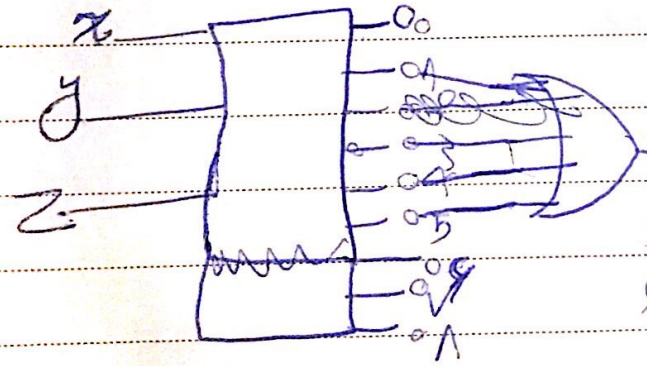
۹۸۳۱۰۳ تمرین مقدماتی

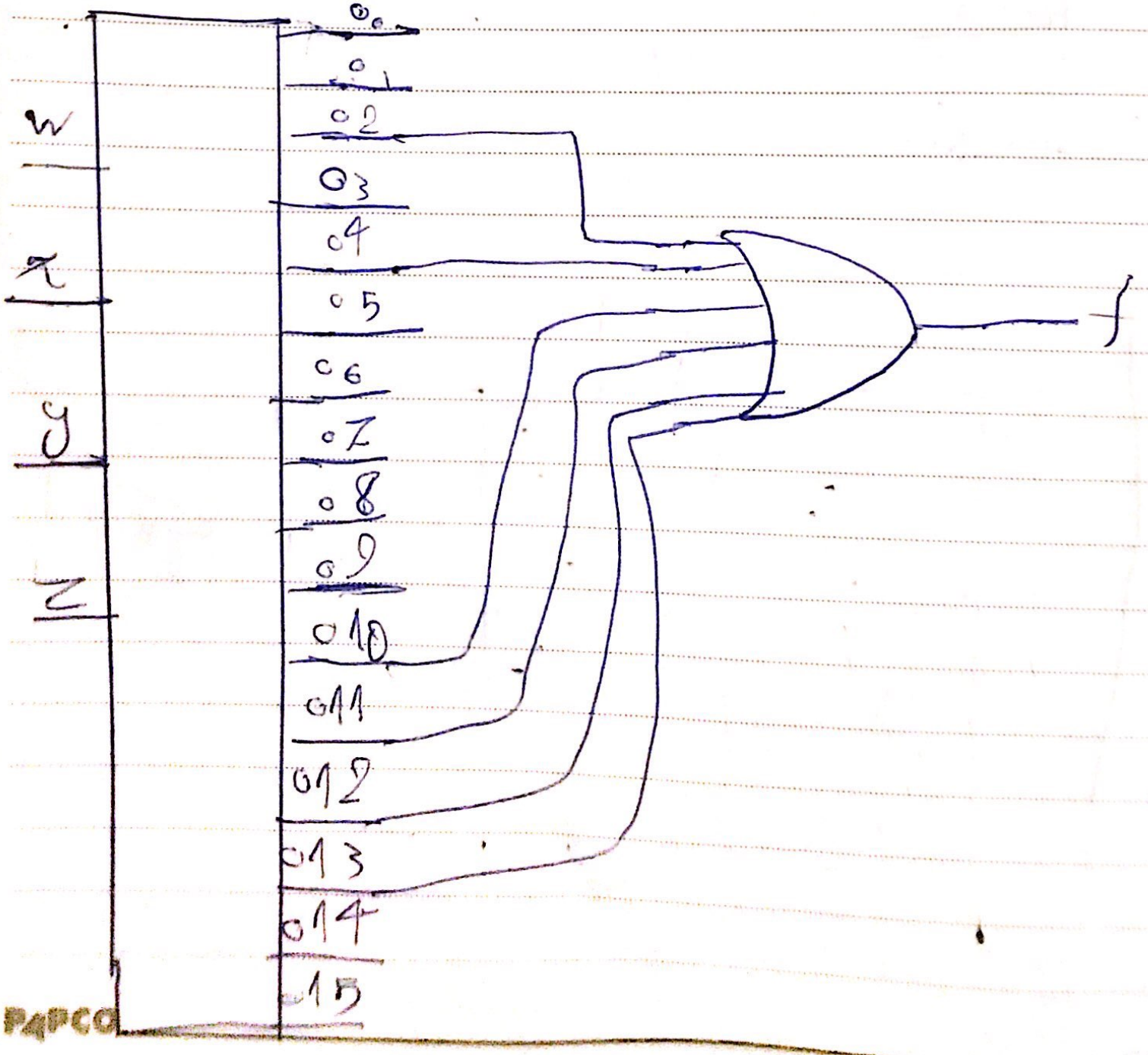
الف)

