سوال ۲: :

۹۹۲۴۳۱۳۹

صدیقی نیکو

$0,1,2,3 \rightarrow a'b'$

$0,1,4,5 \rightarrow a'c'$ **+4**

$0,2,4,6 \rightarrow a'd'$

$0,2,8,10 \rightarrow b'd'$

$y = a'b' + a'c' + a'd' + b'd'$
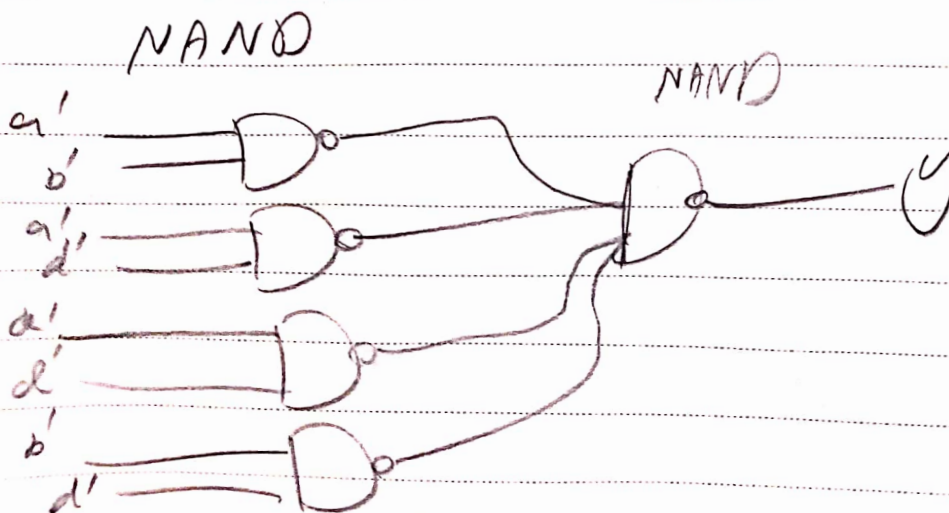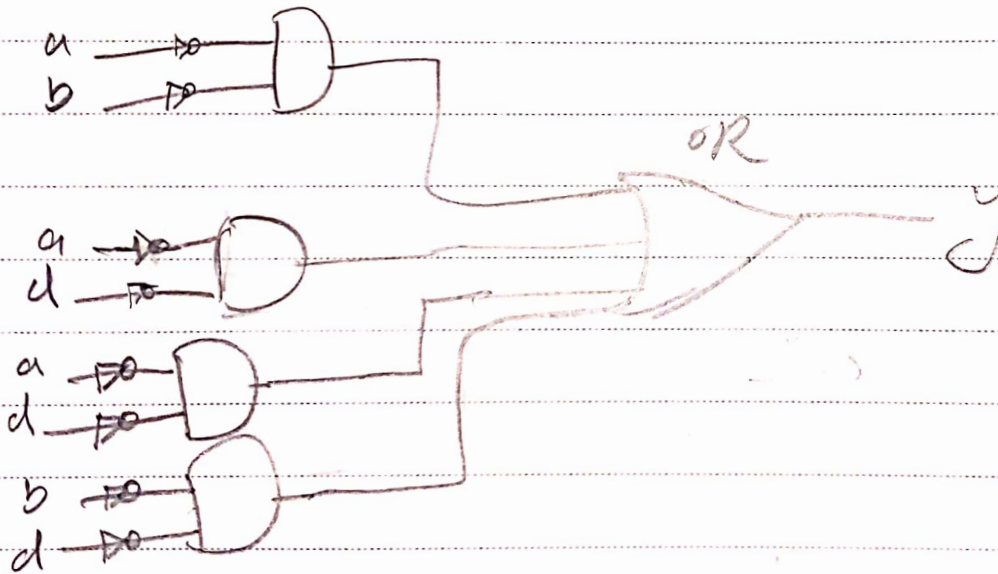
+2

