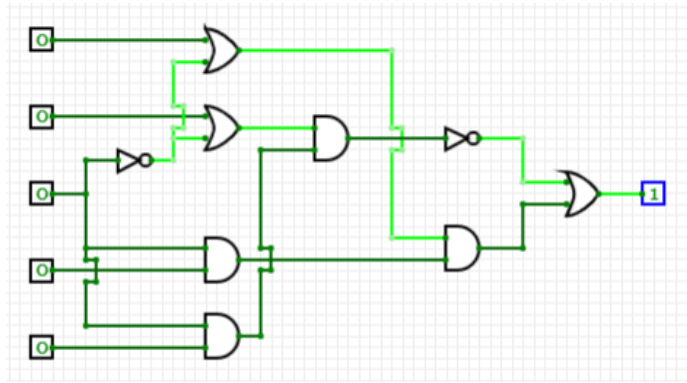My Logic Circuit: (Top input is A, bottom input is E)

$$X = \overline{C \cdot E \cdot (\overline{C} + B)} + C \cdot D \cdot (\overline{C} + A)$$

Truth Table:

Control	Signal 1	Signal 2	Signal 3	Signal 4	Output	
0	0	0	0	0	1	
0	0	0	0	1	1	
0	0	0	1	0	1	
0	0	0	1	1	1	
0	0	1	0	0	1	
0	0	1	0	1	1	
0	0	1	1	0	1	
0	0	1	1	1	1	
0	1	0	0	0	1	
0	1	0	0	1	1	
0	1	0	1	0	1	
0	1	0	1	1	1	
0	1	1	0	0	1	
0	1	1	0	1	1	
0	1	1	1	0	1	
0	1	1	1	1	1	
1	0	0	0	0	1	
1	0	0	0	1	1	
1	0	0	1	0	1	
1	0	0	1	1	1	
1	0	1	0	0	1	
1	0	1	0	1	0	
1	0	1	1	0	1	
1	0	1	1	1	0	
1	1	0	0	0	1	
1	1	0	0	1	1	
1	1	0	1	0	2	=1
1	1	0	1	1	2	=1
1	1	1	0	0	1	
1	1	1	0	1	0	
1	1	1	1	0	2	=1
1	1	1	1	1	1	

My Excel function:

| G3 | ▼ | ⋮ | ✕ | ✓ | fx | =(IF((IF(B3=0,1,0)+D3)*B3*F3=0,1,0)+((IF(B3=0,1,0))+C3)*B3*E3) |

	A	B	C	D	E	F	G	H	I	J
1										
2		Control	Signal 1	Signal 2	Signal 3	Signal 4	Output			
3		0	0	0	0	0	1			
4		0	0	0	0	1	1			