

# ECCS-1721 Digital Logic

## Homework 1

1. Convert the following Decimal numbers into unsigned binary and represent your answer in both Hexadecimal and octal. Please show me all the steps involved in your conversion:

- (a) 451  $-256-128-64-2-1=0$  111000011<sub>2</sub> 703<sub>8</sub> 1C3<sub>16</sub>  
 (b) 198  $-128-64-4-2=0$  11000110<sub>2</sub> 306<sub>8</sub> C6<sub>16</sub>  
 (c) 1040  $-1024-16=0$  10000010000<sub>2</sub> 2020<sub>8</sub> 410<sub>16</sub>  
 (d) 2021  $-1024-512-256-128-64-32-4-1=0$  1111100101<sub>2</sub> 3745<sub>8</sub> 7E5<sub>16</sub>

2. Represent the following signed Decimal numbers in 5 bits 2's complement:

- (a) -14 10010  
 (b) -9 10111  
 (c) -12 10100  
 (d) 8 01000

3. Find the addition of the following signed Decimal numbers in 5 bit two's complement, check for overflow and correct your result by sign extension

