Mux جدول درسی

S_0	S_1	O
o	o	in0
o	1	in1
1	o	in2
1	1	in3

F→1

$$O = S_0' S_1' \, in0 + S_0' S_1 \, in1 + S_0 S_1' \, in2 + S_0 S_1 \, in3$$
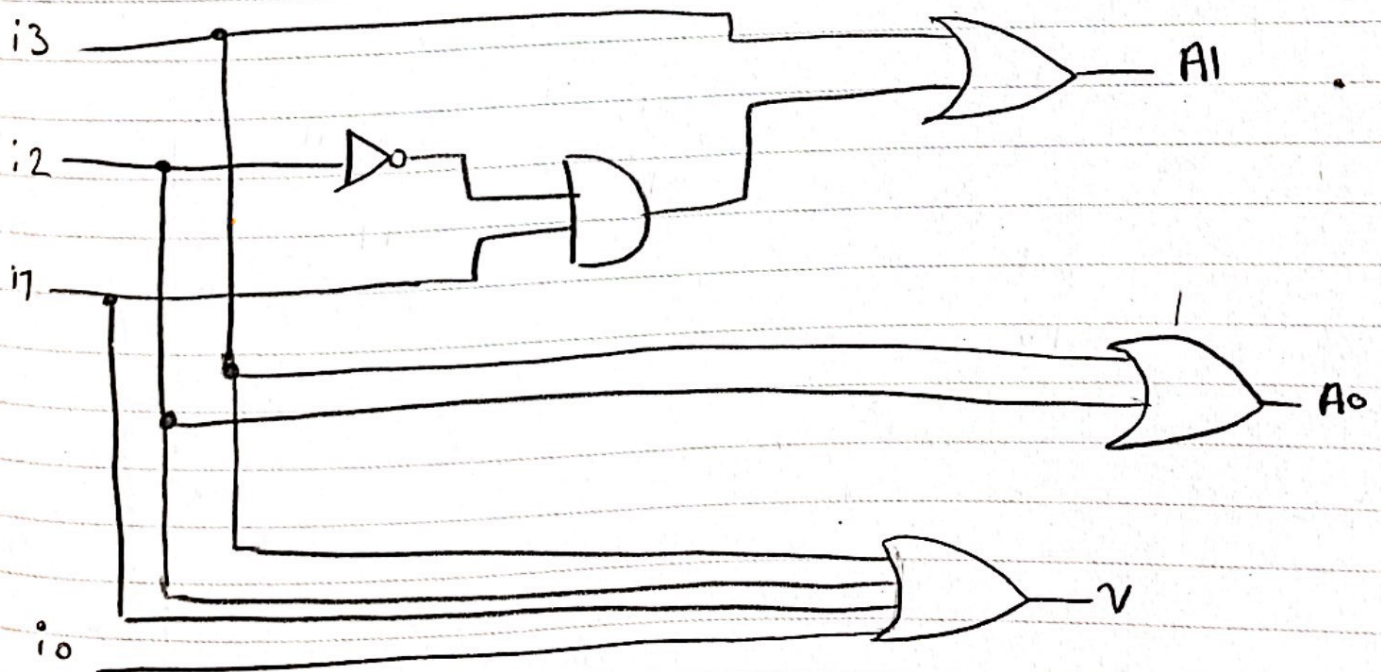
Scanned with CamScanner
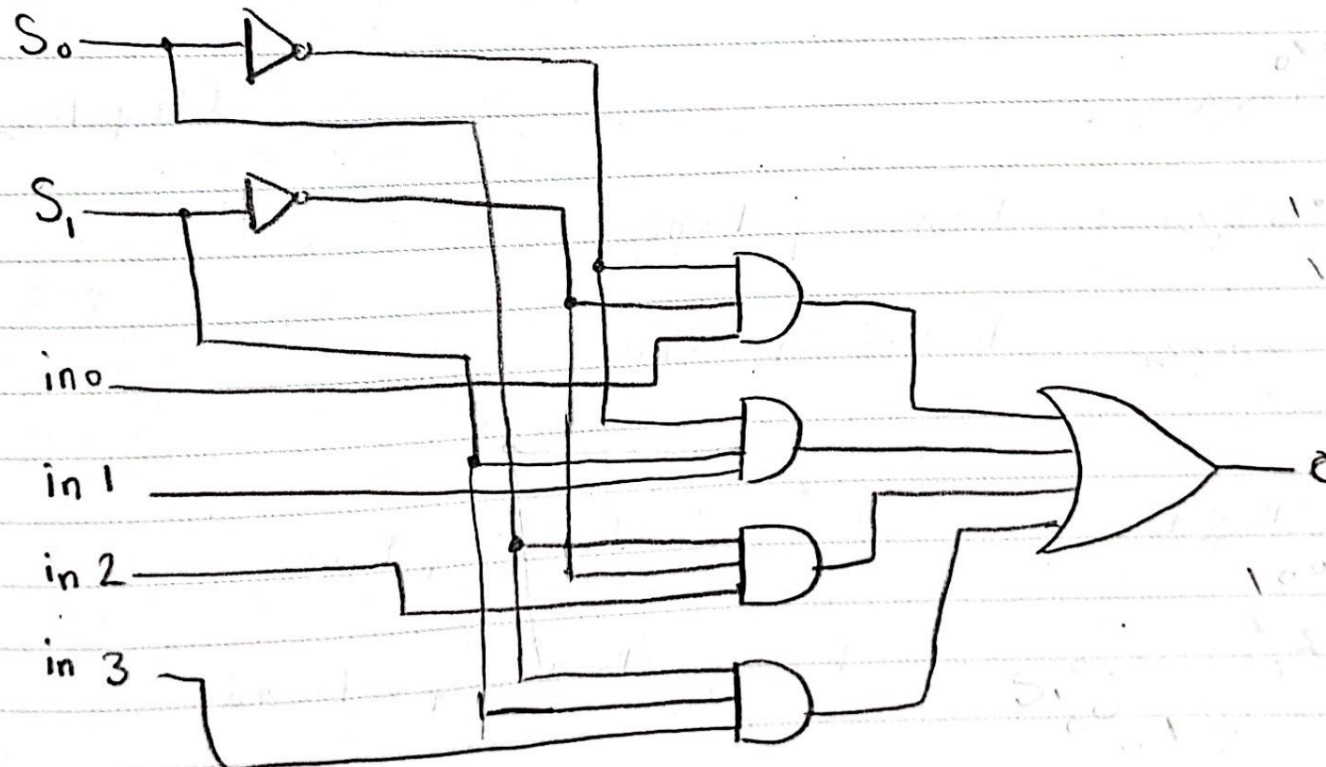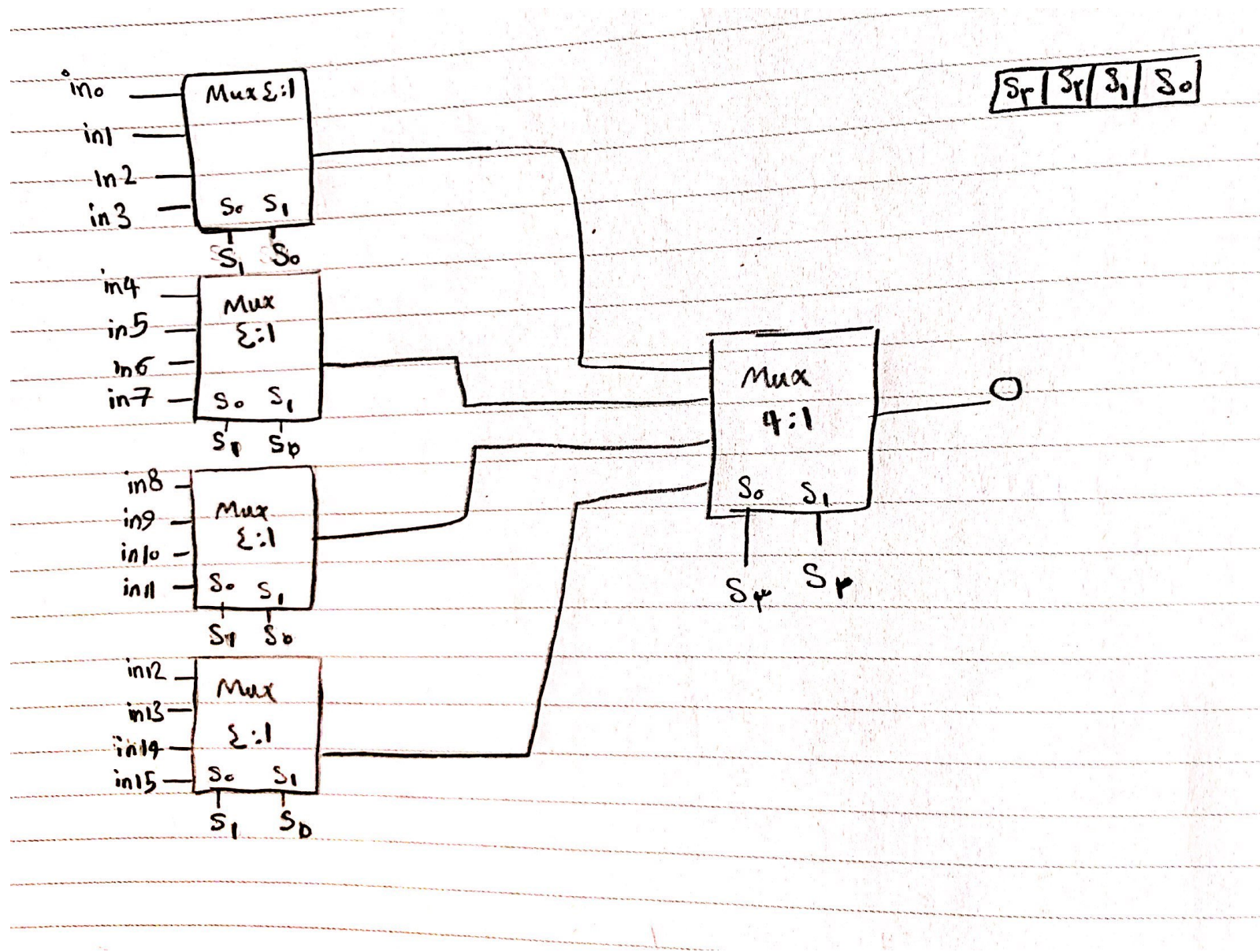
priority   encoder

