

CS-302 Theory of Computation

Test I 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 sets, relations, and functions.
- The format of the test is as follows:
 - True/False questions.
 - Short answer questions.
 - A minimum of one proof.
- Study:
 - **Sets:** union, intersection, difference, complement, equal sets, subsets, Venn diagrams, Cartesian products, and power sets.
 - **Relations:** reflexive, symmetric, transitive, and equivalence relations.
 - **Functions:** domain, co-domain, range, one-to-one, onto, and bijections.
 - **Proofs:** direct proofs, proof by counterexample, by contradiction, and by mathematical induction.
- Practice:
 - How to provide formal definitions of concepts listed above.
 - How to answer questions related to covered topics.
 - How to write complete proofs.

Good Luck