



Reg. No. : .....

Name : .....

**Fourth Semester B.Tech. Degree Examination, May 2013  
(2008 Scheme)**

**Branch : Computer Science**

**08.404 : OBJECT ORIENTED TECHNIQUES (RF)**

Time: 3 Hours

Max. Marks : 100

**PART – A**

Answer **all** questions.

1. What is meant by data abstraction ?
2. Write a note on IO manipulators.
3. Compare pointer variables and reference variables.
4. Write a note on inline functions.
5. Explain the use of destructors, with the help of examples.
6. Explain the use of 'this' pointer.
7. Explain how encapsulation is achieved in C++.
8. Write a note on virtual functions.
9. Explain multiple and multilevel inheritance.
10. Write a note on function templates. **(10×4= 40 Marks)**



**PART – B**

**Module – I**

11. a) Explain object orientation principles, in detail. **10**
- b) With the help of example, illustrate the concept of a function returning a reference. **10**

OR



12. a) Explain how the relationship between classes are found. 10
- b) Using reference variable, define a function to interchange the values of two variables. 10

### Module – II

13. a) Explain friend function, with the help of examples. What are its advantages and disadvantages ? 10
- b) Define a class to represent stack data structure with push, pop and is empty operations. 10

OR

14. a) Explain the use of copy constructor, with examples. 10
- b) Define a class Complex Number having data members real part and imaginary part. Define member functions to
- i) add and
  - ii) multiply two complex numbers 10

### Module – III

15. a) Explain the use of virtual base classes, with examples. 10
- b) Define classes Geometric Shape, Rectangle, Square and Circle, with proper relationship between them, to compute their area. 10
- OR
16. a) Write a note on overriding of member functions. 10
- b) Define a class template stack with push and pop operations. Create stack objects with integer and real data items. 10