CSE260

Report 01

Section: 3B

Table: 5

Submitted by

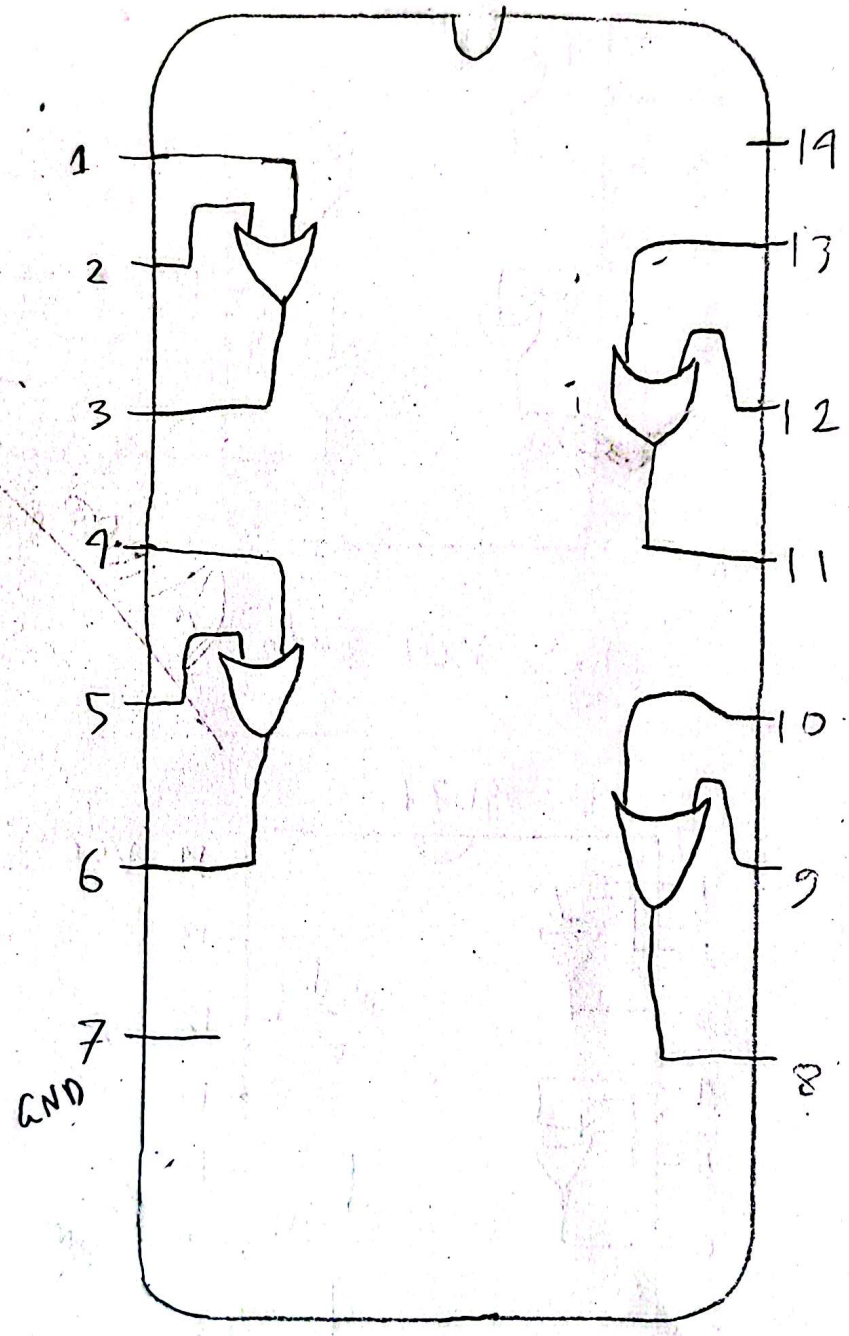
Name	ID
Muhtasim Fuad	23201082
Sultan Mohammad Farid	23201107
Amirun Nahin	23201416
Ahnaf Hossain Rauf	23201438

