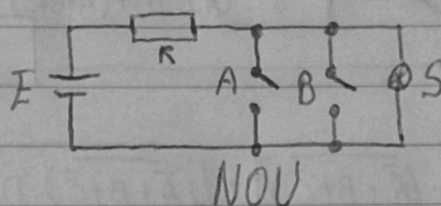
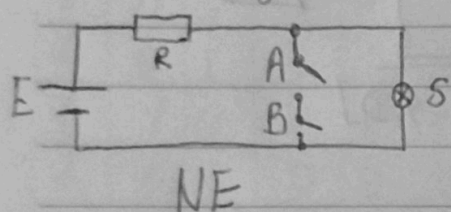


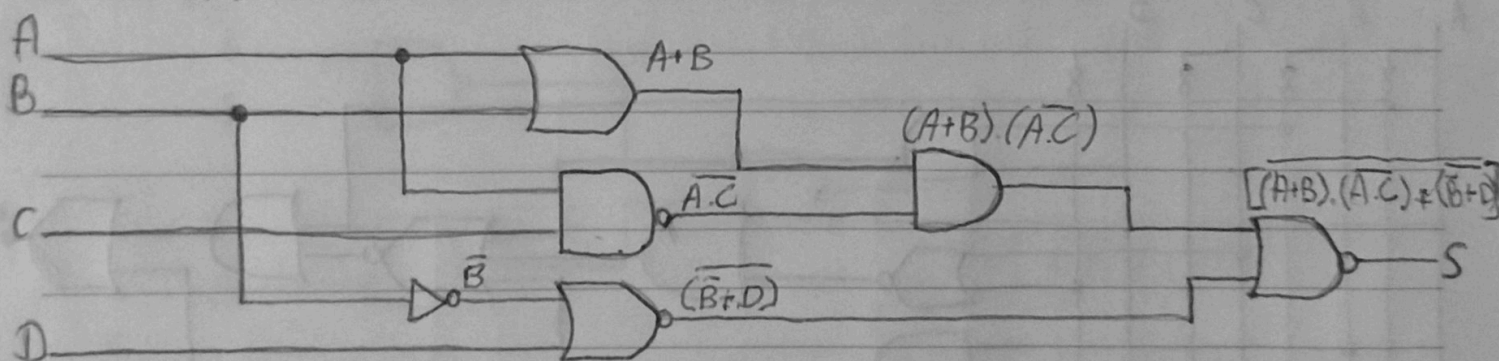
Nome: Eduardo Henrique de Almeida Siqueira
 Matrícula: 2020000315
 Disciplina: Circuitos digitais

Atividade 2

2.9.1 - De forma análoga aos circuitos das figuras 2.1, 2.4 e 2.7, esquematize os circuitos representativos das funções NE e NOV.

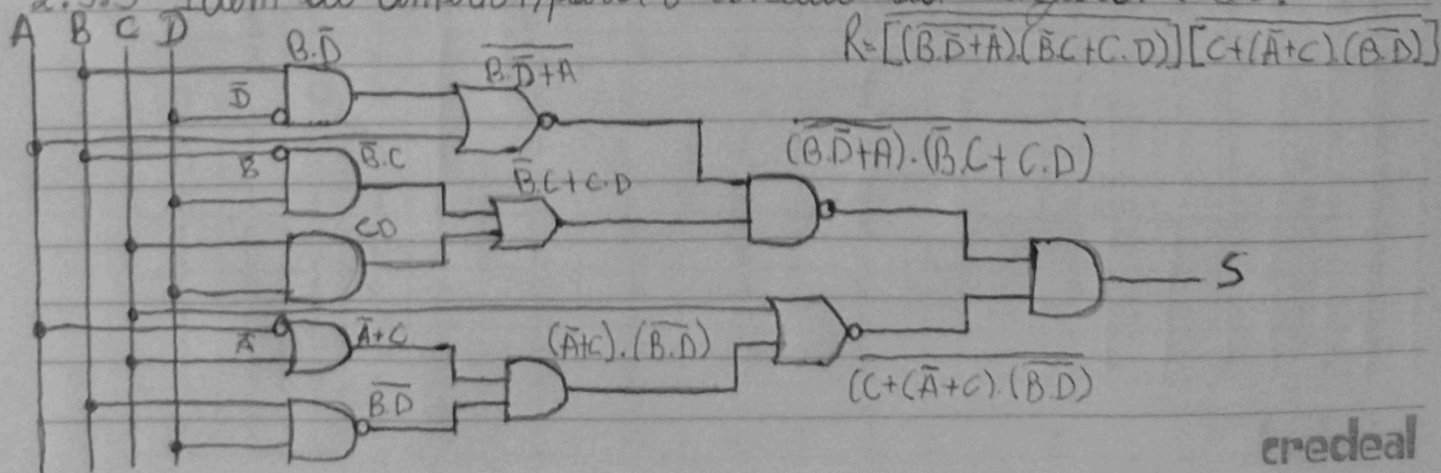


2.9.2 - Determine a expressão característica do circuito da figura 2.54.

