

Sarita Langreer

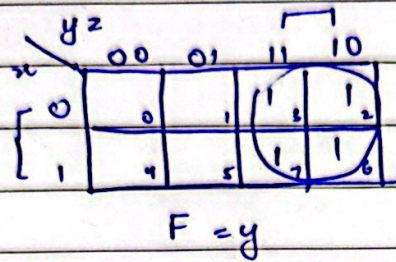
221 - 2008

CY-A.

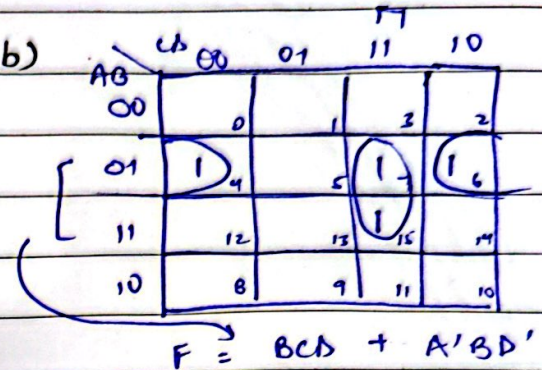
Date:

DD Assignment 3.

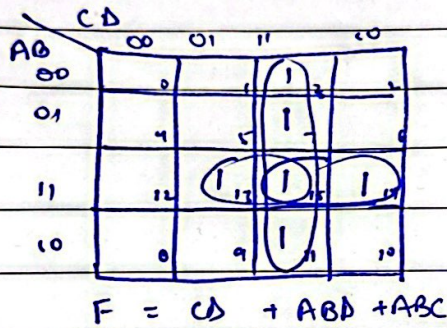
3.4 a)



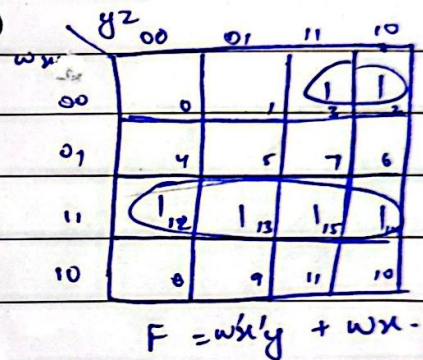
b)



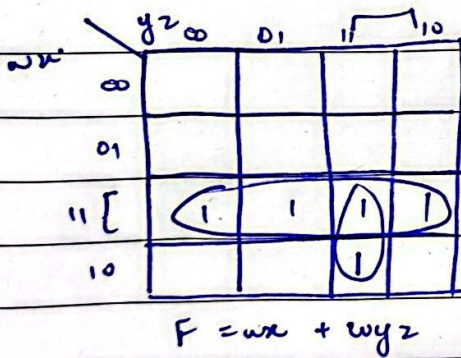
c)



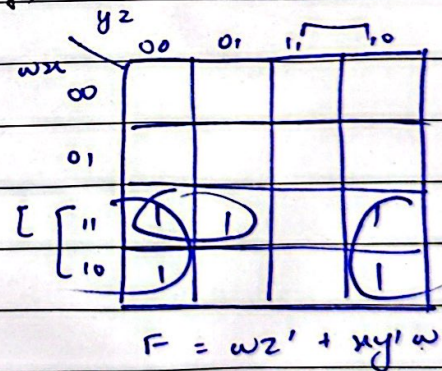
d)



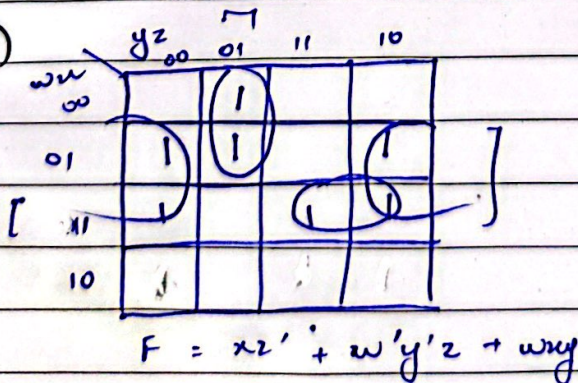
e)