Table no- 05

Section - 3B

ID's: 23201107
23201416
23201438
23201082

7432



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74L508

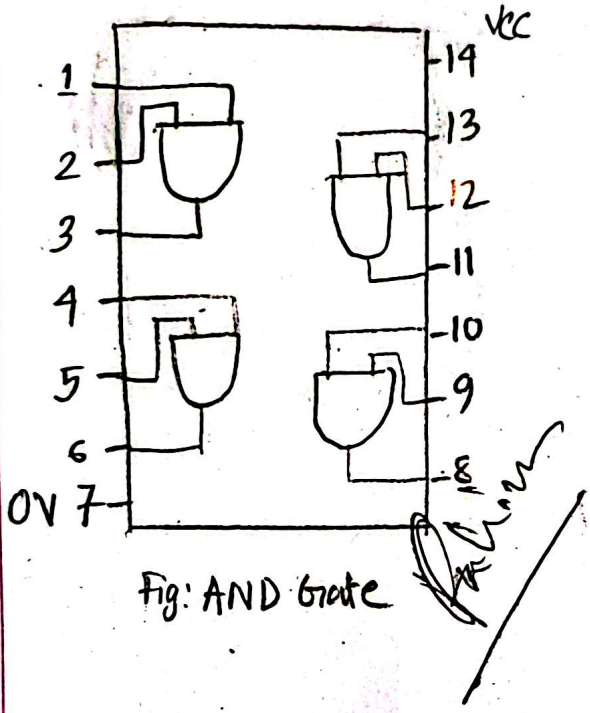


Fig: AND Gate

7404

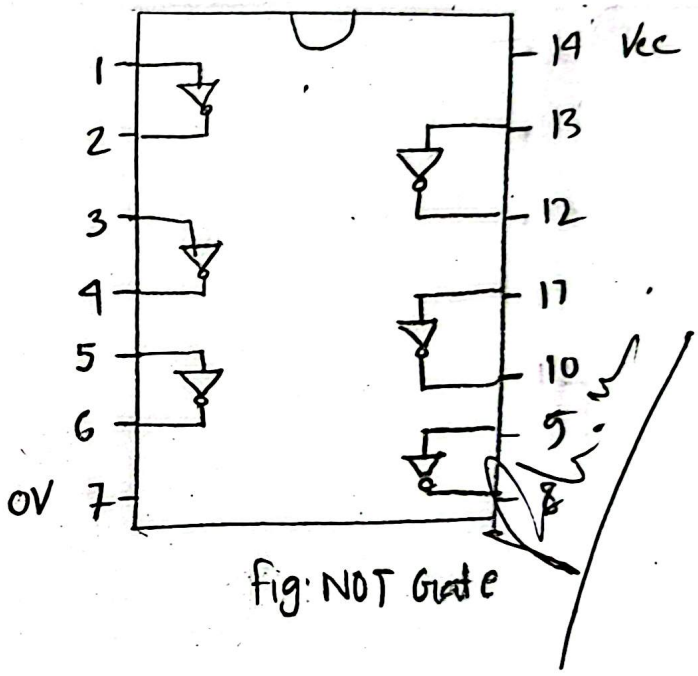