i3	i2	i1	i0	A1	A0	v
0	0	0	0	x	x	0
0	0	0	1	0	0	1
0	0	1	x	0	1	1
0	1	x	x	1	0	1
1	x	x	x	1	1	1

$$A1 = i2 + i3 \qquad\qquad A0 = i3 + i1\overline{i2}$$
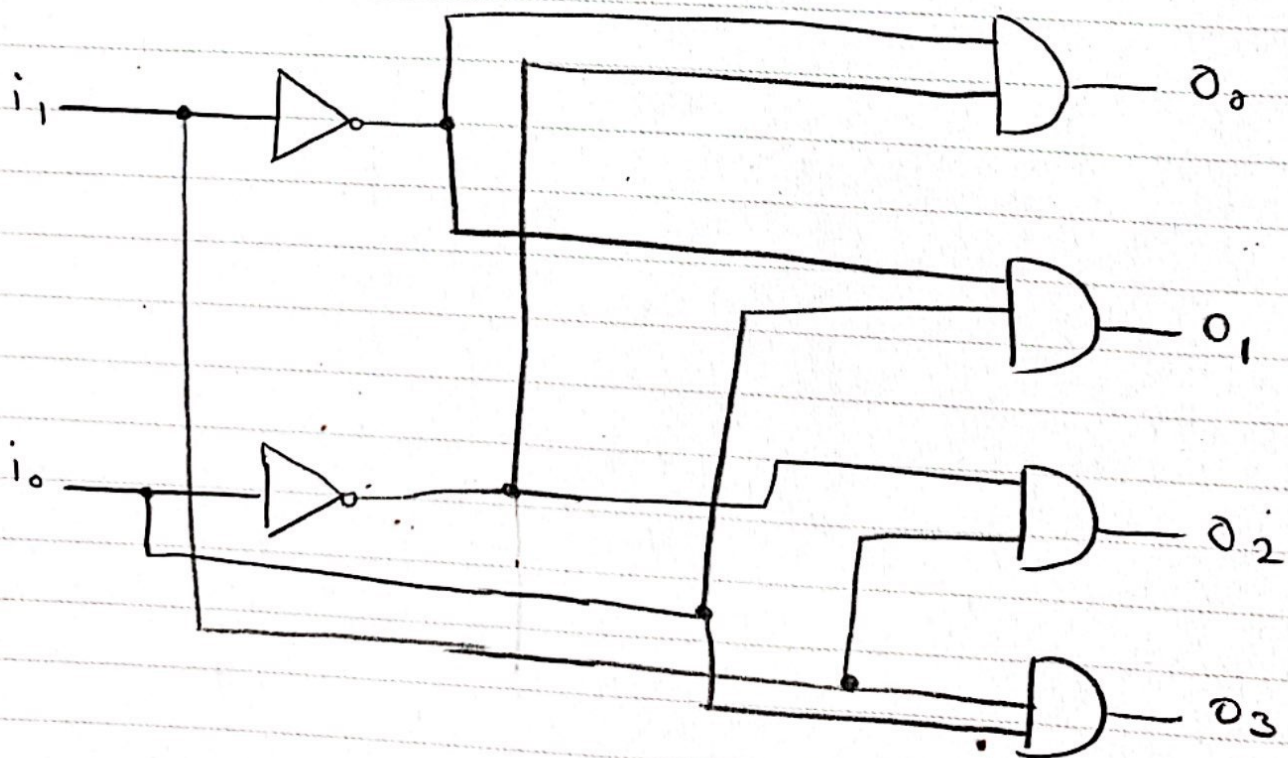
$$V = i0 + i1 + i2 + i3$$

