Name: Id#

COE 202, Term 151

Digital Logic Design

Quiz# 1

Date: Sunday, Sep. 6, 2015

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# **Q1.** Determine the **decimal** value of the following numbers:

## (11011100.011)2

## (2A.C)16

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# **Q2.** Represent the following numbers in **binary**. Use as many bits as needed, and use only **4 binary** digits to represent the fraction:

## (499.7)10

## (E3.5)16

# **Q3.** Perform the following arithmetic operations in the given bases:

## (01110111)2 + (01011011)2

## (A2)16 - (8E)16

## (5E)16 \* (32)16

Q4. Fill in the Spaces: (Show all work needed to obtain your answer)

1. Given that the base R number (222)R is equal to (62)10. Then the base R = \_\_\_\_\_\_.
2. The largest unsigned decimal value that can be expressed using 6 binary integer digits and 2 binary fractional digits is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
3. The number **53** is represented in **BCD** as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
4. Given that an 8-bit register stores the ASCII code of a character in the least significant 7 bits and a parity bit in the most significant bit. Assuming that the register contains the hexadecimal value **C4** representing a character, the character stored in the register is \_\_\_\_\_\_\_ and the parity used is \_\_\_\_\_\_\_\_\_\_\_(i.e. even or odd parity). Note that the ASCII code of character ‘A’ is 41h and the ASCII code of character ‘a’ is 61h.