fig: NOT Gate

7402

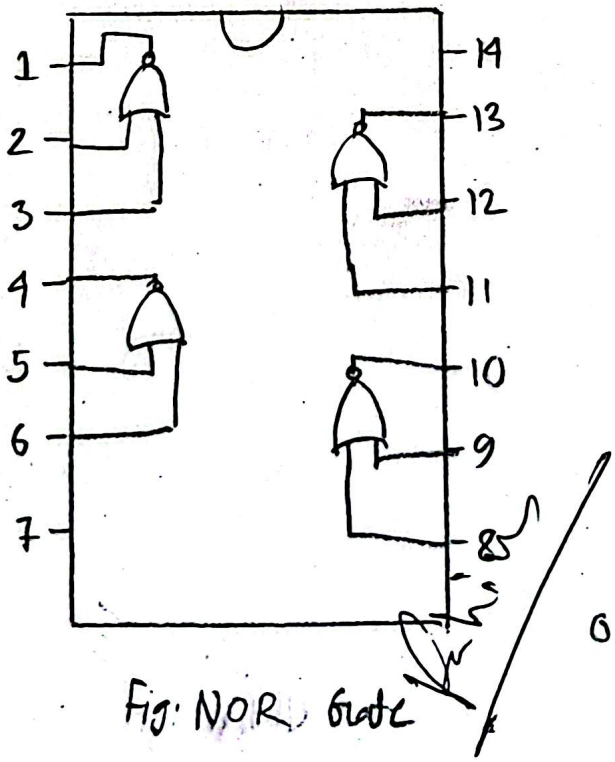


Fig: NOR Gate

7400

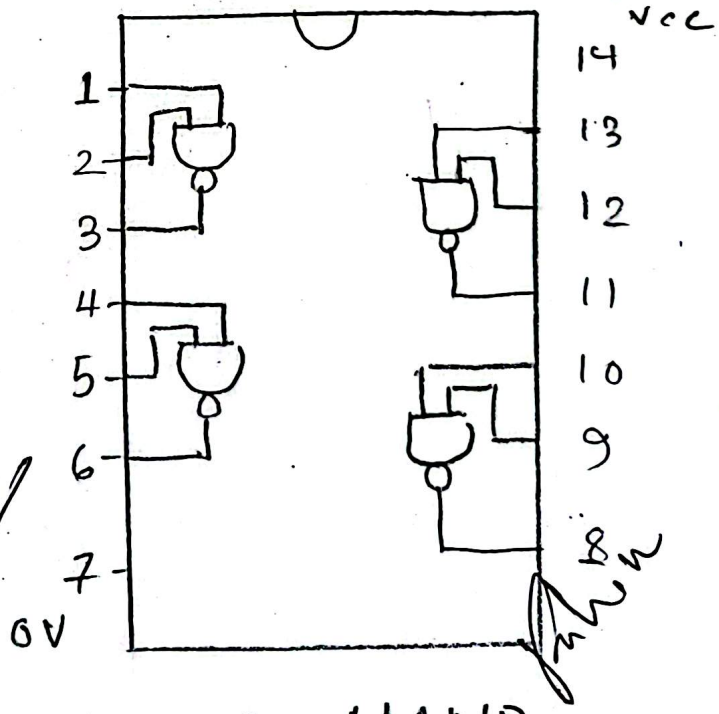


Fig NAND

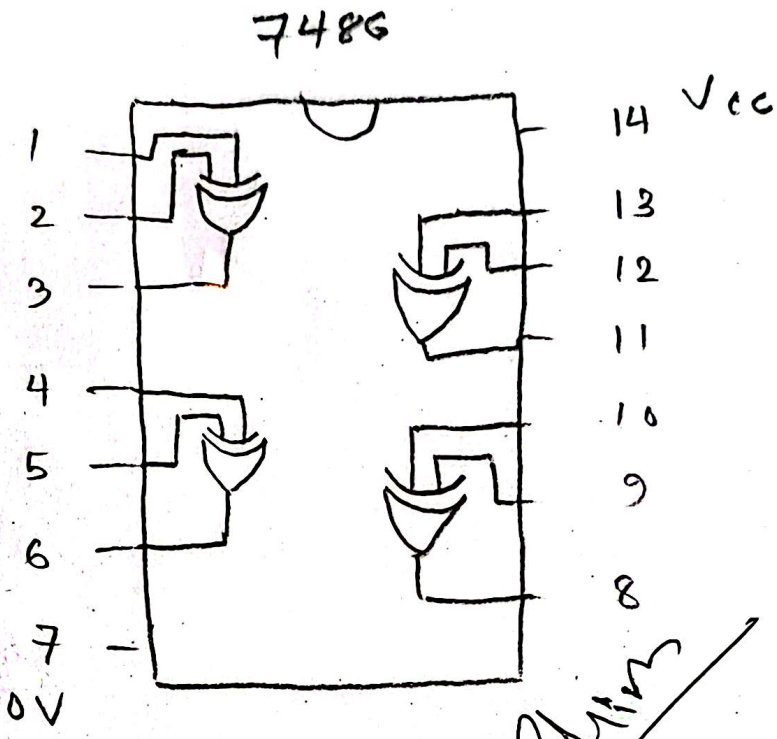


Fig: XOR Gate

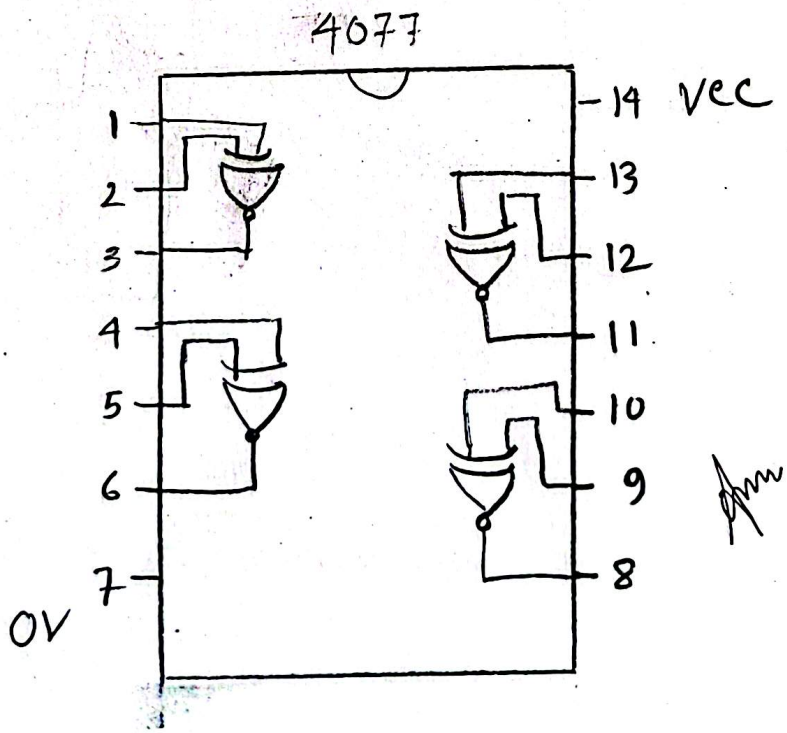
