Name: Id#

COE 202, Term 122

Digital Logic Design

Quiz# 3

 Date: Monday, March 11

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# **Q1**. For the Boolean function F(W, X, Y, Z)=m(0, 1, 2, 3, 7, 8, 10), d(W, X, Y, Z)=m(5, 6, 11, 13, 15) shown in the k-map below:



# Identify all the *prime implicants* and the *essential prime implicants* of F.

# Simplify the Boolean function **F** into a minimal sum-of-products expression.

# Simplify the Boolean function **F** into a minimal product-of-sums expression.



# **Q2**. The following Boolean expression: BE + B`DE` is a simplified version of the expression: A`BE + BCDE + BC`D`E + A`B`DE` + B`C`DE`. Are there any don`t care conditions? If so, what are they?

