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20101285   Section: 05

The function is implemented using both 4×1 and 2×1 below:-

Io
I₁
I₂   4×1
I₃
        S₁ So

Iu
I5   4×1
I6
I7
        S₁ So

2×1
        S₂

I8
I9   4×1
I10
I11
        S₁ So

2×1 — Y

S₃

I12
I13   4×1
I14
I15
        S₁ So

2×1
        S₂
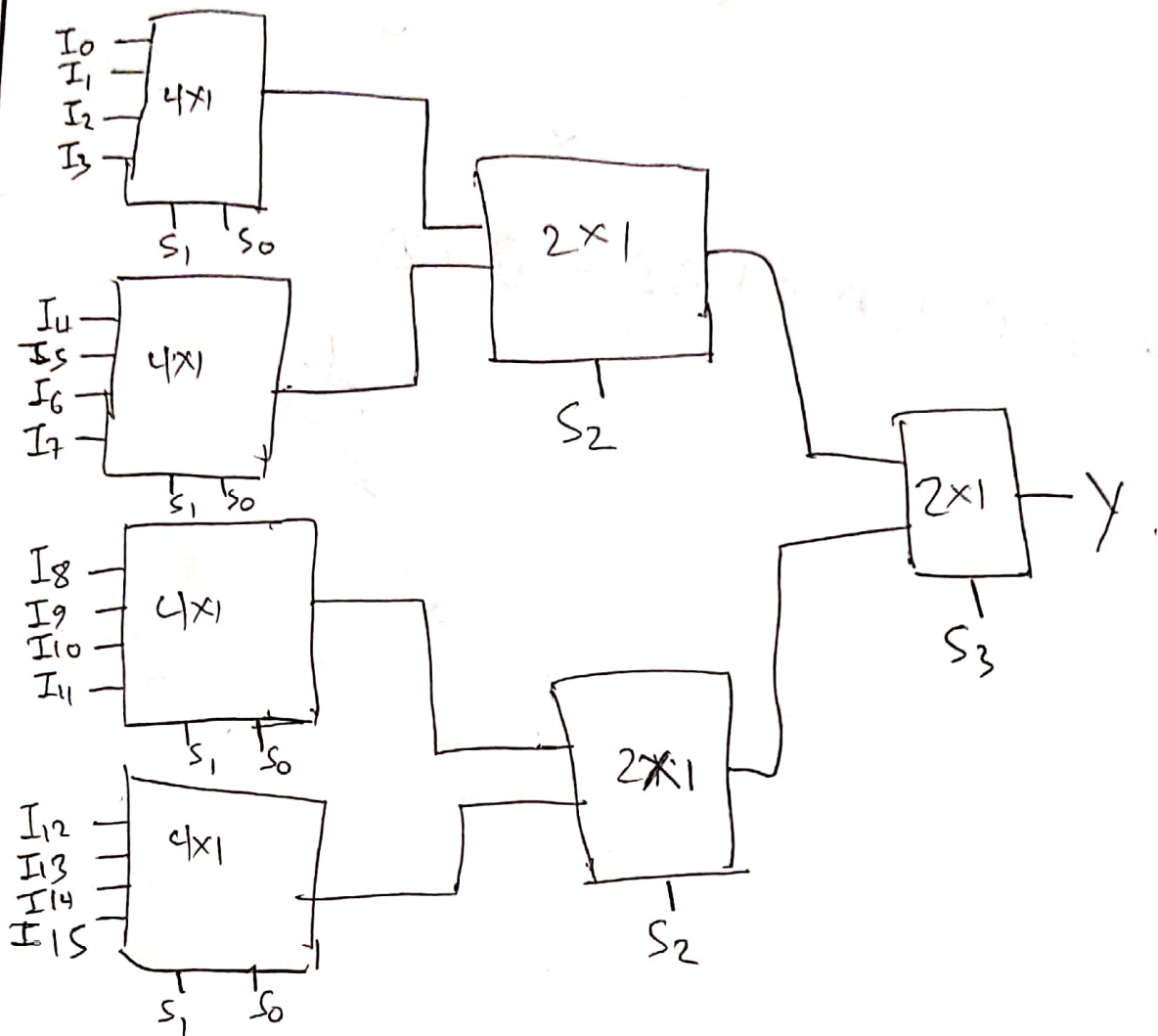
P.T.O ⇒

Truth table:

S_3	S_2	S_1	S_0	Y
0	0	0	0	I_0
0	0	0	1	I_1
0	0	1	0	I_2
0	0	1	1	I_3
0	0	0	0	I_4
0	0	0	1	I_5
0	1	1	0	I_6
0	1	1	1	I_7
1	0	0	0	I_8
1	0	0	1	I_9
1	0	1	0	I_{10}
1	0	1	1	I_{11}
1	1	0	0	I_{12}
1	1	1	0	I_{13}
1	1	1	0	I_{14}
1	1	1	1	I_{15}