

Name:

Id#

**COE 360, Principles of VLSI Design, Term 032**  
**Quiz# 2**

Date: Sunday, March 14, 2004

**Q1.** Implement the following functions using **CMOS** with the smallest number of transistors possible. Indicate the number of transistors needed for your implementation:

(1)  $F = ABC + ADC' + ABD$

(2)  $F = [AB + AC + DB + DC]'$

(3) An SR Latch. (Note that the SR latch does not have a clock input)

(4) A D-Latch.