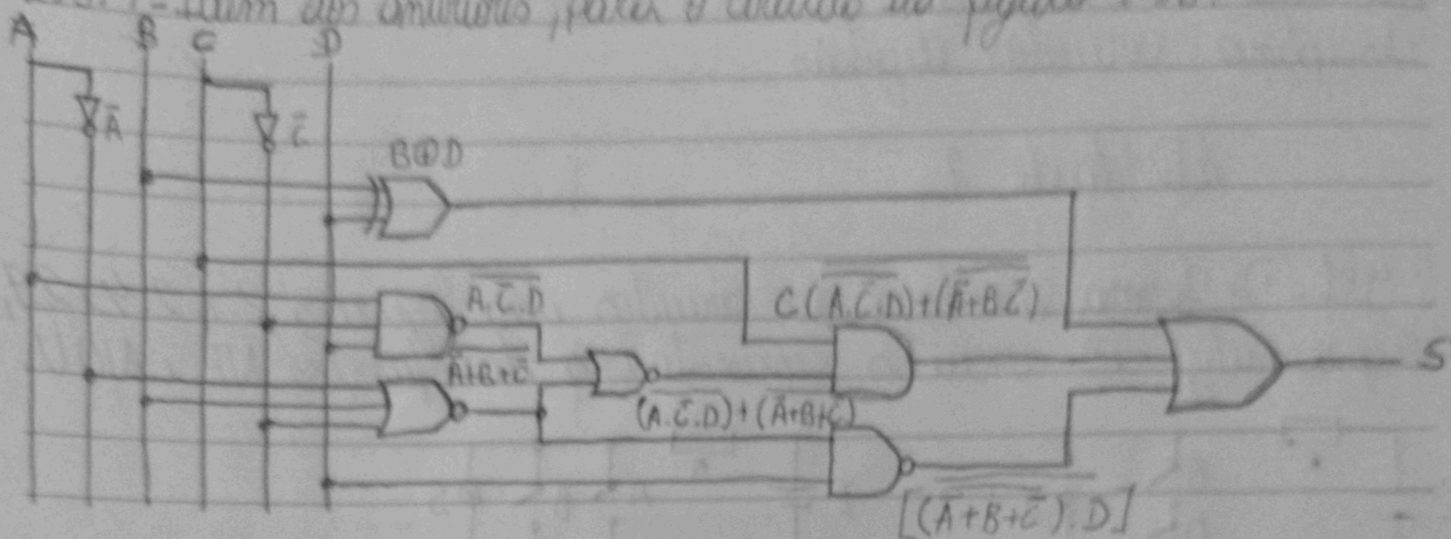


$$[(A+B) \cdot (A \cdot C)] + (\bar{B} + D)$$

2.9.3 - Idem ao anterior, para o circuito da Figura 2.55.



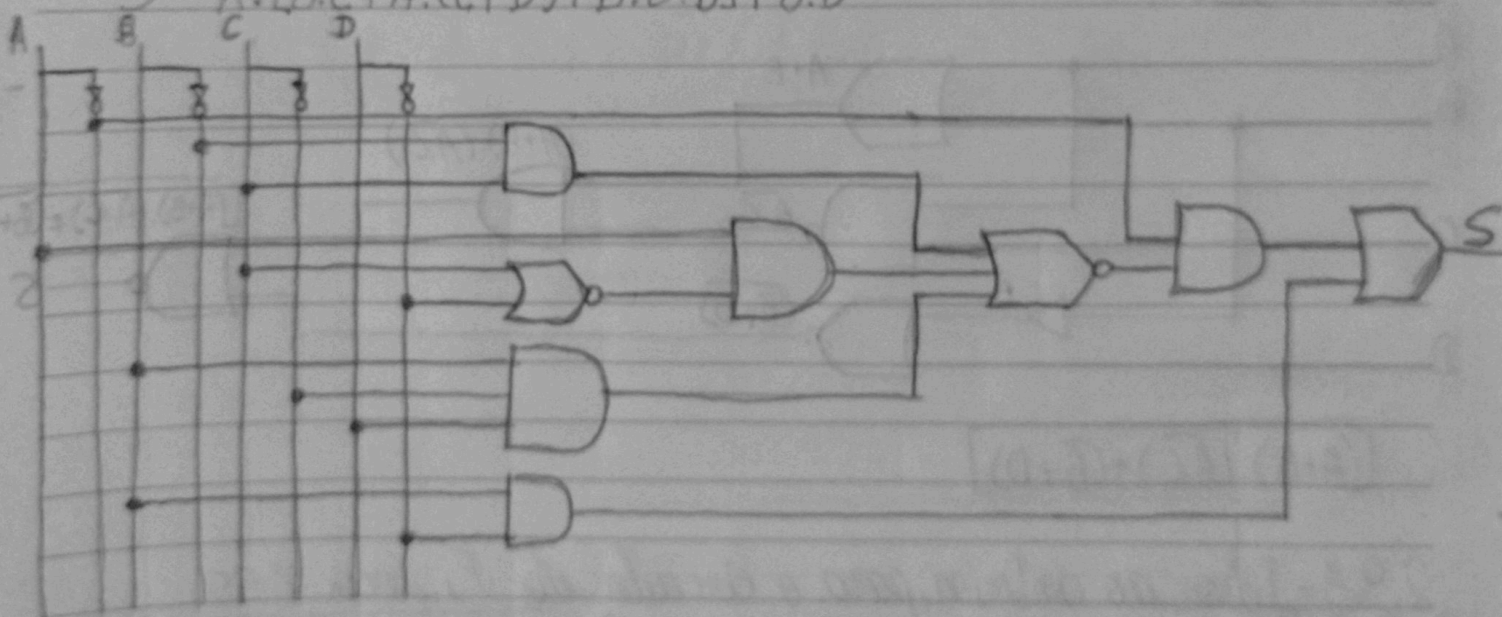
2.9.4 - Idem aos anteriores, para o circuito da figura 2.56.