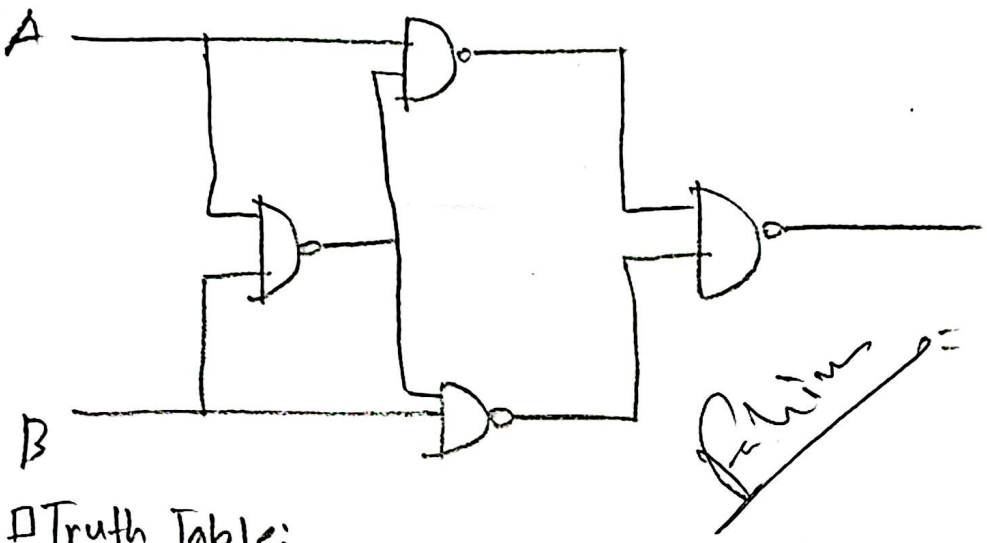


Fig: XNOR Gate

Amirun Nahin – 23201416
Ahnaf Hossain Rauf – 23201438
Muhtasim Fuad – 23201082
Sultan Mohammad Farid – 23201107

Sec : 03-B
Table : 05

Circuit 1



Truth Table:

