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06CS44

**Fourth Semester B.E. Degree Examination, June / July 08**  
**Object Oriented Programming with C++**

Time: 3 hrs.

Max. Marks:100

**Note : Answer any FIVE full questions.**

- 1 a. Differentiate procedure oriented and object oriented programming. (04 Marks)  
b. Why should default values be given to function argument in the function prototype? Explain with example. (08 Marks)  
c. What is an inline function? What are the advantages of having a function inline? Write a C++ program to find cube of a number using inline function. (08 Marks)
- 2 a. Explain class objects. With the help of example explain how data hiding and encapsulation characteristics are achieved in C++. (08 Marks)  
b. How do namespace help in preventing pollution of the global namespace? (04 Marks)  
c. Write a C ++ program to define a class called box with length, breadth and height as data members, and input (), print () and volume () as member function. (08 Marks)
- 3 a. Explain how new and delete operators manage memory allocation /deallocation dynamically. (08 Marks)  
b. What is a constructor? What are its characteristics? Explain different types of constructors with examples. (12 Marks)
- 4 a. What is inheritance? With suitable examples, discuss various inheritances supported by C++. (10 Marks)  
b. What is the effect of using the protected access specifier on the visibility of a base class member? (04 Marks)  
c. What are the ambiguities that arise in multiple and diamond shaped inheritance? How can they be removed? (06 Marks)
- 5 a. What are virtual functions? Explain the mechanism of virtual functions. (08 Marks)  
b. What is pure virtual function? What is its significance? Explain with example. (06 Marks)  
c. Briefly describe the class hierarchy provided by C++ for stream handling. (06 Marks)
- 6 a. Describe the use of the following manipulators :  
i) Setw () ii) setiosflags () iii) setprecision () iv) setfill () v) resetiosflags (). (10 Marks)  
b. What are the rules for operator overloading? Write a C++ program to overload '+' operator to concatenate two string variables. (10 Marks)
- 7 a. How does the compiler interpret the operator overloading? Write a C++ program to overload unary minus to change the sign of each of its data items of an object. (10 Marks)  
b. Explain new style operators in C++. (10 Marks)
- 8 a. What is standard template library? Name some of the template classes that are available in STL. Write C++ program to swap two numbers using function template. (10 Marks)  
b. What are three traditional C – style solution for handling of error generating codes. Explain briefly. (10 Marks)

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