Name: _____

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Homework 8

CS/ECE 252 Section-2 (MWF 11:00)

Assigned on November 25th

Due on Friday, December 11th by the beginning of class (11 AM)
Neat and legible and writing is preferred, especially for your name and NetID.

1. What is a P-type transistor? What is an N-type transistor? Name two differences between them. **(2)**

2. Given a gated D-latch, how would you create memory? How would you write to this memory? Describe the process in detail. **(3)**

3. a. Define DeMorgan's law. **(1)**

b. Find the negation of the following expression:
(2)

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(A + B' + C)(B+C')
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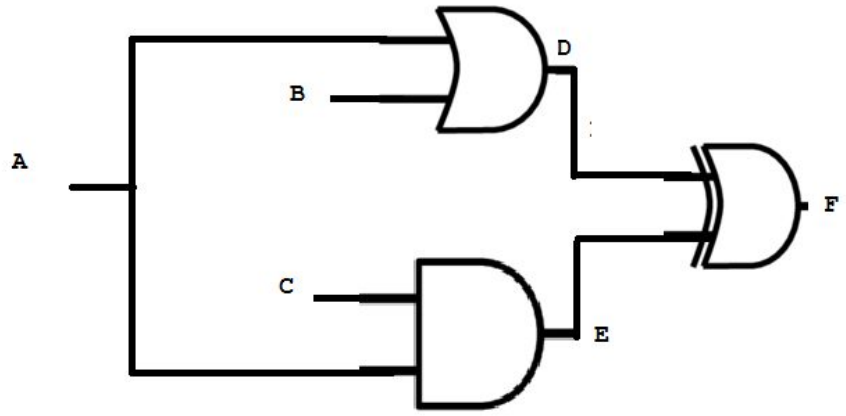
4. Define Moore's law. **(1)**

5. Which single logic gate can you use to check if two bits are equal? If they are equal, the gate should output a 1, and if not, the gate should output 0.
(1)

6. GIven the following logic gate, complete the truth table. **(3)**



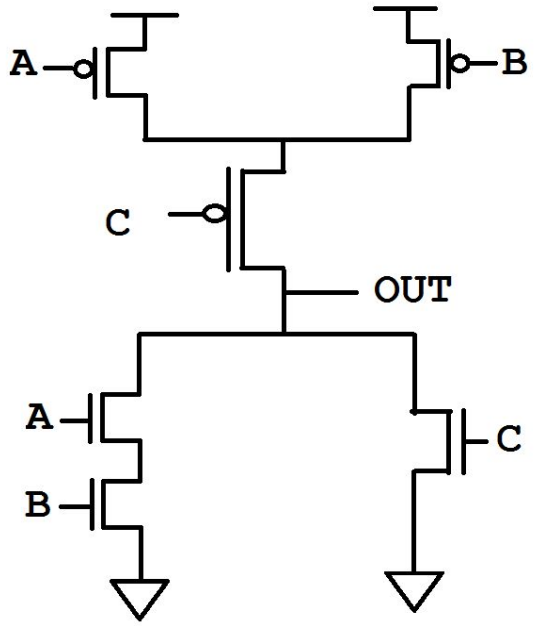
A	B	C	D	E	F

7. Given the following truth table, draw the circuit using gates. **(3)**

A	B	Q
0	0	1

0	1	1
1	0	0
1	1	1

8. Given the following arrangement of transistors, find the truth table **(4)**



A	B	C	OUT

9. Given the following truth table, write the sum-of-products equation. **(3)**

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

Answer: