Date:

DLD ASSIGNMENT

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ROLL NO: 242088
SECTION: BEMTS F24 -A.

BCD To Excess THREE

Index	Binary W X Y Z	Excess three. A B C D.
0	0 0 0 0	0 0 1 1
1	0 0 0 1	0 1 0 0
2	0 0 1 0	0 1 0 1
3	0 0 1 1	0 1 1 0
4	0 1 0 0	0 1 1 1
5	0 1 0 1	1 0 0 0
6	0 1 1 0	1 0 0 1
7	0 1 1 1	1 0 1 0

A :- $\bar{W}X\bar{Y}Z + \bar{W}\bar{X}YZ + \bar{W}X\bar{Y}\bar{Z}$

B :- $\bar{W}\bar{X}\bar{Y}Z + \bar{W}\bar{X}YZ + \bar{W}X\bar{Y}Z + W\bar{X}\bar{Y}\bar{Z}$

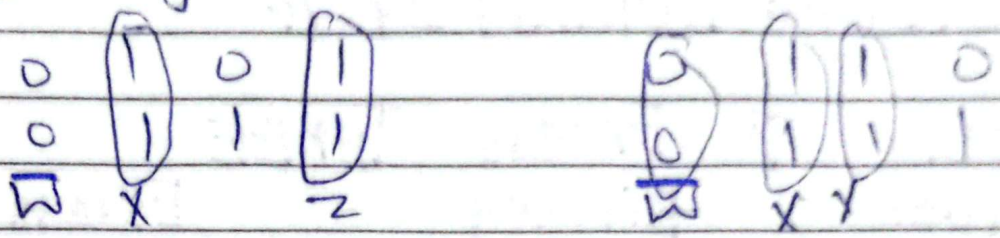
C :- $\bar{W}\bar{X}\bar{Y}\bar{Z} + \bar{W}\bar{X}YZ + \bar{W}X\bar{Y}Z + \bar{W}XY\bar{Z}$

K-MAP of A:

WX \ YZ	00	01	11	10
00				
01		1	1	1
11				
10				

Date:

By grouping

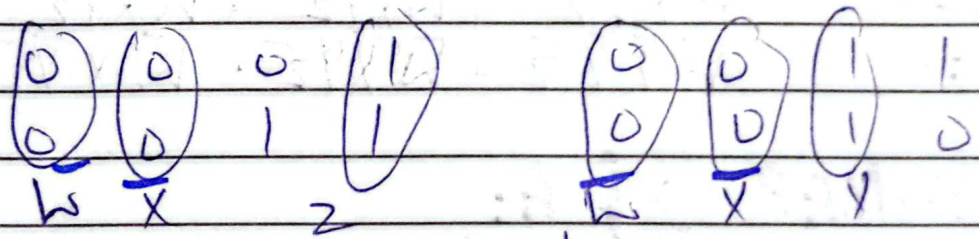


$$F = \bar{W}XZ + \bar{W}XY$$

$$F = \boxed{\bar{W}X(Z+Y) = FA}$$

K-MAP of B:-

WX \ YZ	00	01	11	10
00			1	1
01	1			
11				
10				



$$0100$$

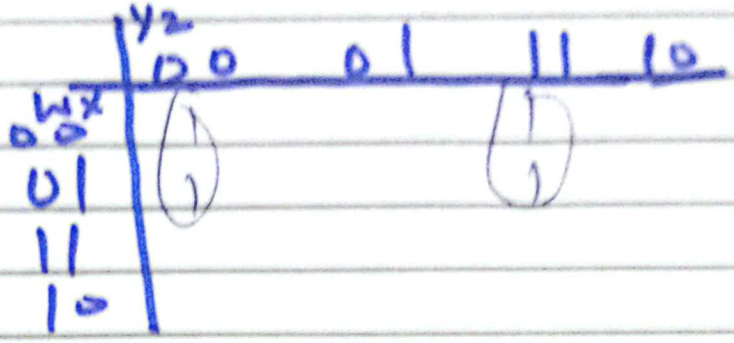
$$\bar{W}X\bar{Y}\bar{Z}$$

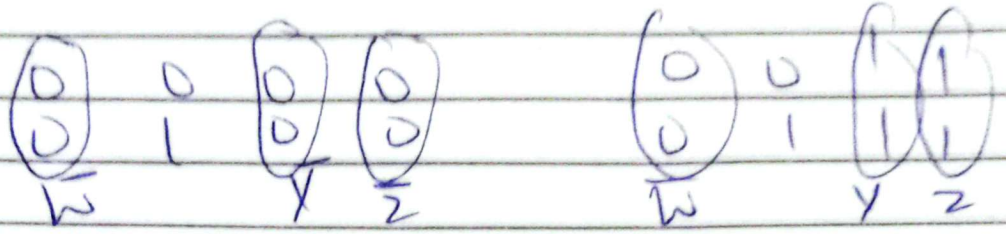
$$F_B = W\bar{X}Z + \bar{W}XY + \bar{W}X\bar{Y}\bar{Z}$$

$$F_B = W\bar{X}(Z+Y) + \bar{W}X\bar{Y}\bar{Z}$$

Date:

K-MAP of C:

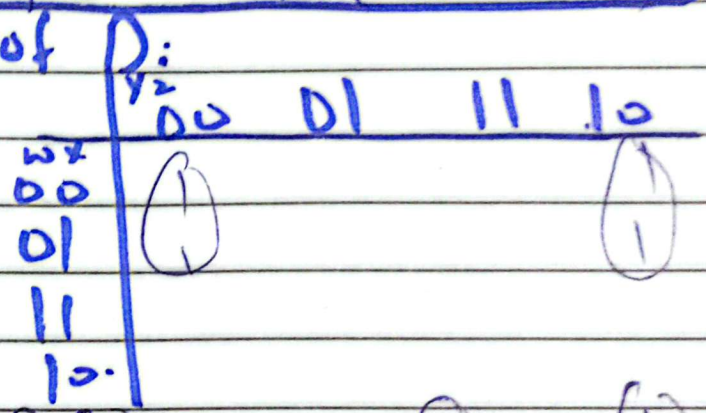


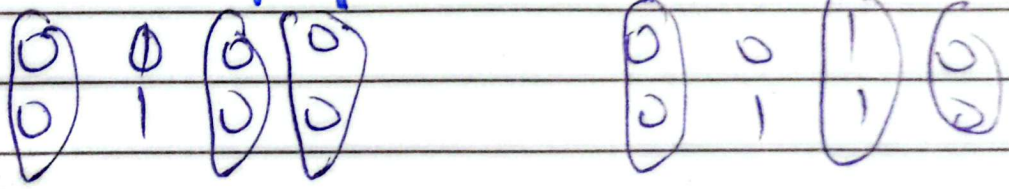


$$F_C = \bar{W}\bar{Y}\bar{Z} + \bar{W}Y\bar{Z}$$

$$\boxed{F_C = \bar{W}(\bar{Y}\bar{Z} + Y\bar{Z})}$$

K-MAP of D:





$$F_D = \bar{W}Y\bar{Z} + \bar{W}Y\bar{Z}$$

$$F_D = \bar{W}\bar{Z}(\bar{Y} + Y)$$

$$\boxed{F_D = \bar{W}\bar{Z}}$$