

CSE 260 LAB REPORT

Experiment Name: Familiarization of Fundamental Logic Gates

Submitted By:

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Section:- 11

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1. Name of the Experiment: Familiarization of Fundamental Logic Gates

2. Objectives:

- * To get familiarized with fundamental logic gates and demonstrate the input and output relationship of 2 input AND (IC - 7408), OR (IC - 7432), and NOT (IC - 7404) gates by constructing their truth tables.
- * To get familiarized with other logic gates like NAND (IC - 7400), NOR (IC - 7402), XOR (IC - 7486) and XNOR (IC - 74266).

3. Required Components and Equipments:

① Breadboard

⑥ AND GATE

② Wire

⑦ OR "

③ LED

⑧ NOT "

④ Ground

⑨ NAND "

⑤ 5V Battery

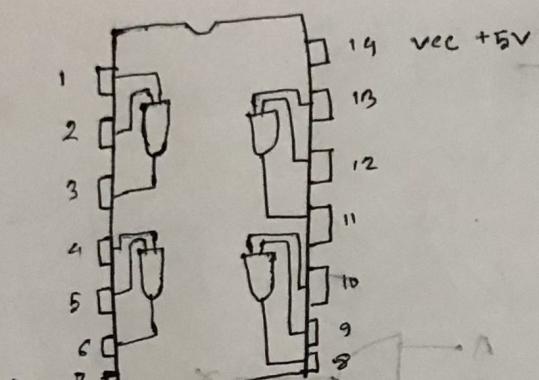
⑩ NOR "

⑪ XOR "

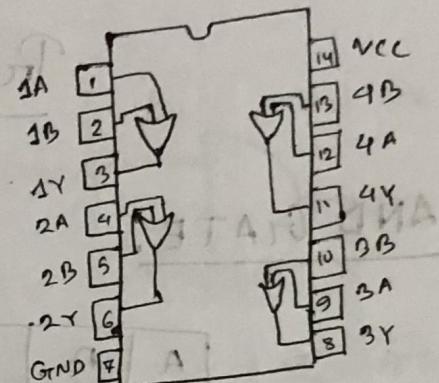
⑫ XNOR "

