CSE231L
Class Assignment 04

Task-1: Complete the data tables.

Task -2: Do the K-mapping for the required design in your notebook and attach their pictures here.

Task -3: Design the required BCD to Excess-3 converters in the logisim and attach their screenshots below.

Experimental Data

Decimal Digit	Binary Coded Decimal (BCD)				Excess-3			
	W	X	Y	Z	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
8	1	0	0	0	1	0	1	1
9	1	0	0	1	1	1	0	0

Table F1: Truth table - BCD to Excess-3

Number of inputs bits:	4	**Input variables:**	W,X,Y,Z
Number of outputs bits:	4	**Output variables:**	A,B,C,D

Table F2: System analysis

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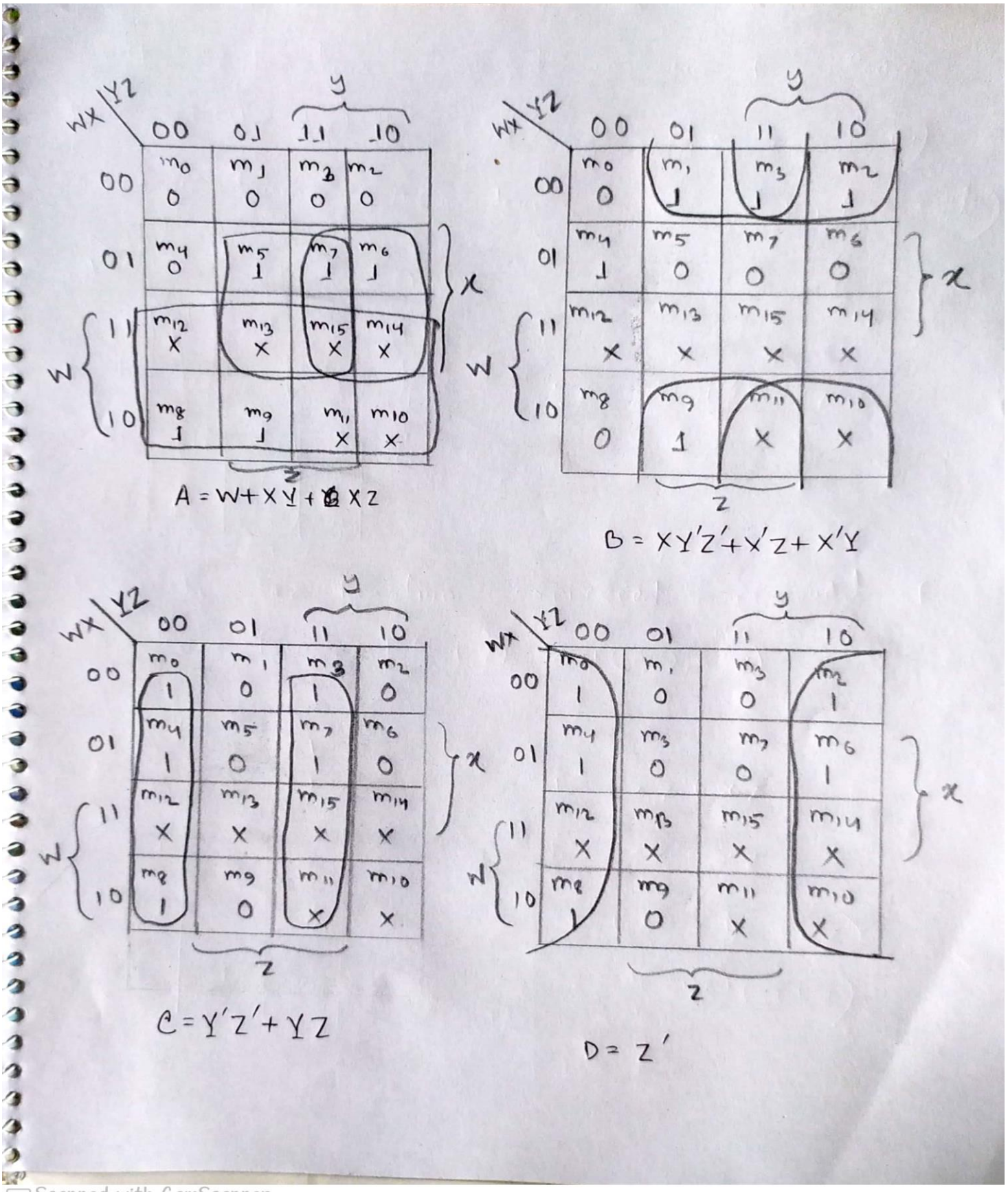