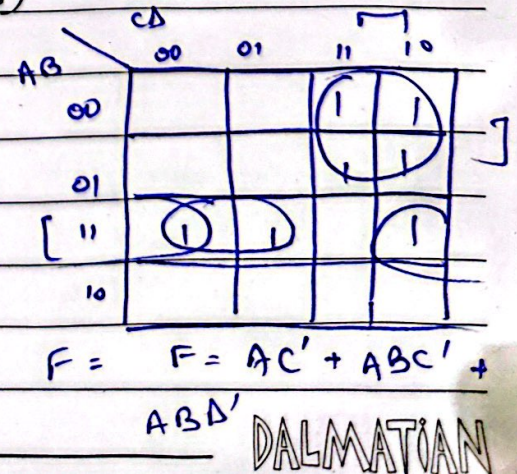
f)



3.5 a)



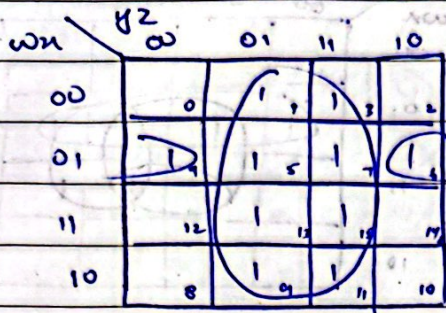
b)



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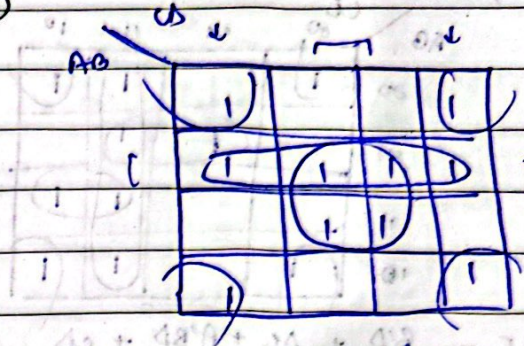
Date:

c)



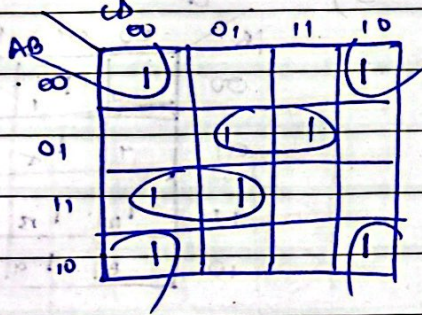
$$F = yz + wx$$

d)



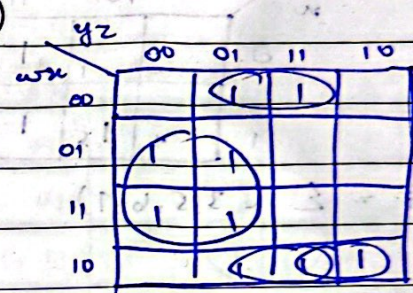
$$F = BD + B'D + A'D'$$

3.6 a)



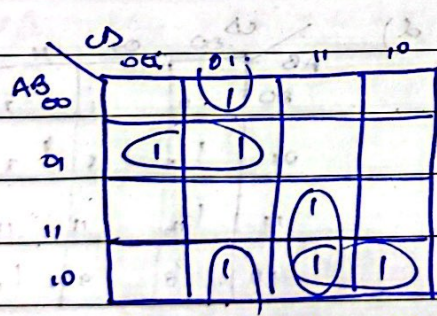
$$F = B'D + A'BD + ABC'$$

b)



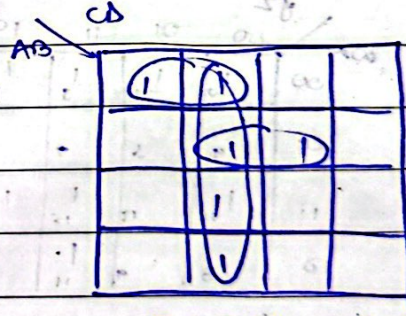
$$F = wy' + xz + wxy$$

c)



