

D: Preliminary Work

①

AND

Symbol:-



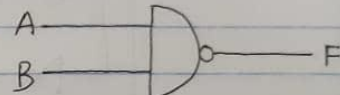
IC Number:- 7408

Truth Table-1:-

INPUT		OUTPUT
A	B	F
0	0	0
0	1	0
1	0	0
1	1	1

NAND

Symbol:-

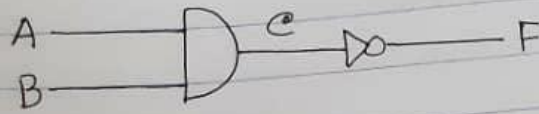


IC Number:- 4011

Truth Table-2:-

INPUT		OUTPUT
A	B	F
0	0	1
0	1	1
1	0	1
1	1	0

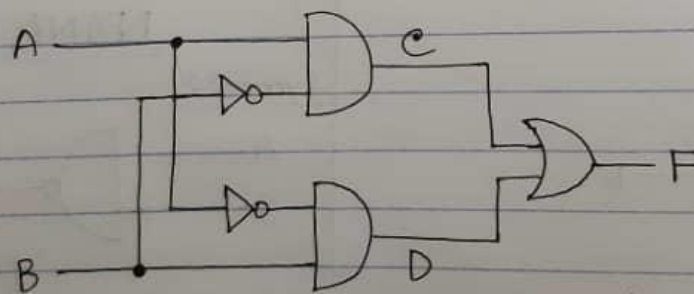
②



Truth Table-3:-

A	B	C	F
0	0	0	1
0	1	0	1
1	0	0	1
1	1	1	0

③



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

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

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

④

Truth Table-4:

