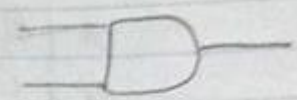
Exercício 06 - Portas lógicas

1)

Porta And

$A.B$

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



Porta Or

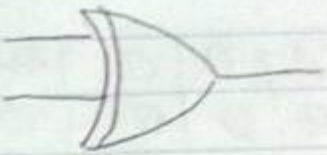
$A+B$

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

Porta Xor

$A \oplus B$

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



Porta Not

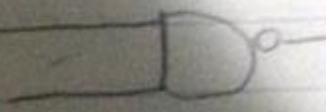
$\bar{A}$

A	S
0	1
1	0

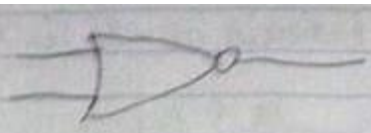
Porta Nand

$\overline{A.B}$

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



Porta Nor



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

$\overline{A+B}$

Porta X Nor

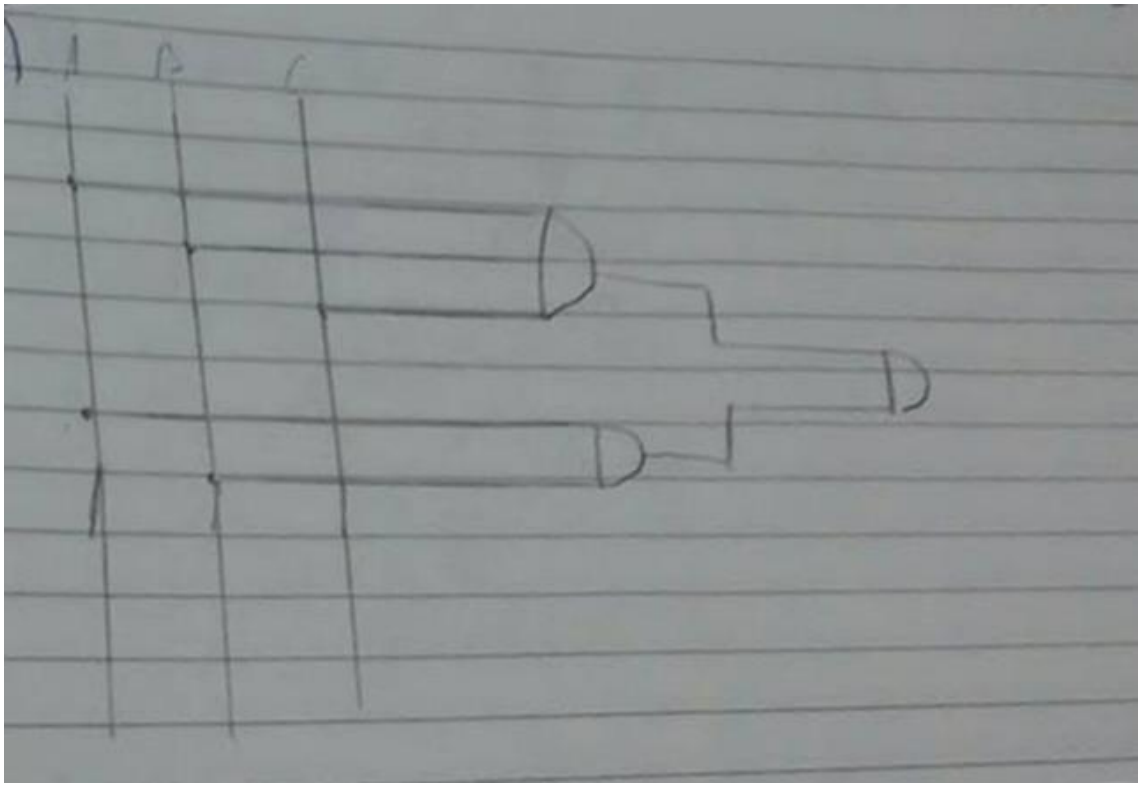
$\overline{A \oplus B}$

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

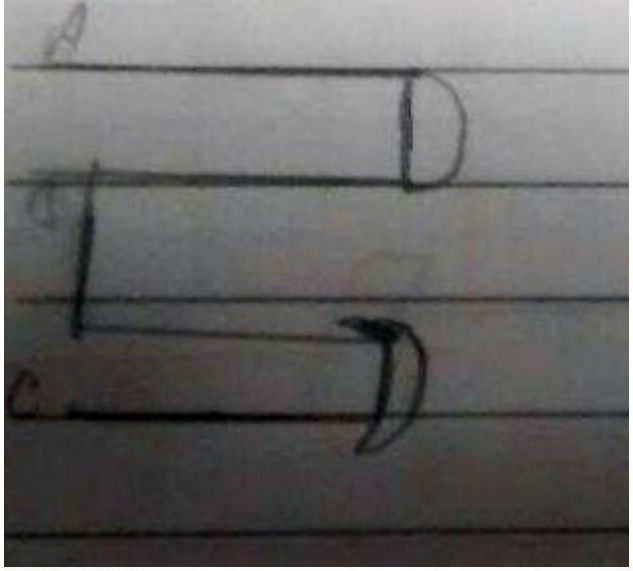
2)

a)

