

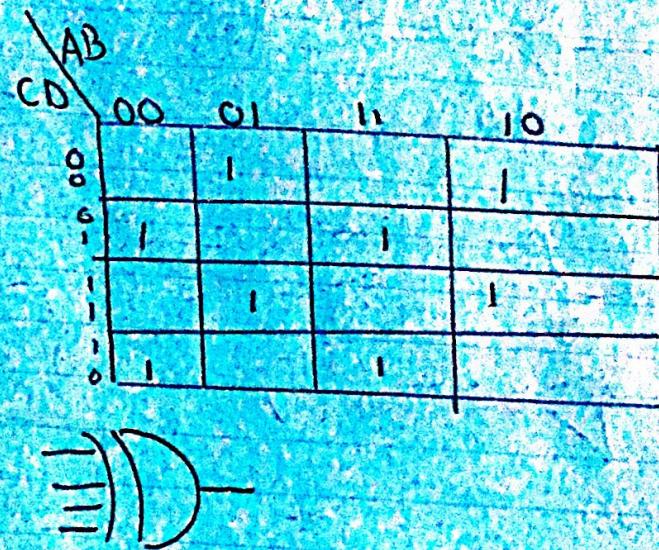
Keepon Haghshenas  
11/11/17

Digital Logic Design  
Homework Assignment:

## HW6

1)

	A	B	C	D	Y
0	0	0	0	0	0
0	0	0	0	1	1
0	0	0	1	0	1
0	0	0	1	1	0
0	0	1	0	0	1
0	0	1	0	1	0
0	0	1	1	0	0
0	1	0	0	0	1
0	0	1	0	0	0
0	0	1	1	0	0
0	1	0	0	0	1
0	1	0	1	0	1
0	1	1	0	0	0
1	0	0	0	0	0
1	0	0	0	1	0
1	0	0	1	0	1
1	0	0	1	1	0
1	0	1	0	0	1
1	0	1	0	1	1
1	0	1	1	0	1
1	1	0	0	0	0
1	1	0	0	1	1
1	1	0	1	0	1
1	1	0	1	1	0
1	1	1	0	0	0
1	1	1	0	1	1
1	1	1	1	0	1
1	1	1	1	1	0



$$\begin{aligned} Y &= \bar{A}\bar{B}(\bar{C}D + C\bar{D}) + A\bar{B}(C\bar{D} + CD) + \bar{A}B(C\bar{D} + CD) \\ &+ A\bar{B}(\bar{C}D + C\bar{D}) \\ &= C\bar{D}D(\bar{A}\bar{B} + A\bar{B}) + \overline{C\bar{D}D}(AB + \bar{A}B) \\ Y &= A \oplus B \oplus C \oplus D \end{aligned}$$

