

II B.Tech II Semester Supplementary Examinations, April/May 2005
OBJECT ORIENTED PROGRAMMING
(Common to Computer Science & Engineering, Information Technology,
Computer Science & Systems Engineering and Electronics & Computer
Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. Discuss about the following, with examples.
 - (a) Classes
 - (b) Objects
 - (c) Methods
2.
 - (a) Compare and contrast declaring a constant with const keyword Vs. fixing it using the preprocessor directive?
 - (b) Illustrate four functions in the < string.h> header file.
 - (c) Differentiate the / operator with % operator illustratively. Enumerate the logical and relational operators in C. Compare their precedence values.
3.
 - (a) What is the difference between default constructor and other constructors. Explain with an example.
 - (b) Illustrate the difference between a constructor and a destructor with example.
 - (c) How and why is the scope resolution operator : : used in class function? Illustrate with an example.
4. Implement using C++ single linked list with create(), to create the list search() to search an element in the list and delete() to delete the specified element.
5. Create a base class called shape. Use this class to store two double type values that could be used to compute the area of a given geometrical objects. Derive two specific classes called triangle and rectangle from the basic shape. Add to the base class, a member function get _ data () to initialize base class data members and another member function display _ area () to compute and display the area of geometrical objects. Make display _ area () as a virtual function and redefine this function in the derived classes to suit their requirements. Using these three classes, design a program that will accept dimensions of a triangle and rectangle interactively and display the area. Remember the two values given as input will be treated as lengths of two sides in the case of rectangles and as base and height in the case of triangles, and used as follows.
Area of rectangle = X * Y
Area of triangle = 1/2 * X * Y

6. (a) What is pure virtual functions. Write down all the rules for writing out pure virtual function. Write an example program to demonstrate a pure virtual function.
- (b) Write a C++ program to find the factorial of a given number using dynamic binding.
7. (a) Are the overloaded operators like the normal functions? Explain?
- (b) What should the prefix and postfix versions of operator++ return? Explain with suitable examples?
8. (a) Explain under what circumstances the following statements would be used?
 - i. `throw;`
 - ii. `void fun1(float x) throw()`
 - iii. `catch(... ..)`
- (b) Write a program to demonstrate the concept of rethrowing an exception?
