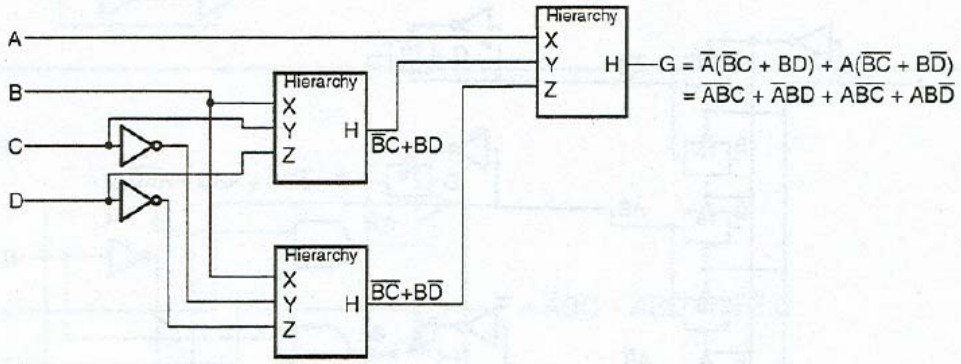
ELEC 204
HW#4 Solutions

3-2.

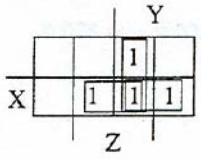


3-6.

	a)	b)
Input	Delay	Delay
C	1.6ns	1.6ns
D	1.6ns	1.6ns
$\overline{B}$	1.2ns	1.2ns
A	0.8ns	0.8ns
B	0.8ns	0.8ns
$\overline{C}$	0.8ns	0.8ns

c) The values are identical in all cases.

3-10.



$F = XZ + XY + YZ$

This is the same function as the carry for the full adder.

3-15.

A	B	C	S5	S4	S3	S2	S1	S0
0	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0	1
0	1	0	0	0	0	1	0	0
0	1	1	0	0	1	0	0	1
1	0	0	0	1	0	0	0	0
1	0	1	0	1	1	0	0	1
1	1	0	1	0	0	1	0	0
1	1	1	1	1	0	0	0	1

$S0 = C$

$S1 = 0$

$S2 = \overline{A}B\overline{C} + AB\overline{C}$

$S3 = \overline{A}BC + A\overline{B}C$

$S4 = A\overline{B} + AC$

$S5 = AB$