



COMPUTER ENGINEERING

DLCA ODD SEM 2021-22/EXPERIMENT 5

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Experiment - 5

AIM: To implement logic operation using mux. ic

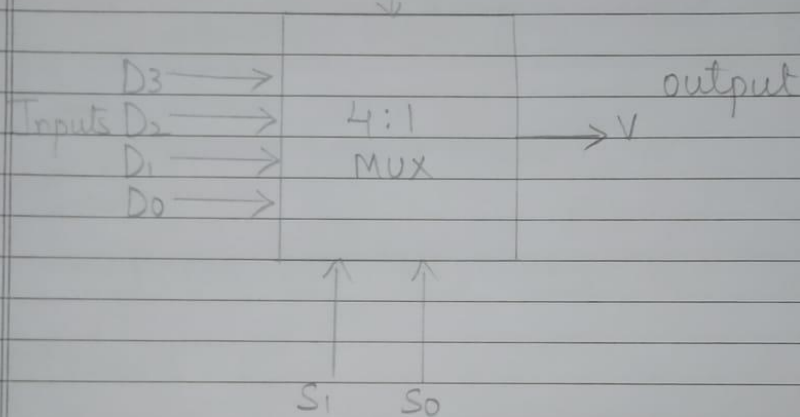
Theory:

Multiplexing is the process of combining one or more single channel. In an a log communication system a communication channel is a scale quantity which must be properly used for cost effective and efficient used of a channel. The concept of Multiplexing is way useful as it allows Multiplex users to share a single channel in a logical way.

The multiplexer or Mux is a digital switch also called as data selector. It is a combinational logic circuit with more than one input line, one output line and more than one select line. It accepts the binary information from several input lines or sources and depending on the set of select lines, a particular input line is routed onto a single output line.

Block diagram:

Enable E



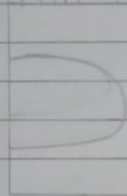
S_0	S_1	00	01	02	03	Y
0	0	0	X	X	X	0
0	0	1	X	X	X	1
0	1	X	0	X	X	0
0	1	X	1	X	X	1
1	0	X	X	0	X	0
1	0	X	X	1	X	1
1	1	X	X	X	0	0
1	1	X	X	X	1	1

$$Y = \bar{S}_0 \bar{S}_1 00 + \bar{S}_0 S_1 01 + S_0 \bar{S}_1 02 + S_0 S_1 03$$

The IC 74153 is used as 4x1 Multiplexer

STROBE 2G

V _{cc}	T	A	2C3	2C2	2C1	2C0
16	15	14	13	12	11	10



74153

1	2	3	4	5	6	7	8
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STROBE 1G

IC 74153 (4x1 Multiplexer)

The common applications of Multiplexer are used in

- 1) Communication system
- 2) Telephone Network
- 3) Computer Memory
- 4) Transmission from the computer system of a satellite

Conclusion:-

By performing this experiment we understood the concept of Mux and verified the truth table of 4:1 Mux.

OUTPUT:

Multiplexer-

