

END-TERM EXAMINATION

THIRD SEMESTER [B.TECH.] – DECEMBER-2007

Paper Code: ETIT-209

Subject: Object Oriented Programming using C++

Paper ID: 31209

(Batch: 2004-2006)

Time : 3 Hours

Maximum Marks : 75

Note: Attempt one question from each unit. Q.No.1 is compulsory.

(10x2.5=25)

- Q.1 (a) What is the difference between inheritance and delegation?
 (b) What are the main features of object oriented programming.
 (c) List different methods of realizing polymorphism.
 (d) What are the differences between normal variables and reference variables?
 (e) What are the benefits of strict type checking?
 (f) Explain the need for type conversion.
 (g) What are the differences between default and parameterized constructors?
 (h) What is the order of construction and destruction of objects?
 (i) List the operators that cannot be overloaded and justify why they cannot be overloaded.
 (j) What is void pointer? Explain.

UNIT-I

- Q.2 (a) What are the enhancements added to C++ apart from the object oriented features? (2.5)
 (b) Explain the need of default arguments. Write an interactive program for drawing chart of marks scored by a student in different using default value parameters. (10)
- Q.3 (a) What are the different types of parameter passing methods supported in C++? Explain. (5)
 (b) What are inline functions? Write an interactive program to find the maximum of two numbers using inline function. (7.5)

UNIT-II

- Q.4 (a) What are the differences between structures and classes in C++? (2.5)
 (b) Write a program for adding two vectors (which are objects of the class vector). Use dynamic data members instead of arrays for storing vector elements. (7.5)
- Q.5 (a) What are constructor and destructors? Explain how they differ from normal functions. (2.5)
 (b) Write a program to model time class using constructor. The data members are hour, minute and second. Write functions to add two time values and display it. (10)

UNIT-III

- Q.6 (a) Explain the syntax of binary operator overloading. How many arguments are required in the definition of an overloaded binary operator? (2.5)
 (b) Write a program to overload unary operator for processing counters. It should support both upward and downward counting. (10)
- Q.7 (a) What are the differences between access specifiers private and protected? (2.5)
 (b) What are abstract classes? Write a program having student as an abstract class and create derived classes like Engineering, Science, Medical, etc. from the student class. Create their objects and process them. (10)

UNIT-IV

- Q.8 (a) What is a class template? Explain the syntax of a class template with suitable examples. (5)
 (b) What is function template? Write a function template for finding largest number in a given array. The array parameters must be of generic data types. (7.5)
- Q.9 (a) Explain the various file stream classes needed for file manipulation. (5)
 (b) Write an interactive program that accepts students' score and prints the result to a file. (7.5)
