



**UNIVERSIDADE ESTADUAL DA PARAÍBA**  
**CAMPUS I**  
**CENTRO DE CIÊNCIAS E TECNOLOGIA**  
**CURSO DE CIÊNCIA DA COMPUTAÇÃO**

**LUCAS EMMANUEL DE SOUSA ALVES**  
**EDILSON DO NASCIMENTO COSTA JÚNIOR**

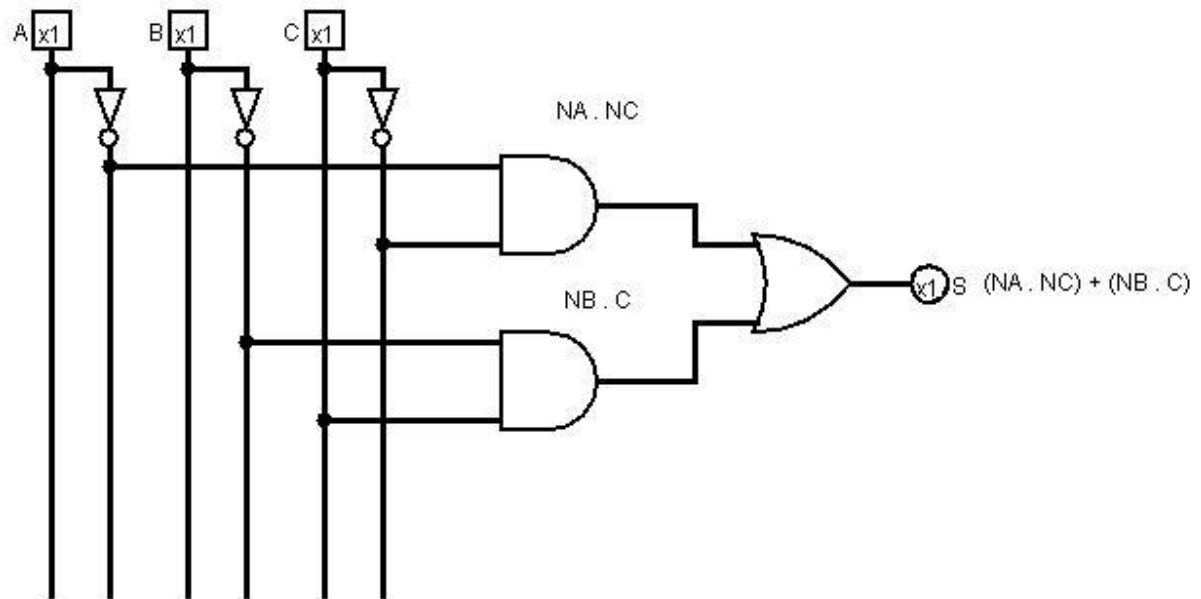
**ATIVIDADE 2**

**Campina Grande**

**2021**

1.