2) a)  $\frac{1011}{1101}$

b)  $\frac{1101}{1001}$

c)  $\frac{1101}{0111}$

0100

3) a)  $\frac{1011}{1101}$

b)  $\frac{1101}{1001}$

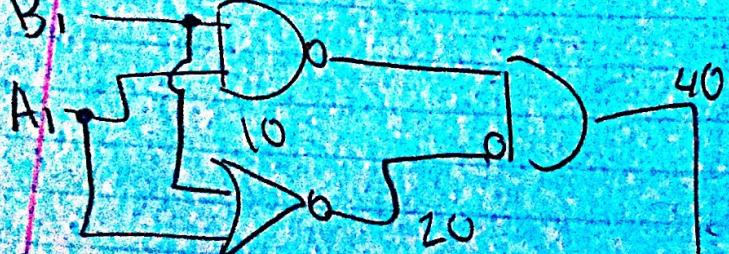
c)  $\frac{1101}{0111}$

d) 0100

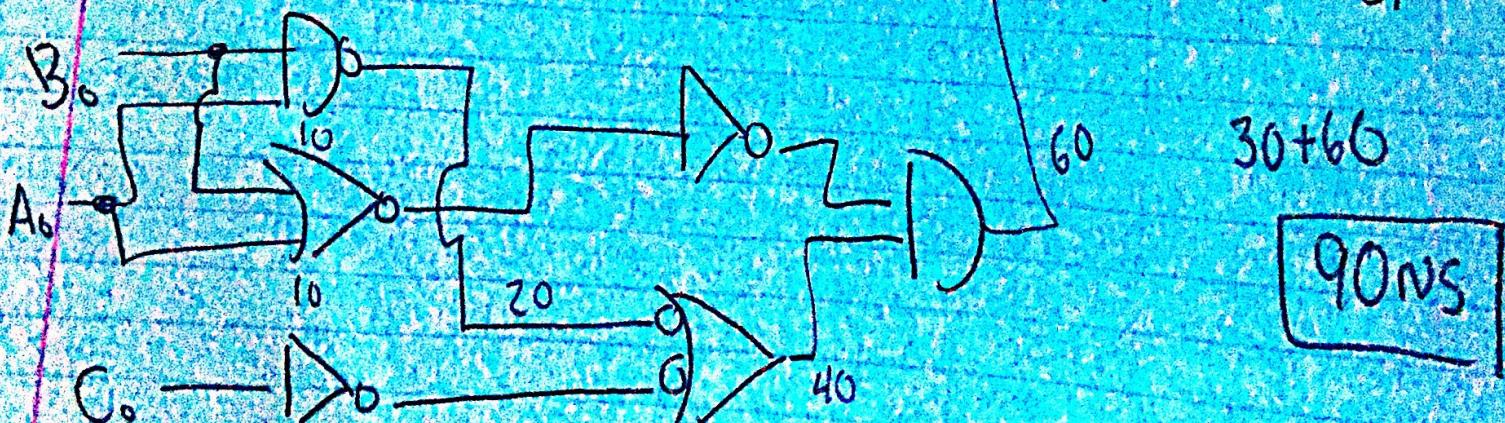
4) a

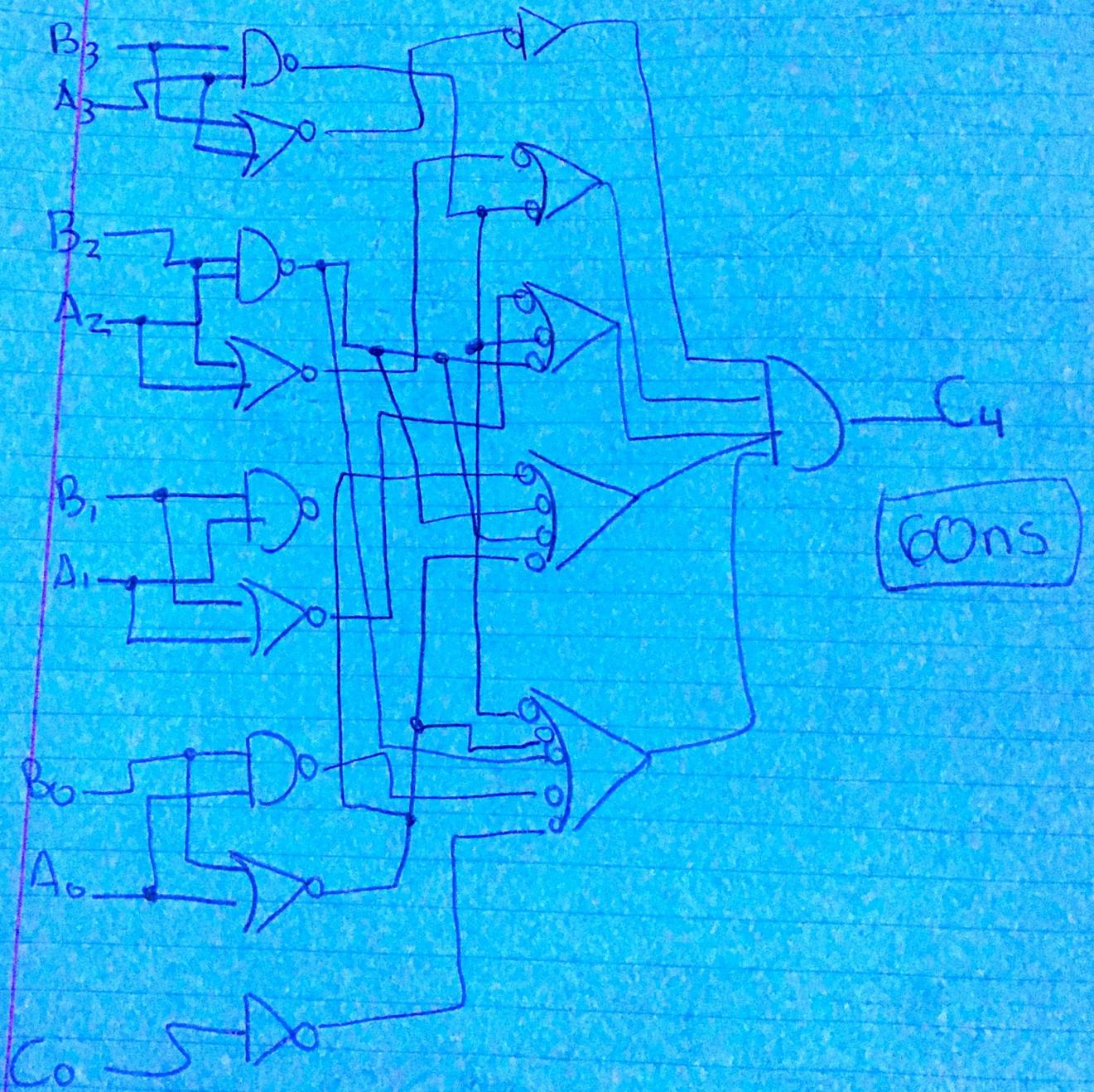


