Fall 202 COMP 206

Assignment No.3

Due: Monday 23rd November

1. Simplify the boolean expression to minimum number of literals using Boolean algebra & draw circuits to implement both original & simplified version:
    a. xyz + x'y + xyz'
    b. (BC'+ A'D) (AB' + CD')

2. Reduce the expression to 1 literal: A'B(D + C'D) + B(A + A'CD)

3. Find the complement of F= z + z'(v'w + xy)

4. Convert the following Boolean function in SOM, POF & POM form:

    F(a,b,c) = a'b+a'c'+abc

5. For the following truth table

a	*b*	*c*	f_1	f_2
0	0	0	1	1
0	0	1	0	1
0	1	0	1	0
0	1	1	1	1
1	0	0	1	0
1	0	1	0	1
1	1	1	1	0

a. Obtain expression for f1 in Sum of Minterms form.
b. Obtain expression for f2 in product of Maxterms form & simplify using Boolean algebra