

King Fahd University of Petroleum & Minerals
Department of Electrical Engineering

EE200-03&04

(071)

Homework # 3

1. Reduce the following Boolean function to the minimum number of literals:

$$F(x, y, z) = x'yz' + x'yz + xy'z' + xyz' + xyz$$

2. Simplify the following Boolean function by algebraic manipulation:

$$F(A, B, C) = A'B'C' + (A + BC) + C$$

3. Represent the following Boolean function in a truth

table: $F(a, b, c, d) = ac' + bc(a' + d)'$

4. Express the function given in (1) above as a sum of minterms and product of maxterms.
5. Simplify the following Boolean function using Karnaugh map.

$$F(a, b, c, d) = \sum(0, 1, 8, 9, 12, 13, 14, 15)$$