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


A
B
C

c) $AB(C+\bar{B})$



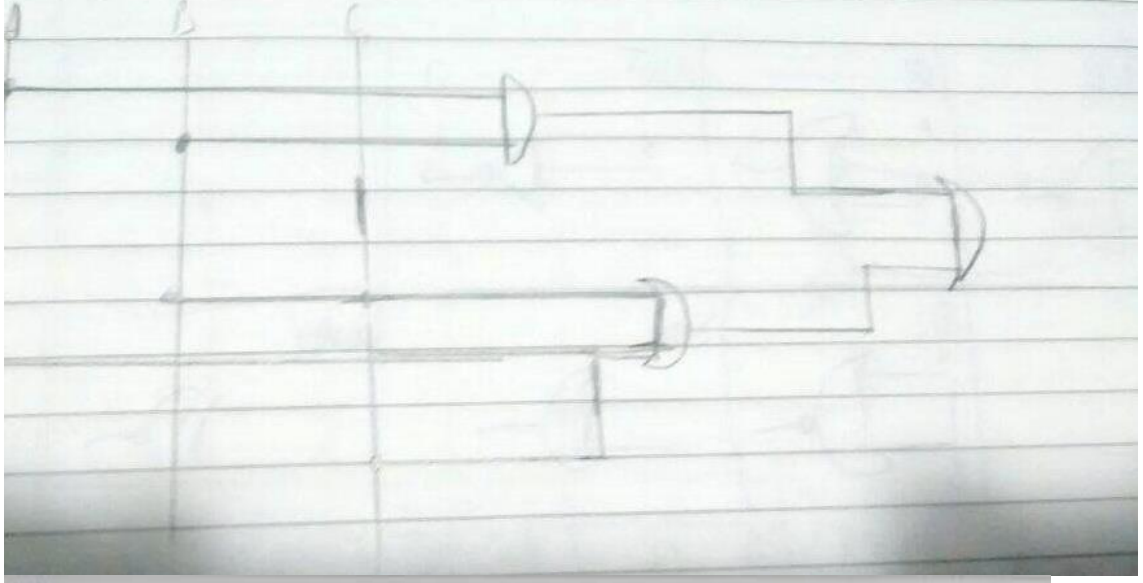
5) a) $\overline{(A+B)\cdot(A\cdot B)}$

b) $A\bar{A}(B+D)(\bar{B}C)(\bar{C}+\bar{D})(\bar{B})(\bar{D}+C)(D+\bar{B})$