A	B	A⊕B
0	0	0
0	1	1
1	0	1
1	1	0

$$\overline{\overline{AB}\cdot A}\cdot\overline{\overline{AB}\cdot B} = A \oplus B$$

$$= \overline{\overline{AB}\cdot A} + \overline{\overline{AB}\cdot B}$$

$$= \overline{AB}\cdot A + \overline{AB}\cdot B$$

$$= \overline{AB}\,(A+B)$$

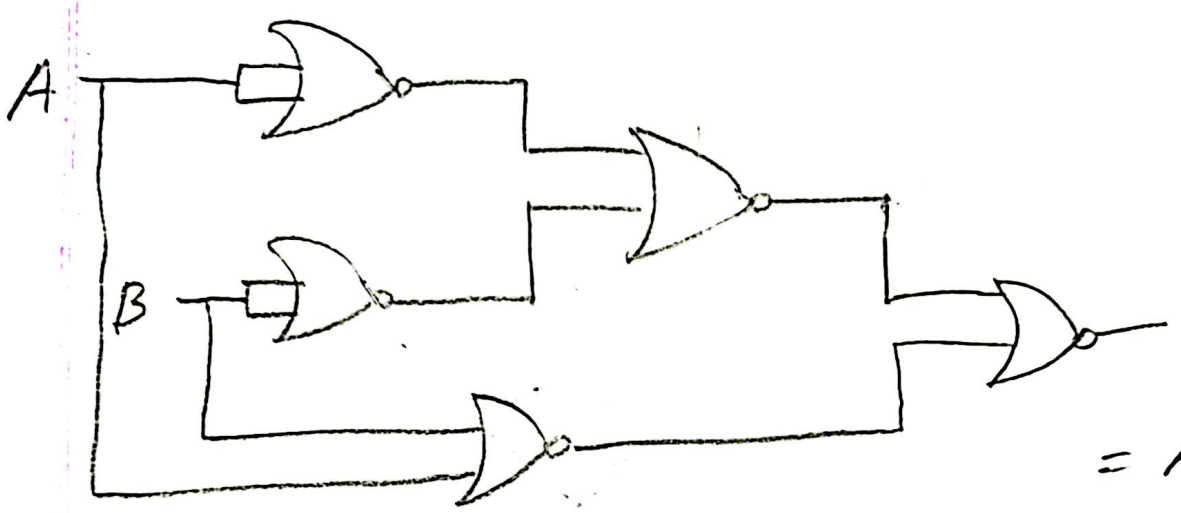
$$= (\bar{A}+\bar{B})(A+B)$$

$$= A\cdot\bar{A} + B\cdot\bar{B} + A\cdot\bar{B} + \bar{A}\cdot B$$

$$= \bar{A}B + A\bar{B}$$

This is an X-OR gate.

Circuit-2



$\overline{(\overline{A+A})} + \overline{(\overline{B+B})} + \overline{(\overline{A+B})}$

$= \overline{(\bar{A} + \bar{B})} + \overline{(\overline{A+B})}$

$= \overline{\bar{A} \cdot \bar{B}} + \overline{(\overline{A+B})}$

$= \overline{AB} + \overline{(\overline{A+B})}$

$= \overline{AB} \cdot \overline{(\overline{A+B})}$

$= \overline{AB} \cdot (A+B)$

$= (\bar{A}+\bar{B})(A+B)$

$= A \cdot \bar{A} + \bar{A} \cdot B + A\bar{B} + B \cdot \bar{B}$

$= \bar{A} \cdot B + A\bar{B}$

$= A \oplus B$

Truth Table:

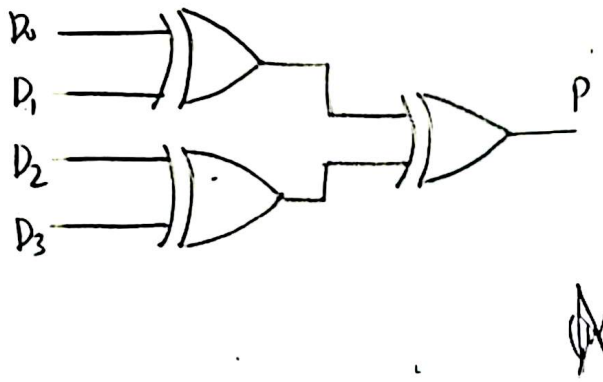
A	B	A⊕B
0	0	0
0	1	1
1	0	1
1	1	0

So, this is an X-OR gate.

