

First Name: _____ Last Name: _____

In doing your homework, please make sure you follow the following guidelines. Failure to follow them, will result in 0 grade:

- *Only write on one side of your paper.*
- *Problem solutions must follow in order i.e. Start with Problem 1, then Problem 2 and etc. The solutions to each section must also be in order.*
- *Unless explicitly specified, you should not explain your solution - just provide your solution.*
- *Make sure that the papers are stapled and your name is on the paper. Make sure your name appears exactly as shown on your registration.*

Problem 1 (15 Points)

Design a one-bit 5MR voter

- Using only NAND gates.
- Using only NOR gates.

Problem 2 (15 Points)

Is $F = AC + BC$ a self-dual circuit? If not, transform it with the additional input D.

Problem 3 (15 Points)

Is full adder a self-dual circuit? If not, transform it with the additional input D.

Problem 4 (15 Points)

Read the following article and write a one page summary that you found to be most important.

- Avižienis, J. Laprie, B. Randell, and C. Landwehr, "Basic Concepts and Taxonomy of Dependable and Secure Computing", IEEE Transactions on Dependable and Secure Computing, Vol. 1, No. 1, pp. 11-33, January -March 2004, ([PDF](#))

Due 2/5/2016