**Roll # Name: Section:\_\_\_\_\_\_\_**

**National University of Computer & Emerging Sciences, Karachi Campus**

**CL103 – Computer Programming Lab– Fall 2015**

**Mid-Term II**

**Time Allowed: 1 hour and 30 Minutes Points: 30**

Q.No:01. Write a program to make classes named as Rectangle and square having sides in feet and inches. Create a function CalcPerimeter () to calculate the perimeter.

Q.No:02. Write a program to make a class Time to represent time. The class should have three fields for hours, minutes and seconds. It should have constructor to initialize the hours, minutes and seconds. A function printTime() to print the current time. Overload the following operators:

* (+) operator to add two time objects based on 24 hour clock.
* Operator ‘<’ to compare two time objects.

Q.No:03. Define a class named PrimeNumber that stores a prime number. The default constructor should set the prime number to 1. Add another constructor that allows the caller to set the prime number. Also, add a function to get the prime number. Finally, overload the prefix and postfix ++ and -- operators so they return a PrimeNumber object that is the next largest prime number (for ++) and the next smallest prime number (for --). For example, if the object's prime number is set to 13, then invoking ++ should return a PrimeNumber object whose prime number is set to 17. Create an appropriate test program for the class.