Name: _____

CIS 351 Sample CL3 Problem

1 September 2025

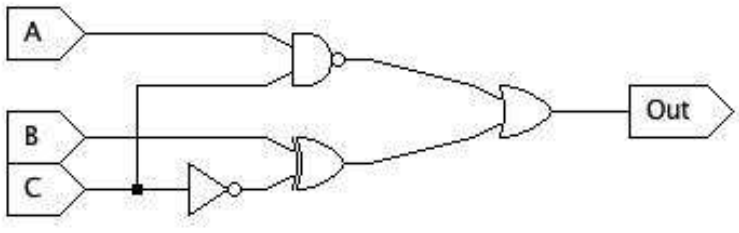
CL3: Circuit Representation

(a) Draw a circuit that implements the truth table below:

A	B	C	Out
0	0	0	1
0	0	1	0
0	1	0	0
0	1	1	1
1	0	0	0
1	0	1	1
1	1	0	1
1	1	1	0

(b) Complete the truth table below to show the output of the circuit for each input:

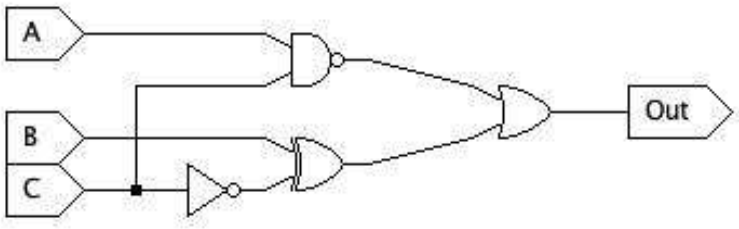
A	B	C	Out
0	0	0	
0	0	1	
0	1	0	
0	1	1	
1	0	0	
1	0	1	
1	1	0	
1	1	1	



Name: _____

(c) Draw a combinatorial circuit that implements this Boolean expression: $\overline{(AC)} + (B \oplus \bar{C})$

(d) Write the Boolean expression that implements the following circuit:



Click here for solutions: `cl3_sample_solutions.pdf`

CIS 351 Sample CL3 Problem Solutions

Tue 2nd Sept, 2025

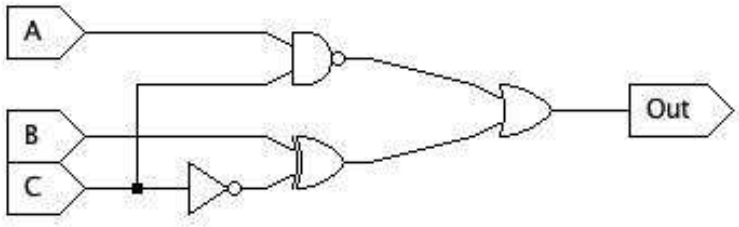
CL3: Circuit Representation

(a) Draw a circuit that implements the truth table below:

A	B	C	Out
0	0	0	1
0	0	1	0
0	1	0	0
0	1	1	1
1	0	0	0
1	0	1	1
1	1	0	1
1	1	1	0

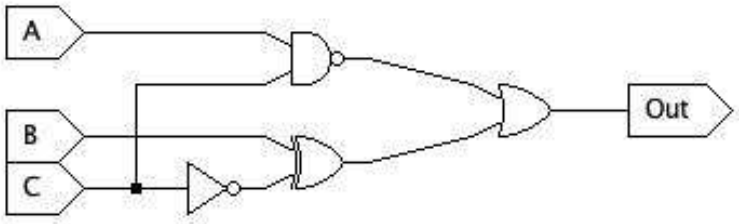
(b) Complete the truth table below to show the output of the circuit for each input:

A	B	C	Out
0	0	0	1
0	0	1	1
0	1	0	1
0	1	1	1
1	0	0	1
1	0	1	0
1	1	0	1
1	1	1	1



(c) Draw a combinatorial circuit that implements this Boolean expression: $\overline{(AC)} + (B \oplus \bar{C})$

(d) Write the Boolean expression that implements the following circuit:



$\overline{(AC)} + (B \oplus \bar{C})$

Click here for solutions: `cl3_sample_solutions.pdf`