

TP4

1.

a),b),c),d), e)

A= 79625

B=81329

F1

A3=6=0110

$F1 = \sum_{A,B}(1,2) = 0110$

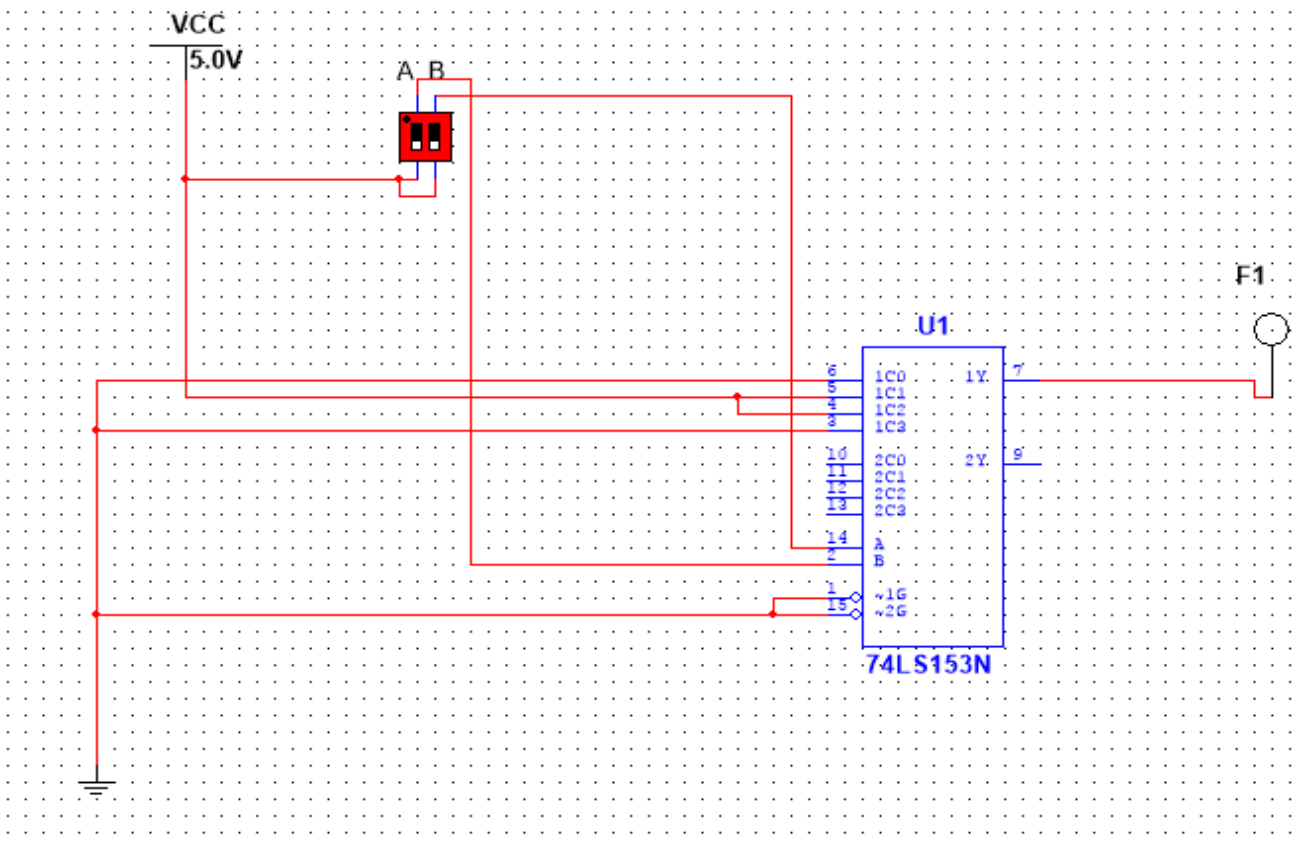
A	B	F1	
0	0	0	6
0	1	1	
1	0	1	
1	1	0	

Y0=0

Y1=1

Y2=1

Y3=0



F2

$$A_4 = 2 = (0010)$$
$$A5=5=(0101)$$

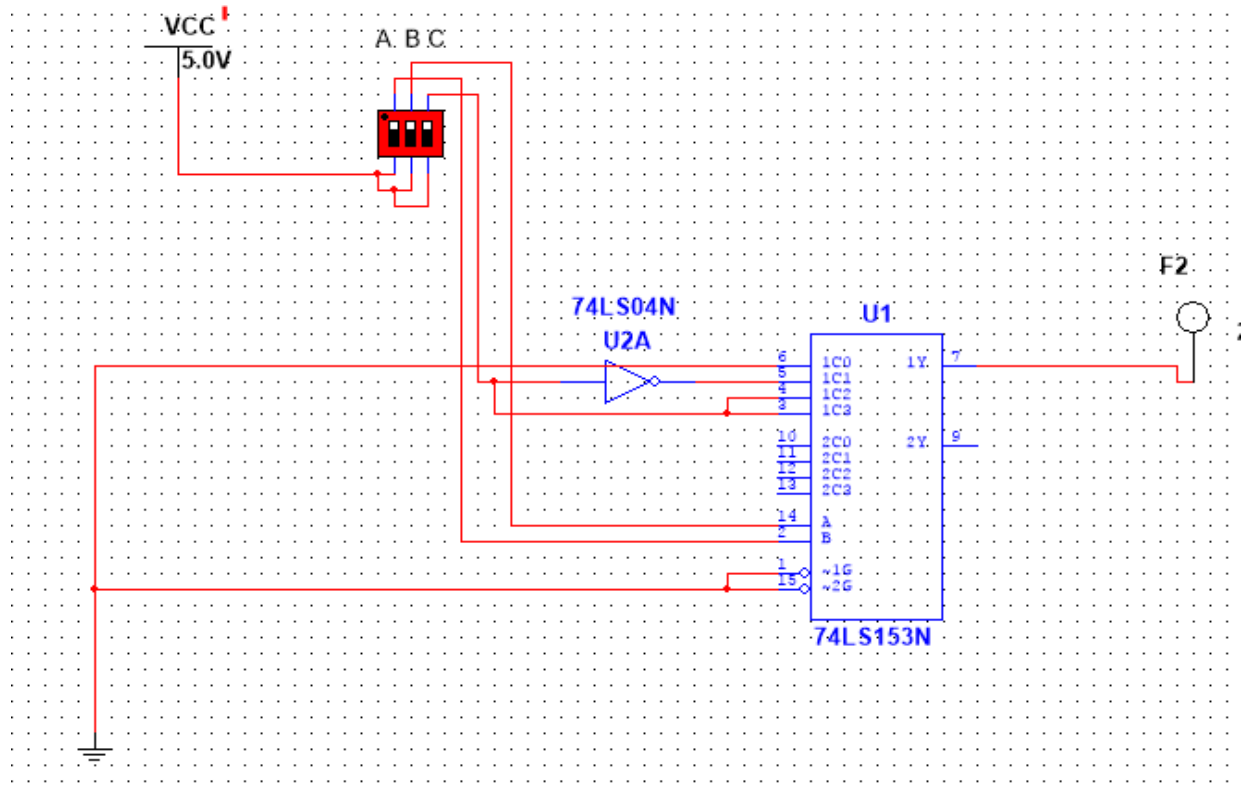
$$F2 = \sum_{A,B,C}(2,5,7)$$

=00100101

A	B	C	F2	
0	0	0	0	2
0	0	1	0	
0	1	0	1	
0	1	1	0	
1	0	0	0	5
1	0	1	1	
1	1	0	0	
1	1	1	1	

AB \ C	00	01	11	10
0	0	1	0	0
1	0	0	1	1

Y0=0

$$Y_1 = C'$$
$$Y_2 = C$$
$$Y_3 = C$$


F3

B2=1=0001

B3= 3=0011

B4=2=0010

B5=1001

F3=0001001100100101

F3=Σ_{A,B,C,D}(3,6,7,10,12,15)