A	B	C	D	F
0	0	0	0	0
0	1	0	1	1
1	0	1	0	1
1	1	0	0	0

From the circuit in (3) :-

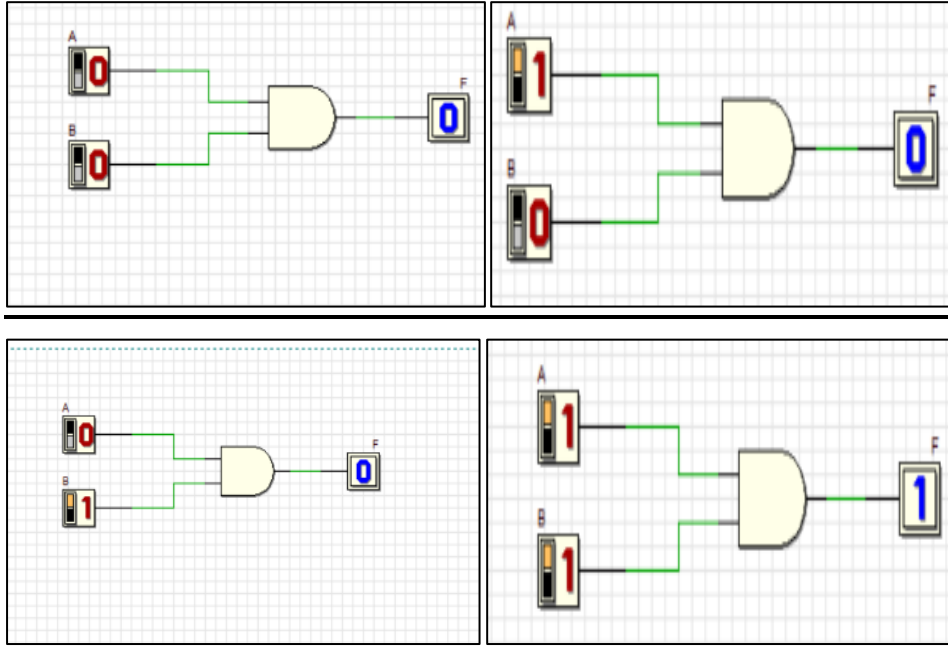
$$C = A\bar{B}$$

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

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

E.Laboratory Work

PART 1



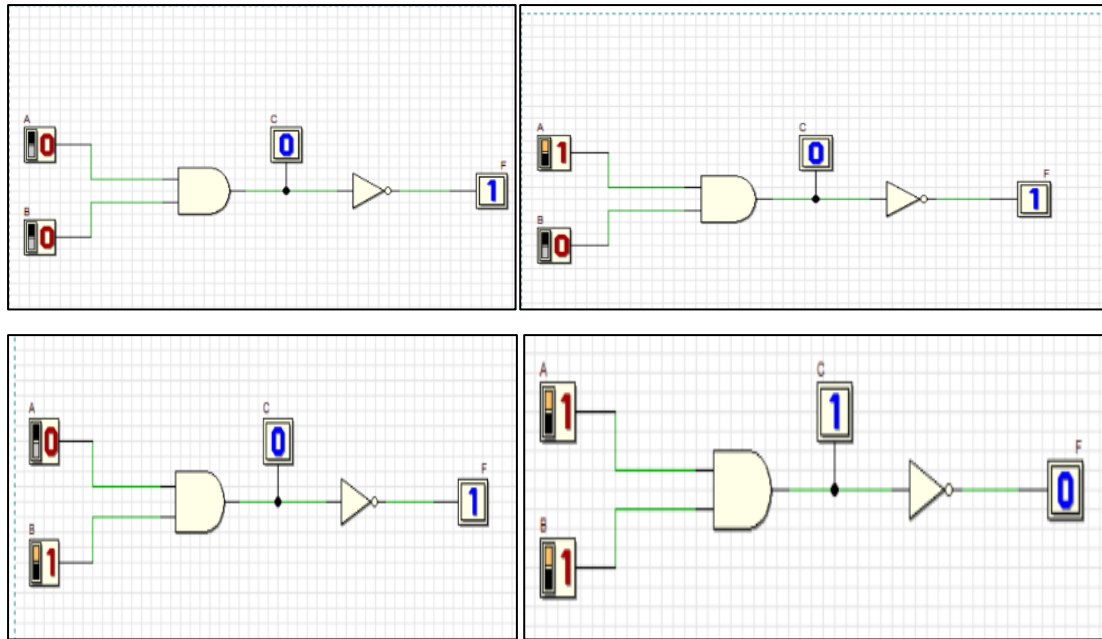
Truth Table 5

Input		Output
A	B	F
0	0	0
0	1	0
1	0	0
1	1	1

Truth Table 1; AND

Input		Output
A	B	F
0	0	0
0	1	0
1	0	0
1	1	1

PART 2

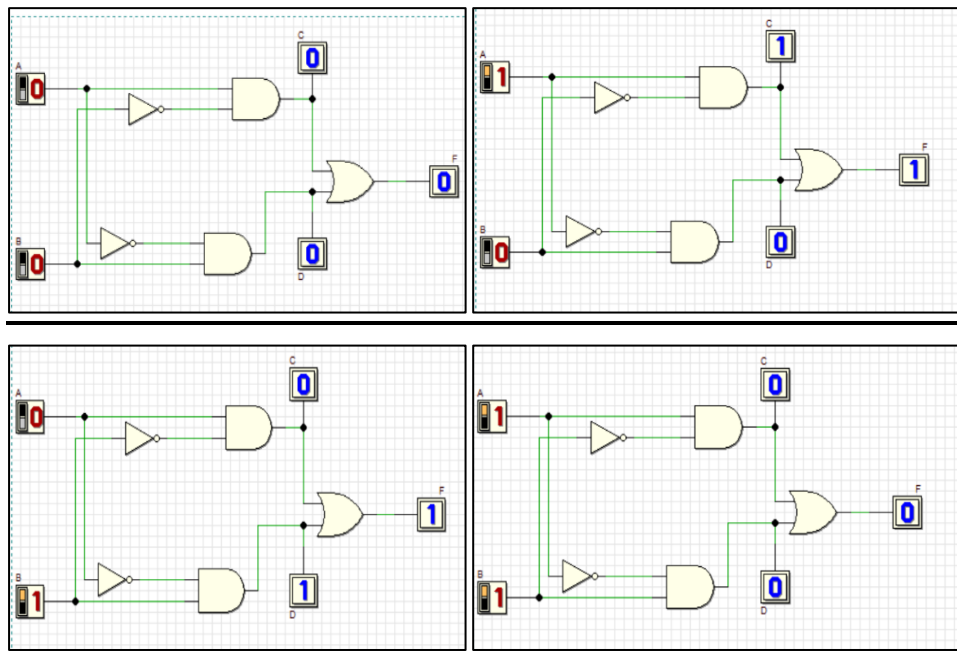


Compare Truth Table 6 to Truth Table 2. What conclusion can you take ?
 Have the same output value and meaning..

A	B	C	F
0	0	0	1
0	1	0	1
1	0	0	1
1	1	1	0

Truth Table 6

PART 3



A	B	C	D	F
0	0	0	0	0
1	0	1	0	1
0	1	0	1	1
1	1	0	0	0

Truth Table 7

What single gate does Circuit 3 represent?

Circuit 3 represents a XOR.

