

# Exercício 6A

**I Somador completo** - Calcule a soma dos números binários a seguir e faça o acréscimo do resultado 1100 e 1111

$$\Rightarrow \begin{array}{rcccccc} & \overset{9}{1} & \overset{8}{1} & \overset{7}{1} & \overset{6}{1} & \overset{5}{0} & \overset{4}{0} & \leftarrow T_e \text{ (Transporte de entrada)} \\ & 0 & 1 & 1 & 1 & 0 & 0 & \leftarrow A \\ + & 0 & 0 & 1 & 1 & 1 & 1 & \leftarrow B \\ \hline & 1 & 0 & 0 & 1 & 0 & 1 & \leftarrow S \\ & 0 & 1 & 1 & 1 & 1 & 0 & \leftarrow T_o \text{ (Transporte de saída)} \end{array}$$

$T_e$	A	B	$T_o$	S
0	0	0	0	0
0	0	1	0	1
0	1	0	0	1
0	1	1	1	0
1	0	0	0	1
1	0	1	1	0
1	1	0	1	0
1	1	1	1	1

$$T_o = \bar{T}_e AB + T_e \bar{A} B + T_e A \bar{B} + T_e A B$$

Usando mapa de Karnaugh para simplificar termos:

	$(0)(0)$	$(0)(1)$	$(1)(1)$	$(1)(0)$
$\bar{A}(0)$	0	0	1	0
$A(1)$	0	1	1	1

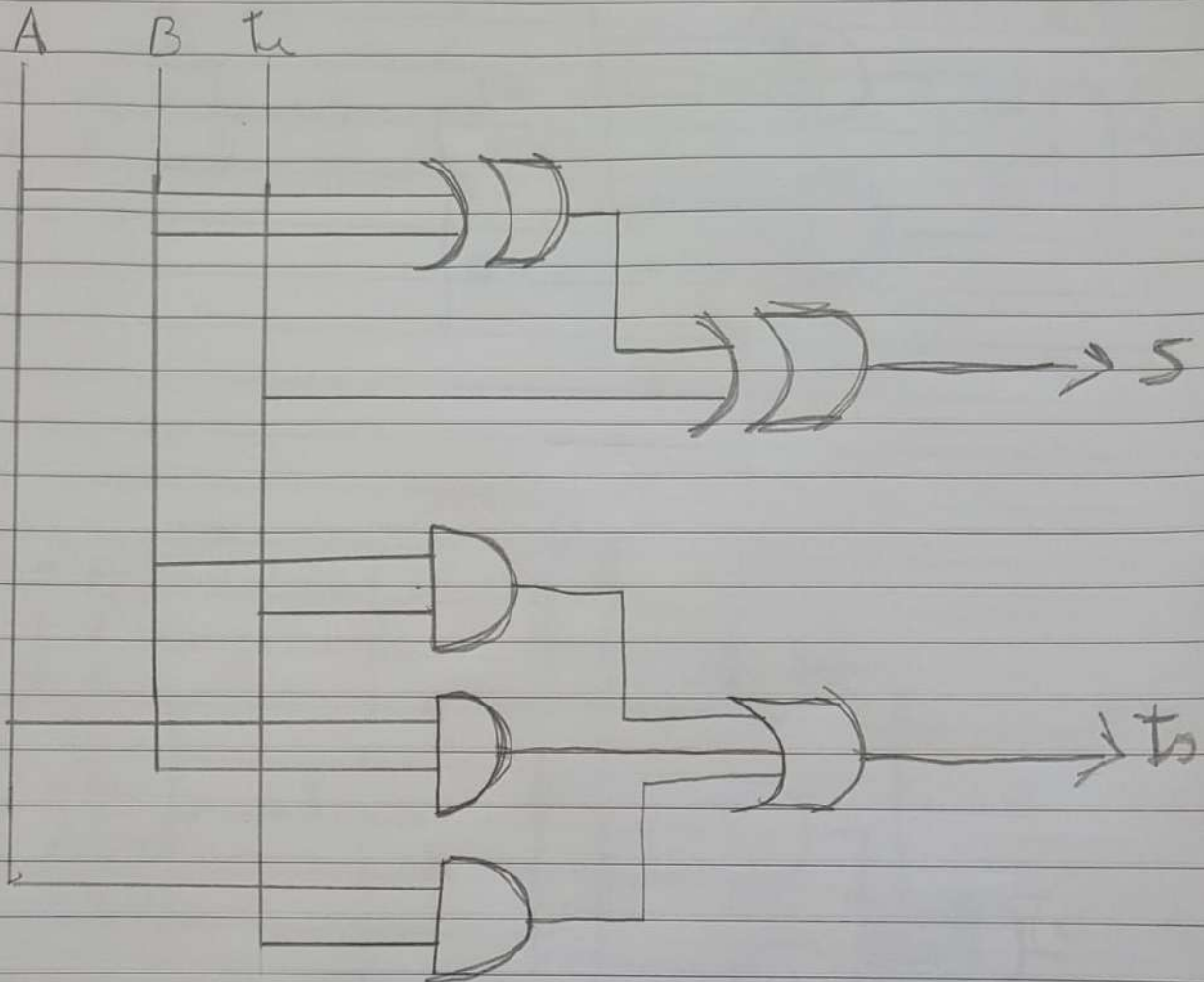
$$\Rightarrow T_o = B\bar{T}_e + AB + AT_e$$