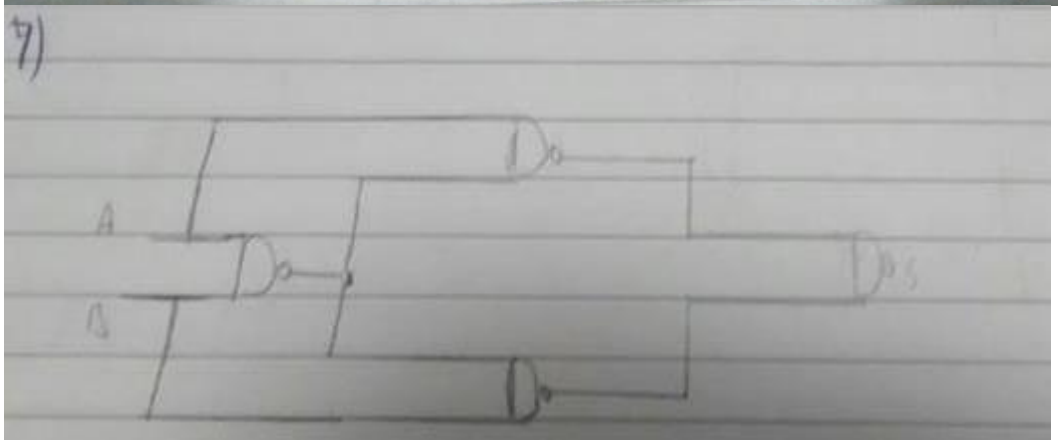
c) $A(\bar{B}(B+C)(D+D)$

d) $(\bar{A}+B)(A+\bar{B})(A+C)(B+A)(D+C)(C+B)(C+D)(C+\bar{B})(C+A)$

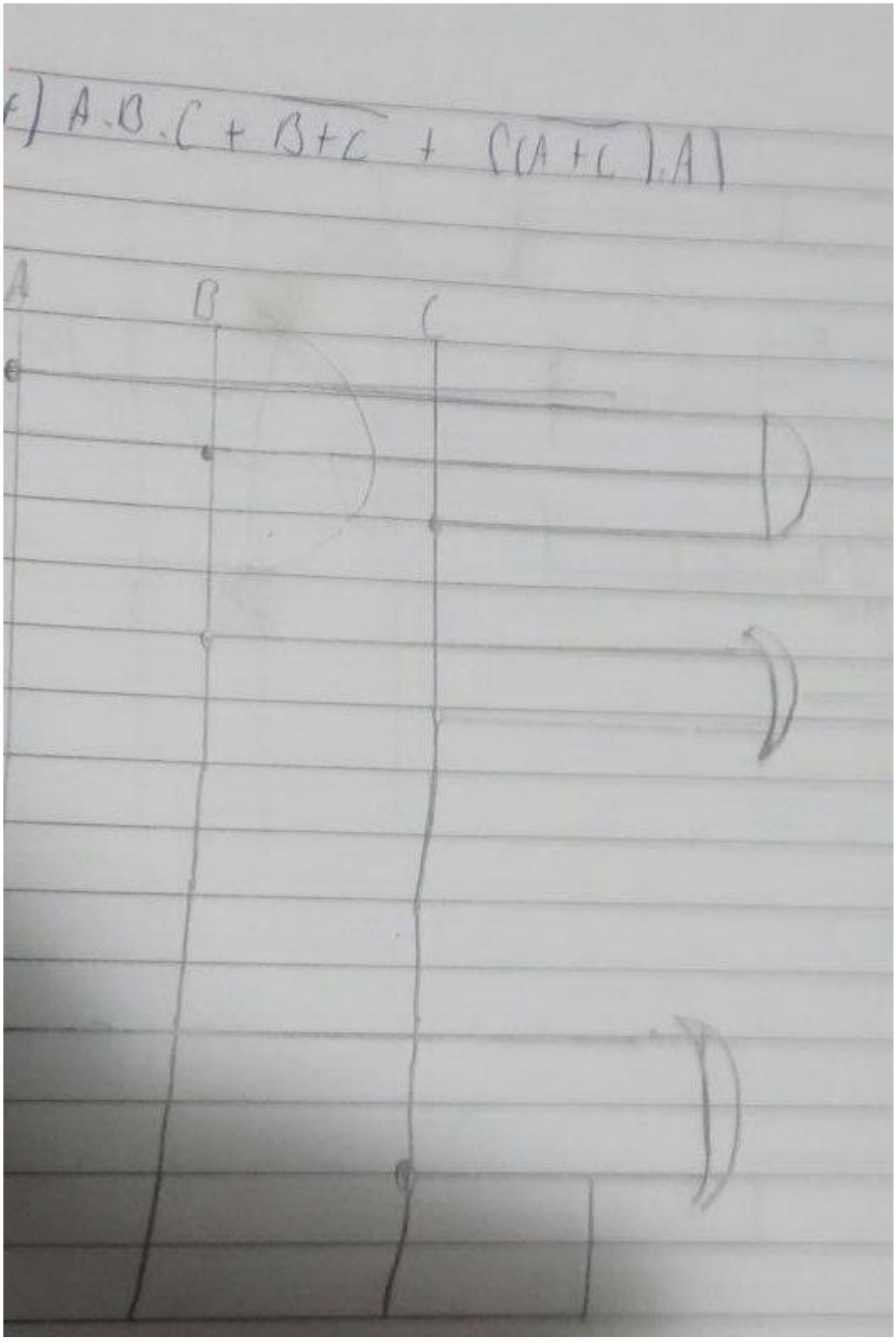
c) $(A \cdot B) + ((\overline{A + B}) + B)$

