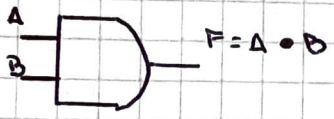
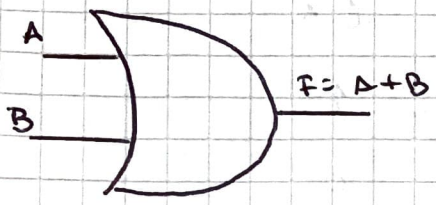
1).

a). AND



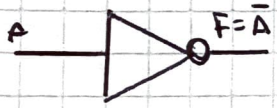
A	B	F
0	0	0
0	1	0
1	0	0
1	1	1

b). OR



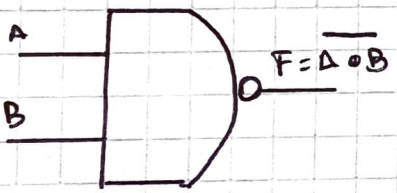
A	B	F
0	0	0
0	1	1
1	0	1
1	1	1

c). NOT



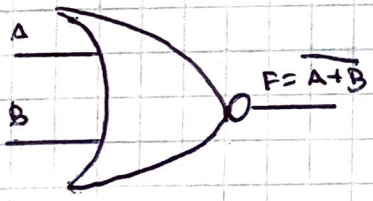
A	F
0	1
1	0

d). NAND



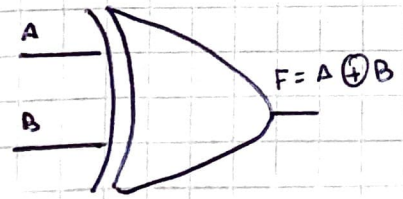
A	B	F
0	0	1
0	1	1
1	0	1
1	1	0

e). NOR



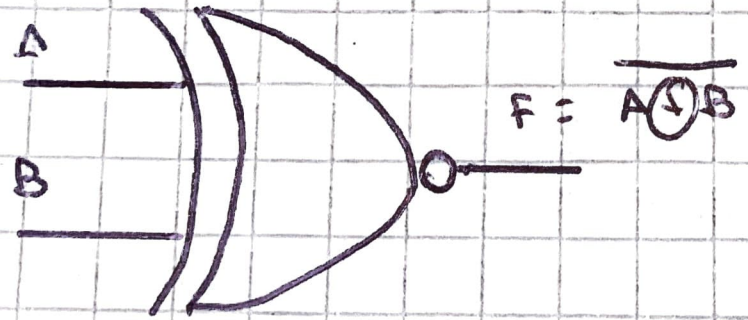
A	B	F
0	0	1
0	1	0
1	0	0
1	1	0

f). XOR



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

9). NXOR

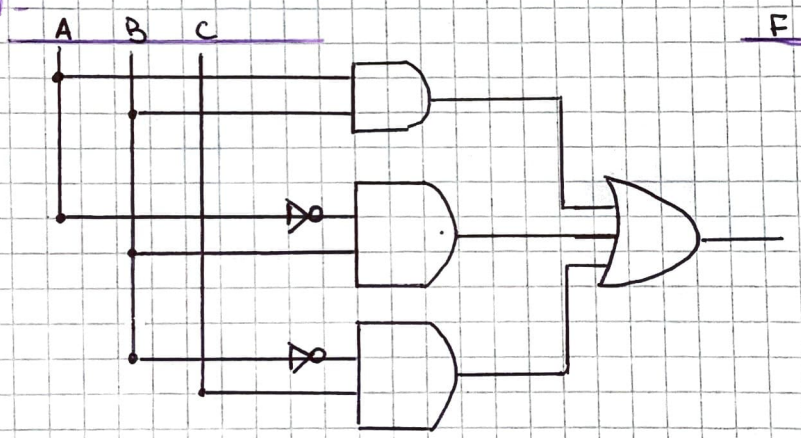


A	B	F
0	0	1
0	1	0
1	0	0
1	1	1

2)- $F = A \cdot B + \bar{A} \cdot B + \bar{B} \cdot C$

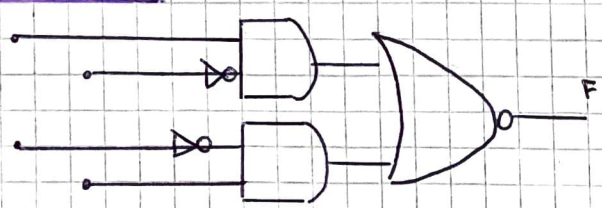
A	B	C	A.B	$\bar{A}$	$\bar{A}.B$	$\bar{B}$	$\bar{B}.C$	$A.B + \bar{A}.B + \bar{B}.C$
0	0	0	0	1	0	1	0	0
0	0	1	0	1	0	1	1	1
0	1	0	0	1	1	0	0	1
0	1	1	0	1	1	0	0	1
1	0	0	0	0	0	1	0	0
1	0	1	0	0	0	1	1	1
1	1	0	1	0	0	0	0	1
1	1	1	1	0	0	0	0	1

