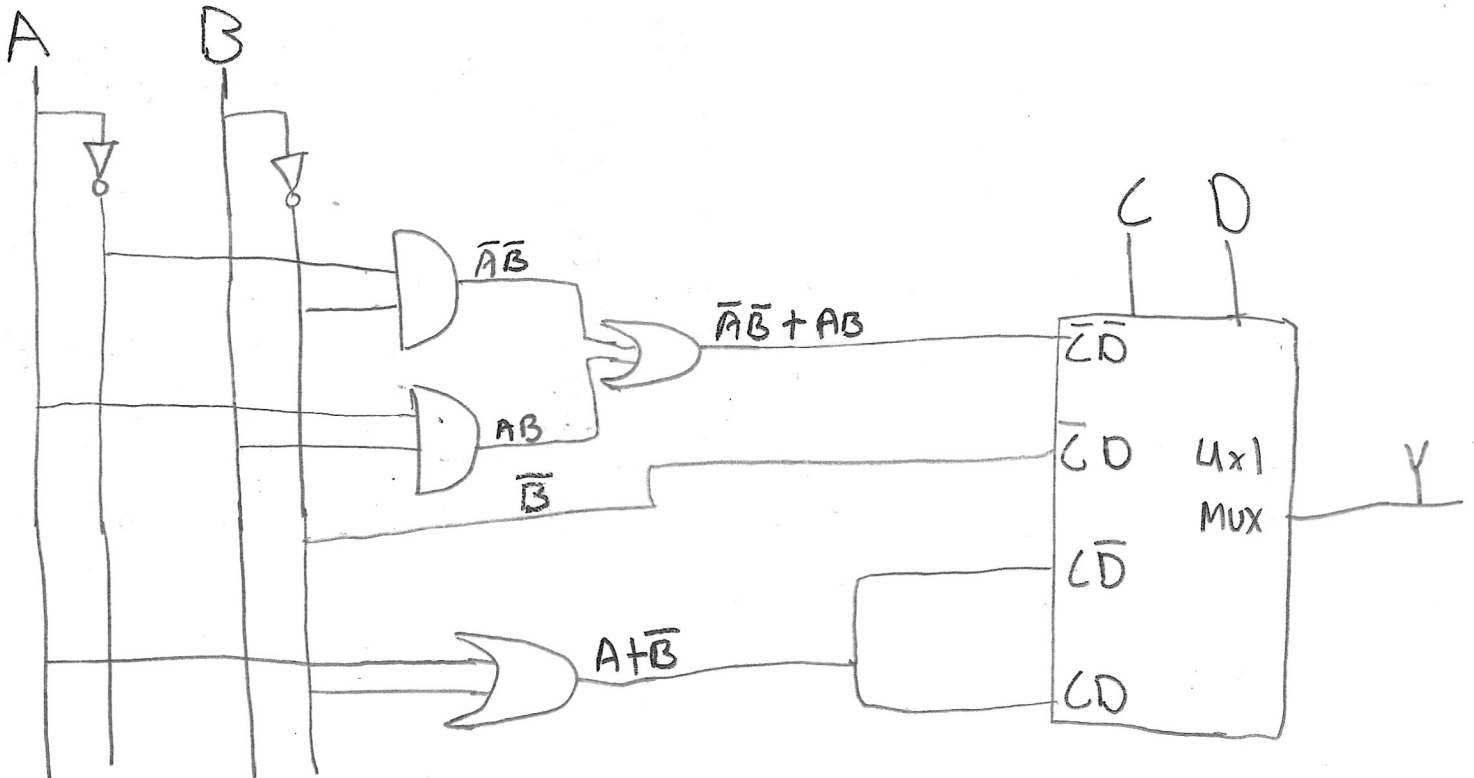


a)

		AB				
	CD	00	01	11	10	
00		1	0	1	0	$\bar{A}\bar{B} + AB$
01		1	0	0	1	$\bar{B}$
11		1	0	1	1	$A + \bar{B}$
10		1	0	1	1	$A + \bar{B}$