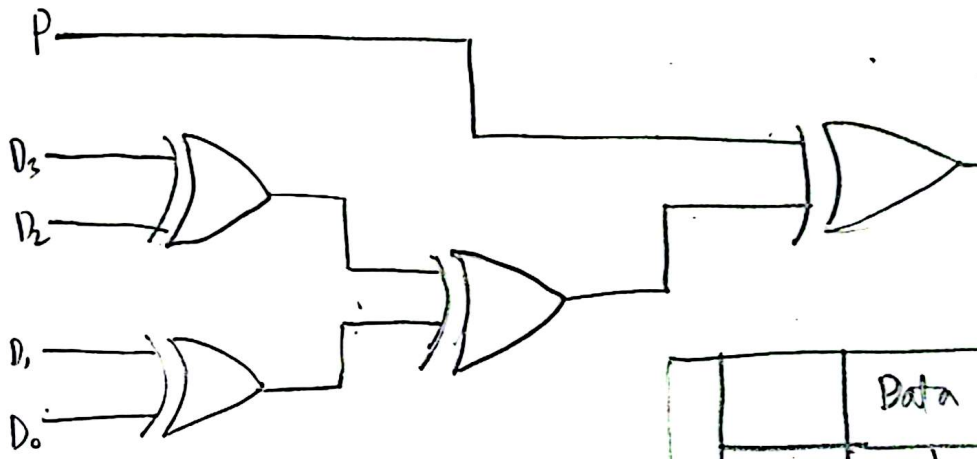
ID: 23201107
23201416
23201438
23201082

Experiment - 3

Sec - 03 - B
Table : 05

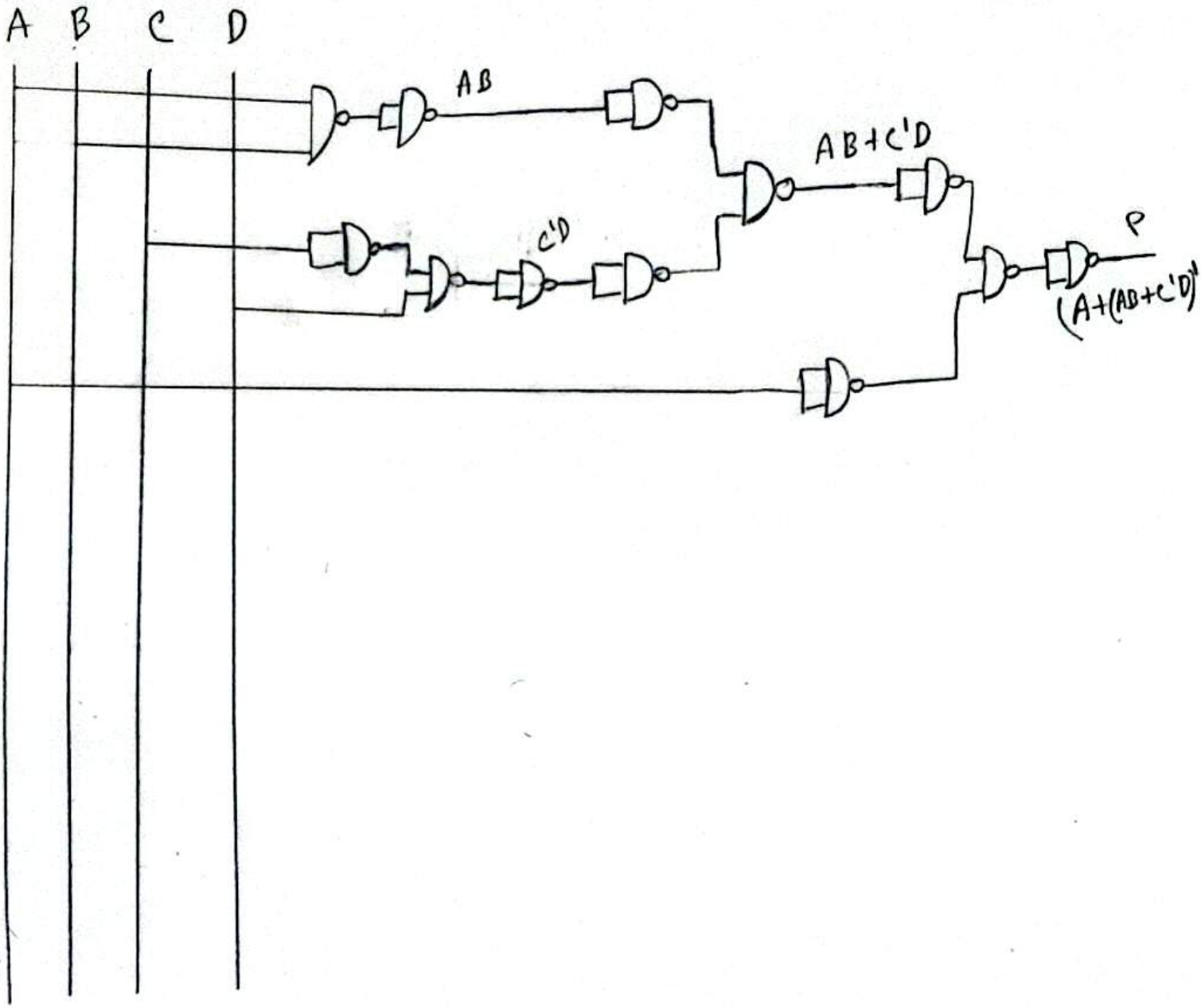


	Data				
	D_3	D_2	D_1	D_0	Parity
a	1	0	0	1	0
b	0	0	0	1	1