Decoder

i_1	i_0		O_3	O_2	O_1	O_0
0	0		0	0	0	1
0	1		0	0	1	0
1	0		0	1	0	0
1	1		1	0	0	0

$$O_0 = \overline{i_1}\,\overline{i_0} \qquad O_1 = \overline{i_1}\,i_0 \qquad O_2 = i_1\,\overline{i_0} \qquad O_3 = i_1\,i_0$$

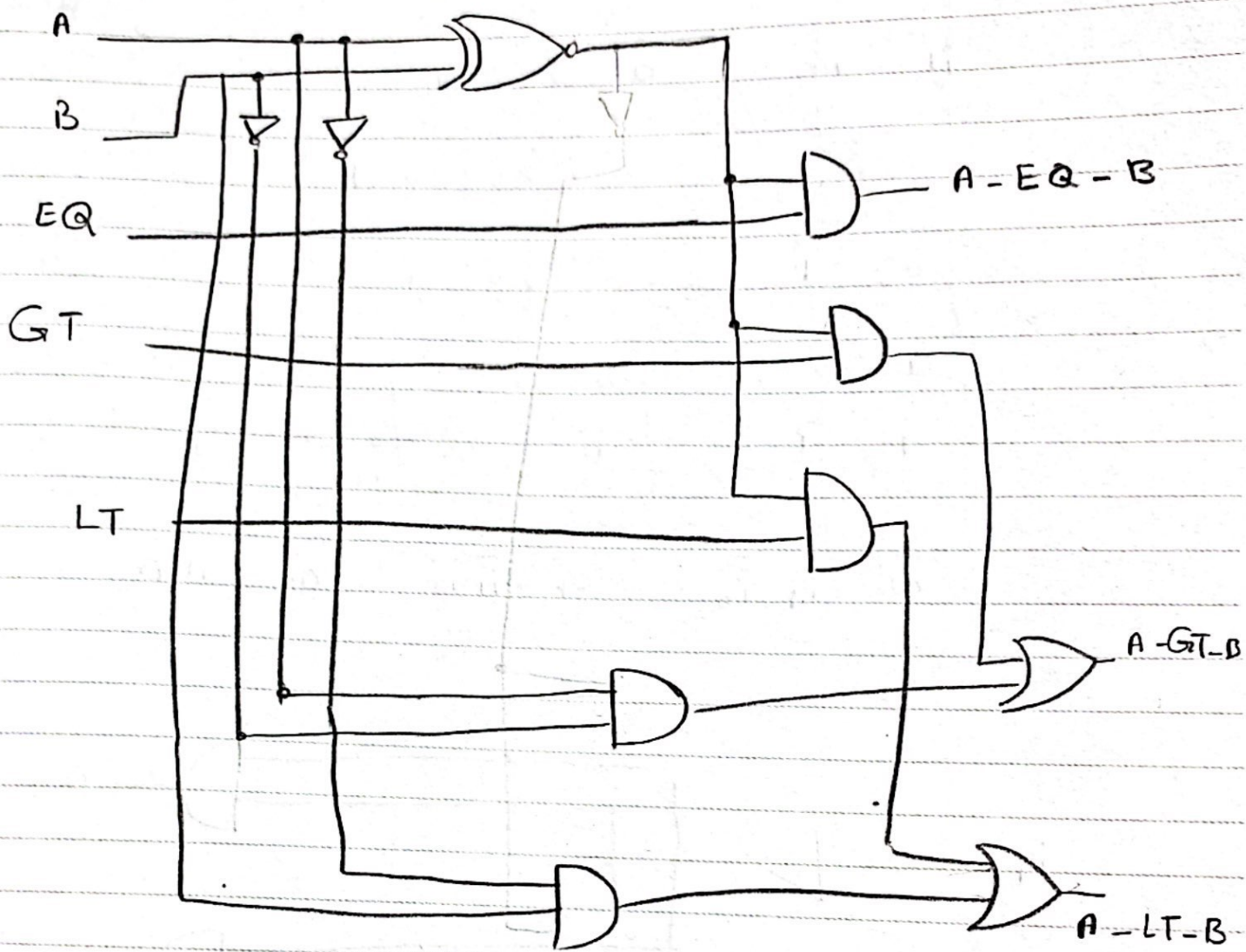| A	B	GT	EQ	LT	A_GT_B	A_EQ_B	A_LT_B
0	0	0	0	1	0	0	1
0	0	0	1	0	0	1	0
0	0	1	0	0	1	0	0
0	1	X	X	X	0	0	1
1	0	X	X	X	1	0	0
1	1	0	0	1	0	0	1
1	1	0	1	0	0	1	0
1	1	1	0	0	1	0	0

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