Name: **Id#**

ICS 233, Term 081

Computer Architecture & Assembly Language

Quiz# 2

Date: Monday, November 3, 2008

Q1. Consider an 8-bit register that has the binary number 11010101. Determine the decimal value of the number if it represents:

(i) An unsigned number.

(ii) A signed number in 2's complement representation.

Q2. Perform the following arithmetic operations assuming that numbers are represented using **8-bit 2's complement** representation. Indicate in your answer when an *overflow* occurs.

(i) AC + E9

(ii) 7E – 90

Q3. Fill the blanks in the following questions:

(i) Assuming unsigned number representation, $\mathbf{(AB)_{16}}$ represents the decimal number _____.

(ii) The decimal number **500** is represented in binary as _____.

(iii) The binary number **01101000** represents character **_____,** and uses an _____ parity bit. Note that the ASCII code of character **A** is 41H and that of character **a** is 61H.

(iv) Assuming **6-bit 2`s complement** representation, the smallest (negative) number is _____ in binary and _____ in decimal and the largest (positive) number is _____ in binary and _____ in decimal**.**