



EECS 42 – Introduction to Electronics for Computer Science

Spring 2003,
Dept. EECS,
UC Berkeley
Course Web Site <http://www-inst.EECS.Berkeley.EDU/~ee42/>

Prof. A. R. Neureuther
510 Cory 642-4590
OH M, Tu, W, (Th), F 11

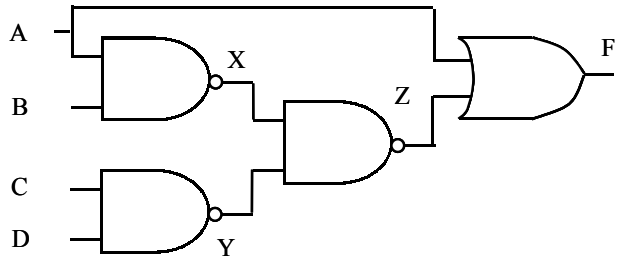
Solution Quiz #2 April 9th, 2003

Show your work so that the method can be graded for correctness and completeness and all of the points do not depend on just the final numerical value.

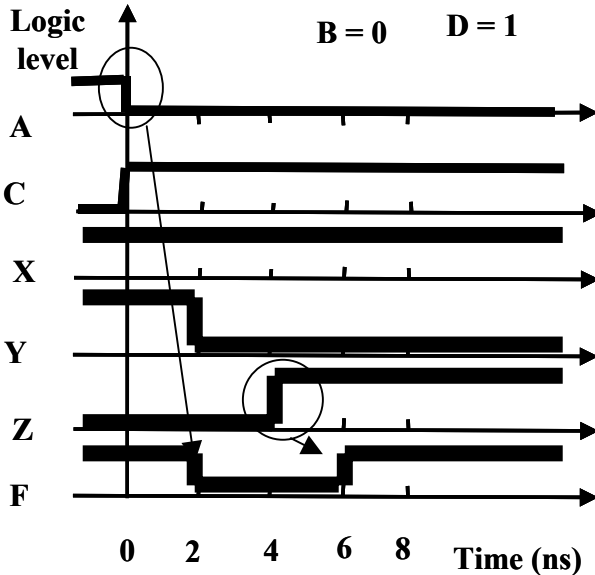
I (25 Points) Logic Circuit

a) Find a sum of products form for F.

This is a sum of products double set of NAND gates followed by an or so
 $F = (AB + CD) + A$



b) Complete the timing diagram.



II (15 Points) Dependent Sources

Find the resistance seen looking into AA'.

$V_E = (\beta + 1)i_b R_E$
 $V_{TEST} = i_b R_{IN} + V_E = i_b R_{IN} + (\beta + 1)i_b R_E$
 $V_{TEST} / i_b = R_{IN} + (\beta + 1) R_E$

