

Subject :

Year. Month. Date. ()

(الف) (1)

نکته: ۹۹۴۳۱۲۱

cd \ ab	00	01	11	10
00	1	1	—	0
01	1	1	0	1
11	0	0	—	1
10	0	1	0	0

(SOP)

PI

EPI

$\bar{a}c$

$\bar{a}c$

$\bar{b}\bar{c}d$

$\bar{b}\bar{c}d$

+2

+5

bcd

$\bar{a}b\bar{d}$

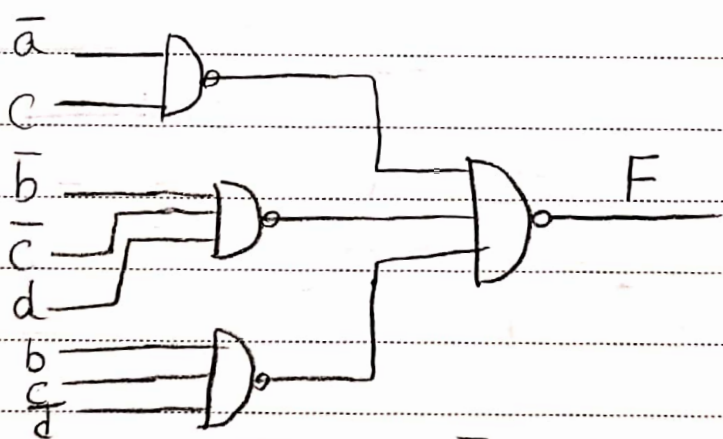
abc

(SOP) : $F(abcd) = \bar{a}c + \bar{b}\bar{c}d + bcd$

+4

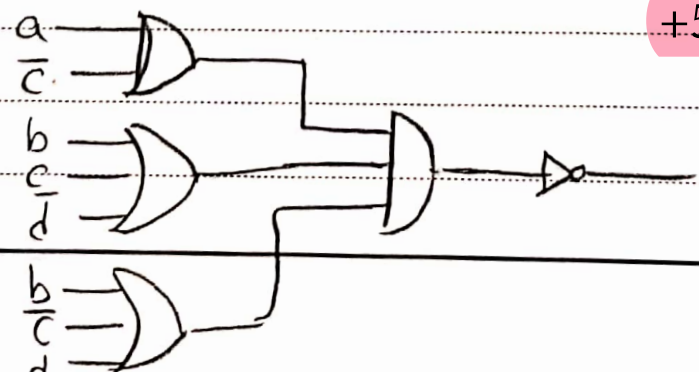
ب)

NAND - NAND :



+5

OR - AND - INV : $\bar{F} = (a + \bar{c})(b + c + d)(\bar{b} + \bar{c} + d)$



+5

ASEM4N

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ج.) $F(a, b, c, d) = \sum m(0, 1, 4, 5, 6, 9, 14) \cdot D(3, 15)$

✓ 0	✓ (0, 1) 1	(0, 1, 4, 5) (1, 4)
✓ 1	✓ (0, 4) 4	(0, 4, 1, 5) (4, 1)
✓ 4	(1, 3) 2	
✓ 3	✓ (1, 5) 4	
✓ 5	(1, 9) 8	+8
✓ 6	✓ (4, 5) 1	
✓ 9	(4, 6) 2	
✓ 14	(9, 15) 4	
✓ 15	(6, 14) 8	-5 for wrong PIs

$pI = \bar{a}\bar{b}\bar{c}, \bar{a}b\bar{d}, \bar{b}\bar{c}d, \bar{a}b\bar{c}, acd, bcd$

	0	1	4	5	6	9	14
$\bar{a}\bar{b}\bar{c}$		X	X				
$\bar{a}b\bar{d}$		X					
$\bar{b}\bar{c}d$		X				X	
$\bar{a}b\bar{c}$			X		X		
bcd				X			X
acd						X	

-6