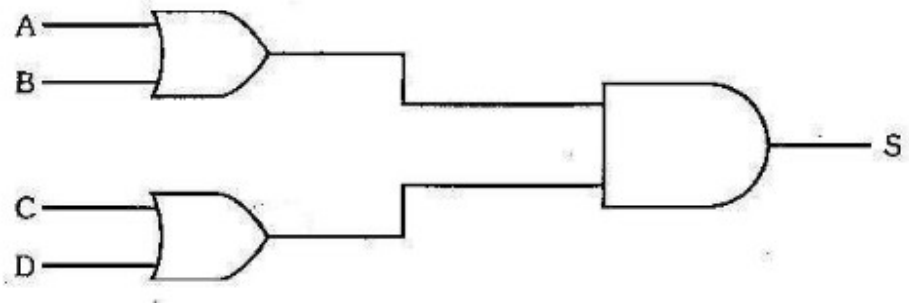
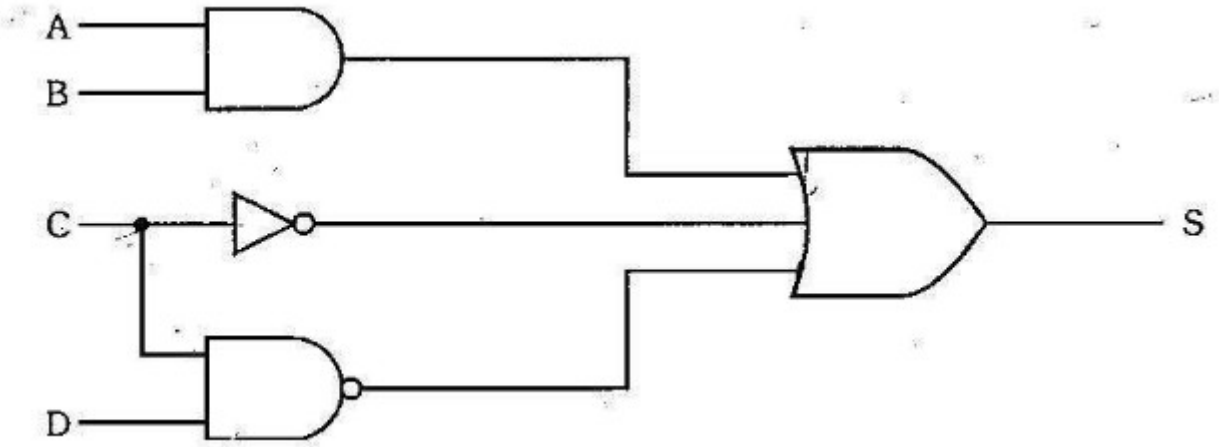
Exercícios de Lógica Digital

1 – Escreva as expressões booleanas dos circuitos abaixo:

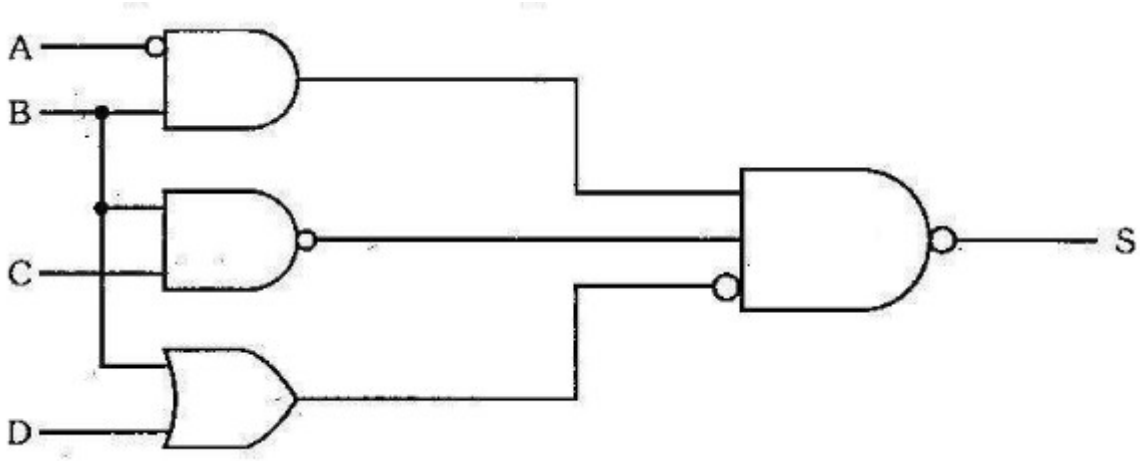
a)



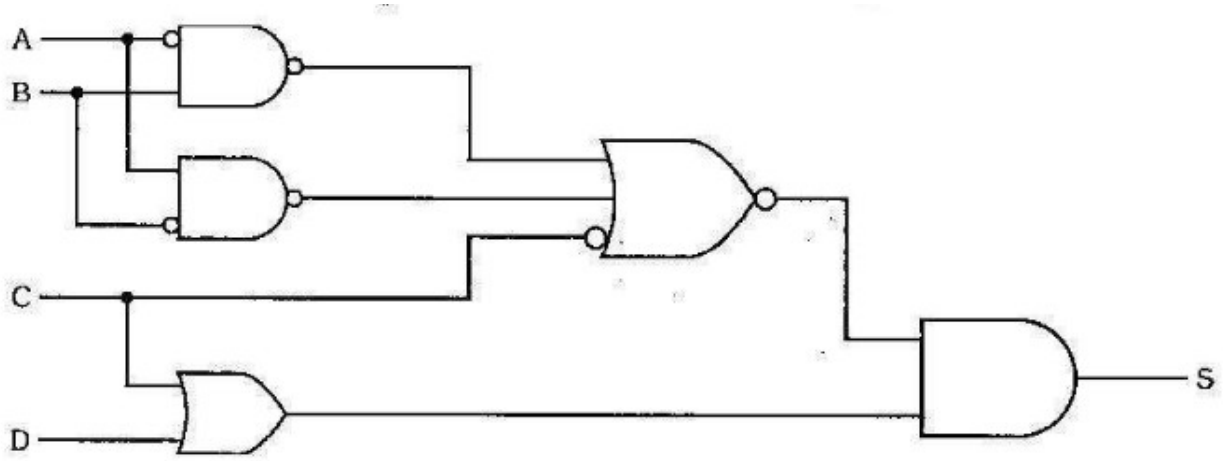
b)



c)



d)



2 – Desenhe os circuitos que executam as seguintes expressões booleanas:

a) $S = A.B.C + (A+B).C$

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

c) $S = \overline{[(\overline{\overline{A}.B}) + (\overline{C.\overline{D}})]}.E + \overline{A}.(A.\overline{D}.\overline{E} + C.D.E)$

3 – Prove que as identidades abaixo:

a) $\overline{A} \cdot \overline{B} \neq \overline{A \cdot B}$

b) $\overline{A} + \overline{B} \neq \overline{A + B}$

c) $\overline{A} \cdot \overline{B} = \overline{A + B}$

d) $\overline{A} + \overline{B} = \overline{A \cdot B}$

4 – Faça a tabela verdade das expressões a seguir:

a) $S = (A + B) \cdot \overline{(B.C)}$

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

5 – Obtenha a expressão que executa a tabela verdade e desenhe o circuito lógico:

A	B	C	S
0	0	0	1
0	0	1	0
0	1	0	1
0	1	1	0
1	0	0	0
1	0	1	0
1	1	0	1
1	1	1	1

6 – Determine a expressão e monte a tabela verdade do circuito: