

Your Name: _____

Your TA: _____

T&AM 203 Prelim 1

Tuesday February 29, 2000 7:30 — 9:00⁺ PM

Draft February 27, 2000

3 problems, 100 points, and 90⁺ minutes.

Please follow these directions to ease grading and to maximize your score.

- a) No calculators, books or notes allowed. Two pages of formulas, from the front of the text, and a blank page for tentative scrap work are provided at the back. Ask for extra scrap paper if you need it.
- b) Full credit if
- ↖ • ↗ →free body diagrams← are drawn whenever linear or angular momentum balance is used;
 - correct vector notation is used, when appropriate;
 - ↑ → any dimensions, coordinates, variables and base vectors that you add are clearly defined;
 - ± all signs and directions are well defined with sketches and/or words;
 - ↯ reasonable justification, enough to distinguish an informed answer from a guess, is given;
 - you clearly state any reasonable assumptions if a problem seems *poorly defined*;
 - work is I.) neat,
II.) clear, and
III.) well organized;
 - your answers are TIDILY REDUCED (Don't leave simplifiable algebraic expressions.);
 - your answers are boxed in; and
 - unless otherwise stated, you will get full credit for, instead of doing a calculation, presenting Matlab code that would generate the desired answer. To ease grading and save space, your Matlab code can use shortcut notation like " $\dot{\theta}_7 = 18$ " instead of, say, "`theta7dot = 18`".
- c) Substantial partial credit if your answer is in terms of well defined variables and you have not substituted in the numerical values. Substantial partial credit if you reduce the problem to a clearly defined set of equations to solve.

Problem 1: _____/30

Problem 2: _____/35

Problem 3: _____/35

TOTAL: _____/100