## CIRCUITO



## EXPRESSÃO

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

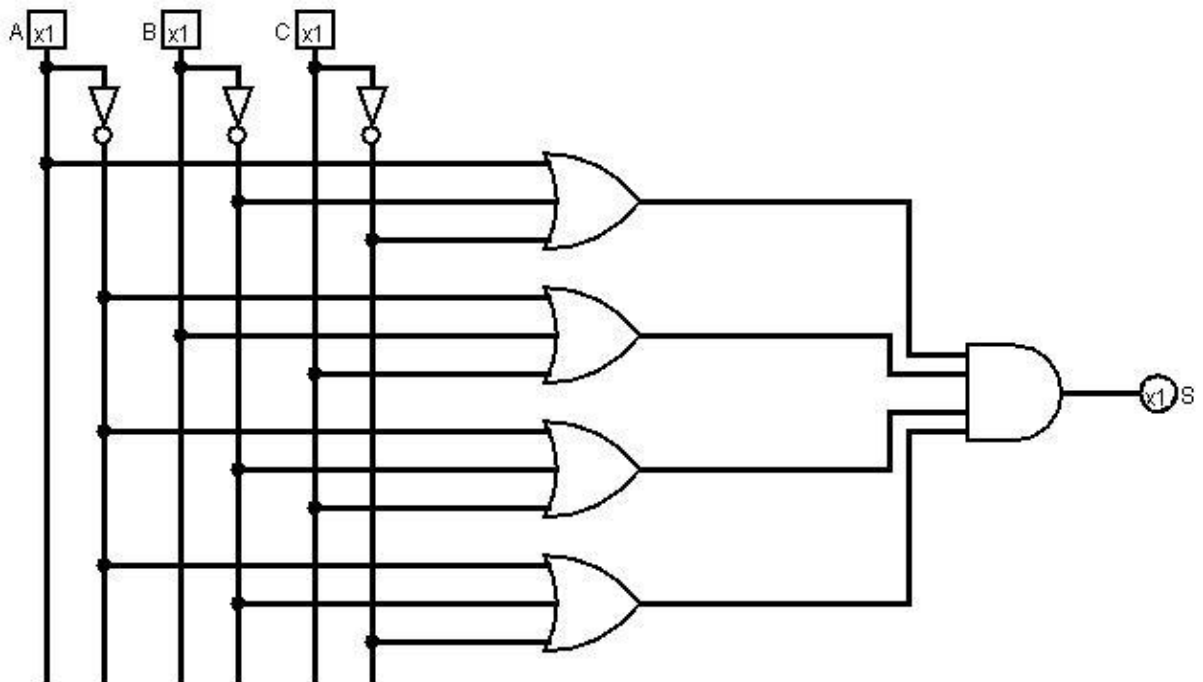
## TABELA VERDADE

A	B	C	$\bar{A}$	$\bar{B}$	$\bar{C}$	$\bar{A} \cdot \bar{C}$	$\bar{B} \cdot C$	S
0	0	0	1	1	1	1	0	1
0	0	1	1	1	0	0	1	1
0	1	0	1	0	1	1	0	1
0	1	1	1	0	0	0	0	0
1	0	0	0	1	1	0	0	0
1	0	1	0	1	0	0	1	1
1	1	0	0	0	1	0	0	0
1	1	1	0	0	0	0	0	0

## FÓRMULA NORMAL

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

## CIRCUITO DA FNC



## ENTRADAS E SAÍDAS NO FORMATO DE ONDA

$A = 0000|1111$

$B = 00|11|00|11$

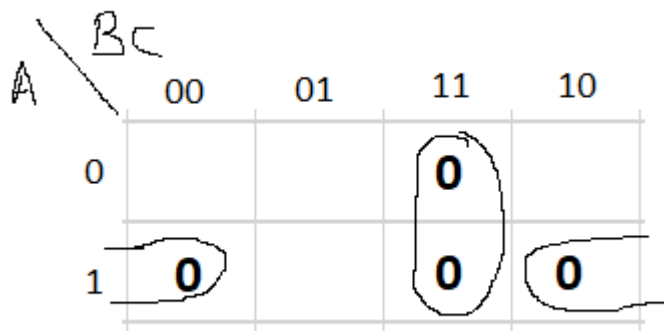
$C = 0|1|0|1|0|1|0|1$

$S = 111|00|1|00$

2.

