TOTAL: _____/10

ECE 543: Introduction to Digital Systems

Homework #3

Due: Friday, October 1st, 2021 (6 P.M.)

Student Name: _____

Note:
- **Please use this sheet as a cover page.**
- **Your work must be hand-written (no typing please).**
- **Homework must be submitted electronically through Canvas in a PDF format.**

Do the following problems from "Fundamentals of Digital Logic with Verilog Design" by Brown & Vranesic (3rd Edition)

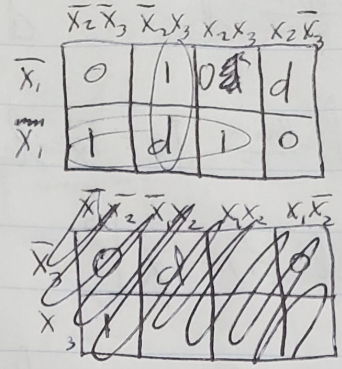
Solve the following problems:

Problems from Chapter 2:
2.38, 2.40

ECE 543

2. 38

x_1	x_2	x_3	f
0	0	0	0
0	0	1	1
0	1	0	d
0	1	1	0
1	0	0	1
1	0	1	d
1	1	0	0
1	1	1	1

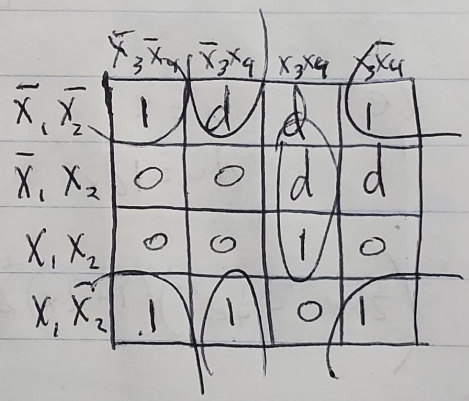


$x_1\bar{x}_2 + x_1x_3 + \bar{x}_2x_3$

$(\bar{x}_1+x_2)(\bar{x}_1+\bar{x}_3)(x_2+\bar{x}_3)$

40

x_1	x_2	x_3	x_4	f
0	0	0	0	1
0	0	0	1	d
0	0	1	0	1
0	0	1	1	d
0	1	0	0	0
0	1	0	1	0
0	1	1	0	d
0	1	1	1	d
1	0	0	0	1
1	0	0	1	1
1	0	1	0	1
1	0	1	1	0
1	1	0	0	0
1	1	0	1	0
1	1	1	0	0
1	1	1	1	1



$\bar{x}_2\bar{x}_4 + \bar{x}_2\bar{x}_3x_4 + x_2x_3x_4$

$(x_2+x_4)(x_2+x_3+\bar{x}_4)(\bar{x}_2+\bar{x}_3+\bar{x}_4)$