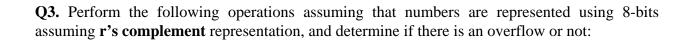**COE 200, Term 041**
Fundamentals of Computer Engineering

Quiz# 1

Date: Monday, Oct 4 (9:00-10:00AM)

Q1. Represent the following numbers in **binary** and **hexadecimal**. Use as many bits as needed, and approximate the fraction to **4 binary digits**:

   i. $(111.4)_{10}$

   ii. $(43.4)_{6}$

Q2. Assume that an 8-bit register contains the following number 10001110. Determine the content of the register assuming that it represents:

   i.   an unsigned number.

   ii.   a 2's complement signed number.

Q3. Perform the following operations assuming that numbers are represented using 8-bits assuming **r's complement** representation, and determine if there is an overflow or not:

    i.   11110011 + 11111010

    ii.   5B - E0

Q4. Determine, in **binary** and **decimal**, the *smallest (negative)* number and the *largest (positive)* number that can be stored using the 2`s complement notation, assuming *8-bit representation*.