Roll No. ..... Total Pages : 3

BT-3/D-23 **44152**

OBJECT ORIENTED PROGRAMMING

Paper-PC-CS-203A

[Time : Three Hours] [Maximum Marks : 75]

Note : Attempt *Five* questions in all, selecting *one* question from each Unit I to Unit IV. All questions carry equal marks.

UNIT–I

1. What do you mean by Namespace? Explain containers, iterators and algorithms as important part of C++ standard library. Discuss the uses of C++ in GUI based applications. **15**

2. a) What are abstract classes? Discuss the use of public, private and protected access specifiers and their visibilities in the class.

b) Reusability of classes in one of the major properties of OOP. How is it implemented in C++? **8+7=15**

UNIT–II

3. a) Write a C++ program to calculate sum of distance and display the result using friend function.

b) How is constructor different from the member function? Discuss default constructor and parametrized constructor with the help of an example in C++. **8+7=15**

4. a) Discuss the role of access specifiers in inheritance and show their visibility when they are inherited as public, private and protected.

b) What is the need of inheritance? Discuss Multiple inheritance in context of Object Oriented Programming. How do you override base class members in derived class? **8+7=15**

UNIT–III

5. a) State any four points of differentiation between compile time polymorphism and runtime polymorphism.

b) Differentiate between static and dynamic binding?

c) State rules for virtual function. Explain the reason for making a class virtual with the help of example. **5+5+5=15**

6. (a) What is the need of overloading operators and functions? Discuss rules for operator overloading.

(b) Write a C++ program to demonstrate the overloading of a unary operator. **8+7=15**

UNIT–IV

7. What is a stream? Draw a neat and clean sketch to show the different streams available in C++. Give syntax of and explain various functions related to ifstream and ofstream classes: seekp(), getline(), hide(), tail(). **15**

8. (a) When do we need multiple catch blocks for a single try block? Give an example. Also write down the scenario where we require user defined exceptions?

(b) Write a C++ program using function template to find the product of two integer or floating point type of data.

8+7=15