c	1	1	1	1	0
d	0	0	0	0	0



		Data				Error
	Parity	D_3	D_2	D_1	D_0	
a	1	1	0	0	1	1
b	0	0	0	0	1	1
c	0	1	1	1	1	0
d	1	0	0	0	0	1

1) $(A + (AB + C'D))'$; NAND gate



2)

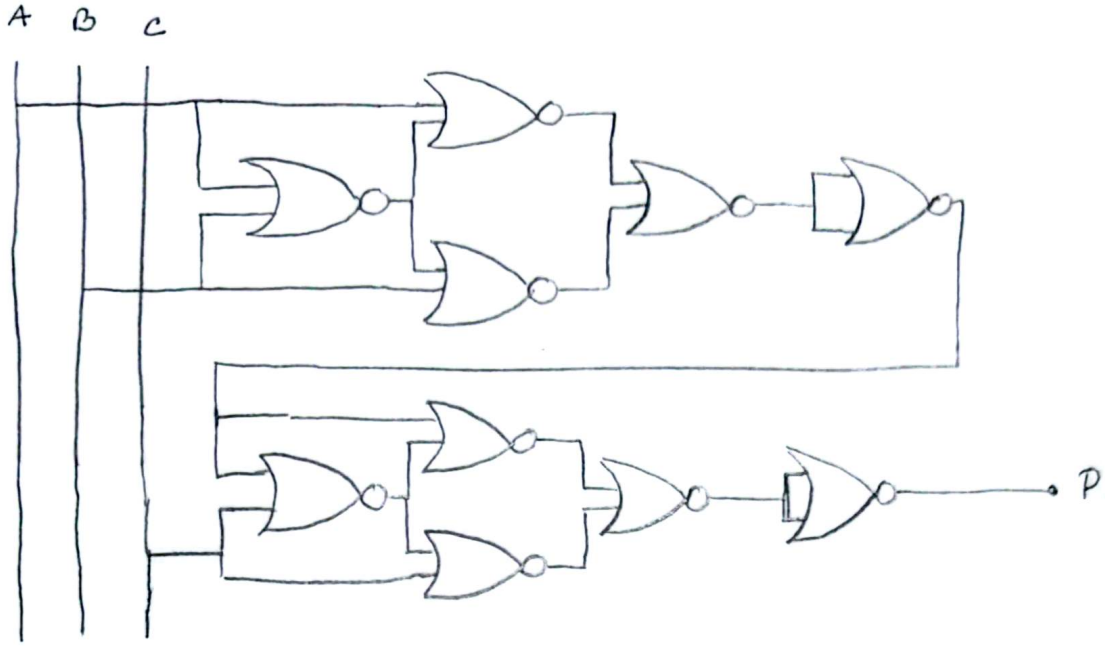


Fig: Generaton.