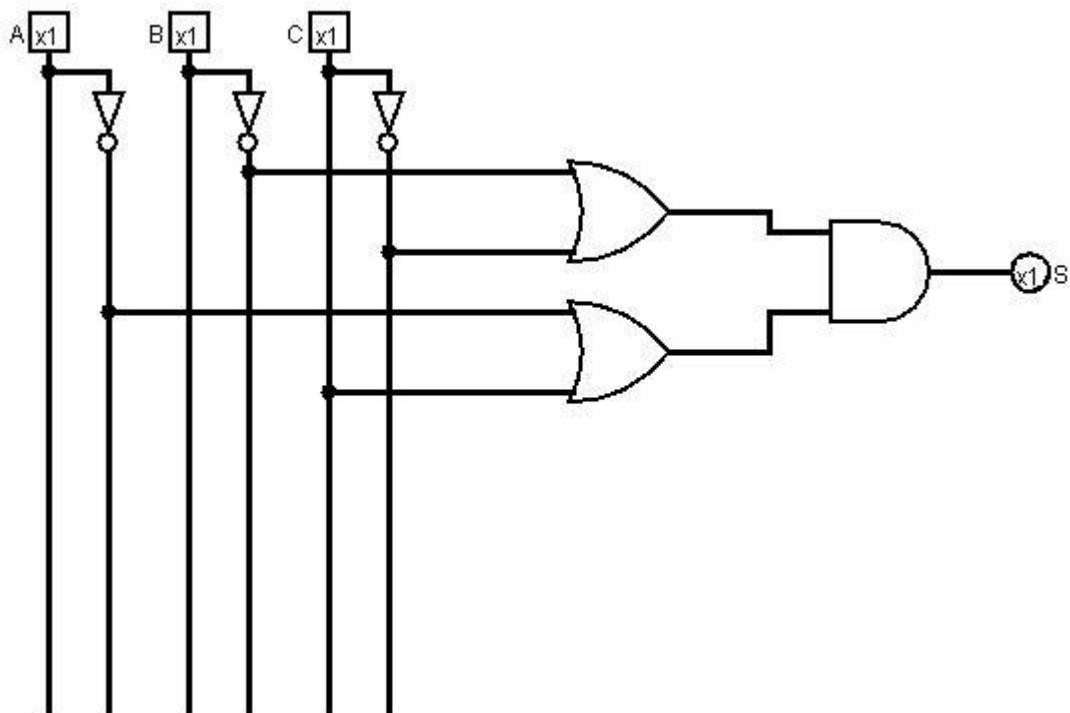
## SIMPLIFICAÇÃO PELO MAPA DE KARNAUGH

Pegando a partir da fórmula normal conjuntiva.

