

Day: _____

Date: _____

Assignment #02

Submitted by:

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Submitted to:

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Section :

'B' Software Engineering

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Question. NO.1

Given the boolean function $Q(a,b,c,d,e)$ represented in canonical form, where

$$Q(a,b,c,d,e) = \sum m(0,1,2,3,9,11,17,19,23,25,29,31) + d(4,7,13,14,21,30)$$

Quads solutions:-

	Quad 1								
ab \ cde	$\bar{c}\bar{d}\bar{e}$ 000	$\bar{c}d\bar{e}$ 001	$c\bar{d}\bar{e}$ 011	cde 010		$\bar{c}d\bar{e}$ 100	$\bar{c}de$ 101	cde 111	$c\bar{d}\bar{e}$ 110
$\bar{a}\bar{b}$ 00	0 1	1	1	1		16 0	17 1	19 1	18 0
$\bar{a}b$ 01	4 X	5 0	7 X	6 0		20 0	21 X	23 1	22 0
$a\bar{b}$ 11	12 0	13 X	15 0	14 X		28 0	29 1	31 1	30 X
ab 10	8 0	9 1	11 1	10 0		24 0	25 1	27 0	26 0
	Quad 2					Quad 3			

Question No 2

Using the K-map provide, Simplify the following Boolean function based on the variables A, B, C and D.

Sol:-

AB \ CD	00	01	11	10
$\bar{A}\bar{B}$ 00	0	0	X	0
$\bar{A}B$ 01	1	1	0	0
$A\bar{B}$ 11	1	0	0	1
AB 10	1	X	1	1

$$F = B \cdot C' + B \cdot C' \cdot D' + A \cdot D' + A' \cdot B'$$