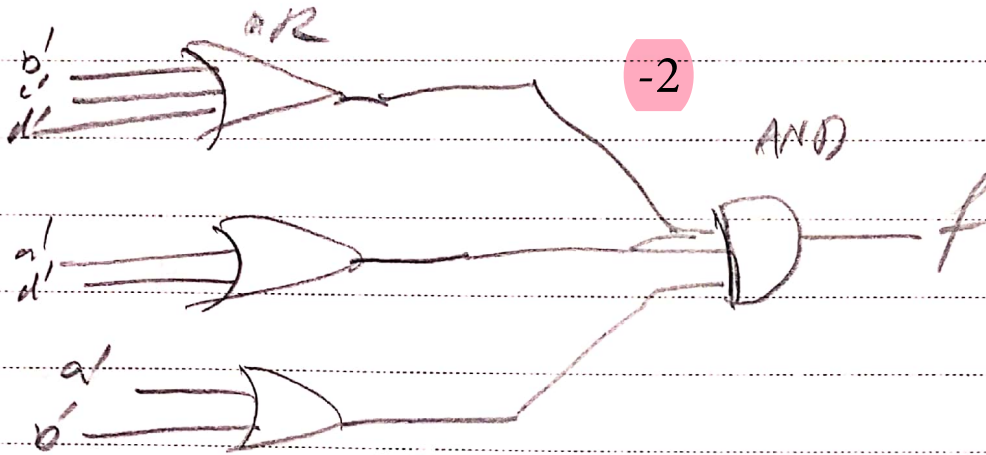| ab\cd	00	01	11	10
00	0 1	1 1	3 1	2 1
01	4 1	5 1	7	6 1
11	12	13	15	14
10	8 1	9 1	11	10 1

OR

y

NAND

NAND

y

$$q_{-c} = (b' + c' + d') \times (a' + d')(a' + b')$$ +3

OR

AND

f

Sop $\overline{f} = \overline{a}b + b'd + c'd' + a'c'$ AND or Inv

$$(a+b)(b+d) \times (a+d) \times (a+c)$$ -5

AND

$\overline{f}$

سوال ۳:

سوال ۳: (top right)

99 , 64 , 43 , 49

جدول کارنو

0000
0001
0010   0.1   0 0 0 —
0011 →   0.5   0 0 — 0
0100   0.4   0 — 0 0
0101   0.8   — 0 0 0
0110   1.3   0 0 — 1
1000   1.5   0 — 0 1
1010   2.3   0 0 1 —
1011 ✓   2.6   0 — 1 0
1100   2.10   — 0 1 0
              3.11   — 0 1 1
              6.5   0 1 0 —
              6.7   0 1 — 0
              6.14   — 1 0 0
              8.10   1 0 — 0
              8.12   1 — 0 0
              10.11 1 0 1 —

	0	1	2	3	4	6	5	7	8	9	10	11	12
1	X	X		X X									
2	X X				X X								
3	X	X		X		X							
4	X	X					X						
5	X			X		X							
6			X X					X					
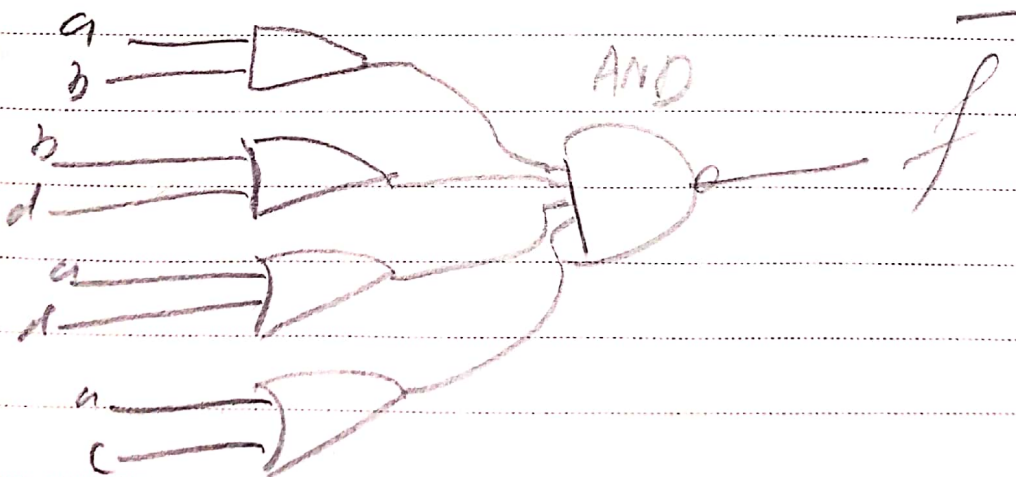
① 0 1 2 3   0 0 — —   نتیجه: a'b' + a'c' + a'd' + bd'
   0 1 6 5   0 — 0 —
② 0 2 4 6   0 — — 0
④ 0 2 8 10   — 0 — 0
⑤ 0 4 8 12   — — 0 0
⑥ 2 3 10 11 — 0 1 —

+3

-5 for uncompleted Table with some mistake in placing numbers

+6