MCA/M-16
OBJECT ORIENTED PROGRAMMING USING C++
PAPER-MCA-14-22

Time Allowed: 3 Hours Maximum Marks: 80

Note: Attempt five questions in all. Question No. 1 is compulsory. All questions carry equal marks.

Compulsory Question

1. Answer the following questions in brief :
   (a) Distinguish between 'struct' of C with 'struct' of C++.
   (b) Distinguish between 'cin.get()' and 'cin.getline()' in C++?
   (c) Explain overloading subscript operator with an example.
   (d) What are applications of friend functions?
   (e) Distinguish between Composition and Inheritance in C++.
   (f) How can you define an inline function in C++? Give two methods.
   (g) How is a function template overridden for a specific data type?
   (h) How are uncaught exceptions caught? Explain?

UNIT-I

2. (a) Write a parameterized constructor for Time class with default values and demonstrate its use.

   (b) What is dynamic object ? How can you create it ? Give an example.

3. (a) Explain the following I/O functions used with cin and cout: ignore(), peek(), read(), write().

   (b) What are stream manipulators? Explain setprecision, setbase and width manipulators with examples.

UNIT-II

4. (a) Overload '++' operator to increment date in Date class.

   (b) Explain overloading of new and delete operators with the help of suitable examples.

5. (a) Can you make a member function of a class as a friend function of another class ? Give an example.

(b) How can you convert an object of one class to an object of another? Explain with an example.

UNIT-III

6. (a) What is the effect of using the protected access specifier on the visibility and derivation of a base class member?

(b) Explain overriding of functions with a suitable example.

7. (a) What is virtual destructor ? Why do you need it ? Give an example.

(b) What is abstract class? How can you create it? Give a suitable example.

UNIT-IV

8. (a) How can you throw class object for handling exception? Explain with an example.

(b) What is class template? What is need for class template? How are they created?

9. (a) Discuss the class hierarchy of C++ for handling streams.

(b) Describe how the contents of a disk file can be randomly accessed in C++.