۹- $x\bar{y}z + x\bar{y}\bar{z} + \bar{x}yz + \bar{x}\bar{y}z$



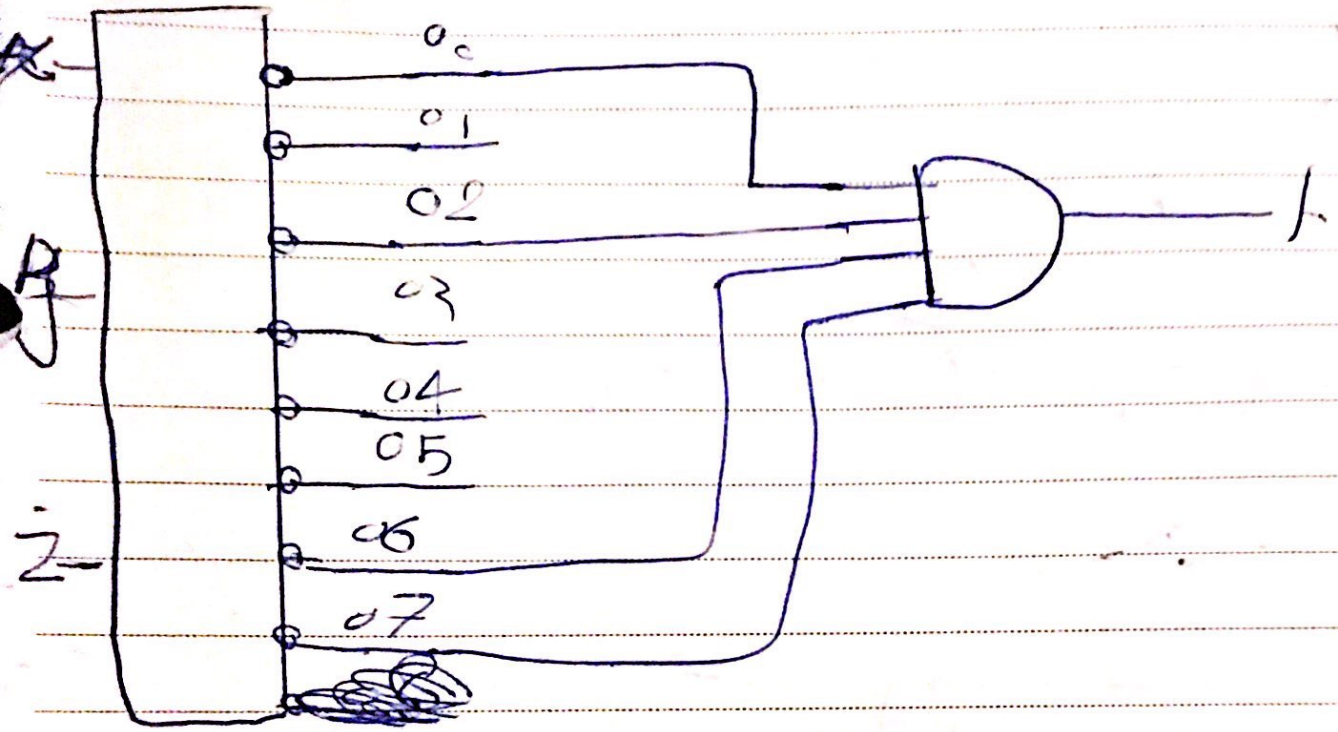
	x	y	z	O_0	O_1	O_2	O_3	O_4	O_5	O_6	O_7
۰	۰	۰	۰	۱							
۱	۰	۰	۱		۱						
۲	۰	۱	۰								
۳	۰	۱	۱			۱					
۴	۱	۰	۰					۱			
۵	۱	۰	۱						۱		
۶	۱	۱	۰							۱	
۷	۱	۱	۱								۱

