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**Third Semester B.E. Degree Examination, June/July 2013**  
**Object Oriented Programming with C++**

Time: 3 hrs.

Max. Marks:100

**Note: Answer FIVE full questions, selecting  
atleast TWO questions from each part.**

**PART – A**

- 1 a. What is a statement? Explain jump statements with syntax. (08 Marks)
- b. What is inline function? Write a C++ program to find maximum of 2 numbers using inline function. (04 Marks)
- c. What is function overloading? Explain with example, why function overloading is important? (08 Marks)
- 2 a. What is class? Explain the syntax of class. (08 Marks)
- b. Mention the restrictions that are placed on static member functions. (04 Marks)
- c. What is parameterized constructor? Explain the different methods of passing arguments to the parameterized constructor with example. (08 Marks)
- 3 a. What are friend functions? What are the advantages of using friend functions? Write a C++ program to find sum of 2 numbers, using friend functions. (08 Marks)
- b. What are generic functions? Explain with syntax. (04 Marks)
- c. Write a C++ program to demonstrate the addition of two longitude and latitude values by overloading + operator. (08 Marks)
- 4 a. What is inheritance? Explain the syntax of defining derived classes. (08 Marks)
- b. What is copy constructor? When the copy constructor is employed? Explain with syntax. (04 Marks)
- c. Explain protected base – class inheritance, with suitable example. (08 Marks)

**PART – B**

- 5 a. Explain when constructors and destructors are executed? Explain the order of invocation of constructors and destructors in multilevel inheritance with a suitable program. (10 Marks)
- b. Explain how to pass parameters to base – class constructors, with suitable program. (10 Marks)
- 6 a. What is virtual function? What is the use of virtual function? Write a C++ program to demonstrate calling of virtual function through a base class relevance. (10 Marks)
- b. What is pure virtual function? Explain with syntax. (04 Marks)
- c. What is an abstract class? How it supports run-time polymorphism? (02 Marks)
- d. Mention the differences between early binding and late binding. (04 Marks)
- 7 a. What are streams in C++? Mention four built – in streams that are automatically opened when a C++ program begins execution. (06 Marks)
- b. Explain width( ), precision( ) and fill( ) functions. (06 Marks)
- c. What are I/O manipulators? List and mention the purpose of C++ I.O manipulators. (08 Marks)
- 8 a. What is an exception? Explain the syntax of try and catch. (05 Marks)
- b. What are containers? Mention any four container classes defined by STL. (05 Marks)
- c. Explain any six commonly used member functions defined by vector. (06 Marks)
- d. Explain any four commonly used member functions of map. (04 Marks)

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