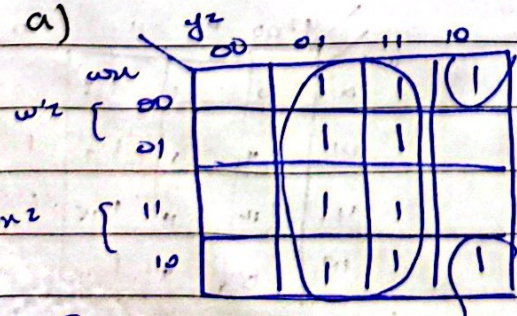
$$F = A'BC + B'C'D + ACD + AB'C$$

d)



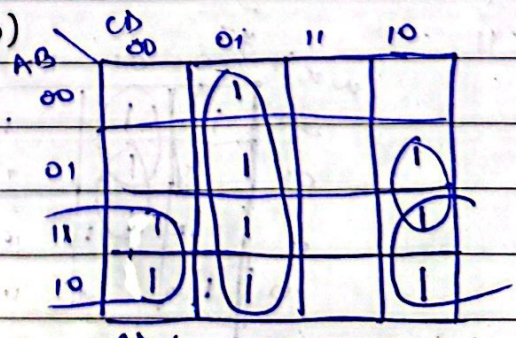
$$F = C'D + A'BD + A'B'C'$$

3.7 a)



$$F = z + xy$$

b)



$$F = AD' + C'D + BCD'$$

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Date:

c)

		cd	00	01	11	10
AB	00	1			1	1
	01			1	1	
	11				1	1
	10	1			1	1

$$F = B'D + AC + A'BD + CD$$

d)

		yz	00	01	11	10
wx	00					
	01			1	1	
	11			1	1	
	10					

$$F = w'w' + xz + xy$$

3-8 a)

		yz	00	01	11	10
x	0			1	1	3
	1		4	1	5	1

$$F = \sum (3, 5, 6, 7)$$

b)

		cd	00	01	11	10
AB	00	0	1	1	3	2
	01	4	1	5	7	6
	11	12	13	15	14	
	10	8	9	11	10	

$$F = \sum (1, 3, 5, 9, 12, 13, 14)$$

c)

		yz	00	01	11	10
wx	00	1	1	1	1	2
	01	4	5	7	6	
	11	12	13	15	14	
	10	8	9	11	10	

$$F = \sum (0, 1, 2, 3, 11, 12, 14, 15)$$

d)

		cd	00	01	11	10
AB	00	0	1	1	3	2
	01	4	1	5	7	6
	11	12	13	15	14	
	10	8	9	11	10	

$$F = \sum (3, 4, 5, 7, 12, 11)$$

3-11

		yz	00	01	11	10
wx	00	1	1	1	1	2
	01	4	1	5	7	6
	11	12	13	15	14	
	10	1	9	11	10	

$$F = w'z' + wx'y' + xy'z$$

		yz	00	01	11	10
wx	00	0	1	1	3	2
	01	4	1	5	7	6
	11	12	13	15	14	
	10	8	9	11	10	

$$F' = yz + wy + xz' + wx'z$$

$$F = (y' + z')(w'y) + (w' + z)(w' + x + z')$$

Date:

3.12 a)

AB \ CD	00	01	11	10
00	0	0	0	0
01	0	0	0	0
11	0	0	0	0
10	0	0	0	0

$$F' = A'D + B'D$$

$$F = (A + B)(B + D')$$

$$F = C'D' + CD' + AB'$$

b)

AB \ CD	00	01	11	10
00	0	0	0	0
01	0	0	0	0
11	0	0	0	0
10	0	0	0	0

$$F' = B'D + BCD' + ABD'$$

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

$$F = D'B' + BD + A'C'D'$$

3.15

a)

AB \ CD	00	01	11	10
00	1	1	x	x
01	1	1	x	1
11	1	1	x	1
10	1	1	x	1

$$F = 1$$

$$F = (0, 1, 2, 3, 4, 5, 6, 7)$$

b)