AB \ CD	00	01	11	10
00	0	0	0	0
01	0	0	1	0
11	1	1	0	0
10	0	1	1	1

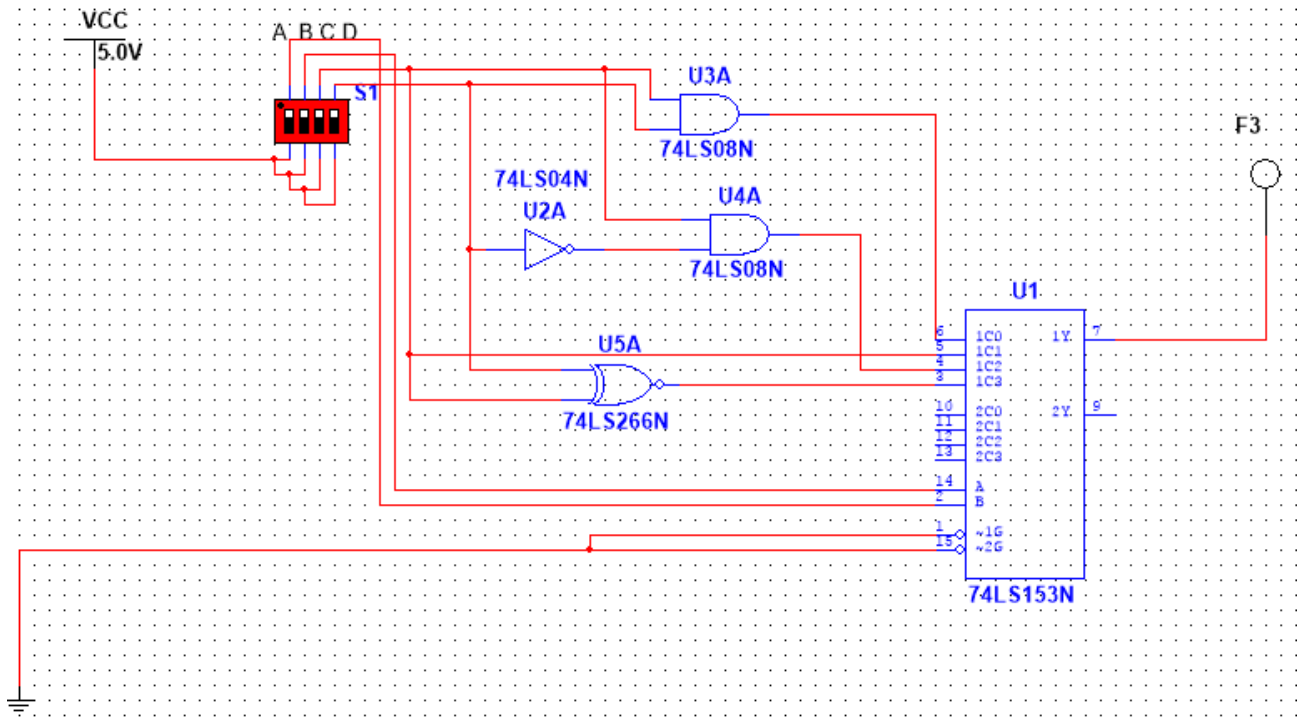
A	B	C	D	F3	
0	0	0	0	0	1
0	0	0	1	0	
0	0	1	0	0	
0	0	1	1	1	3
0	1	0	0	0	
0	1	0	1	0	
0	1	1	0	1	
0	1	1	1	1	2
1	0	0	0	0	
1	0	0	1	0	
1	0	1	0	1	
1	0	1	1	0	9
1	1	0	0	1	
1	1	0	1	0	
1	1	1	0	0	
1	1	1	1	1	

Y0=CD

Y1=C

Y2=CD'

Y3= $\overline{C} \oplus \overline{D}$



2.

a).b)

A= 79625

B=81329

A	B	C	Dispositivos habilitados	
0	0	0	D(A2), D(B4)	D9,D2
0	0	1	D(A3)	D6
0	1	0	D(B1), D(A5)	D8,D5
0	1	1	D(B3), D(A1), D(A4)	D3,D7,D2
1	0	0	D(A5)	D5
1	0	1	D(B2), D(A5)	D1,D5
1	1	0	D(B1), D(B4)	D8,D2
1	1	1	D(B5), D(A2), D(A3)	D9,D9,D6