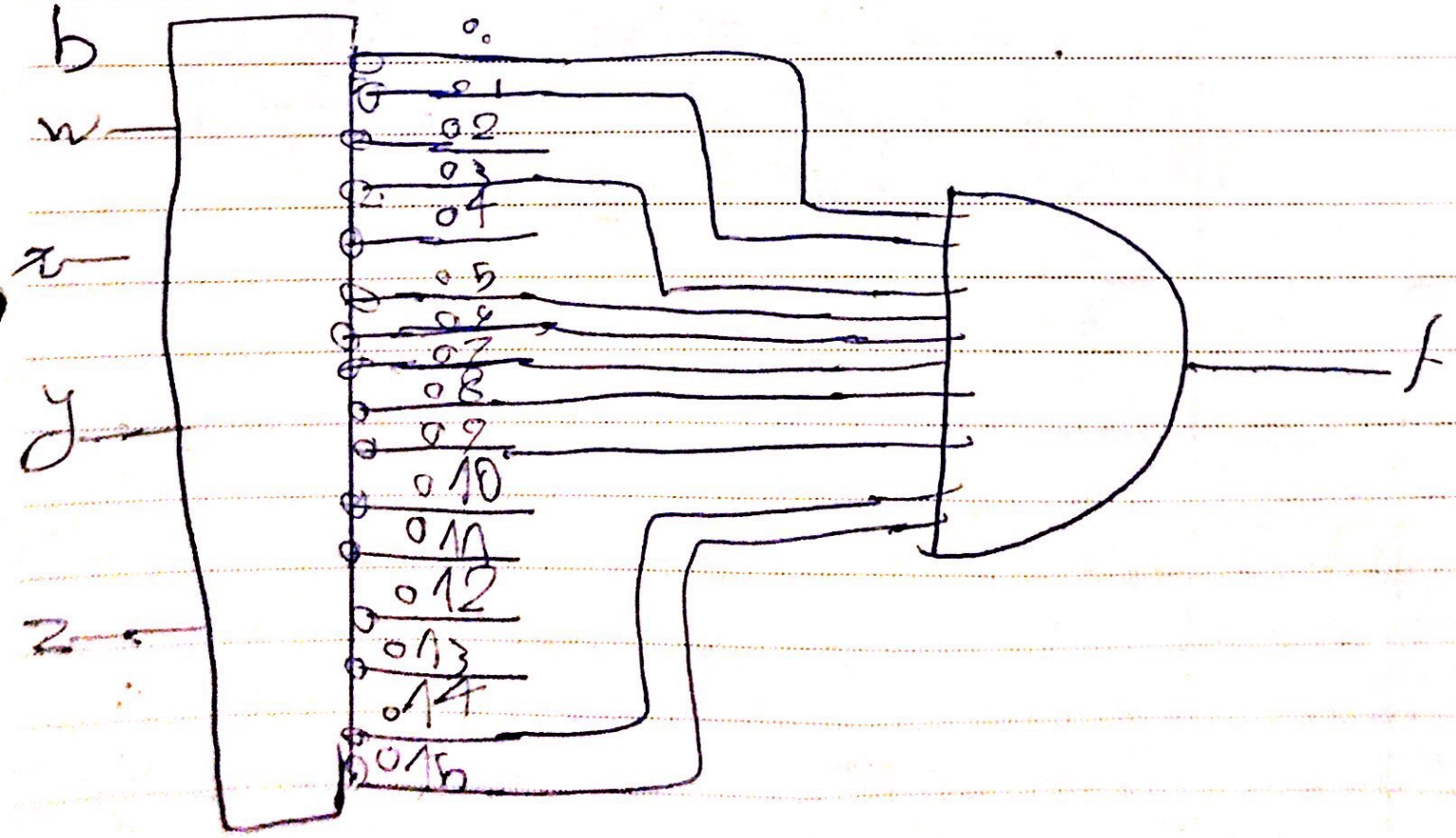
b) $f = \Sigma m(2, 4, 10, 11, 12, 13)$



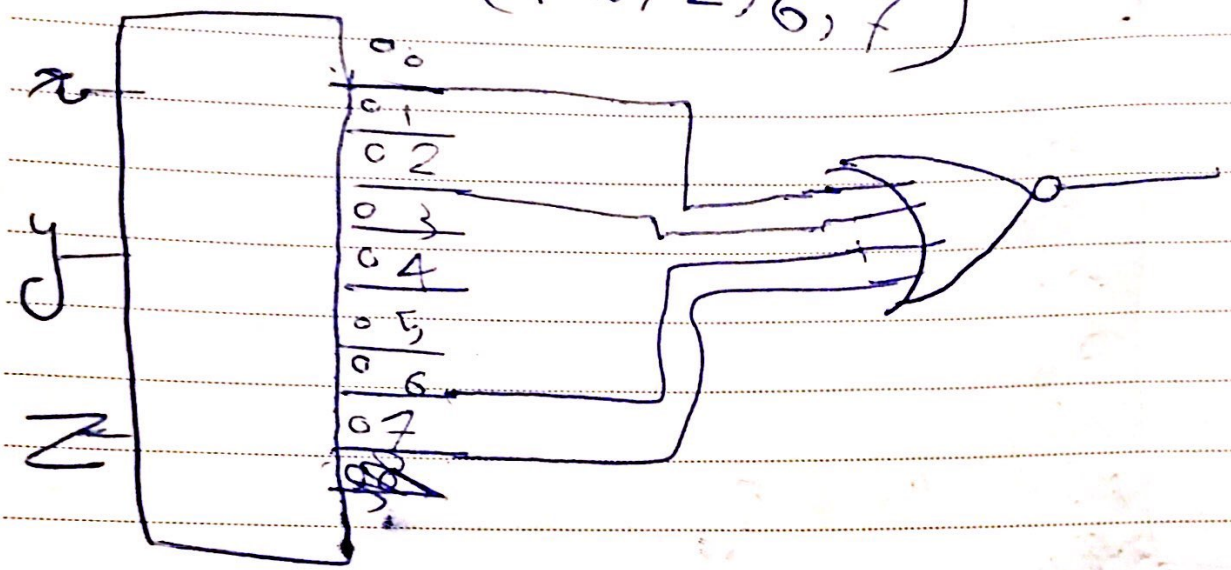
