King Fahd University of Petroleum and Minerals
College of Computer Sciences and Engineering
Department of Computer Engineering

COE 202 – Digital Logic Design (T161)

Homework # 01 (*due date & time: Thursday 06/10/2016 during class period*)

Late homework submission will NOT be accepted

***** Show all your work. No credit will be given if work is not shown! *****

Showing all calculations steps (i.e. final answers alone are not acceptable), solve the following problems:

Problem 1 (15 points): Convert $(44)_{10}$ to binary, octal, and hexadecimal.

Problem 2 (15 points): Convert the following binary numbers to decimal:

1. $(10101010)_2$
2. $(1001100.0011)_2$
3. $(100101.0101)_2$

Problem 3 (30 points): Convert the following decimal numbers to the stated number system:

1. $(2037.0546875)_{10} = (?)_{16}$
2. $(111.59375)_{10} = (?)_8$
3. $(61.8125)_{10} = (?)_2$

Problem 4 (30 points): Convert the following numbers to the stated number system:

1. $(B9F2.B)_{16} = (?)_8$
2. $(3635.37)_8 = (?)_{16}$
3. $(1123.2031)_4 = (?)_8$

Problem 5 (10 points): Find the proper radix *r* in the following case: $(214)_r = (AF)_{16}$