AB \ CD	00	01	11	10
00	1	1	1	1
01	1	1	1	1
11	1	1	1	1
10	1	1	1	1

$$F = ABC'D + BD' + A'A' + BCD'$$

$$F = \sum (0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15)$$

Date:

c)

		CD	00	01	11	10
AB	00	0	1	X	3	2
01	4	1	5	1	7	6
11	1	1	11	1	15	14
10	8	X	9	X	11	10

$$F = CD + BC + AD'B + A'BD$$

$$F = \sum (3, 5, 6, 7, 11, 12, 14, 15)$$

d)

		CD	00	01	11	10
AB	00	X	1	2	3	4
01	1	4	5	6	7	8
11	1	1	13	15	14	12
10	X	9	10	11	12	10

$$F = B'D + C'D + A'BC$$

$$F = \sum (0, 2, 4, 6, 7, 8, 10, 12)$$

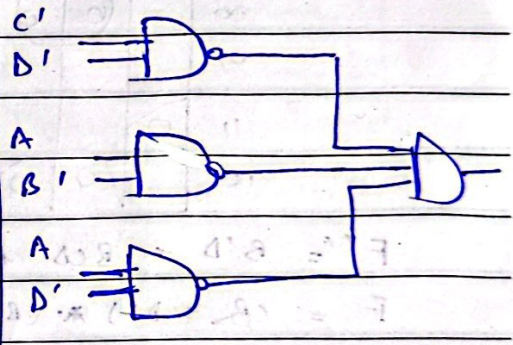
Q 3.24

		cd	00	01	11	10
AB	00	1	2	3	4	5
	01	6	7	8	9	10
	11	11	12	13	14	15
	10	16	17	18	19	20

$$F = C'D' + AD' + AB'$$

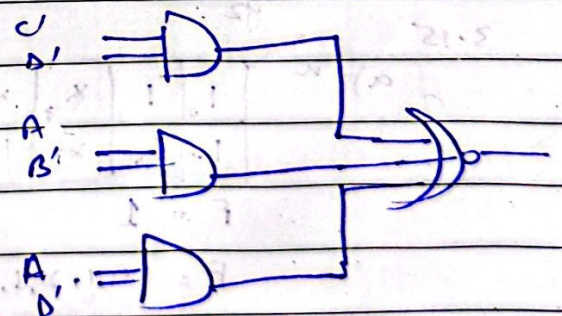
$$F = (C'D')' (AB')' (AD')'$$

AND - NAND



b) $[C'D' + AD' + AB']'$

AND - NOR



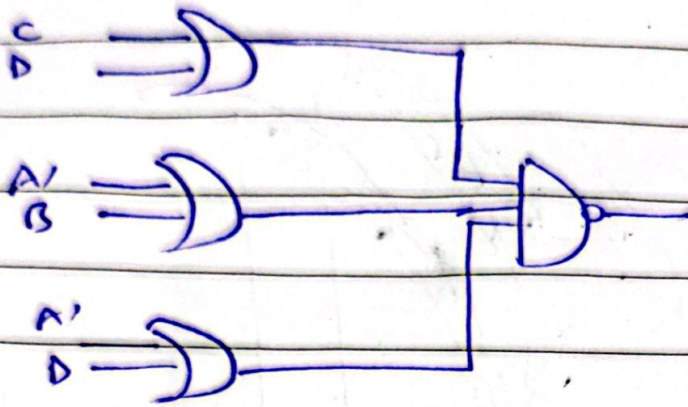
c) $F' = (C'D')' (AB')' (AD')' : (C+D) (A'+B) (A'+D)$

$$[(C+D) (A'+B) (A'+D)]'$$

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Date:

OR - NAND



a) NOR - OR.

$$F = C'D' + AD' + AB'$$

$$F' = (C+D) * (A'+D) * (A'+B)$$

$$= [(C+D) + (A'+D) + (A'+B)]'$$

$$(C+D)' + (A'+D)' + (A'+B)'$$

