

**CSCI 4/5/8145 Parallel Programming
Final Exam
Thursday May 4th, 2000, 7:00 pm - 11:00 pm**

THREE pages.

Attempt all questions in the spaces provided.

Name:.....

Use additional paper if necessary.

You may refer to the materials provided with this test. Do not refer to any other materials.

Mark/30

Qu. 1 Answer each of the following briefly:

(a) What is a detached thread? 2

(b) What is meant by the term thread-safe? 2

(c) What is the difference (if any) between a binary semaphore and a spin lock? 2

(d) What computational method is better suited for sparse matrices than for dense matrices? 2

(e) What is meant by the phrase systolic array? 2

(f) What is the purpose of Gaussian elimination? 2

(g) What is a bitonic sequence? 2

(h) What is the purpose of the Hough Transform? 2

Qu 2 Write a shared memory parallel program in Adsmith to sort a list of n integers using odd-even transposition sort (the parallel variation of bubble sort). An Adsmith program is attached giving sample uses of Adsmith routines. Give a clear explanation of your program.

14