

CSE260 : Digital Logic Design

Submitted by : TASNIM RAHMAN MOUMITA

ID : 22301689

Section : 18

Lab Group No. : 01

Date of submission : 26.06.2024

Experiment No. - 01

Name of the Experiment :

Familiarization of Fundamental Logic Gates

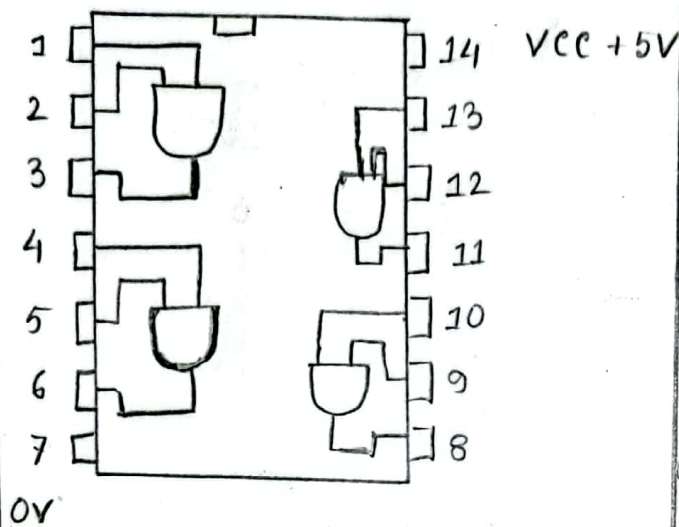
Objective :

- To get familiarized with fundamental logic gates and demonstrate the input 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 - 4077)

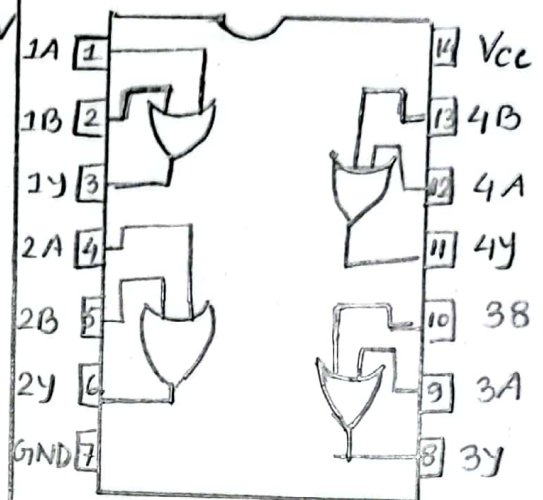
Required Components and Equipments :

- 1) Breadboard
- 2) Connecting wires
- 3) IC - 7408,
IC - 7432,
IC - 7404,
IC - 7400,
IC - 7402,
IC - 7486,
IC - 4077

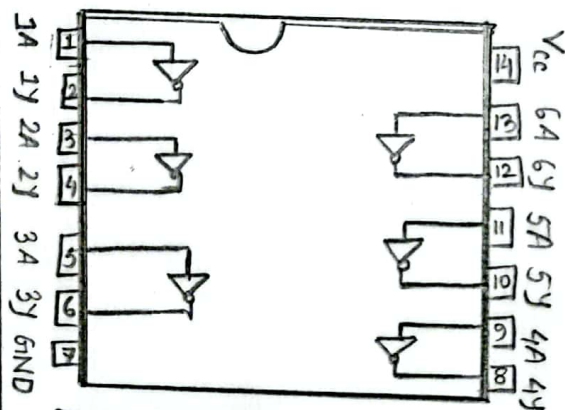
Experimental Setup :



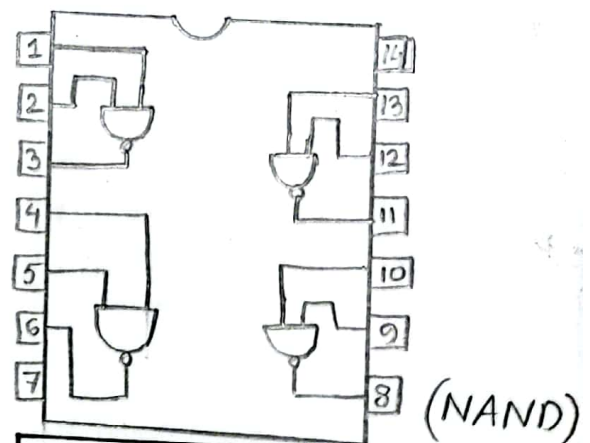
Pin layout of 7408 (AND)