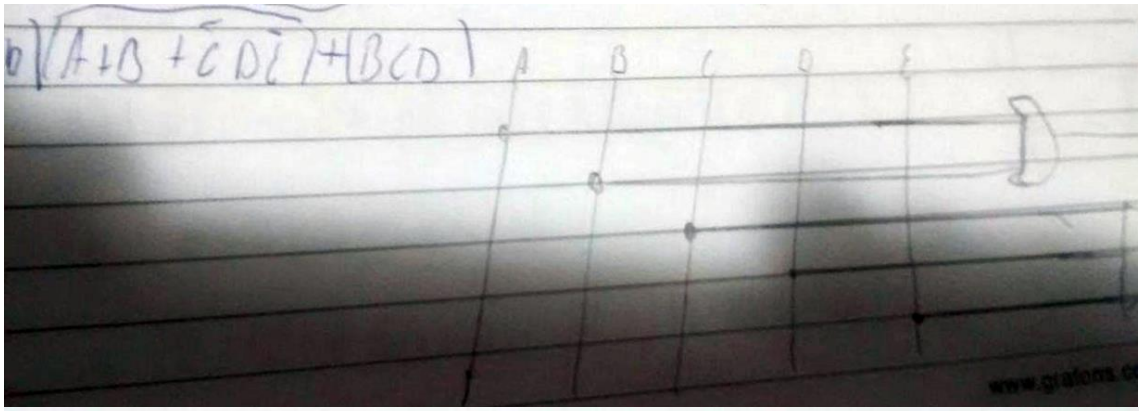


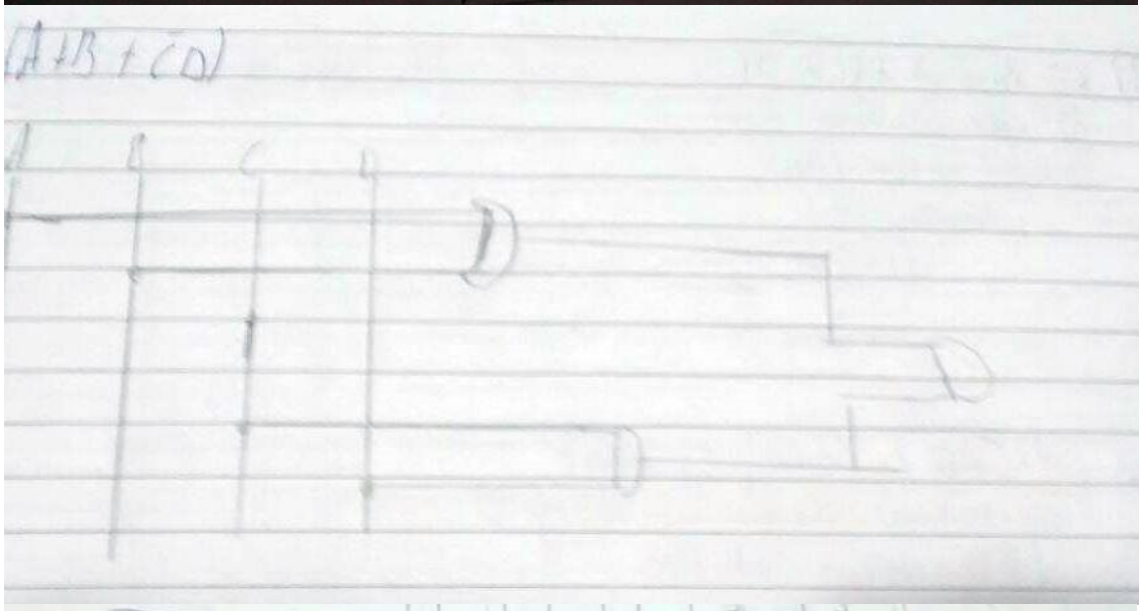
b)

