Practice Final Exam Questions

Chetan Tonde

August 6, 2012

1 Syllabus

Rosen book - Seventh Edition.
(For sixth edition, please refer to the excel spreadsheet posted online which gives the mapping between the the seventh and sixth edition.)

1. (a) Section 1.1 - Propositional Logic
   (b) Section 1.3 - Propositional Equivalences
   (c) Section 1.4 - Predicates and Quantifiers
   (d) Section 1.5 - Nested Quantifiers
   (e) Section 1.6 - Rules of Inference - **(For this topic refer the tutorial on natural deduction posted online rather than the book)**
   (f) Section 1.7 - Introduction to Proofs
   (g) Section 1.8 - Proof Methods and Strategies

2. (a) Section 2.1 - Sets
   (b) Section 2.2 - Set Operations
   (c) Section 2.3 - Functions
   (d) Section 2.4 - Sequences and Summations

3. (a) Section 5.1 - Mathematical Induction
   (b) Section 5.2 - Strong Induction and Well-Ordering (Strong Induction part only)
   (c) Section 5.3 - Recursive Definition and Structural Induction

4. (a) Section 9.1 - Relations and their properties
   (b) Section 9.3 - Representing relations
   (c) Section 9.4 - Closures of relations
   (d) Section 9.5 - Equivalence relations

5. (a) Section 4.1 - Divisibility and Modular arithmetic (Section 3.4 - 6th edition)

2 Preparing for the final

1. Sample review questions given for the final.

2. Sample review questions given for the midterm.

3. Quizzes and midterm solutions.

4. Go over the graded homework problems. (This is not really needed.)

5. Optional: Have a look at Chapter 1, Sections 7.5, 6.8, and Chapter 9. from the ebook. Link: $http://www.maths.qmul.ac.uk/ \sim fv/books/mw/mwbook.pdf$. (This link is also posted in the announcements on the date [26/7/2012]. This reading is needed only if you think you need some writing help. Other chapters are helpful here too but not needed.)

I think this should be more than enough preparation for the exam.

3 Additional problems for material covered after midterm

1. (a) Section 5.3 - 26, Also, solved examples from page 1-4 in the pdf.
   Link: $http://paul.rutgers.edu/ \sim cjtonde/cs205/yasuhara.strings.pdf$
   (See announcement posted on [8/7/2012].)

2. (a) Section 9.1 - 51, 52(7th edition). 49,50 (6th edition).
   (b) Section 9.3 - 8, 31(7th edition). 8,31 (6th edition).
   (c) Section 9.4 - 19, 29(7th edition). 19,29 (6th edition).
   (d) Section 9.5 - 25, 29 (7th edition).25, 29 (6th edition).

3. (a) Section 4.1 - 8, 36, 40 (7th edition), 8, 22, 24 (6th edition)

Best of luck