

CSc 552 Midterm

October 24, 2002

You may not use books, notes, or calculators. You have 75 minutes to complete the exam. The number in parenthesis at the beginning of each question indicates the number of points given to the question. Do all work on these sheets, using the backs if necessary. **Please write your name on the first sheet and some sort of identification on the subsequent sheets.**

Problem	Points Scored	Points Possible
1		15
2		15
3		15
4		15
Total		60

1. (a) (15 points) What is an *implicit ack*, how is it used, and what benefit does it provide?

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2. (15 points) What is non-blocking synchronization? What is Type-Stable Memory Management (TSM), and why does it make non-blocking synchronization algorithms easier to implement?

3. (15 points) Describe the “duality” discussed in the paper “The Duality of Memory and Communication in the Implementation of a Multiprocessor Operating System”.

4. (15 points) Describe two techniques used in the “Lightweight Remote Procedure Call” paper to improve the performance of remote procedure calls between processes on the same machine.