$$R = B \oplus D + C[(\bar{A} \cdot \bar{C} \cdot D) + (\bar{A} + B + \bar{C})] + [(\bar{A} + B + \bar{C}) \cdot D]$$

2.9.5 - Desenhe o circuito que executa a expressão:

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

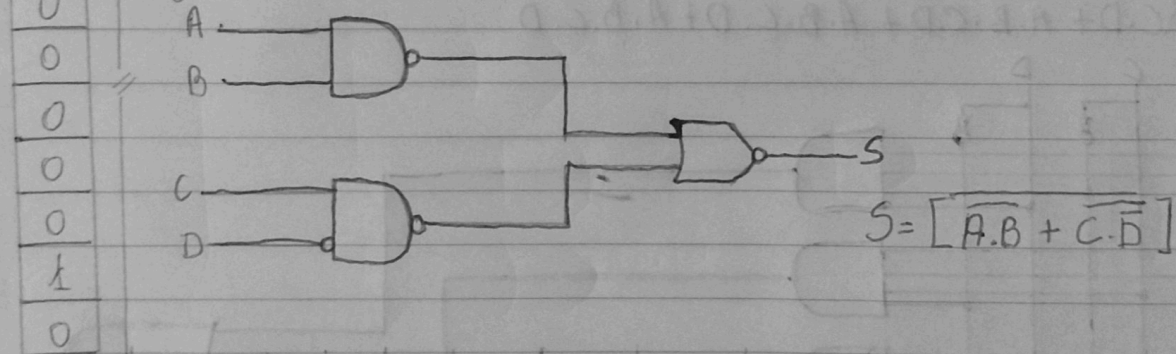


2.9.7 - Levante a Tabela da Verdade da expressão!

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

A	B	C	\bar{A}	\bar{B}	\bar{C}	$A\bar{B}$	$\bar{A}+C$	$B \cdot (\bar{A}+C)$	$[A \cdot \bar{B} + B \cdot (\bar{A}+C)]$	$\bar{C} \cdot [A \cdot \bar{B} + B \cdot (\bar{A}+C)]$
0	0	0	1	1	1	0	1	0	0	1
0	0	1	1	1	0	0	1	0	0	1
0	1	0	1	0	1	0	1	1	1	0
0	1	1	1	0	0	0	1	1	1	0
1	0	0	0	1	1	1	0	0	1	0
1	0	1	0	1	0	1	1	0	1	0
1	1	0	0	0	1	0	0	0	0	1
1	1	1	0	0	0	0	1	1	1	0

2.9.8 - Escreva a expressão característica do circuito da figura 2.57 e levante sua respectiva tabela verdade.



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

2.9.12 - Determine a expressão booleana a partir da Tabela 2.30.

A	B	C	S	
0	0	0	1	$\bar{A}\bar{B}\bar{C}$
0	0	1	0	
0	1	0	0	
0	1	1	1	$\bar{A}BC$
1	0	0	1	$A\bar{B}\bar{C}$
1	0	1	0	
1	1	0	0	
1	1	1	1	ABC

$$S = \bar{A}\bar{B}\bar{C} + \bar{A}B\bar{C} + A\bar{B}\bar{C} + ABC$$

2.9.13 - Desenhe o circuito que executa a Tabela 2.31.

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

