Name: **Id#**

COE 205, Term 071

Computer Organization & Assembly Programming

Quiz# 5

Date: Saturday, Dec. 8, 2007

Q1. Write the **<u>minimum</u>** number of instructions to do the following using only **<u>logical</u>** instructions:

1. Clear bit 0, Set bit 7, and Complement bit 4 of register AL.

2. Store the content of register CX into register AX <u>using only</u> **XOR** instructions.

Q2. Given that **TABLE** is defined as: **TABLE db 'This Is Not Difficult'**

Determine the content of register **AL** after executing the following code and describe briefly what the code is doing:

```
            MOV ECX, lengthof TABLE
            XOR AL, AL
            LEA EBX, TABLE
            DEC EBX
    Next:   JECXZ ENL
            INC EBX
            MOV AH,  [EBX]
            OR AH, 20h
            CMP AH, 'i'
            LOOPNE Next
            JNE  ENL
            INC AL
            JMP Next
    ENL:
```

Q3. Write an assembly program to implement the following code assuming that **unsigned** numbers are represented in registers:

```
WHILE (AX ≥ 0) {
   IF (BX < CX) OR (BX <= 100) {
    BX = BX + DX;
   } ELSE {
    BX = BX – 2;
   }
   AX = AX – 1;
}
```