a) $F(x,y,z) = (x+z)(\bar{x}+\bar{y})$

$= (x+z+y)(x+z+\bar{y})(\bar{x}+\bar{y}+z)(\bar{x}+\bar{y}+\bar{z})$

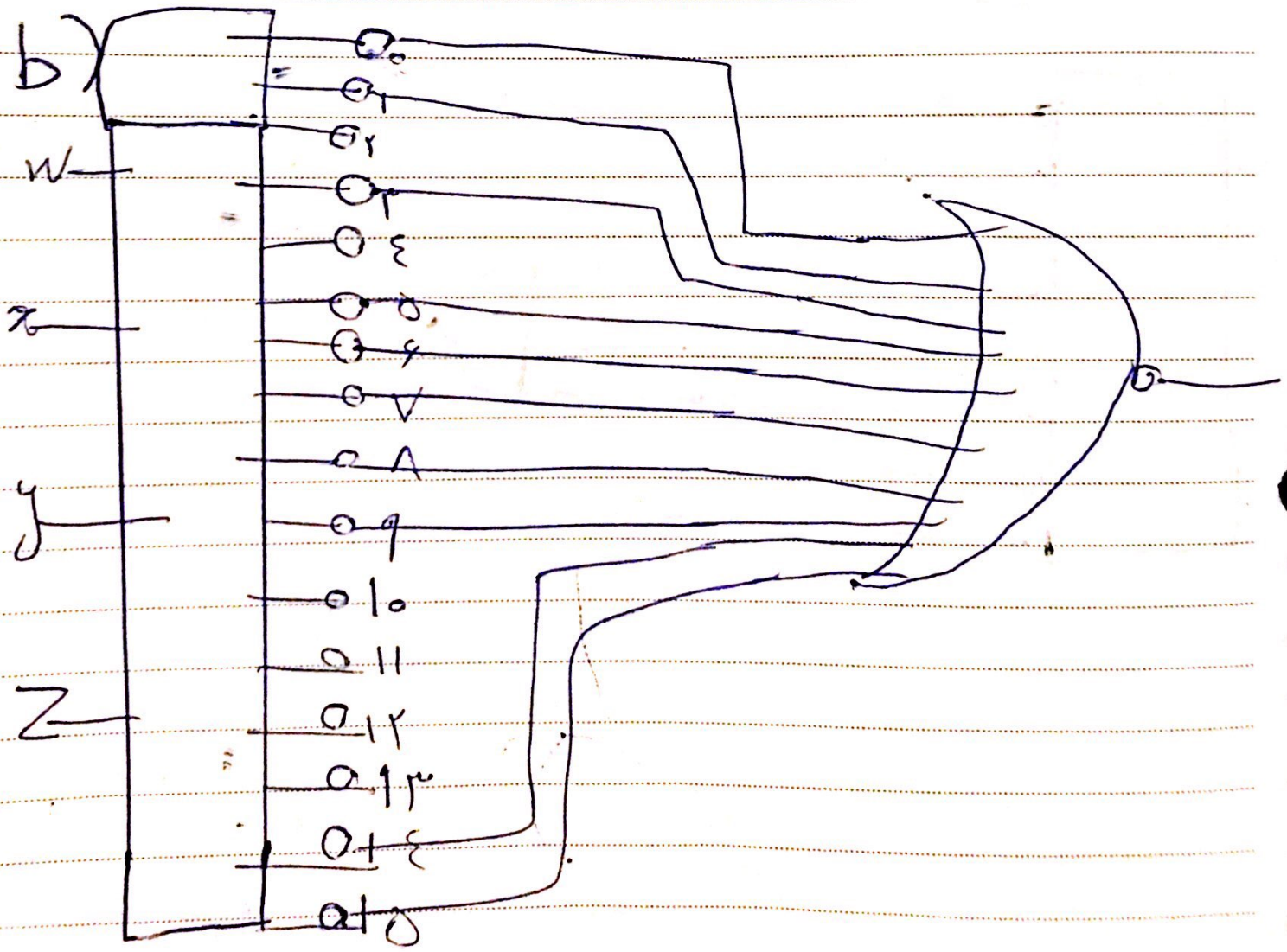


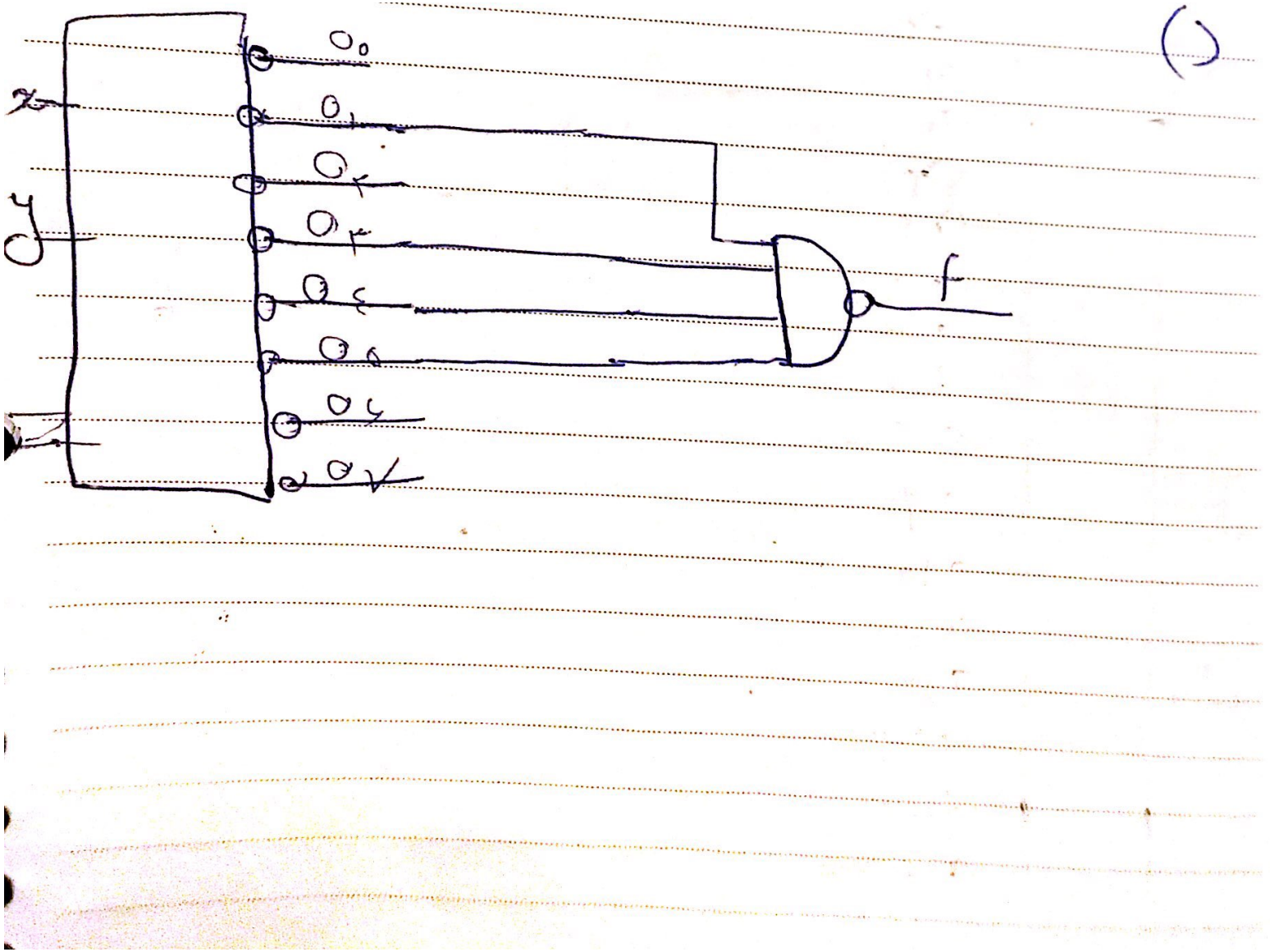


