Name: KEY   **Id#**

COE 205, Term 052

Computer Organization & Assembly Programming

Quiz# 2

Date: Monday, March 6, 2006

Q1. Represent the numbers given below in **Hexadecimal** in the format specified in the table assuming **8-bits**:

Number	Sign-Magnitude	1's Complement	2's Complement
+20	14	14	14
+108	6C	6C	6C
-20	94	EB	EC
-108	EC	93	94

Q2. Using the 2's complement Hexadecimal representation obtained in Q1, perform the following operations and indicate if an overflow occurs or not:

i. (-108) - (20)

= 94 + EC

```
        9   4
  +     E   C
      -----------
        8   0
```
No overflow because we are adding two negative numbers and got a negative number.

ii. (108) + (-20)

= 6C + EC

```
        6   C
  +     E   C
      -----------
        5   8
```
No overflow because we are adding positive and negative numbers.

Q3. Determine the ASCII representation of the string **AE31** assuming **Even Parity**. Note that the ASCII code of character A is 41H and that of character 0 is 30H.

A	**E**	**3**	**1**
0100 0001	**1**100 0101	**0**011 0011	**1**011 0001