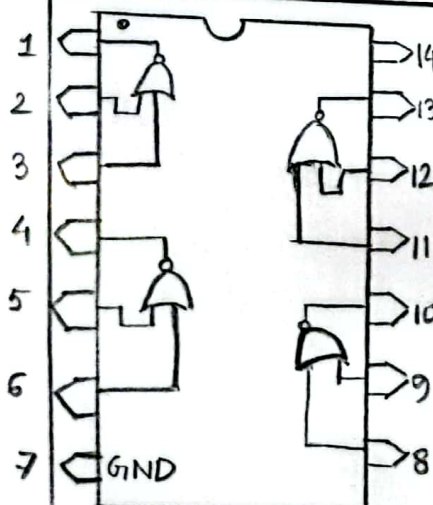
Pin layout of 7432 (OR)



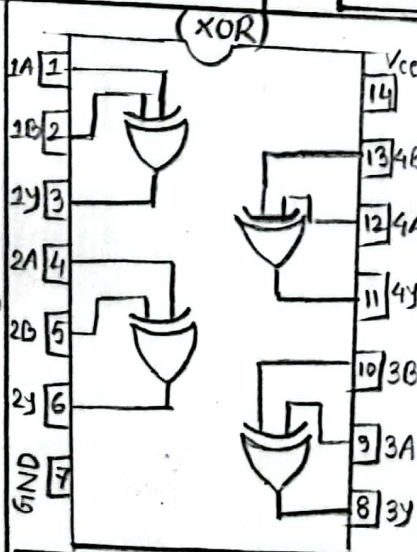
Pin layout of 7404 (NOT)



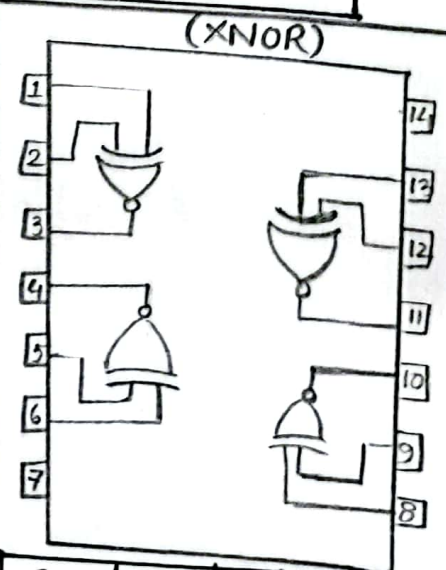
Pin layout of 7400 (NAND)



Pin layout of 7402 (NOR)



Pin layout of 7486 (XOR)



Pin layout of 4077 (XNOR)

Result:

NOT Gate

A	A'
0	1
1	0

AND

A	B	AB
0	0	0
0	1	0
1	0	0
1	1	1

XNOR Gate

A	B	
0	0	1
0	1	0
1	0	0
1	1	1

OR Gate

A	B	A+B
0	0	0
0	1	1
1	0	1
1	1	1

XOR Gate

A	B	A ⊕ B
0	0	0
0	1	1
1	0	1
1	1	0

NAND Gate

A	B	(AB)'
0	0	1
0	1	1
1	0	1
1	1	0

NOR Gate

A	B	(A+B)'
0	0	1
0	1	0
1	0	0
1	1	0

ONCE DAILY
PROVAIR[®]
MONTELUKAST

4mg oral granules
4mg & 5mg oral dispersible tablet
10mg film coated tablet

[P.T.O.]

Discussions :

- We faced difficulties with some faulty wires.
 - According to the truth tables we got as results, it can be seen easily that every gate gives the correct output by indicating the LED light's being ON & OFF.
-