

**Time: (3 Hours)****[Total Marks: 80]****N.B.** (1) Question No. 1 is **Compulsory**.(2) Attempt any **three** questions from the remaining **five** questions.(3) Answers to **sub-questions** should be **grouped** and written **together**.

- Q.1** (a) What is inheritance? Explain the use of protected modifier in inheritance with suitable example. **10**
- (b) What is constructor? How does it differ from a normal function? Explain the concept of copy constructor with suitable example. **10**
- Q.2** (a) Explain different manipulators with suitable examples. **10**
- (b) What is dynamic memory allocation? Explain the use of 'new' and 'delete' operators with suitable examples. **10**
- Q.3** (a) What type of ambiguity occurs in multipath inheritance? How it can be resolved explain with suitable example. **10**
- (b) What do you mean by file pointers? Explain different functions used to manipulate file pointers. **10**
- Q.4** (a) What is a class? How does it accomplish data hiding? Explain with suitable example. **10**
- (b) Explain with example how polymorphism can be achieved at run time. **10**
- Q.5** (a) How will you create strings in C++? Explain various functions available in built in string class. **10**
- (b) Explain unary operators overloading in C++ with suitable example. **10**
- Q.6** Write short notes on any **four** : -- **20**
- (a) Exception handling
  - (b) Inline function
  - (c) Void and null pointers
  - (d) Static data members
  - (e) Friend function