a) $f = \prod M(2, 6, 7)$

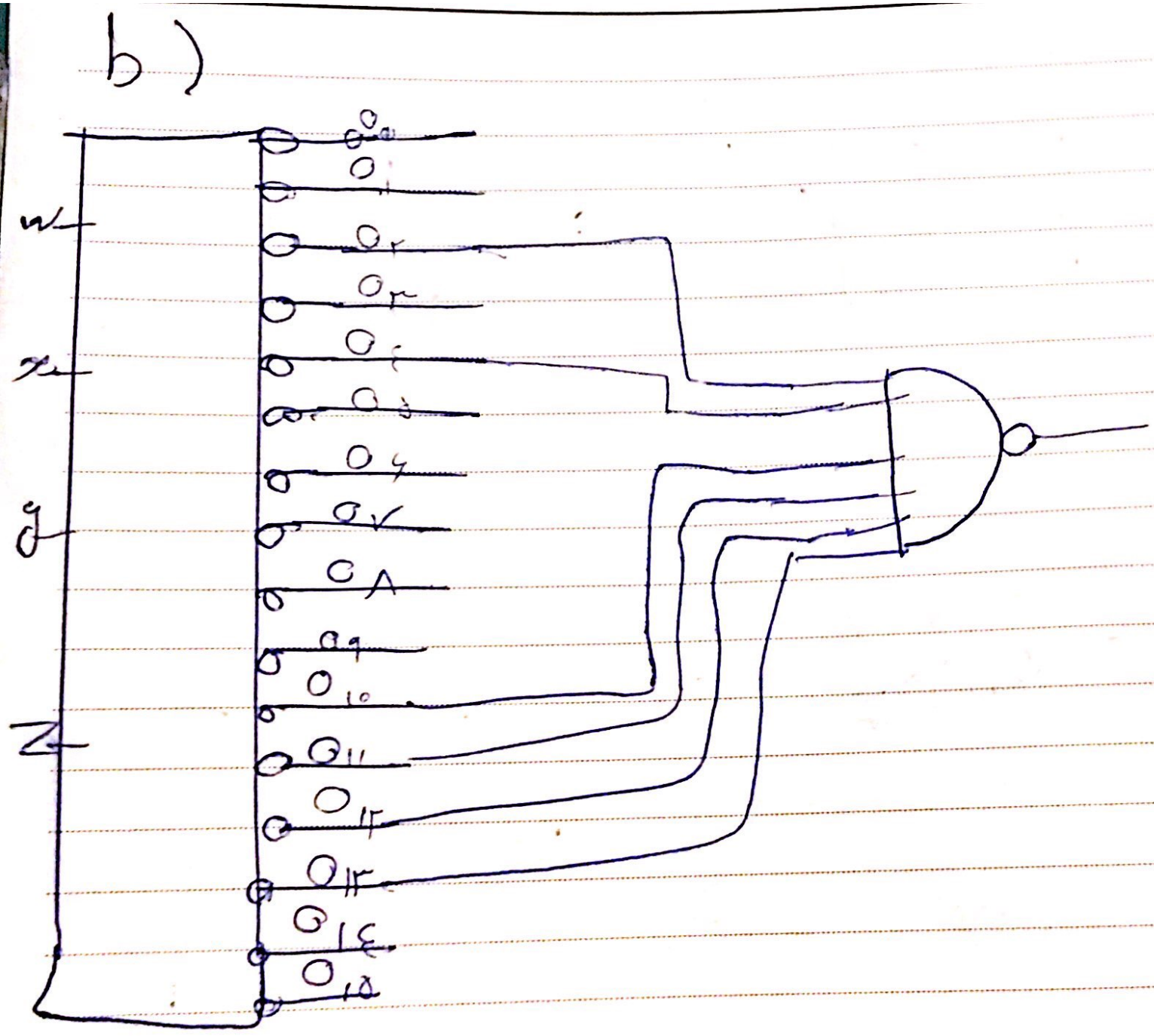


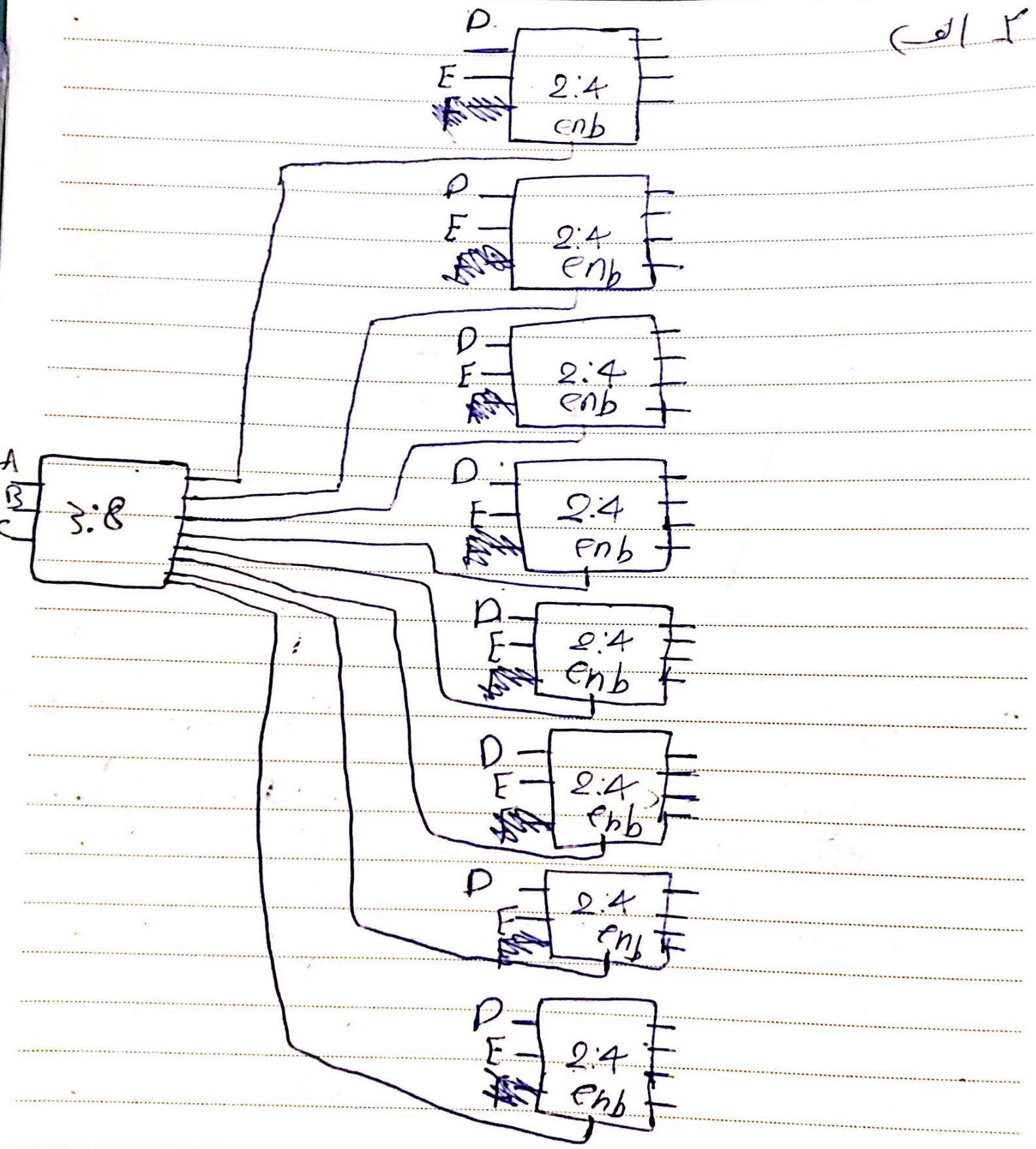
b)



