

Name:

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COE 202, Term 151
Digital Logic Design

Quiz# 1

Date: Sunday, Sep. 6, 2015

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

i. $(11011100.011)_2$

ii. $(2A.C)_{16}$

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

i. $(499.7)_{10}$

ii. $(E3.5)_{16}$

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

i. $(01110111)_2 + (01011011)_2$

ii. $(A2)_{16} - (8E)_{16}$

iii. $(5E)_{16} * (32)_{16}$

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

a. Given that the base R number $(222)_R$ is equal to $(62)_{10}$. Then the base R = _____.

b. The largest unsigned decimal value that can be expressed using 6 binary integer digits and 2 binary fractional digits is _____.

c. The number **53** is represented in **BCD** as _____.

d. 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.