3)-

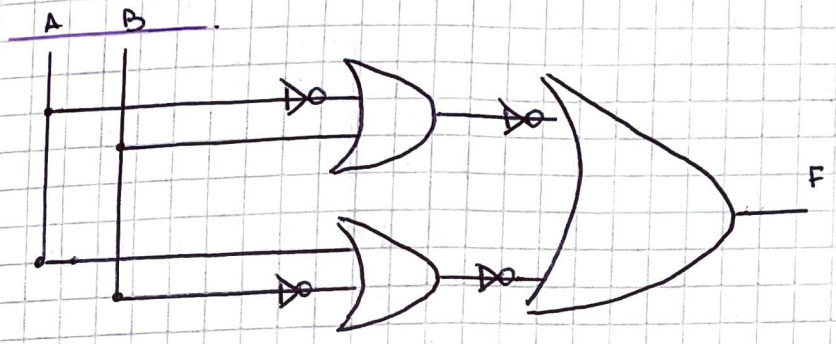


4)- $F = A \cdot \bar{B} + \bar{A} \cdot B$ AND, NOT y OR

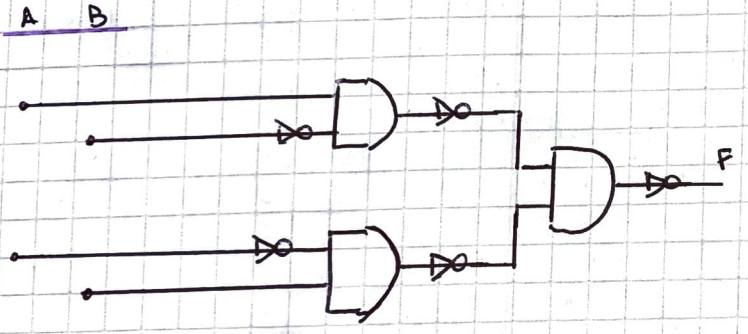
a)-



b). $A.\bar{B} + \bar{A}.B \Rightarrow \overline{\bar{A}+B} + \overline{A+\bar{B}}$ NOT y OR

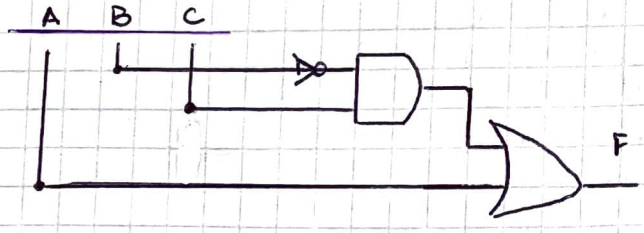


c). $A.\bar{B} + \bar{A}.B = \overline{(\overline{A.\bar{B}}).(\overline{\bar{A}.B})}$ AND y NOT



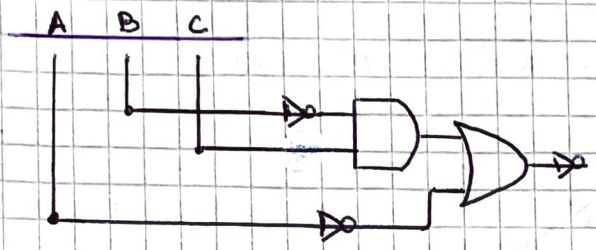
6).

a). $F = \bar{B}C + A$



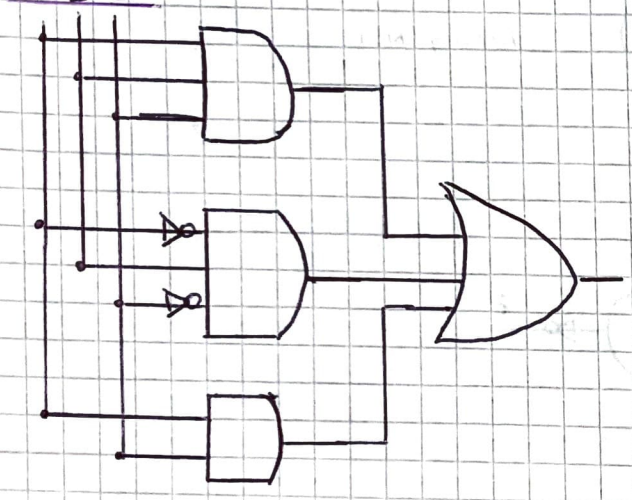
A	B	C	$\bar{B}$	$C\bar{B}$	$A + \bar{B}C$
0	0	0	1	0	0
0	0	1	1	1	1
0	1	0	0	0	0
0	1	1	0	0	0
1	0	0	1	0	1
1	0	1	1	1	1
1	1	0	0	0	1
1	1	1	0	1	1

