

Haroon Rashid

Reg#16549

Semester: 6<sup>th</sup>

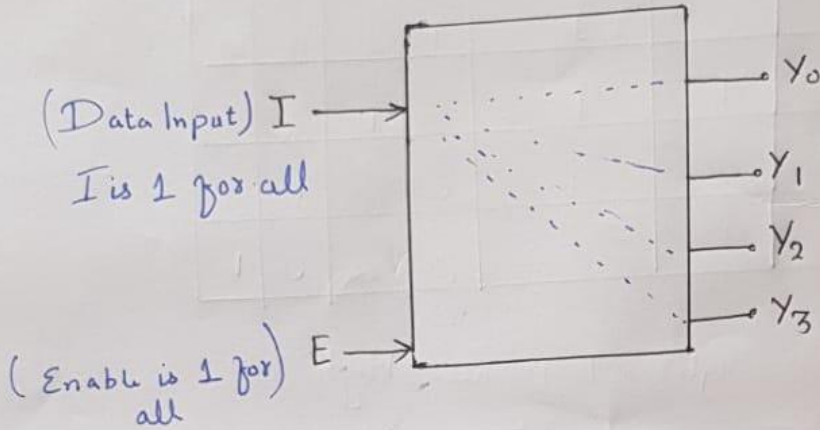
Subject: DLD Lab-7

Submitted to: Sir MUHAMMAD AMIN

# Lab 7: Dc - Multiplexer (1:4 DEMUX

Observation Table:

Input Variable,  $D, S_0, S_1$  Output variable:  $Y_0, Y_1, Y_2, Y_3$



Find Select lines?

$$n = 4$$

$$m = \log_2 n$$

$$m = \log_2 4$$

$$m = \log_2^2$$

$$m = 2 \log_2^2 1$$

$$m = 2 \cdot 1$$

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

## Observation Table :-

Select lines		Data Input	Output			
$S_1$	$S_0$	Data (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

$$\begin{aligned}
 Y_0 &= E \bar{S}_1 \bar{S}_0 I & Y_2 &= E S_1 \bar{S}_0 I \\
 Y_1 &= E \bar{S}_1 S_0 I & Y_3 &= E S_1 S_0 I
 \end{aligned}
 \quad \left( \begin{array}{l} \text{4 Input AND Gate} \end{array} \right)$$

### Circuit Diagram

