

Name : Muhammad Ali Khan

Reg No : 16550

DLD Lab No: 07 (De-Multiplexer)

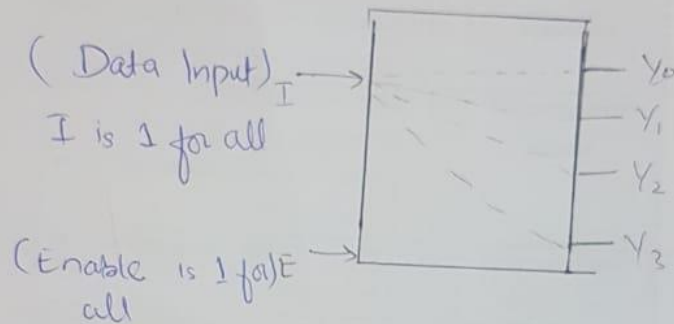
Lab 7: De-Multiplexer (1:4 DEMUX)

Observation Table:-

Input variable D, S_0, S_1 , output variable Y_0, Y_1, Y_2, Y_3

Muhammad
Ali Khan

16650



find select lines?

$$n = 4$$

$$m = \log_2 n$$

$$m = \log_2 4$$

$$m = \log_2 2^2$$

$$m = 2 \log_2 2$$

$$m = 2 \cdot 1$$

$$m = 2 \rightarrow \text{Select lines}$$

Muhammad Ali Khan
16650

Observation Table

Select Lines		Data Input	Output			
S ₁	S ₀	Dat [I]	Y ₀	Y ₁	Y ₂	Y ₃
0	0	1	1	0	0	0
0	1	1	0	1	0	0
1	0	1	0	0	1	0
1	1	1	0	0	0	1

(Data Input) I is high & E is also high

$$Y_0 = \bar{E} \bar{S}_1 \bar{S}_0 I \quad Y_2 = E S_1 \bar{S}_0 I \quad (\text{4 Input AND Gate})$$

$$Y_1 = E \bar{S}_1 S_0 I \quad Y_3 = E S_1 S_0 I$$

Circuit Diagram.

