

17432

16117

3 Hours / 100 Marks

Seat No.

--	--	--	--	--	--	--	--	--	--

- 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) 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 TEN of the following:** **20**
- List any four object oriented languages.
 - Define class with its syntax.
 - Write any two rules to define friend function.
 - What is pure virtual function?
 - Define polymorphism. List types of polymorphism.
 - Define pointer variable. Give its syntax.
 - Write any two characteristics of static member function.
 - What is an abstract base class.
 - State any four application of object oriented programming.
 - Define constructor. State any two type of constructor.

P.T.O.

- k) State any two access specifier with example.
- l) What is inheritance? Why inheritance used in C++?
- m) Enlist any four concepts of OOP.
- n) State different visibility modes used in inheritance.

2. Attempt any FOUR of the following: 16

- a) What are the features of object oriented programming?
- b) Differentiate between compile time polymorphism and runtime polymorphism.
- c) Write a program to display largest element from entered array.
- d) Explain various rules for operator overloading.
- e) What is destructor? Give it's syntax and example.
- f) Write a program to calculate area of circle and rectangle using the concept of function overloading.

3. Attempt any FOUR of the following: 16

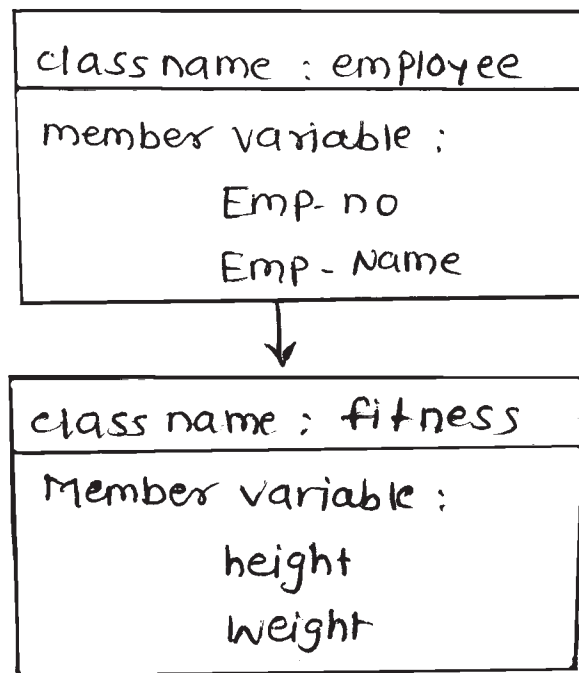
- a) Explain multiple inheritance with suitable example.
- b) What is virtual base class? Explain with suitable example.
- c) Write a program to accept string from user and reverse the string using pointer. Display reversed string.
- d) What is the need of virtual function? Explain with example.
- e) Give syntax for defining a member function inside and nesting of functions in a class with example.
- f) Write a program to overload the '-' operator to negate value of variable.

4. Attempt any FOUR of the following:**16**

- a) Explain the concept of constructor with default argument.
- b) What do you mean by inline function? Write its syntax and example.
- c) Explain how memory is allocated to objects of a class.
- d) Write a program to declare a class 'student' having data members as name and percentage. Write a constructor to initialize these data members accept and display data for one student.
- e) Write a program to search an element in an array using a pointer.
- f) Write a program to overload "+" operator so that it will perform concatenation of two strings.

5. Attempt any FOUR of the following:**16**

- a) Write a program to implement inheritance as shown in Figure No.1 given below assume suitable member functions.

**Fig. No. 1**

- b) Write a program to declare a class mobile having data members as price and model number. Accept and display this data for ten objects.
- c) In procedure oriented programming all data are shared by all functions Is this statement TRUE? Justify your answer.
- d) Explain overloading of constructor with suitable example.
- e) State characteristics of static data members of class with example.
- f) Write a program showing use of single inheritance.

6. Attempt any TWO of the following:

16

- a) Write a program to copy the contents of one string to another string using pointer to string.
 - b) What is “this” point concept? Explain the concept of pointer to object.
 - c) Explain various types of inheritance with example.
-