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Course: CSE231L

Section: 8

Mid-Term

Answer to the Question No-1

a) True

b) True

Answer to the Question No-2

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

It's the Associative law.

b) $(A')' = A$

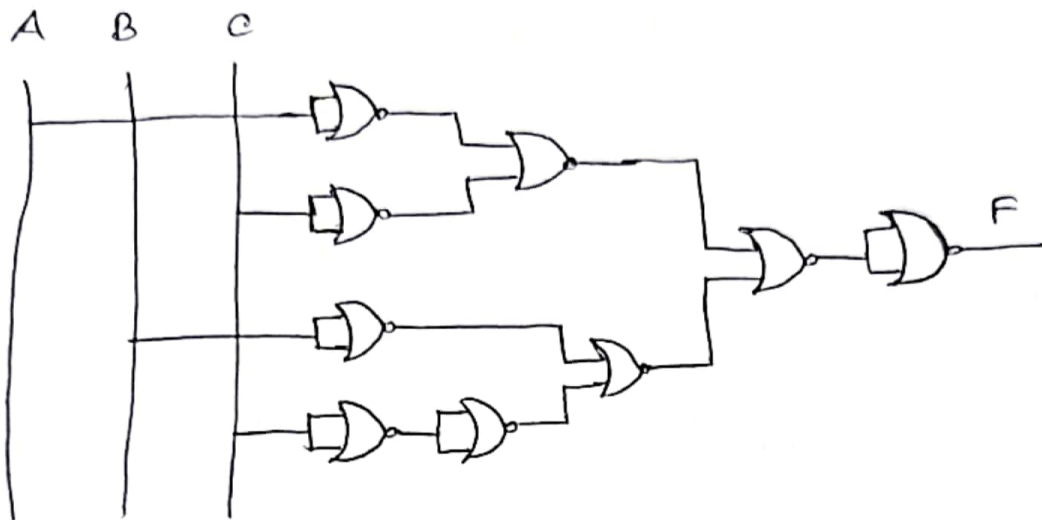
It's the Involution law.

b) 74HC04N written on top of a 14 pin.

It means it's a 7404 NOT IC.

c) Full form of TTL is Transistor Transistor Logic.

d) In a truth table for six input AND gate there would be $2^6 = 64$ input combinations.

Answer to the Question no-3Answer to the Question no-4

a)

Decimal Digit	BCD				Excess-4			
	w	x	y	z	A	B	C	D
0	0	0	0	0	0	1	0	0
1	0	0	0	1	0	1	0	1
2	0	0	1	0	0	1	1	0
3	0	0	1	1	0	1	1	1
4	0	1	0	0	1	0	0	0
5	0	1	0	1	1	0	0	1
6	0	1	1	0	1	0	1	0
7	0	1	1	1	1	0	1	1
8	1	0	0	0	1	1	0	0
9	1	0	0	1	1	1	0	1

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b) For A,

		Y		
	0	0	0	0
	1	1	1	1
W	X	X	X	X
	1	1	X	X
		Z		

$$\therefore A = W + X$$

For B,

		Y		
	1	1	1	1
	0	0	0	0
W	X	X	X	X
	1	1	X	X
		Z		

$$\therefore B = X'$$

for C,

		Y		
	0	0	1	1
	0	0	1	1
W	X	X	X	X
	0	0	X	X
		Z		

$$\therefore C = Y$$

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For D,

		Y		
	0	1	1	0
	0	1	1	0
W	X	X	X	X
	0	1	X	X
		Z		

$$\therefore D = Z$$

e) circuit of the equations found in (d):

