



## MIE100S: Dynamics – April 22, 2019

Final Examination: 9:30 a.m. – noon (150 minutes)

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You must *neatly & clearly show all rough work to earn credit for each answer.*

This answer booklet contains 16 pages, including this cover page, printed two-sided.

ROSI/ACORN email: \_\_\_\_\_ @mail.utoronto.ca

First name (please write as legibly as possible within the boxes)

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Last name

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UofT student number

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- You must answer each question on the *correct page* of the CrowdMark booklet.
- If you run out of room answering any of these questions, then *clearly indicate* that your solution is continued on page 15 or 16. Do not remove any pages from this booklet.
- Avoid folding or tearing any of the sheets to the extent possible.
- Place your student UofT ID at the front, right-hand corner of your desk.

### Type “D” Examination: Permitted Aids:

- Non-communicating/non-programmable calculator: Casio FX-991EX or Casio FX-991ES PLUS or Casio FX-991MS or Sharp EL-520X or Sharp EL-520W
- One 8 ½" x 11" aid sheet, any colour, brought to the test by the student. You may write on both sides of the sheet
- ruler



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**Question 1(a):** (If you run out of room, then continue on page 15 or 16)

1  
2  
3

F8386295-2CCB-4C53-909B-CE4A04CA8BDE

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**Question 1(b):** (If you run out of room, then continue on page 15 or 16)



15A1A8B6-0328-428E-94B2-6D20CD8F8D0C.

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**Question 1(c):** (If you run out of room, then continue on page 15 or 16)



**Question 2(a):** (If you run out of room, then continue on page 15 or 16)



E8679170-EB7C-4BA7-84ED-B42D1A5B97AD

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**Question 2(b):** (If you run out of room, then continue on page 15 or 16)

BFD3FA0E-4F25-4698-8709-345626DA11D8

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**Question 3(a):** (If you run out of room, then continue on page 15 or 16)





7EFCAD1E-F2B0-4677-ACD5-D3126906F196

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**Question 3(b):** (If you run out of room, then continue on page 15 or 16)

9326E014-F89F-4469-9667-909E2605A6AC

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**Question 3(c):** (If you run out of room, then continue on page 15 or 16)



00CC4FE0-5E01-4803-8E83-671FF4CB9C57

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**Question 4(a):** (If you run out of room, then continue on page 15 or 16)

9950BB3D-8E51-443E-ACFD-38EAED38948F

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**Question 4(b):** (If you run out of room, then continue on page 15 or 16)



95F8964F-F67F-4EA3-8D2A-5F7E024A481D

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**Question 5:** (If you run out of room, then continue on page 15 or 16)

0FDFFD1C-B6CB-41EF-85EA-CED84909EFC6

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**Question 6(a):** (If you run out of room, then continue on page 15 or 16)



1A393FCF-5C02-4A86-AFBD-C991F480E9B3

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**Question 6(b):** (If you run out of room, then continue on page 15 or 16)

F597FDE9-095C-450F-A905-D4068A64DBAF

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**Spare page, in case you ran out of room on one of the questions**



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**Spare page, in case you ran out of room on one of the questions**