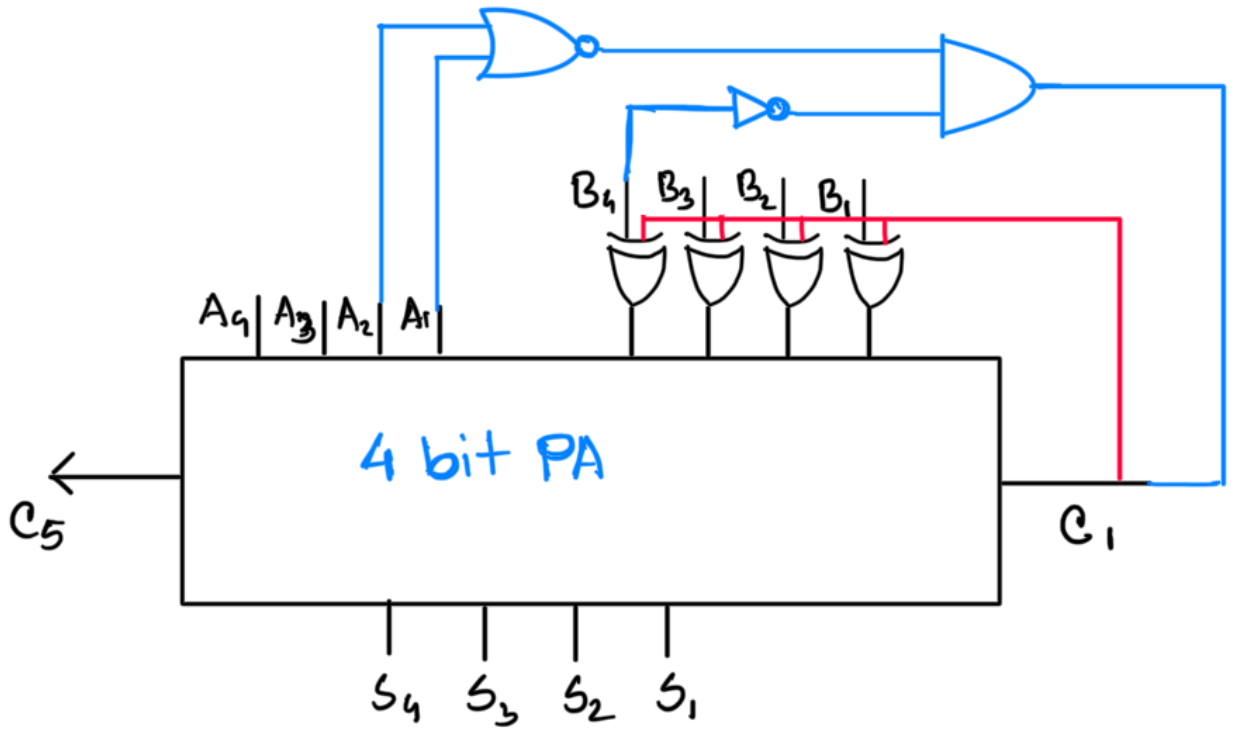
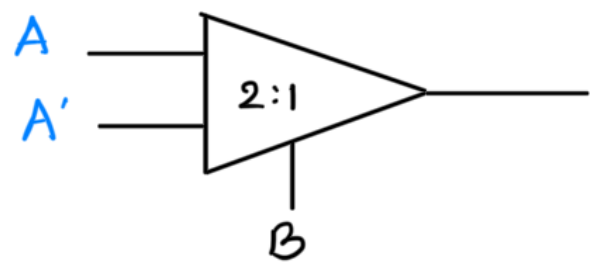
Quiz - 3

(i)



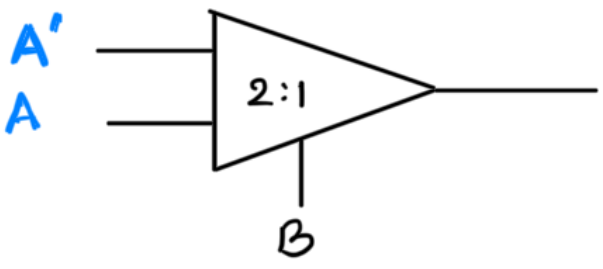
(ii) XOR using 2:1 mux



A	B	XOR
0	0	0
0	1	1
1	0	1
1	1	0

	I_0	I_1
A'	0	(1)
A	(2)	3
	A	A'

(ii) XNOR using 2:1 mux



A	B	XNOR
0	0	1
0	1	0
1	0	0
1	1	1

	I_0	I_1
A'	(0)	1
A	2	(3)
	A'	A

(iii)

I_3	I_2	I_1	I_0	A_1	A_0
0	0	0	0	X	X
0	0	0	1	0	0
0	0	1	0	0	1
0	0	1	1	0	1
0	1	0	0	1	0
0	1	0	1	1	0
0	1	1	0	1	0
0	1	1	1	0	1
1	0	0	0	1	1
1	0	0	1	1	1
1	0	1	0	1	1
1	0	1	1	0	1
1	1	0	0	1	1
1	1	0	1	1	0
1	1	1	0	1	0
1	1	1	1	0	0

A_1

I_3I_2 \ I_1I_0	00	01	11	10
00	X			
01	1	1		1
11	1	1		1
10	1	1		1

$= I_2I_1' + I_3I_1' + I_2I_0' + I_3I_0'$

A_0

I_3I_2 \ I_1I_0	00	01	11	10
00	X		1	1
01			1	
11	1			
10	1	1	1	1

$$= I_3 I_2' + I_2' I_1 + I_3 I_1' I_0' + I_3' I_1 I_0$$