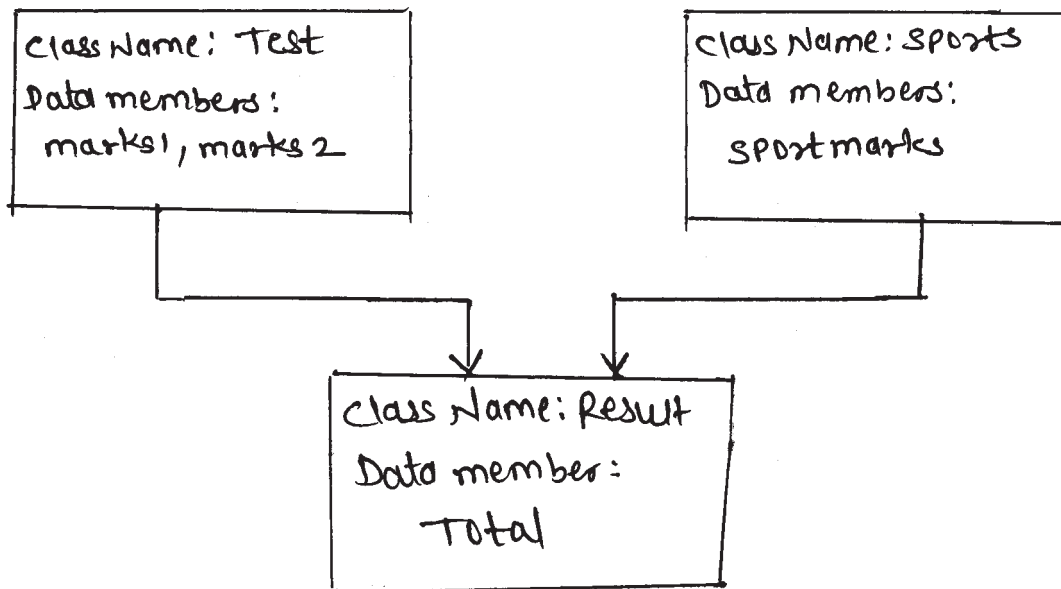


Fig. No. 1

- b) Describe 'this' pointer in C++ with an example.
- c) Write a program to declare a class 'employee' containing data members 'emp-id' and 'salary'. Accept and display this data for 10 employees.

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

- a) Explain the rules of virtual function.
- b) Explain virtual base class with an example.
- c) Write a program to declare a class 'item' containing data members as 'item_name', 'code', 'price'. Accept and display the information for one object using pointer to that object.
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