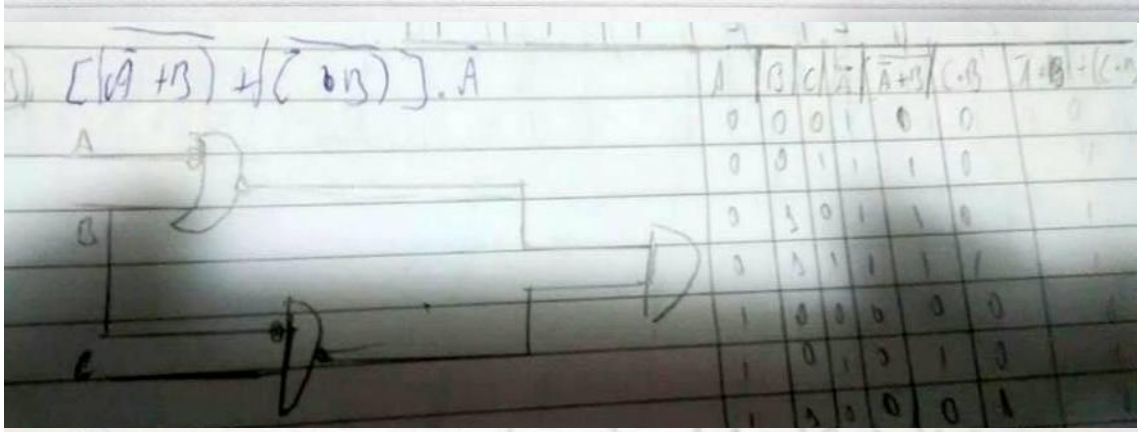


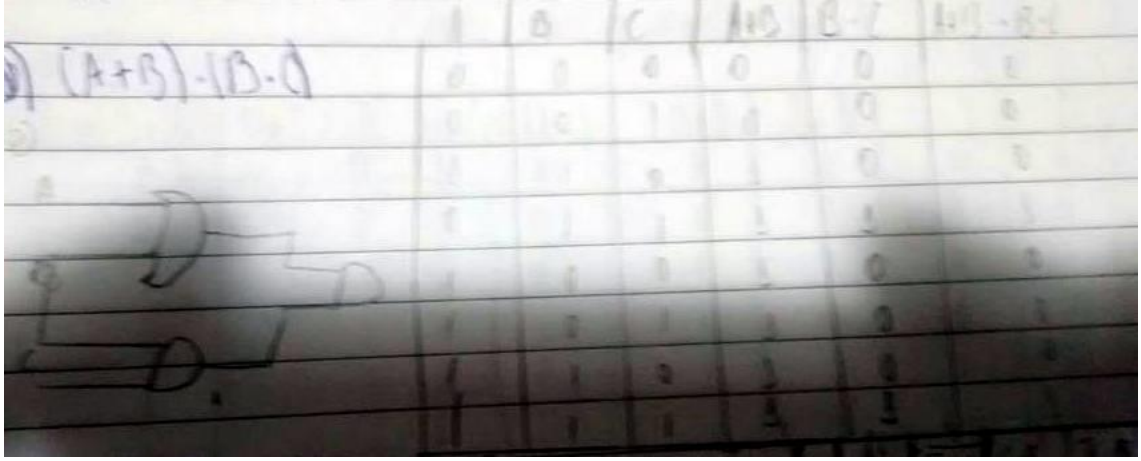
e) $A.B.C + \overline{B+C} + \overline{(A+C).A}$




A
B
C
D
E


A
B
C
D


A
B
C


A
B
C
D