

ECE 150 Digital Logic Design, Fall 2023

Quiz 1, September 13th 2023

Problem 1.

- (a) Write the Hexadecimal number, DF_{16} , as a sum of symbols (their equivalent decimal value) times weighting-factors.
- (b) Convert DF_{16} to binary and compute its sum with $0011\ 0000\ 1111_2$.
- (c) Convert the result of (b) back to Hex.

Problem 2. Simplify the following boolean expression using a Karnaugh-Map.

$$X = \bar{A}\bar{B}CD + \bar{A}B\bar{C}\bar{D} + ABC\bar{D} + \bar{A}BC\bar{D} + AB\bar{C}\bar{D}$$