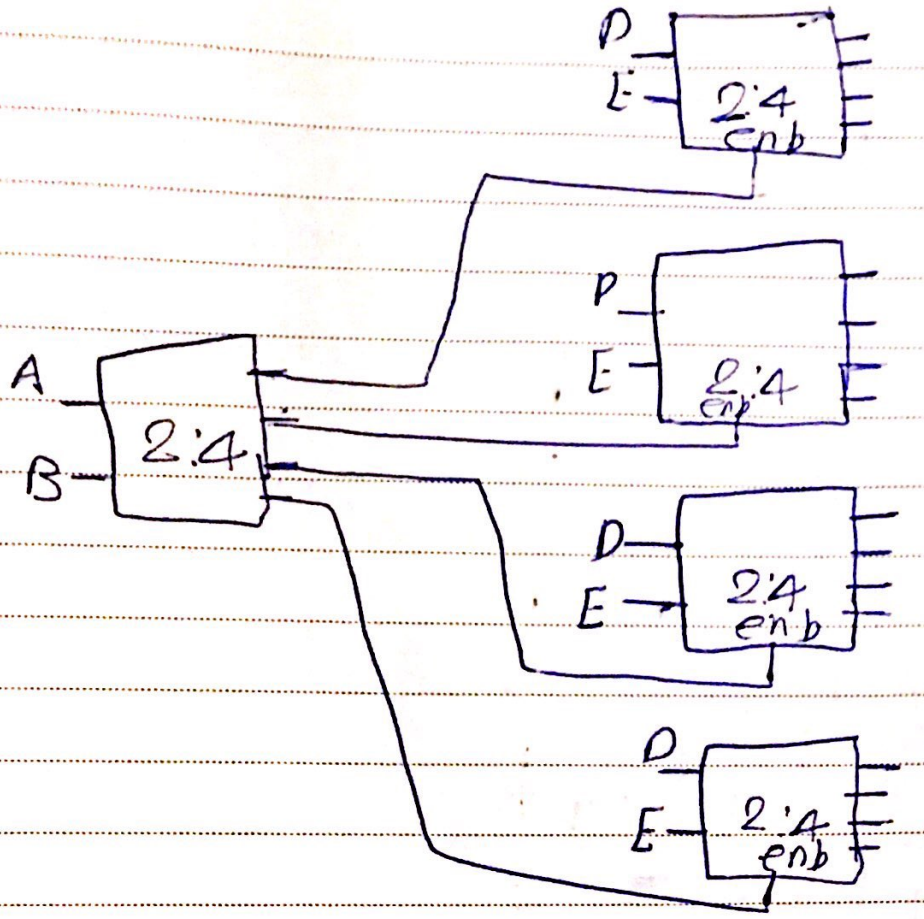


b)





ب)



ج- چون ورودی enable فعال است خروجی Y_0 فعال است

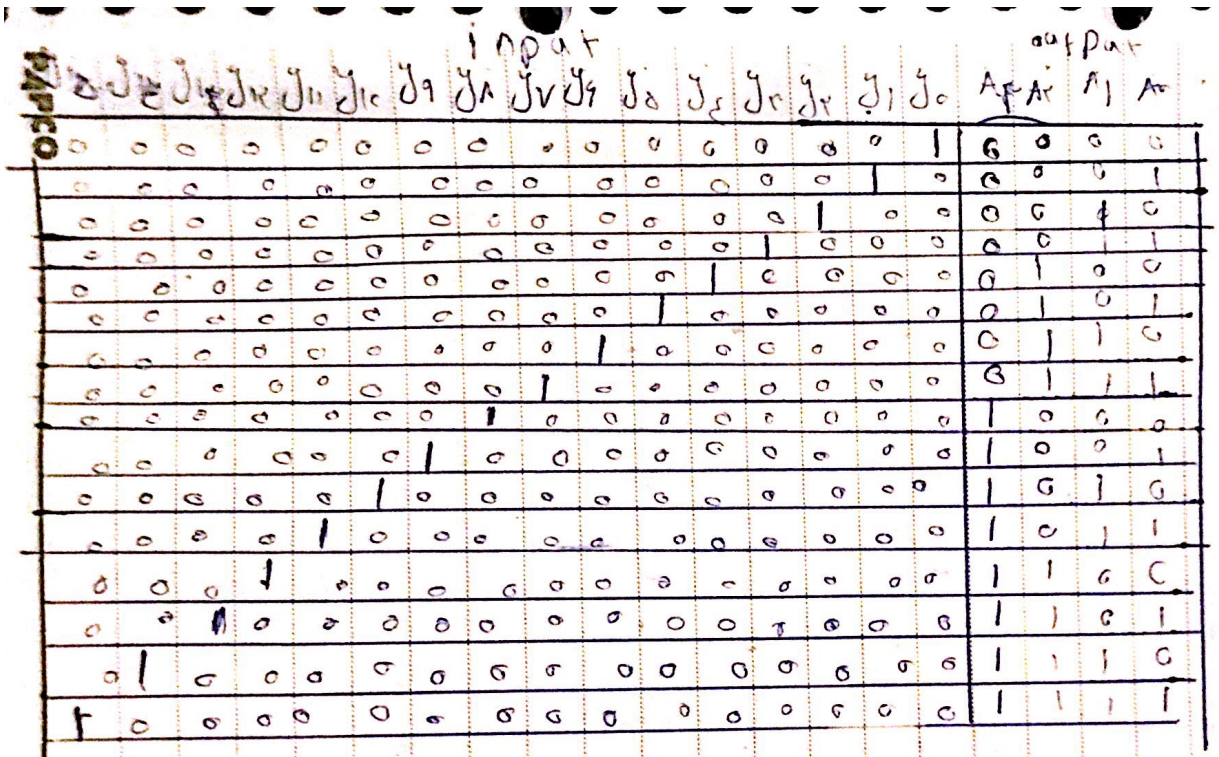
$$(\overline{m_0}\cdot\overline{m_1}\cdot\overline{m_9}\cdot\overline{m_{11}})+(\overline{m_9}\cdot\overline{m_{11}}\cdot\overline{m_{13}}\cdot\overline{m_{15}})$$

