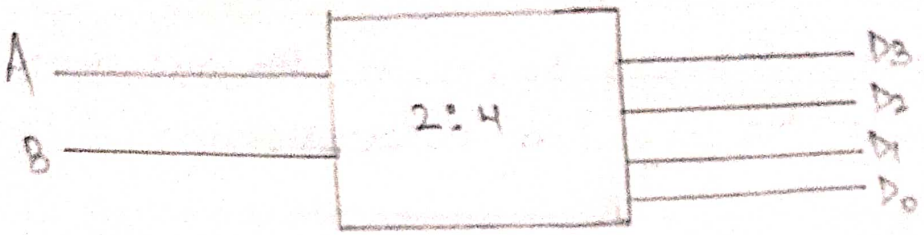
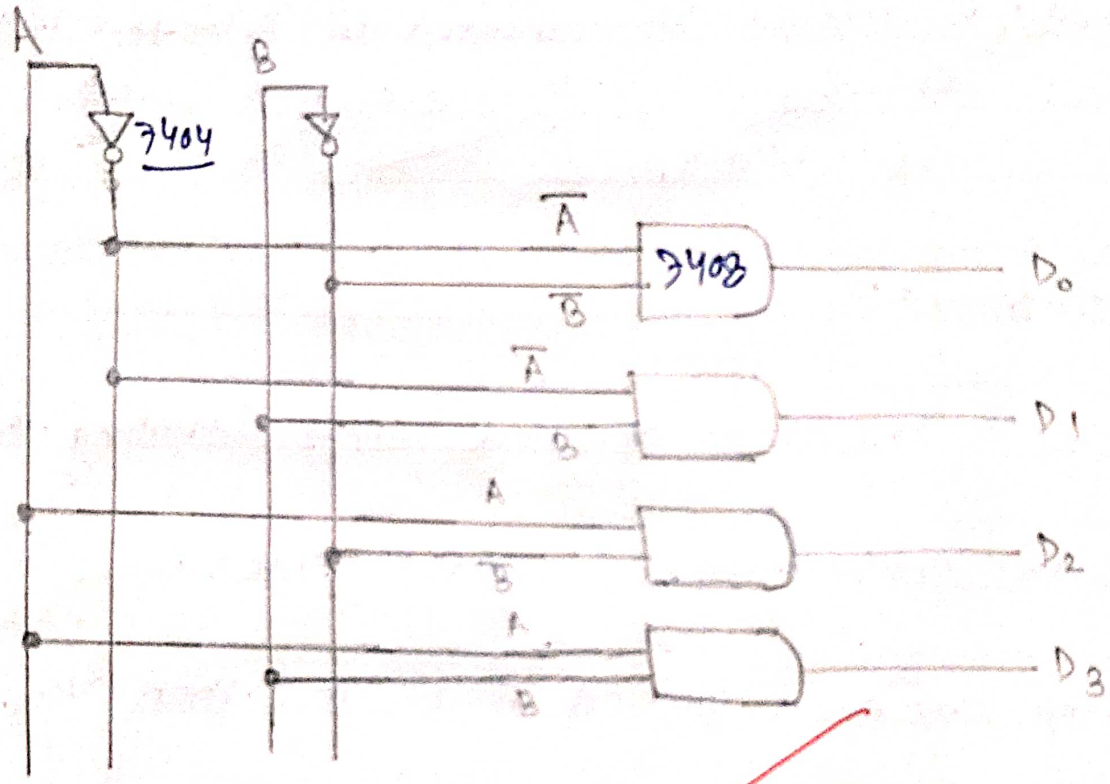
Logic Diagram :





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EXPERIMENT NO. → 5

Aim: Implementation of 2:4 encoder using logic gates and verify its truth table.

Apparatus Required:

Sno	Name of component	Specification	Qty
1.	NOT Gate	7404	1
2.	AND Gate	7408	1
3.	LED	–	4
4.	Wires	–	As required
5.	Bread board	–	1
6.	Power Supply	5VDC	1

Theory:-

A decoder is a device which performs the operation as reverse of that of an encoder.

It is a combinational circuit that converts binary information from n input lines to a max^m of 2^n output lines.

In digital electronics, decoder can take the form of a multiple input - multiple output where the input and output codes are different.

Teacher's Signature :

Truth Table.

INPUT		OUTPUT			
A	B	D_0	D_1	D_2	D_3
0	0	1	0	0	0
0	1	0	1	0	0
1	0	0	0	1	0
1	1	0	0	0	1
		$\bar{A}\bar{B}$	$\bar{A}B$	$A\bar{B}$	AB

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Incase of decoding all combination of two bits decoding are required.

Result: 2:4 decoder has been implemented and the truth table is verified

Precautions :-

i) Check all the ICs before performing the experiment.

ii) Connect ground first and then Vcc.

iii) Switch off the power supply before making the Connection.

iv) All the connections should be tight.

22/11/2021

Teacher's Signature :