

22316

11920

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

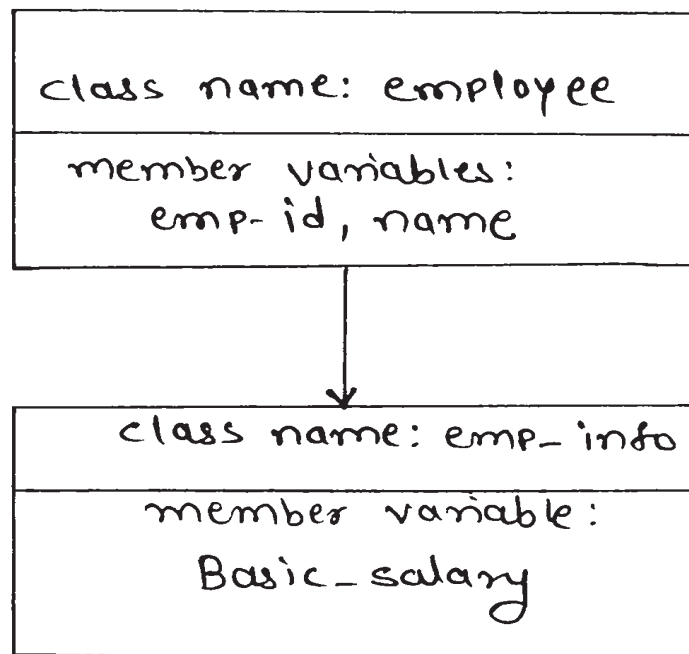
Marks

- 1. Attempt any FIVE of the following: **10****
- State the difference between OOP and POP.
 - What is a class? Give its example.
 - What is multilevel inheritance? Draw the diagram to show multilevel inheritance. using classes with data member and member function.
 - Explain use of scope resolution operator.
 - Write two properties of static member function.
 - Explain virtual base class with suitable example.
 - Give syntax and use of fclose () function.

P.T.O.

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

- a) Describe memory allocation for objects.
- b) Write a program to implement single inheritance from the following Refer Figure No. 1.

**Fig. No. 1**

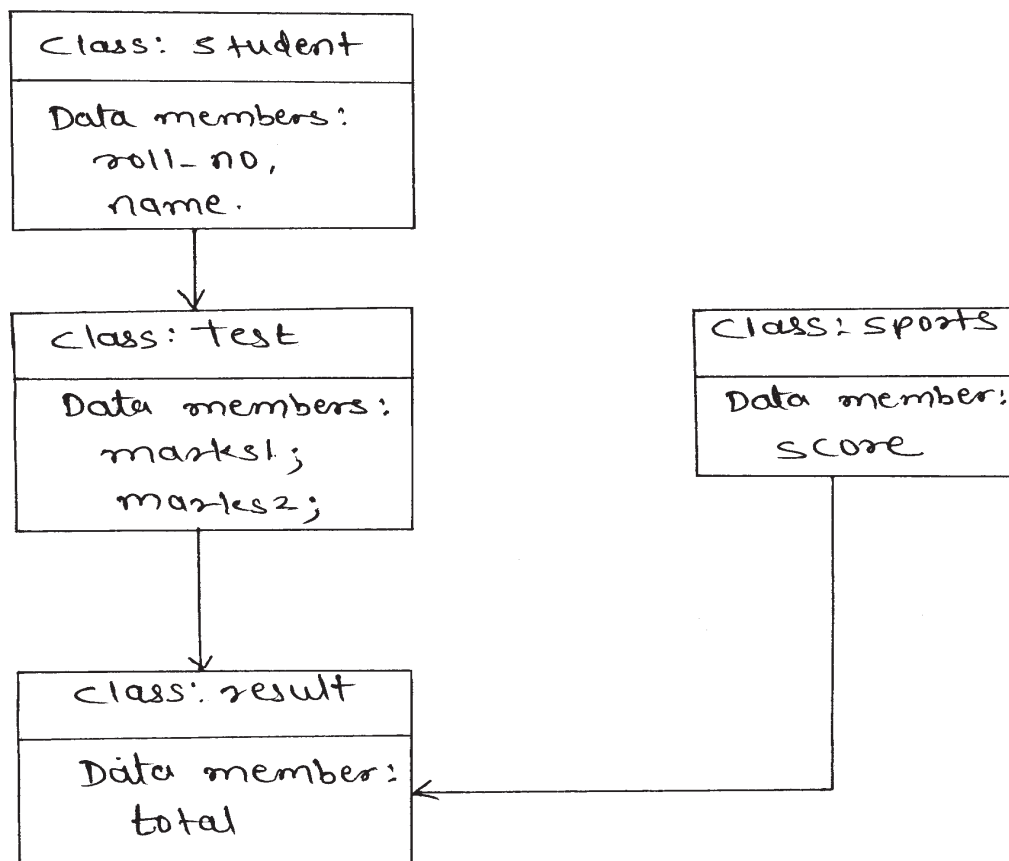
- c) Write any four benefits of OOP.
 - d) Describe 'this' pointer with an example.
- 3. Attempt any THREE of the following:** **12**
- a) Write the applications of object oriented programming.
 - b) State the rules for writing destructor function.
 - c) What is inheritance? Give different types of inheritance.
 - d) What are the rules for virtual function?

- 4. Attempt any THREE of the following:** **12**
- a) What is parameterized constructor?
 - b) Write a program to sort an 1-d array in ascending order.
 - c) Explain the friend function with proper example.
 - d) Write a program to count the number of lines in file.
- 5. Attempt any TWO of the following:** **12**
- a) Write a program to declare a class 'student' having data members as 'stud_name' and 'roll_no'. Accept and display this data for 5 students.
 - b) State and explain the visibility modes used in inheritance.
 - c) Write a program to declare a class 'book' containing data members as 'title', 'author-name', 'publication', 'price'. Accept and display the information for one object using pointer to that object.

6. Attempt any TWO of the following:

12

- a) Write a program that copies contents of one file into another file.
- b) Write a program to implement the following hierarchy using suitable member functions. Refer Figure No. 2.

Fig. No. 2

- c) Write a program to overload the '—' unary operator to negate the values.