4. Experimental Setup:

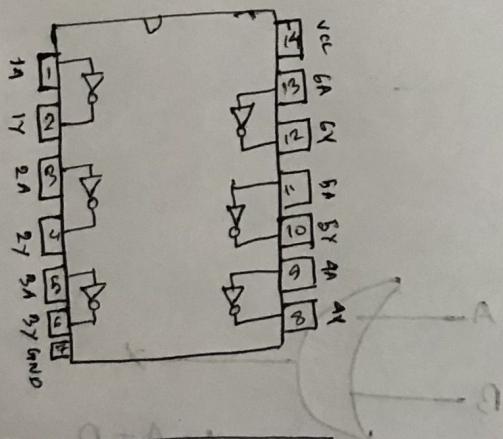
74LS08



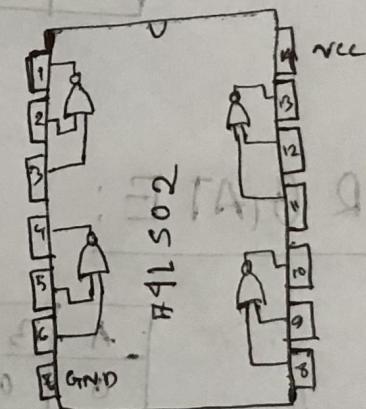
Pin layout of 7408



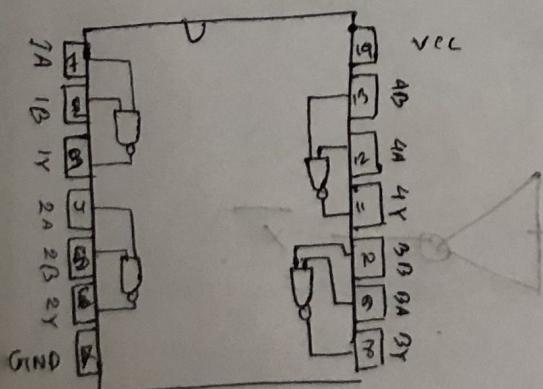
Pin layout of 7432



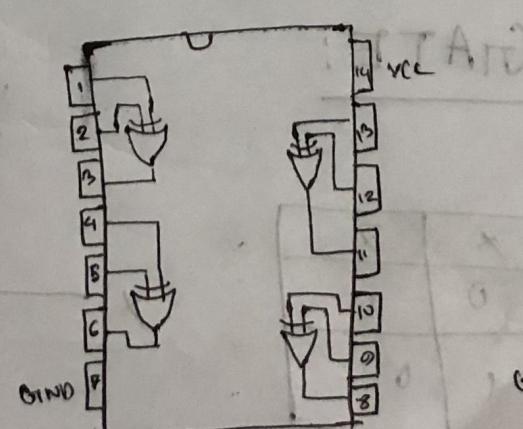
Pin layout of 7404



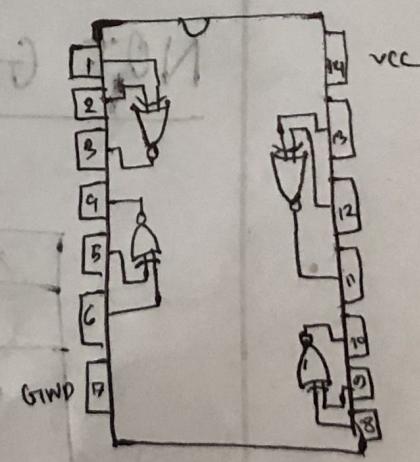
Pin layout of 7402



Pin layout of 7400



Pin layout of 7426



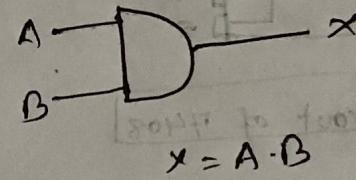
Pin layout of 74266

B. Results:

Truth Table

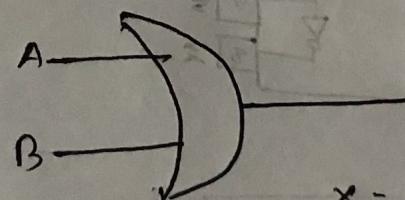
AND GATE:

A	B	$X = A \cdot B$
0	0	0
0	1	0
1	0	0
1	1	1



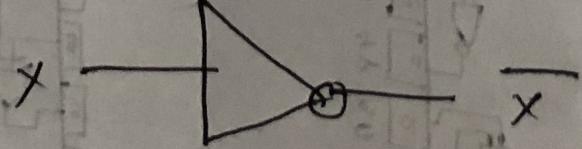
OR GATE:

A	B	$X = A + B$
0	0	0
0	1	1
1	0	1
1	1	1



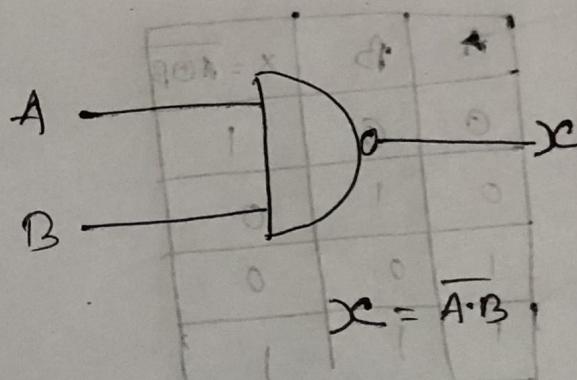
NOT GATE:

x	\bar{x}
0	1
1	0



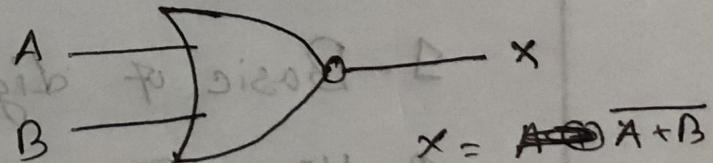
NAND GATE:

