This final examination consists of 8 questions on 11 pages (including this one), printed on one side of the paper.

Answer each question directly on the examination paper, in the space provided, and use the reverse side of the pages for rough work. If you need more space for one of your solutions, use the reverse side of a page and indicate clearly the part that should be marked.

In your answers, you may use without proof any result or theorem covered during the course in lectures, tutorials, assignments, or term tests. You must justify all other facts required for your solution.

You will get 20% of the marks of a question/subquestion if you explicitly state that you do not know how to answer it. Any attempts to solve this question would need to be crossed-off.

The University of Toronto Mississauga and you, as a student, share a commitment to academic integrity. You are reminded that you may be charged with an academic offence for possessing any unauthorized aids during the writing of an exam, including but not limited to any electronic devices with storage, such as cell phones, pagers, personal digital assistants (PDAs), iPods, and MP3 players. Unauthorized calculators and notes are also not permitted. Do not have any of these items in your possession in the area of your desk. Please turn the electronics off and put all unauthorized aids with your belongings at the front of the room before the examination begins. If any of these items are kept with you during the writing of your exam, you may be charged with an academic offence. A typical penalty may cause you to fail the course. Please note, you cannot petition to RE-WRITE an examination once you have begun writing.

Good Luck!

Marking Guide

# 1: _____/18
# 2: _____/9
# 3: _____/10
# 4: _____/12
# 5: _____/10
# 6: _____/12
# 7: _____/12
# 8: _____/8

Bonus Marks: _____/4

TOTAL: _____/91