

# ASSIGNMENT 1

NIKHIL LOHAR

14 JAN 2022

## 1 Question

Derive a Canonical POS expression for a Boolean function G, represented by the following truth table:

X	Y	Z	G(X,Y,Z)
0	0	0	0
0	0	1	0
0	1	0	1
0	1	1	0
1	0	0	1
1	0	1	1
1	1	0	0
1	1	1	1

SOLUTION:  $G = (X + Y + Z).(X + Y + \bar{Z}).(X + \bar{Y} + \bar{Z}).(\bar{X} + \bar{Y} + Z)$   
Minimization Using K-Map :  $G = (X + Y).(X + \bar{Z}).(\bar{X} + \bar{Y} + Z)$