Solution Quiz#4
BESE 16B
14-03-2011

(4)

1. Simplify the following boolean expressions to a minimum number of literals.
   a. *xyz' + x'yz + xyz + x'yz'*

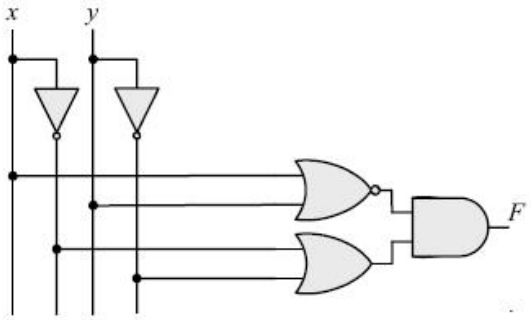
   xyz' + x'yz + xyz + x'yz'
   =xy(z+z')+x'y(z+z')
   =xy+xy'
   =y

   b. *ABC + A'B + ABC'*

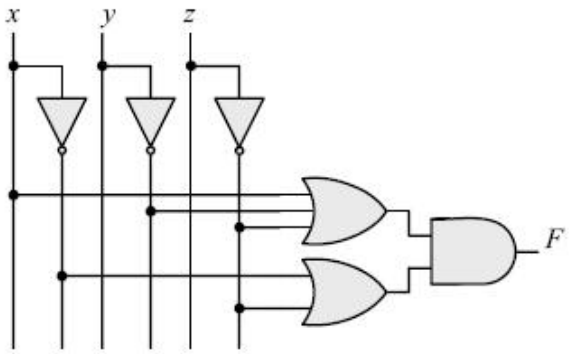
   ABC + A'B + ABC'
   = AB+A'B
   =B

(6)

2. Draw the logic diagrams for the following.
   a. (x+y)' . (x' + y')



   b. (x+y'+z') . (x' + z')



(4)

3. Simplify the following boolean function

x	y	z	F
0	0	0	1
0	0	1	1
0	1	0	1
0	1	1	0
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	0

F=x'y'z'+x'y'z+x'yz'
F=x'y'(z+z') +x'yz'
F=x'y'+x'yz'
F=x'(y'+yz')
F=x'(y'+y)(y'+z')
F= x'(y'+z')

(4)

4. Express the complement of following functions in sum-of-minterms form

$$F(w,x,y,z)=\sum(0,1,2,4)$$

$$F'(w,x,y,z)=\sum(0,1,2,3,5,6,7,8,9,10,11,12,13,14,15)$$

$$F(x,y,z)=\prod(0,2,4)$$

$$F'(w,x,y)=\sum(0,2,4)$$