



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:

- $(P + Q + R)(P + Q')(P' + R)$
- $A'B'C + (A+B+C)' + A'B'C'$

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: $F(P, Q, R, S) = P + QR'S$