Figure F1: K-Maps

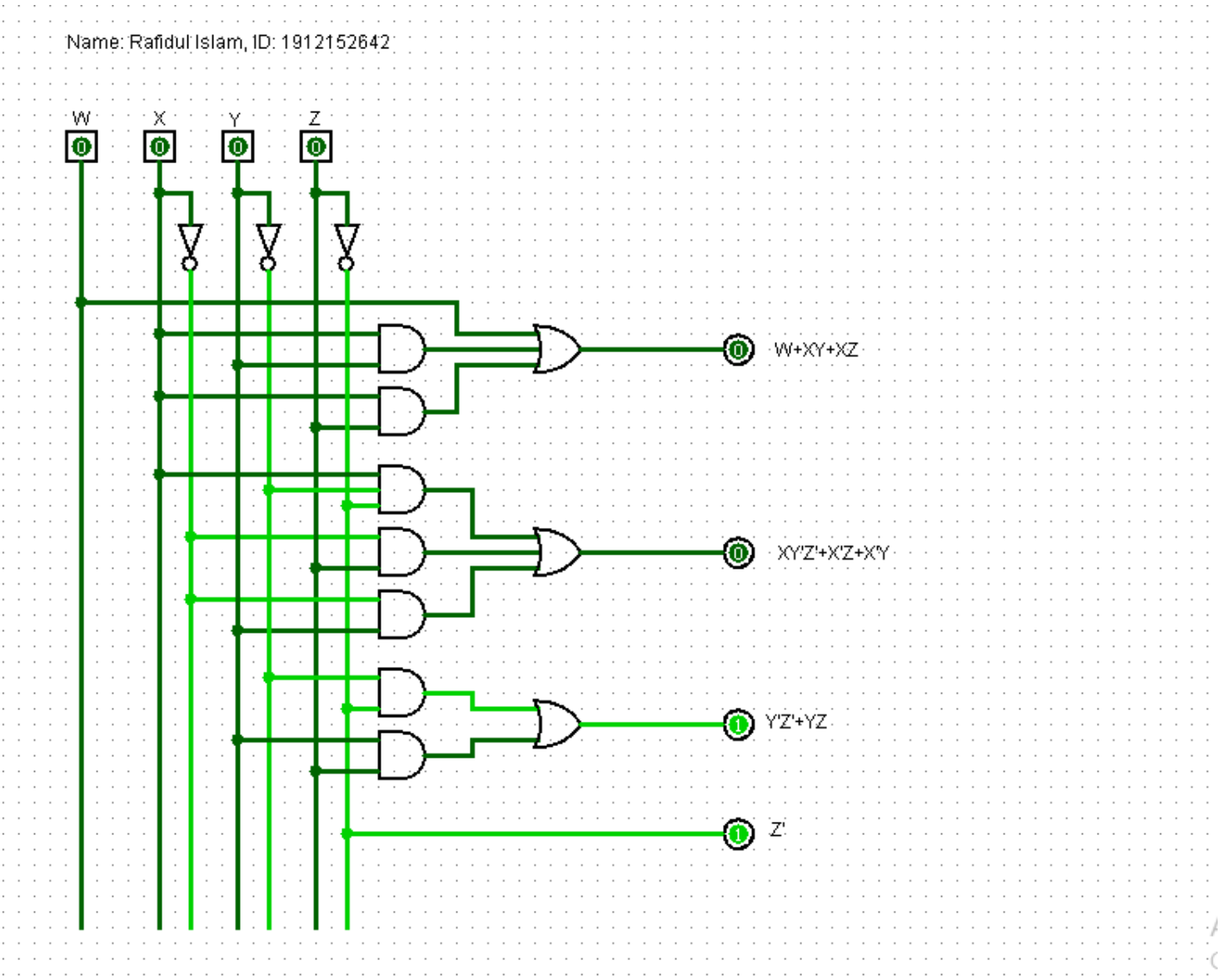

Figure F2: Minimal 1st canonical circuit of BCD to Excess-3 converter

Figure F3: Minimal universal gate implementation of BCD to Excess-3 converter