BT-3/D-22   43330

OBJECT ORIENTED PROGRAMMING
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) What do you understand by Data Abstraction ? What are the advantages of using an Object Oriented approach to develop the software. **8**

   (b) What is the difference between compile time and run time polymorphism ? Explain using suitable examples. **7**

2. (a) What is a class ? What is the relationship between object and class ? Write a program that shows how to access member functions. How to create and access object in C++ ? **10**

   (b) What is the concept of namespace in C++ ? Explain its importance. **5**

Unit II

3. (a) What do you understand by Visibility Modifiers ? Discuss the access control to the public, private and protected members of derived class in case of public derivation, private derivation and protected derivation. 8

(b) What is the use of friend functions ? Write a code in C++ to access friend class. 7

4. (a) Describe the working of constructors and destructors in Inheritance. 7

(b) Explain the concept of Dynamic memory allocation and deallocation using new and delete keywords. 8

Unit III

5. (a) What is operator overloading ? Write a program in C++ to overload and the + operator as a friend function. 10

(b) Under what circumstances overloading using friend function becomes necessary ? 5

6. (a) Why do we use Virtual functions ? Explain. 7

(b) When do we make a virtual function "pure" ? What are the implications of making a function a pure virtual function ? 8

Unit IV

7. (a) What is an exception ? Explain exception handling mechanism of C++ with suitable example.   8

   (b) Write a function template for finding the maximum value in an array.   7

8. Write short notes on the following :   15
   (a) Sequential and random file operations.
   (b) Rethrowing an exception
   (c) Exception and Inheritance.