A	B	$X = A \cdot B$
0	0	1
0	1	0
1	0	0
1	1	0



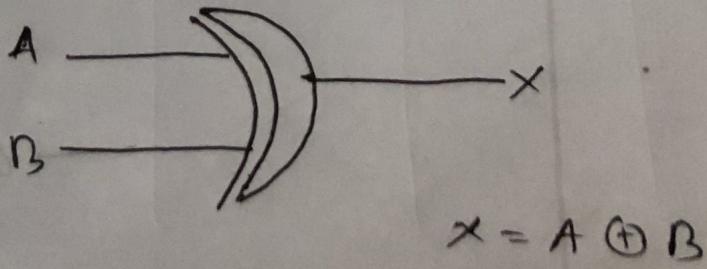
NOR GATE:

A	B	$X = \overline{A+B}$
0	0	1
0	1	0
1	0	0
1	1	0



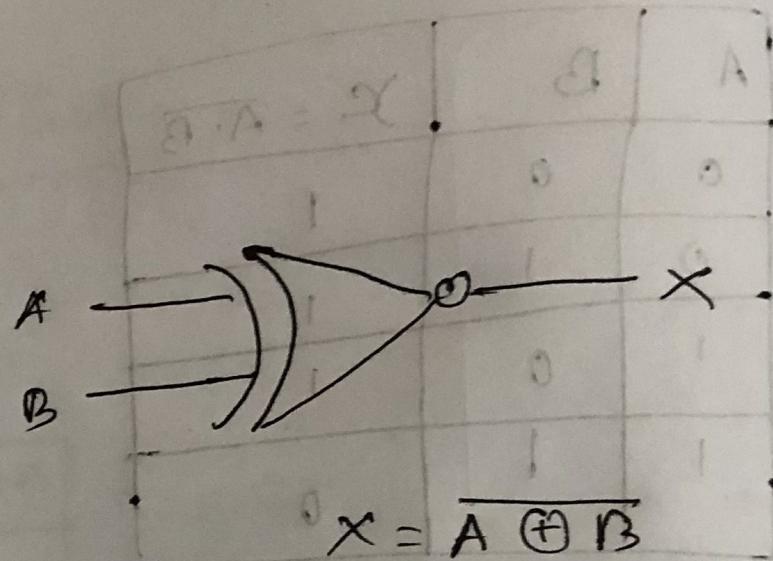
XOR GATE:

A	B	$X = A \oplus B$
0	0	0
0	1	1
1	0	1
1	1	0



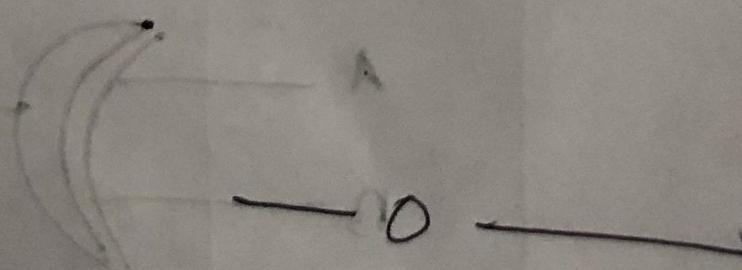
XNOR GATE:

A	B	$X = A \oplus B$
0	0	1
0	1	0
1	0	0
1	1	1



Discussion:

- 1. Basic of digital circuit logics
- 2. How IC works and its function.
- 3. Plotting & simulating circuits on Proteus.



$A \cdot A = X$	0	1
0	0	0
1	1	1