University of Toronto, Faculty of Applied Science and Engineering
APS112 & APS113 Engineering Strategies and Practice
Course Coordinator: Jason Bazylak
Communication Coordinator: Peter Weiss
Instructors: Phil Anderson, Peter Weiss and Elizabeth Edwards
Question Booklet #2 – Short-Answer Question Booklet
Midterm Examination: March 29, 2018, 6:15 pm - 7:45 pm

UTOR Email:																									

@mail.utoronto.ca

Instructions:

- This is a 90-minute midterm with a total of 40 questions.
- It is multiple choice AND short answer.
- It is closed book and closed notes. No aids are permitted other than a translation-only paper dictionary.
- The questions are divided between two separate booklets.
    - Question Booklet #1 – Multiple Choice Question Booklet
    - Question Booklet #2 – Short-Answer Question Booklet
- Ensure you have both booklets and a multiple choice answer sheet (scan sheet).
- At the end of exam, hand in short-answer question booklet and multiple choice answer sheet. You don't have to hand in the multiple choice question booklet.

This booklet contains 3 short-answer questions, worth 14 marks in total. Short-answers must be answered in the spaces provided in this Short-Answer Question Booklet. This question booklet, with your name and UTOR Email filled in, must be returned with the multiple-choice answer sheet slipped inside. Do not separate any pages. Do not write on the QR code at the top of the pages. We are not looking for long paragraph answers. Use short sentences or bullet points.

38. (5 MARKS) You are part of a team that has been asked to design a new street light (Figure 6). The client only wants to replace the lighting fixture itself, not the pole on which it is mounted. You have to figure out the maximum weight of the new fixture so that it can be safely installed. On the next page sketch a diagram that you would use to clarify your understanding of the physical system.

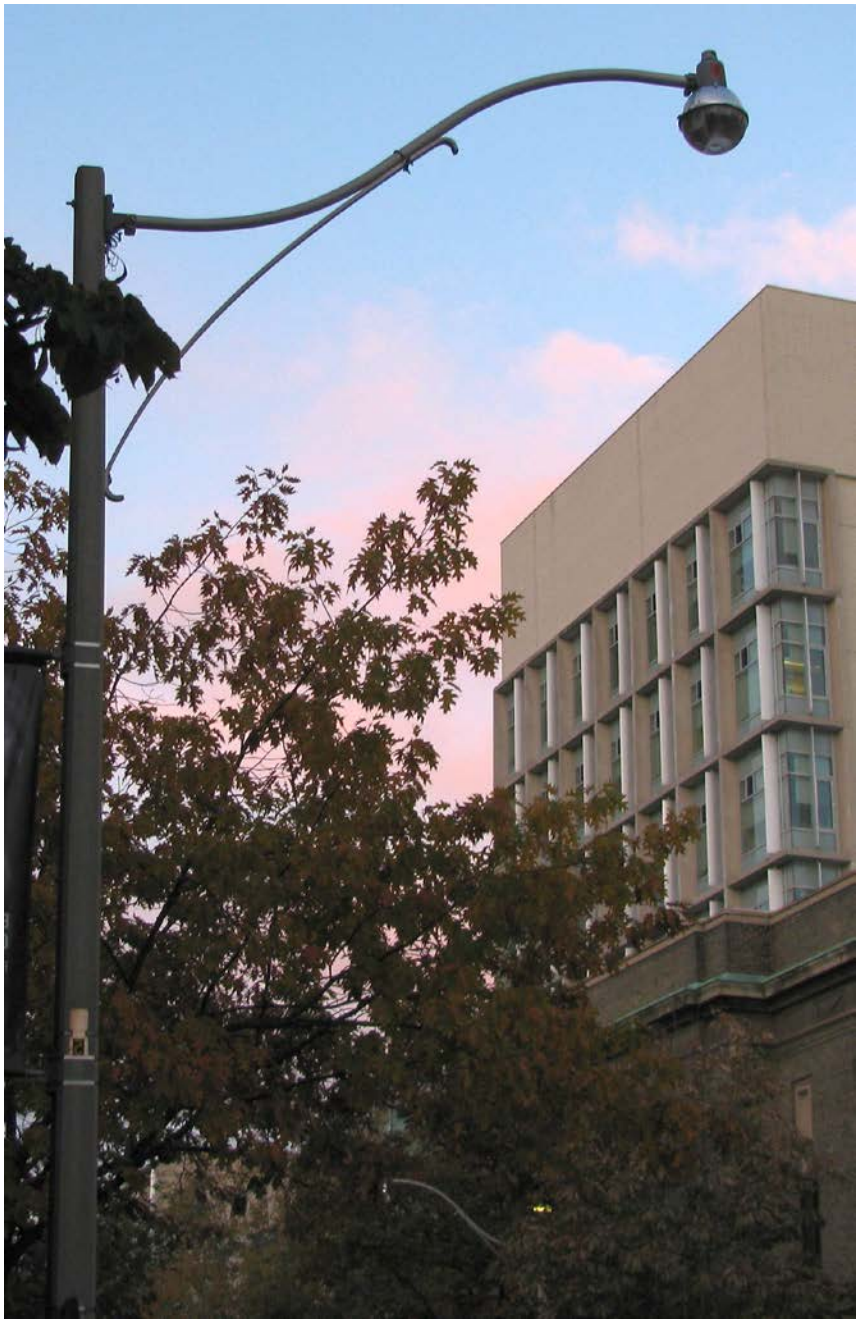

Figure 6: Original street light

Use this page to sketch your diagram for Question 38.

39. (5 MARKS) Estimate how many hotdogs are sold at a Blue Jay's world series game in the Rogers Centre Stadium. You don't have to get the same answer as us, but you do have to state all assumptions, demonstrate structured thinking, compute a number, and use appropriate significant figures.

Driving Event #1: Project Manager Training & Development Program

When the Project Management (PM) Training & Development Coordinator (T&DC) began work, there was no existing PMT&DC infrastructure at the Center to draw support from. Additionally, the predominately scientific and engineering community had little interest in PM and did not view it as a professional discipline. The PMT&DC took advantage of the lack of existing structure to be creative in fostering interest in and developing ways to deliver PM training which worked within the Center's culture. This approach, based on a community service philosophy, has resulted in a thriving PMT&D program and has made a significant positive impact on the Center's culture. The strategies used to accomplish this include making and leveraging personal contacts, developing mutually beneficial relationships with other entities interested in training, and being actively involved in training scheduling, enrollment and evaluation.

(From NASA https://llis.nasa.gov/lesson/1418)

40. (4 MARKS) Through analyzing Driving Event #1:

a. What is one Lessons Learned you can derive?

b. What is one Strategy for the Future that you can derive?

This page is intentionally blank.