B\_1

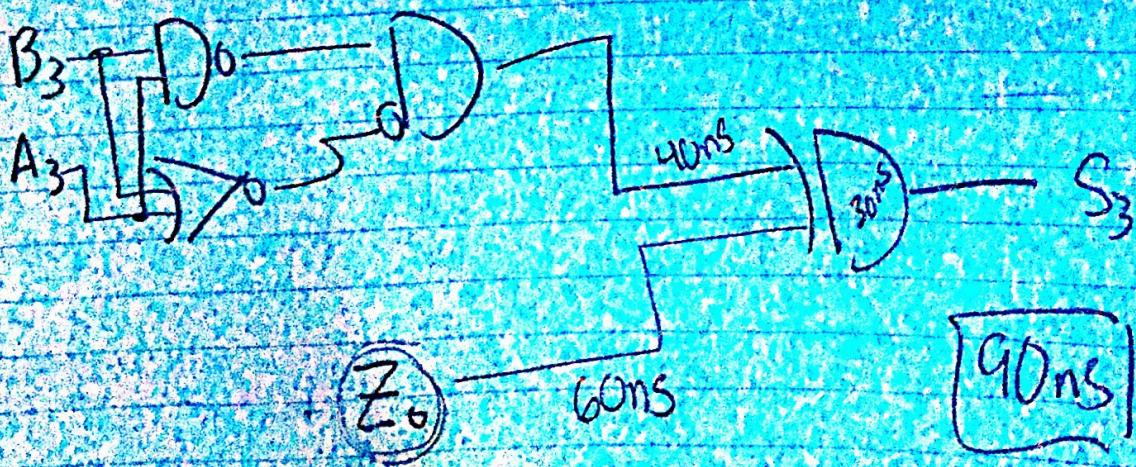
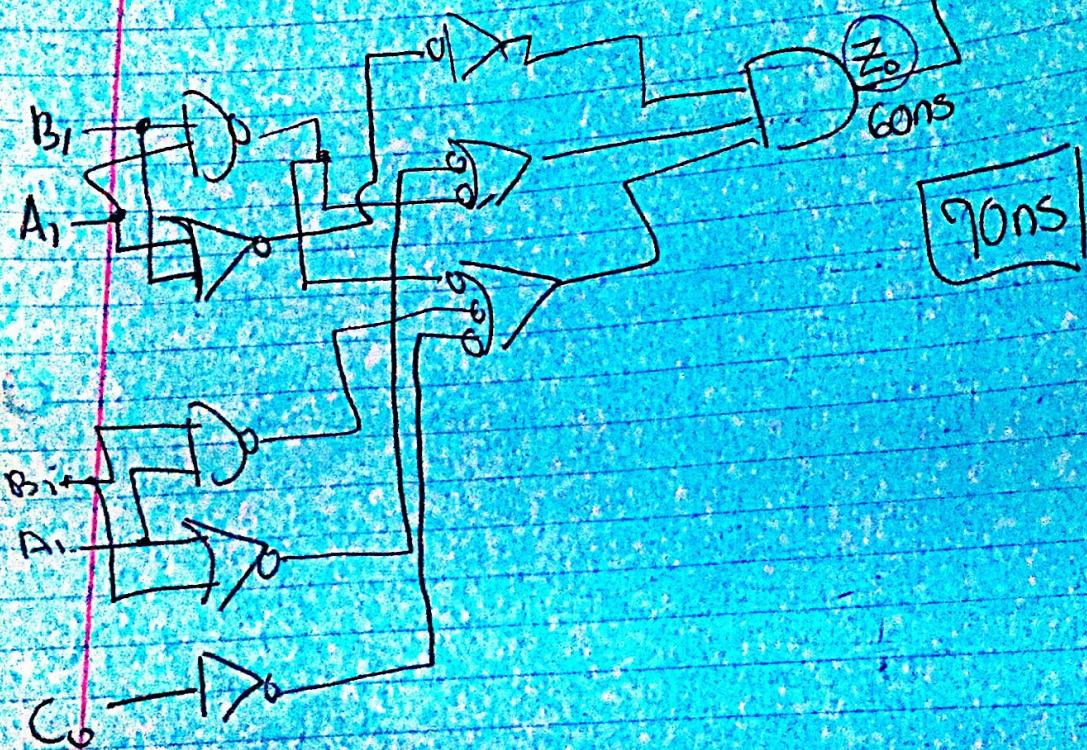


A\_6





Chapter 5:



5)

$$9) \quad \epsilon_p = 3t + 3t \\ = 90\pi s \\ \omega_b = 15$$

$$10) \quad 3(g) + 3(g) \\ \text{54 ns} \\ @ E = 9 \text{ ns}$$

$$13) 12+10=22ns$$

19)

