Name: **Id#**

COE 205, Term 003

Computer Organization & Assembly Programming
Quiz# 3

Date: Sunday, July 22

Q1. Give a single logic instruction to do each of the following:

a. Convert the ASCII code of the character stored in AL from lower case to upper case. Note that the ASCII code of 'A'=41h and the ASCII code of 'a'=61h.

b. Convert the number stored in DX to the closest even number that is smaller or equal to that in DX.

c. Replace the content of the word pointed by SI by its one`s complement.

Q2. Write an 8086 assembly code to implement the following assuming that registers contain signed numbers:

```
For (I=-5; I<5; I++)
        IF AX >= BX THEN
             BX=BX*2;
        ELSE
                IF (BX < CX) AND (BX < DX) THEN
                        AX=AX+1
                ELSE
                        DX=DX/2
                END_IF
        END_IF
END_FOR
```

Q3. Suppose that register AX=8BEDh, CX=FF44h and the carry flag is 0. Determine the content of register AX and the carry flag after executing the following instruction:

```
ROR AX, CL
```

Q4. Write an 8086 assembly program to multiply the signed content of register AL by 19.25 based on shift and addition instructions using the smallest number of instructions possible.