Kingdom of Saudi Arabia
Ministry of Education
Shaqra University
CCIT

CS 211 – Digital Logic Design
First Term – 1439/1440
Assignment #1
Due: **Sunday, October 7, 2018**

1. Convert the following numbers from the given base to the other three bases listed in the table:

Decimal	**Binary**	**Octal**	**Hexadecimal**
69.3125_{10}	?	?	?
?	10111101.101_2	?	?
?	?	326.5_8	?
?	?	?	$C7.A_{16}$

2. Perform the following arithmetic operations using 2's complement arithmetic and assuming a word length of 8 bits:
   a. $17_{10} - 69_{10}$
   b. $-12_{10} \times 11_{10}$
   c. $-116_{10} \div -21_{10}$

3. Calculate the decimal value which is equivalent to the binary value: 100010010110 in each of the following cases:
   a. If it represents a BCD number.
   b. If it represents a Gray Code.
   c. If it represents a signed number in the sign-magnitude form.
   d. If it represents a signed number in the 1's complement form.

4. Represent 69.3125_{10} as a single-precision floating-point binary number.