

**BACHELOR IN COMPUTER
APPLICATIONS****Term-End Examination****December, 2007****CS-72 : C++ AND OBJECT ORIENTED
PROGRAMMING***Time : 2 hours**Maximum Marks : 60***Note :**

- (i) Question number 1 is **compulsory**.
- (ii) Attempt any **three** questions from the rest.

1. (a) Differentiate between Procedural Programming and Object Oriented Programming. List and explain the components of OOP. Also explain any five characteristics of OOP. 8

(b) What is Inheritance ? Explain, with examples, the various types of inheritance. Explain any four advantages of inheritance. 6

- (c) What are templates ? Write their syntax and usage. Design a function template in C++ to sort an array. 10
- (d) What is the significance of function overloading ? Explain the various methods for overloading functions, giving examples of each. 6
2. (a) Justify the need of the scope resolution operator for accessing global variables, with an example. 4
- (b) What are friend function and friend class ? Write a program to add 2 distances using friend function expressed in meters & cm and feet & inches. 6
3. (a) What is Operator Overloading ? Overload the '+' operator for adding two complex numbers. 5
- (b) What is Polymorphism ? How do we attain Run time Polymorphism ? Explain with an example. 5
4. (a) What are Streams ? Explain the input and output streams. Write a program to demonstrate the application of either the input or output operator for user defined types. 5
- (b) What are Macros ? Explain their advantages and usage with an example. 5

5. Write short notes on the following with a suitable example for each :

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- (a) SIZEOF operator
- (b) Bitwise operator
- (c) Use Case Diagram
- (d) Nested Classes
- (e) Copy Constructor

