Respostas:

1. Conversão do sistema binário para o sistema decimal.

a) $(1010)_2 = (10)_{10}$

b) $(100000000)_2 = (256)_{10}$

c) $(11111111)_2 = (127)_{10}$

d) $(100000001)_2 = (257)_{10}$

e) $(1101110111)_2 = (887)_{10}$

2. Conversão do sistema hexadecimal para o sistema decimal.

a) $(352)_{16} = (850)_{10}$

b) $(40A)_{16} = (1034)_{10}$

c) $(100)_{16} = (256)_{10}$

d) $(FF)_{16} = (255)_{10}$

e) $(F4D0)_{16} = (62672)_{10}$

3. Conversão do sistema decimal para o sistema binário.

a) $(20)_{10} = (10100)_2$

b) $(40)_{10} = (101000)_2$

c) $(64)_{10} = (1000000)_2$

d) $(493)_{10} = (111101101)_2$

e) $(100)_{10} = (1100100)_2$

4. Conversão do sistema decimal para o sistema hexadecimal.

a) $(512)_{10} = (200)_{16}$

b) $(513)_{10} = (201)_{16}$

c) $(2533)_{10} = (9E5)_{16}$

d) $(1000)_{10} = (3E8)_{16}$

e) $(6312)_{10} = (18A8)_{16}$

5. Conversão do sistema binário para o sistema hexadecimal.

a) $(1001101110001110)_2 = (98EB)_{16}$

b) $(1111111011)_2 = (3FB)_{16}$

c) $(1010010100110001)_2 = (A531)_{16}$

d) $(100000001111111111000000011)_2 = (101FE03)_{16}$

e) $(11110111001100010000)_2 = (F7310)_{16}$

6. Conversão do sistema hexadecimal para o sistema binário.

a) $(B9FA)_{16} = (1011100111111010)_2$

b) $(5D8F)_{16} = (101110110001111)_2$

c) $(42E1)_{16} = (100001011100001)_2$

d) $(221A5)_{16} = (100010000110100101)_2$

e) $(10010)_{16} = (10000000000010000)_2$

7. Conversão do sistema binário para o sistema decimal.

a) $(11,11)_2 = 3,45_{10}$

b) $(1000,0001)_2 = 8,0625_{10}$

c) $(1010,1010)_2 = 10,625_{10}$

d) $(1100,1101)_2 = 12,8125_{10}$

e) $(10011,10011)_2 = 19,59375_{10}$

8. Conversão do sistema decimal para o sistema binário.

a) $(0,125)_{10} = 0,001_2$

b) $(0,0625)_{10} = 0,0001_2$

c) $(0,7)_{10} = 0,10110011_2$

d) $(0,92)_{10} = 11101011100001_2$

e) $(7,9)_{10} = 111,111001100_2$

9. Efetue as operações:

1111	100101	1111	1001
+ 1001	+ 101	- 1011	- 111
11000	101010	0100	0010

1122	1212212	1	11
11	111101	022	~~022~~2
11	101111	~~11~~00	1000
1111	100101	- 1011	- 111
+ 1001	+ 101	0001	0001
11110	10010110		

10. Efetue as operações utilizando o complemento de 2:

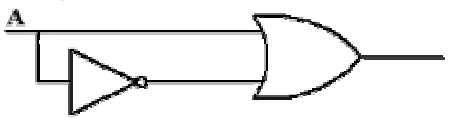
101101	10000110	111100
- 100111	- 110011	- 11101011
110	1010011	-10101111

11. Efetue em binário as operações, utilizando a aritmética do complemento de 2:

$AB9_{(16)}$	$DF1_{(16)}$
+ $35F_{(16)}$	- $A1F_{(16)}$
$E18_{(16)}$	$3D2_{(16)}$
$1AD3_{(16)}$	$1AF_{(16)}$
+ $DAF_{(16)}$	- $BF_{(16)}$
$2882_{(16)}$	$F0_{(16)}$
$2DE1_{(16)}$	$BF1_{(16)}$
+ $AF5_{(16)}$	- $AC_{(16)}$
$38D6_{(16)}$	$B45_{(16)}$

12. Determine a expressão booleana característica e a tabela verdade dos circuitos:

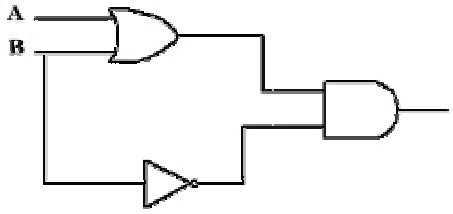
a)



$A + \overline{B}$

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

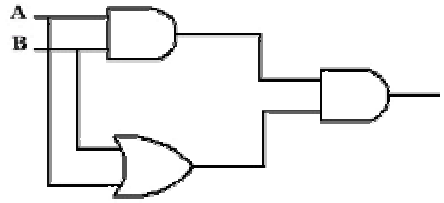
b)



$(A+B)^* \overline{B}$

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

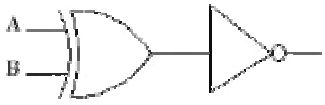
c)



$(A*B)*(B+A)$

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

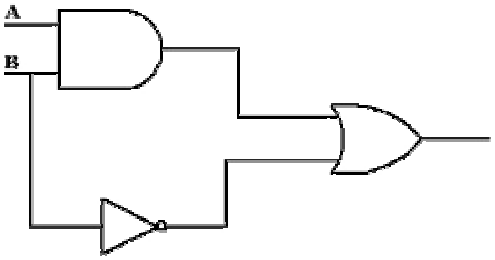
d)



$\overline{A \oplus B}$

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

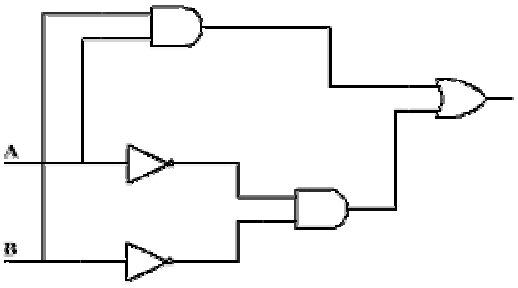
e)



$(A*B)+ \overline{B}$

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

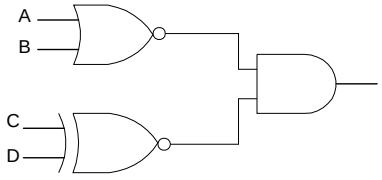
f)



$(A*B)+ (\overline{A}*\overline{B})$

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

g)



h)