Name: **Id#**

COE 202, Term 052
Fundamentals of Computer Engineering

Quiz# 1

Date: Monday, Feb. 27

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

i. $(200.6)_{10}$

ii. $(54.5)_{8}$

Q2. Assume that an 8-bit register contains the following number 10111000. 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. $(11101110)_2 + (11110111)_2$

ii. $(4C)_{16} - (D0)_{16}$

Q4. Determine, in **<u>binary</u>** and **<u>decimal</u>**, the *smallest (negative)* number and the *largest (positive)* number that can be stored using the 2`s complement notation, assuming ***10-bit*** *representation*.