$$=)((w+x+y+z)\cdot(w+x+y+\bar{z})\cdot(\bar{w}+x+y+\bar{z})\cdot$$

$$(\bar{w}+x+\bar{y}+\bar{z}))+((\bar{w}+x+y+\bar{z})\cdot(\bar{w}+x+\bar{y}+\bar{z})$$

$$\cdot(\bar{w}+\bar{x}+y+\bar{z})\cdot(\bar{w}+\bar{x}+\bar{y}+z))$$

$f = (w\bar{x}z) + (wyz)$



A_8: $y_{15}+y_{14}+y_{13}+y_{12}+y_{11}+y_{10}+y_9+y_8$

A_4: $y_4+y_5+y_6+y_7+y_{12}+y_{13}+y_{14}+y_{15}$

A_2: $y_2+y_3+y_6+y_8+y_{11}+y_{14}+y_{15}$

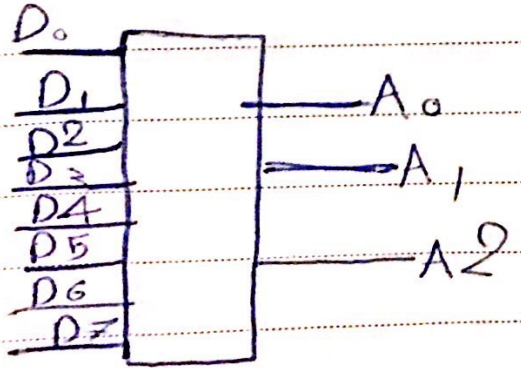
A_1: $y_1+y_3+y_5+y_7+y_9+y_{11}+y_{13}+y_{15}$

D_7	D_6	D_5	D_4	D_3	D_2	D_1	D_0	A_2	A_1	A_0
X	X	X	X	X	X	X	1	0	0	0
X	X	X	X	X	X	1	0	0	0	1
X	X	X	X	X	1	0	0	0	1	0
X	X	X	X	1	0	0	0	0	1	1
X	X	X	1	0	0	0	0	1	0	0
X	X	1	0	0	0	0	0	1	0	1
X	1	0	0	0	0	0	0	1	1	0
1	0	0	0	0	0	0	0	1	1	1

$A_2: D_4\overline{D_3}\overline{D_2}\overline{D_1}\overline{D_0} + D_5\overline{D_3}\overline{D_2}\overline{D_1}\overline{D_0} + D_6\overline{D_3}\overline{D_2}\overline{D_1}\overline{D_0} + D_7\overline{D_3}\overline{D_2}\overline{D_1}\overline{D_0}$

$A_1: D_2\overline{D_1}\overline{D_0} + D_3\overline{D_1}\overline{D_0} + D_6\overline{D_5}\overline{D_4}\overline{D_1}\overline{D_0} + D_7\overline{D_5}\overline{D_4}\overline{D_1}\overline{D_0}$

$A_0: D_1\overline{D_0} + D_3\overline{D_2}\overline{D_0} + D_5\overline{D_4}\overline{D_2}\overline{D_0} + D_7\overline{D_6}\overline{D_4}\overline{D_2}\overline{D_0}$



Subject:
Date

$f_1 : a\bar{c} + bc$ — 4

$f_2 : bc + \bar{c}$ →

$f = \underbrace{(\overline{bc+\bar{c}})(a\bar{c}+bc)}_{0} + (bc+\bar{c})(bc+\bar{c}) = bc+\bar{c}$