A	B	C	$A \oplus B$	$C \oplus (A \oplus B)$
0	0	0	0	0
0	0	1	0	1
0	1	0	1	1
0	1	1	1	0
1	0	0	1	1
1	0	1	1	0
1	1	0	0	0
1	1	1	0	1

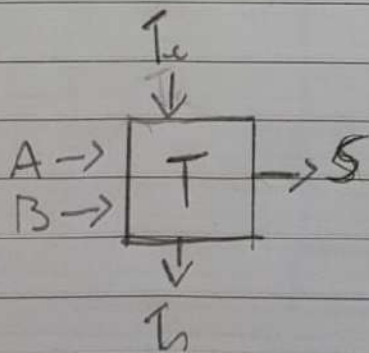
$$\Rightarrow S = T_e \oplus A \oplus B$$

#1  $t_o = (Bt_c) + (AB) + (At_c)$

#2  $S = (A \oplus B) \oplus t_c$

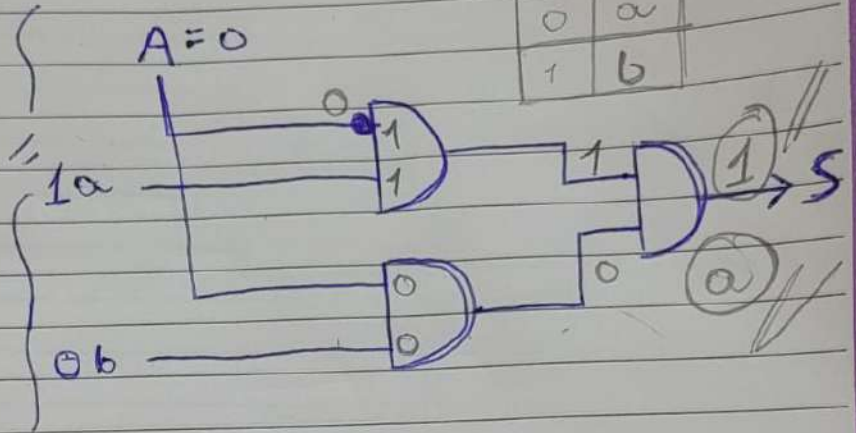
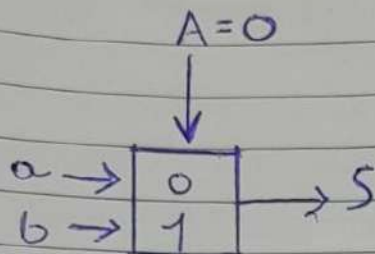


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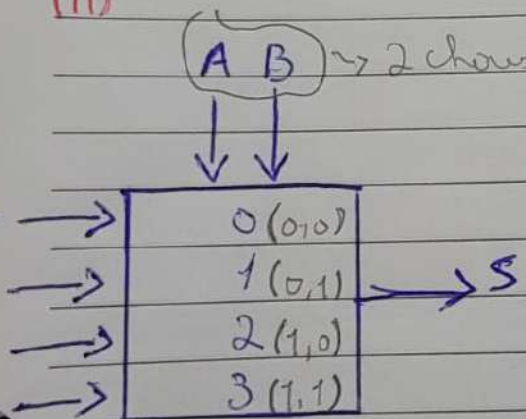
## II Multiplexador - 22 a saída dos circuitos a seguir

(i)



A	S
0	a
1	b

(ii)



A	B	S
0	0	a
0	1	b
1	0	c
1	1	d

