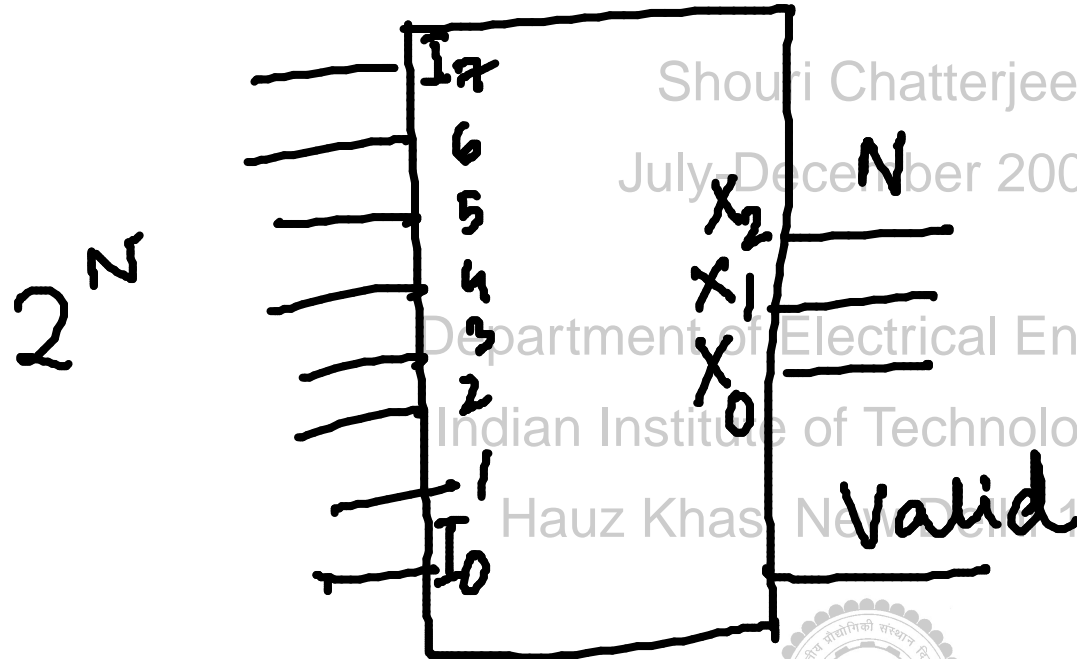


1. Priority encoders

2. Quine McClusky tabular method

EEL201: Digital Electronic Circuits



$$X_2 = I_7 + I_6 + I_5 + I_4$$

$$X_1 = I_7 + I_6$$

$$+ \bar{I}_4 \bar{I}_5 I_2$$

$$+ \bar{I}_4 \bar{I}_5 I_3$$

(7, 5, 3, 1)

$$X_0 = I_7 + \bar{I}_6 I_5 \bar{I}_4 I_3 + \bar{I}_6 \bar{I}_4 \bar{I}_2 I_1$$

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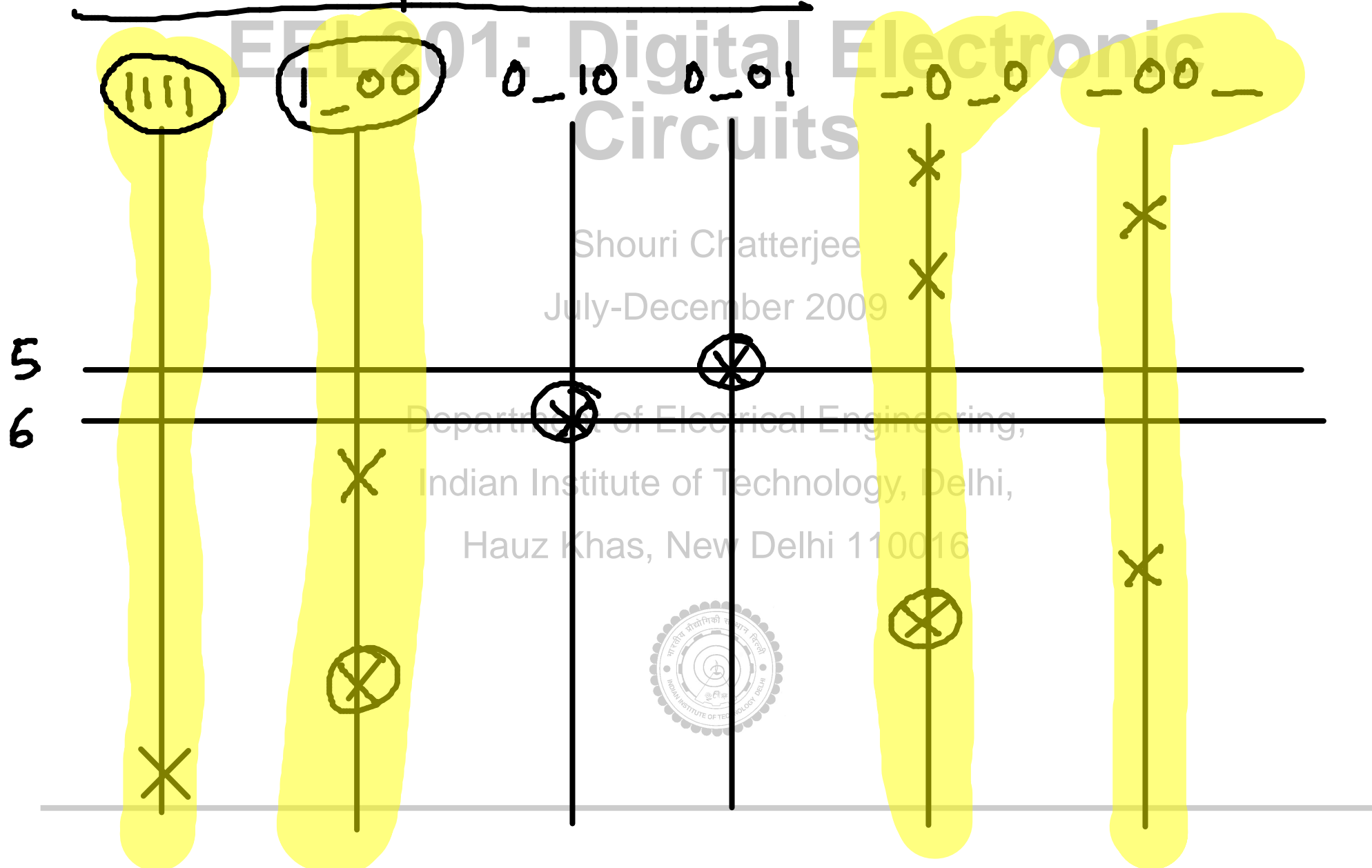
Quine McCluskey tabular method

$$f = \sum 0, 1, 2, 5, 6, 8, 9, 10, 12, 15$$

0 1's	0000 ✓	000_ ✓	<u>_00_</u>
1 1's	0001 ✓	00_0 ✓	<u>_0_0</u>
	0010 ✓	_000 ✓	
2 1's	1000 ✓	<u>0_01</u>	
	0101 ✓	_001 ✓	
	0110 ✓	<u>0_10</u>	
	1001 ✓	_010 ✓	
	1010 ✓	100_ ✓	
	1100 ✓	10_0 ✓	
3 1's		<u>1_00</u>	

4 1's  → Prime implicant

Prime implicant table



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