# UNIVERSITY OF CALIFORNIA, RIVERSIDE

## Department of Computer Science and Engineering

## Department of Electrical Engineering

## CS/EE120A – Logic Design

## Homework 1

## Given April 10, Due April 16, 2001

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1. Convert the following 2's complement binary numbers to decimal, octal, & hexadecimal:
   a) 1110101101 (3)
   b) 0010110100 (3)

2. Using 8-bit 2's complement binary arithmetic, perform the following calculations:
   a) 53 - 30 (1)
   b) 30 - 53 (1)
   c) 30 + (-53) (1)

3. Using 2-input AND gates, 2-input OR gates, and NOT gates, construct the circuit for the function $F = xy' + x'y'z + xyz'$. (5)

4. Write the truth table for the function $F = xy' + x'y'z + xyz'$. (4)