Roll No. ..... Total Pages : 2

BT-3/D-21 **43196**

OBJECT ORIENTED PROGRAMMING

Paper : PC-CS-AIDS-203A/PC-CS-AIML-205A

Time : Three Hours] [Maximum Marks : 75

Note : Attempt *five* questions in all, selecting at least *one* question from each unit. All questions carry equal marks.

UNIT–I

1. (a) Give an introduction to C++ with an illustrative C++ program.

(b) List some popular application areas of object-oriented programming.

2. (a) What is the purpose of an abstract class and what are its properties? Give an example of an abstract class.

(b) Distinguish between :

(i) Classes and objects.

(ii) Inheritance and polymorphism.

UNIT–II

3. (a) Why do we need friend functions? What are the characteristics of friend function? Illustrate the use of friend function class using a suitable example.

(b) Define constructors and destructors as used in C++. What are the types of constructors?

4. What are the advantages of Inheritance? Explain different types of Inheritance in C++ with examples.

UNIT–III

5. What is a virtual function and a pure virtual function? How is dynamic binding implemented with virtual functions?

6. What is the advantage of operator overloading in C++? What is its syntax and rules? Describe operator overloading with the help of a suitable example.

UNIT–IV

7. What are the advantages of exception handling over traditional error handling? How is exception handling carried out in C++? List the standard exceptions which can be used in C++ programs.

8. Answer the following question in brief :
   (a) What are the types of streams in C++?
   (b) Distinguish between sequential access and random access of files.
   (c) What are Templates? How are templates used to define classes and functions?