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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 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 FIVE of the following: 10**
- a) Demonstrate the static and dynamic initialization of variable.
 - b) Write the syntax for declaration of a class.
 - c) State the characteristics of static member function.
 - d) State different types of visibility mode in inheritance.
 - e) Give the syntax for constructor in derived classes.
 - f) Define polymorphism with it's types.
 - g) Define file with it's operations.
- 2. Attempt any THREE of the following: 12**
- a) State the features of object oriented programming.
 - b) Explain overloaded constructor with suitable example.
 - c) Write a program on single inheritance.
 - d) Illustrate this pointer with example.

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- 3. Attempt any THREE of the following:** **12**
- a) Write a program to print first n natural numbers and their sum using for loop.
 - b) Compare static and non-static data members. (any four points)
 - c) State any four rules for virtual functions.
 - d) Write a program for get and put functions.
- 4. Attempt any THREE of the following:** **12**
- a) Explain the structure of C++ program.
 - b) List any four properties of constructor function.
 - c) Illustrate the concept of virtual base class with suitable example.
 - d) State the advantages of pointer.
 - e) Write a program for closing a file.
- 5. Attempt any TWO of the following:** **12**
- a) State the use of scope resolution operator and explain it with example.
 - b) Write a program to show object as function argument.
 - c) Write a program on hybrid inheritance.
- 6. Attempt any TWO of the following:** **12**
- a) State the difference between constructor and destructor. (any six points)
 - b) Explain abstract class with suitable example.
 - c) Write C++ program to overload binary operator '+' to concatenate two strings.
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