

**King Fahd University of Petroleum & Minerals**  
**Department of Electrical Engineering**

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EE200-03            (062)

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:  $F(w, x, y, z) = wy' + xy(w' + z)'$

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.

$$F(a, b, c, d) = \sum(0,1,3,4,5,8,9,11,14,15)$$