b). $F = \overline{(\bar{A} + \bar{B} \cdot C)}$



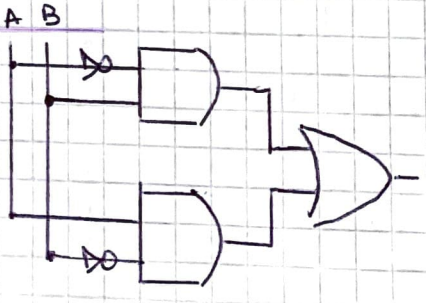
A	B	C	$\bar{B}$	$\bar{A}$	$\bar{B}.C$	$\bar{A}+\bar{B}C$	$\overline{\bar{A}+\bar{B}C}$
0	0	0	1	1	0	0	1
0	0	1	1	1	1	1	0
0	1	0	0	1	0	0	1
0	1	1	0	1	0	0	1
1	0	0	1	0	0	0	1
1	0	1	1	0	1	0	1
1	1	0	0	0	0	0	1
1	1	1	0	0	0	0	1

c). $F = ABC + \bar{A}B\bar{C} + AC$



A	B	C	ABC	$\bar{A}$	$\bar{C}$	$\bar{A}B\bar{C}$	AC	F
0	0	0	0	1	1	0	0	0
0	0	1	0	1	0	0	0	0
0	1	0	0	1	1	1	0	1
0	1	1	0	1	0	0	0	0
1	0	0	0	0	1	0	0	0
1	0	1	0	0	0	0	1	1
1	1	0	0	0	1	0	0	0
1	1	1	1	0	0	0	1	1

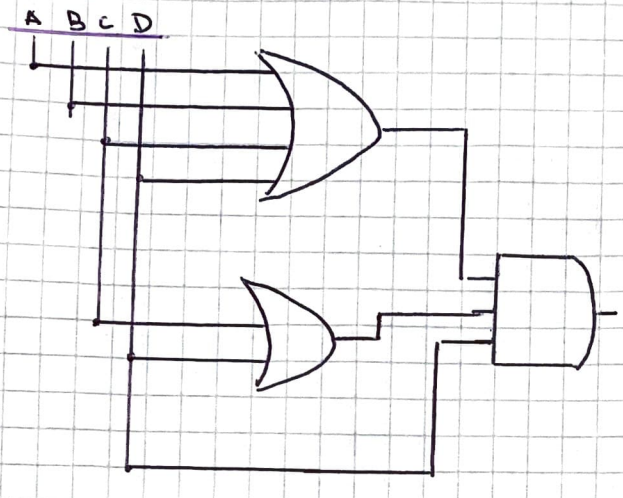
d). $F = \bar{A}.B + \bar{B}.A$



A	B	$\bar{A}$	$\bar{A}B$	$\bar{B}$	$\bar{B}A$	F
0	0	1	0	1	0	0
0	1	1	1	0	0	1
1	0	0	0	1	1	1
1	1	0	0	0	0	0

e).

e). $F = (A+B+C+D).(C+D).D$



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

7). $F = ABC + \bar{A}B\bar{C} + AC$

$F = AC + \bar{A}B\bar{C} \Rightarrow (A+\bar{A}).(A+B).(C+\bar{A}).(\bar{A}+C).(C+B).(C+\bar{C})$

$F = (A+B).(A+\bar{C}).(C+\bar{A}).(C+B)$

$F = (A+B.\bar{C}).(C+\bar{A}.B)$

8).

$A=1,\ B=0,\ C=1$

A	B	C	$\bar{B}$	$C\bar{B}$	F
1	0	1	1	1	1

9).

a). $A+(BC) = (A+B)(A+C)$ distributiva

b). $A+B = B+A$ Conmutativa

c). $A+(B+C) = (A+B)+C$ Asociativa

d). $\overline{A+B} = \bar{A}.\bar{B}$ Ley de Morgan

e). $A+A.B = A+BA = A+B = A.B$ Absorción

f). $A+A.B = A$ Absorción