D0=0

D1= $\overline{Z5}$

D2= $\overline{Z0} + \overline{Z3} + \overline{Z6}$

D3= $\overline{Z3}$

D4=0

D5= $\overline{Z4} + \overline{Z2} + \overline{Z5}$

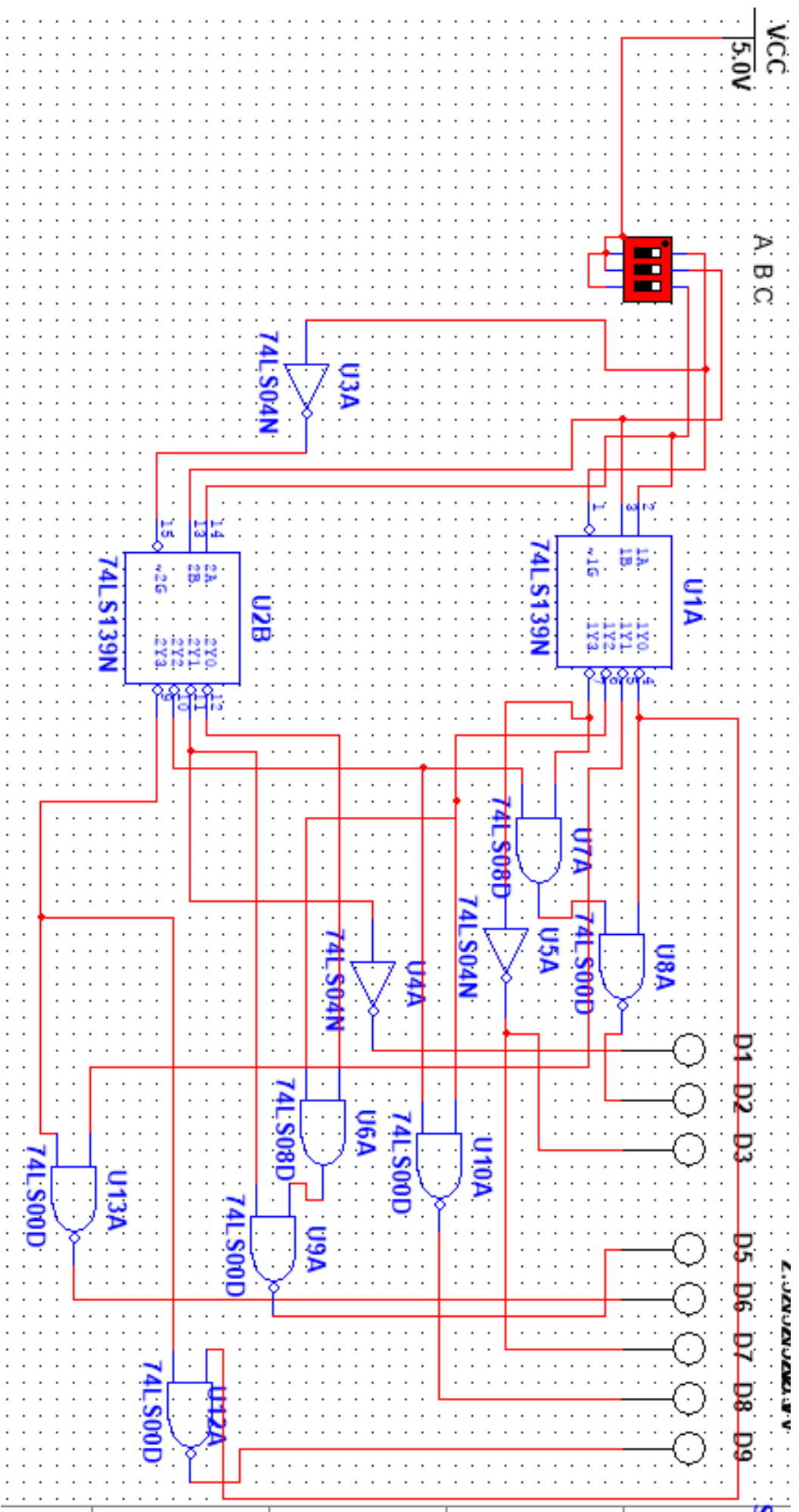
D6= $\overline{Z7} + \overline{Z1}$

D7= $\overline{Z3}$

D8= $\overline{Z2} + \overline{Z6}$

D9= $\overline{Z0} + \overline{Z7}$

c) Pode-se utilizar um decodificador 2:4 como um *decoder* 3:8, utilizando 2 *decoders* 2:4 para que haja 8 saídas e utiliza-se a entrada do ENABLE para o MSB, neste caso A, para isso utiliza-se um NOT para que o ENABLE de cada *decoder* seja ativado quando o ENABLE do outro *decoder* não o esteja.



d)