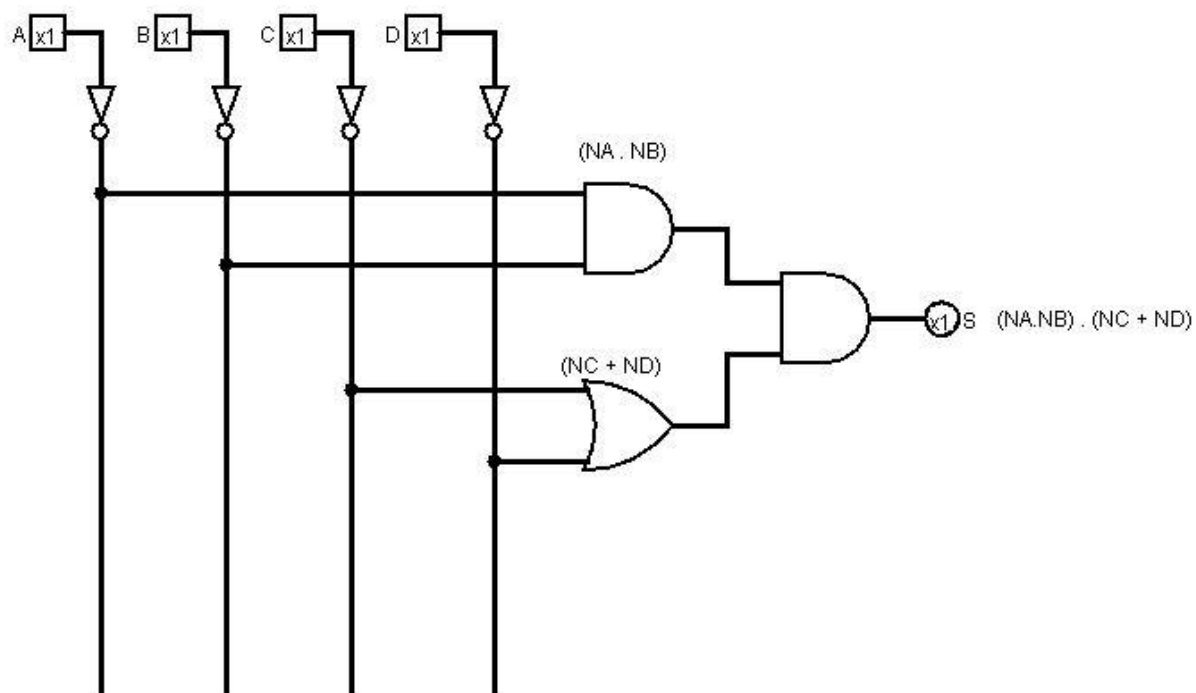


$$S = (\bar{B} + \bar{C}) \cdot (\bar{A} + C)$$

## CIRCUITO RESULTANTE



### 3. CIRCUITO



### EXPRESSÃO

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

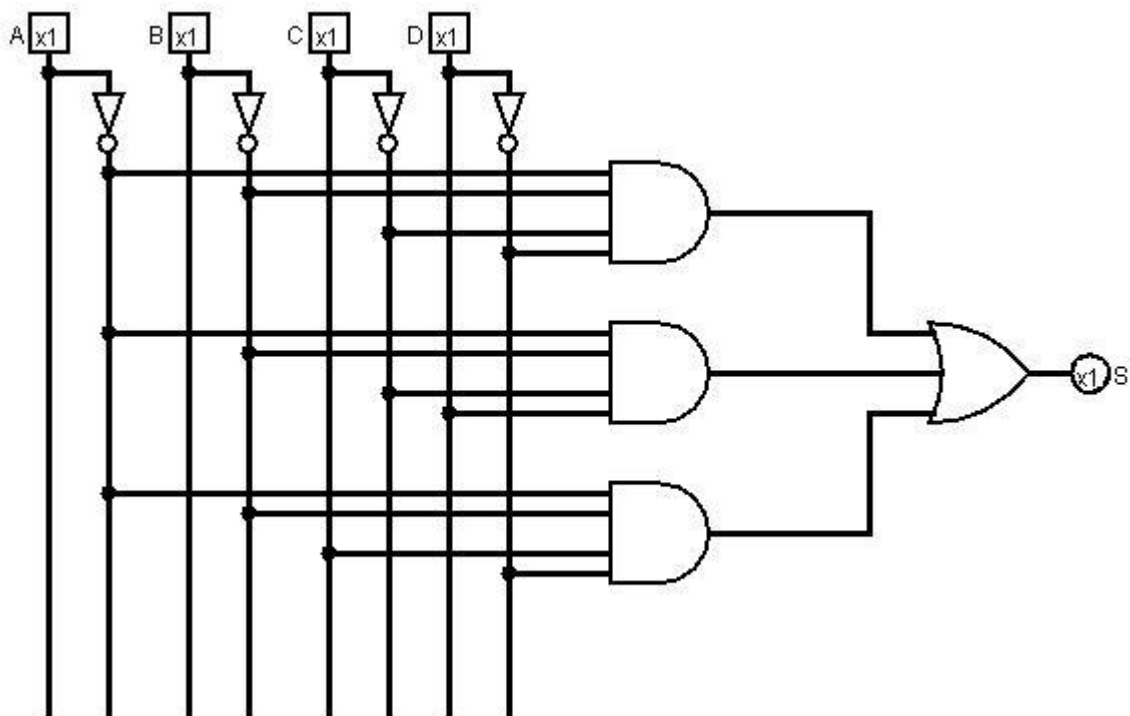
## TABELA VERDADE

A	B	C	D	$\bar{A}$	$\bar{B}$	$\bar{C}$	$\bar{D}$	$\bar{A} \cdot \bar{B}$	$\bar{C} + \bar{D}$	S
0	0	0	0	1	1	1	1	1	1	1
0	0	0	1	1	1	1	0	1	1	1
0	0	1	0	1	1	0	1	1	1	1
0	0	1	1	1	1	0	0	1	0	0
0	1	0	0	1	0	1	1	0	1	0
0	1	0	1	1	0	1	0	0	1	0
0	1	1	0	1	0	0	1	0	1	0
0	1	1	1	1	0	0	0	0	0	0
1	0	0	0	0	1	1	1	0	1	0
1	0	0	1	0	1	1	0	0	1	0
1	0	1	0	0	1	0	1	0	1	0
1	0	1	1	0	1	0	0	0	0	0
1	1	0	0	0	0	1	1	0	1	0
1	1	0	1	0	0	1	0	0	1	0
1	1	1	0	0	0	0	1	0	1	0
1	1	1	1	0	0	0	0	0	0	0

## FÓRMULA NORMAL

$$FND = (\bar{A} \cdot \bar{B} \cdot \bar{C} \cdot \bar{D}) + (\bar{A} \cdot \bar{B} \cdot \bar{C} \cdot D) + (\bar{A} \cdot \bar{B} \cdot C \cdot \bar{D})$$

## CIRCUITO DA FND



## ENTRADAS E SAÍDAS NO FORMATO DE ONDA

A = 0000000011111111

B = 0000111100001111

C = 0011001100110011

D = 0101010101010101

S = 1110000000000000

4.

## SIMPLIFICAÇÃO PELO MAPA DE KARNAUGH

Pela fórmula normal disjuntiva

		CD			
AB		00	01	11	10
	00	1	1		1
	01				
	11				
	10				

$$S = (\bar{A} \cdot \bar{B} \cdot \bar{C}) + (\bar{A} \cdot \bar{B} \cdot C \cdot \bar{D})$$

## CIRCUITO RESULTANTE