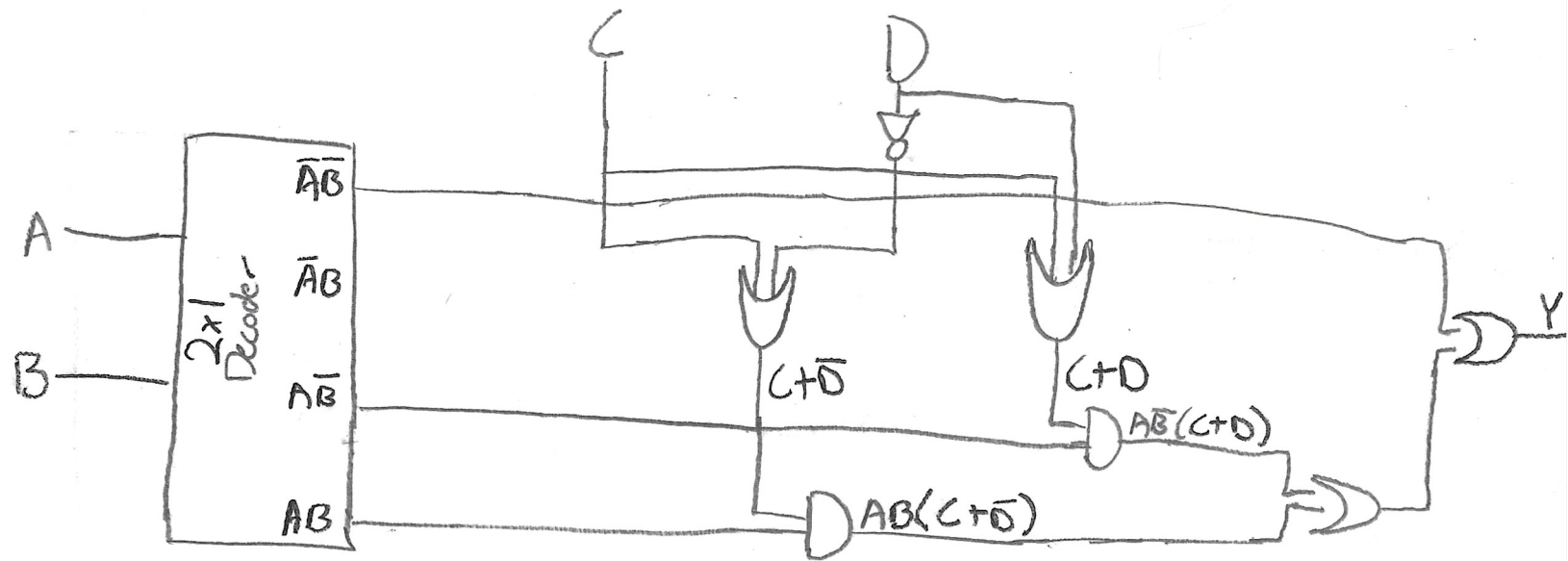
$$Y = \bar{C}\bar{D}(\bar{A}\bar{B} + AB) + \bar{C}D(\bar{B}) + CD(A + \bar{B}) + C\bar{D}(A + \bar{B})$$



b)

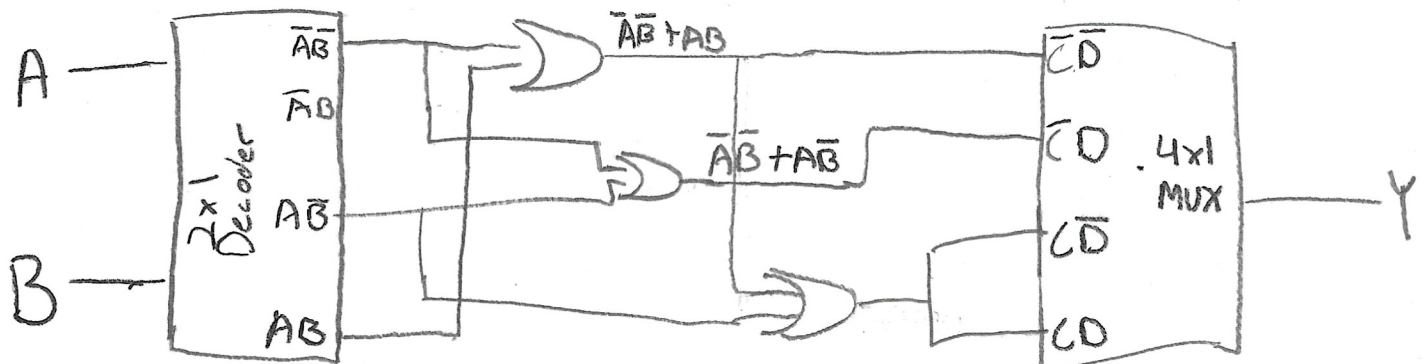
AB \ CD	00	01	11	10
00	1	0	1	0
01	1	0	0	1
11	1	0	1	1
10	1	0	1	1
	1	0	C+D	C+D

$$Y = \bar{A}\bar{B} + AB(C+\bar{D}) + A\bar{B}(C+D)$$



c)

$$Y = (\bar{A}\bar{B} + AB)\bar{C}\bar{D} + (\bar{A}\bar{B} + A\bar{B})\bar{C}D + (\bar{A}\bar{B} + AB + A\bar{B})C\bar{D} + (\bar{A}\bar{B} + AB + A\bar{B})CD$$



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