Name: KEY Id#

COE 202, Term 112

Digital Logic Design

Quiz# 3

Date: Saturday, March 10

# 

# **Q1**. Simplify the following Boolean functions **F** together with the don`t care conditions **d,** into minimal **sum-of-products** expression. Identify all the *prime implicants* and the *essential prime implicants*.

## F(A, B, C, D)=m(2, 3, 5, 7, 10, 12, 13), d(A, B, C, D)=m(0, 1, 5, 8, 9, 15)

AB

CD

00

01

11

10

00

01

11

10

X

X

1

1

0

1

1

0

1

1

X

0

X

X

0

1

# **Prime Implicants:**



# **Essential Prime Implicants:**



