Name:	Lab Section:

## **ECE 2140**

## Experiments 5 & 6 Prelab Sum-of-Products & Product of Sums Realization

- 1. Read through Experiment 5.
- 2. Look up the data sheets for the AND, OR, and Inverter gate ICs.
  - a. Label all pins according to the data sheet:

AND	OR
1 U 14 D 2 13 D 3 12 D 4 11 D 5 10 D D 6 9 D D 7 8 D	1 U 14 ] 2 13 ] 3 12 ] 4 11 ] 5 10 ] 6 9 ] 7 8 ]
Inverte	er
2 3 1 4 0 5	140 130 110 90 80

b. Find the following specifications for each IC:

Absolute Maximum Voltages			
	AND	OR	Inverter
V <sub>CC</sub>			
Input voltage			

		_	Lab Section	
	Recommended (Nominal)			
	Operating Voltages			
	AND	OR	Inverter	
V <sub>CC</sub>				
V <sub>IL</sub>				
V <sub>IH</sub>				
V <sub>OL</sub>				
V <sub>OH</sub>				

3. Find the **sum-of-product** canonical expression from **Part 2** of **Experiment 5**:

X	Y	f (output)
0	0	0
0	1	1
1	0	1
1	1	0

4. Draw a schematic for **Experiment 5**. Make sure you show where the function generator, oscilloscope, and DMM are connected (if necessary).

Part 3:

Name:	Lab Section:
5. Find the <i>product-of-sum</i> car	nonical expression from Part 2 of Experiment 6:

X	Y	f (output)
0	0	0
0	1	1
1	0	1
1	1	0

6. Draw a schematic for **Experiment 6**. Make sure you show where the function generator, oscilloscope, and DMM are connected (if necessary).

## Part 3: