# CS-302 Theory of Computation Test IV Study Guide

#### **Disclaimer**

This document is provided as a study guide only. It does not represent what will be on the Test. It highlights the important topics that you must know for the Test. The Test may include questions on concepts not included in this document.

# The Following Are Important

- The test covers Finite State Automata (DFA and NFA) and Regular Expressions.
- The format of the test is as follows:
  - True/False questions.
  - Short answer questions.
  - There will be proof questions on this test.

#### Study:

 Finite State Automata; Regular Expressions and Languages; and the Closure Theorem.

### Practice:

- How to provide formal definitions of concepts listed above.
- How to answer questions related to covered topics.
- How to write complete proofs.
- How to construct a nondeterministic finite state automaton for a given regular expression.
- How to construct a nondeterministic finite state automaton for a given regular expression as in the construction proofs of the Closure Theorem.
- How to construct a deterministic finite state automaton for a given regular expression.

## **Good Luck**