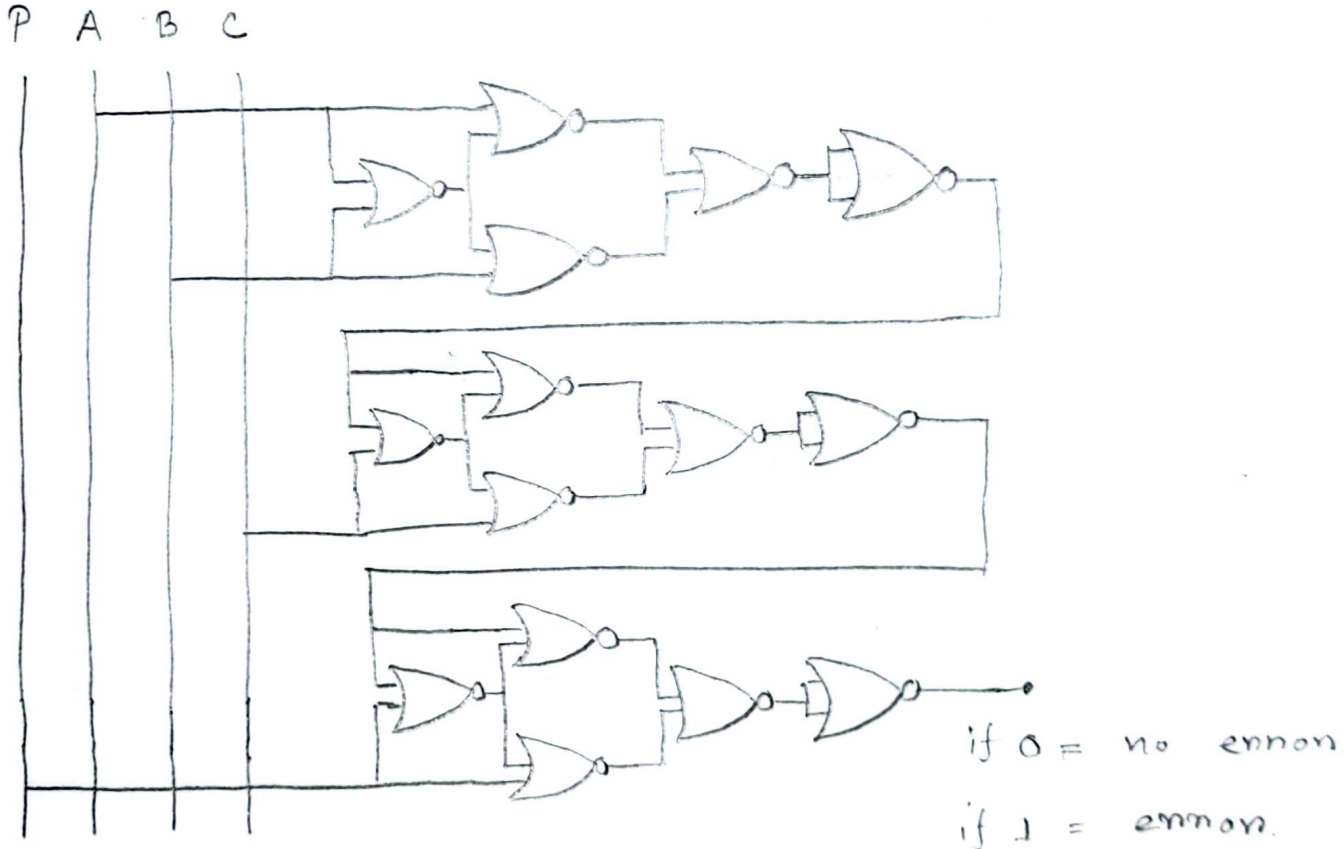


Fig: paniny checken.