

Digital Design

COE 211

Sheet - 08

1. Simplify the following Boolean function using Karnaugh map:

a) $F(x, y, z) = \sum(0, 1, 5, 7)$

c) $F(x, y, z) = \sum(3, 5, 6, 7)$

b) $F(x, y, z) = \sum(1, 2, 3, 6, 7)$

d) $F(A, B, C) = \sum(0, 2, 3, 4, 6)$

2. Simplify the following expression

$$\bar{x}\bar{z} + \bar{y}\bar{z} + y\bar{z} + xy$$

$$\bar{A}\bar{B}C + \bar{A}B\bar{C} + AB\bar{C} + ABC$$

3. Map the following to a Karnaugh map

$$\bar{A} + A\bar{B} + AB\bar{C}$$

$$BC + \bar{A}\bar{C}$$

ABC	X
000	0
001	0
010	0
011	0
100	0
101	1
110	1
111	1