



# Assignment 2

CSE260: Digital Logic Design

Department of Computer Science and Engineering

Semester : Fall 25

Marks: 5

## Graded (5 marks - 1 mark each)

1. Simplify the following Boolean expressions:

a.  $(P + Q + R)(P + Q')(P' + R)$   
b.  $A'B'C + (A+B+C)' + A'B'C'$

2. Find the complement of the following Boolean expressions:

$$A' + C(B + C')(A' + B')(A + C')$$

3. From the truth table, find out the POS:

A	B	C	F
0	0	0	0
0	0	1	1
0	1	0	0
0	1	1	1
1	0	0	1
1	0	1	1
1	1	0	1
1	1	1	0

4. Draw the following functions using **NAND gates only** (without simplification):

$$F(X, Y, Z) = (X' + YZ + XZ') + X'Y + (X+Z')$$

5. Find **SOP** for the following Boolean function:  $F(P, Q, R, S) = P + QR'S$