CSE260
Assignment 02

This assignment must be hand-written. Show ALL steps in ALL questions.

Marks: 5+5+5 = 15

Graded Questions [1,2,3]:

1. Simplify the following boolean expressions to minimum number of literals:
   $(A \oplus B)(C+D)(A \odot C)+(A+B)(C'+D)(A'+CC')$

2. Find the complement of the following expression:
   $(x' + y + z')(x + y')(x' + z)$

3. Find out SOP and POS for the following [You cannot use truth table to solve these]:
   $F(V,W,X,Y,Z) = WY+WX+X'Y$
   You must show procedure for both. You must use distributive formula for POS.

Ungraded Questions [4, 5, 6, 7]:

4. Simplify the following boolean expressions to minimum number of literals:
   $(A'B+B')BCC'+CB'C+D$

5. Draw the following expression using NAND gate only. You cannot use more than 2 inputs in the gates: $F(A,B,C,D) = AB + C'D$

6. Draw the following expression using NAND gate only. You cannot use more than 2 inputs in the gates: $F(A,B,C,D) = AB + C'D$

7. Find out SOP and POS for the following [You cannot use truth table to solve these]:
   $F(A,B,C,D,E) = A + B'CD'$