ELG3311: ELectric Machines and Power Systems

Lab 1: A Linear Machine

Task Description

You are expected to implement a MATLAB program to solve some problems on a linear machine.

1. Familiarize yourself with MATLAB before the lab session. The Online Help provides complete information on its usage and built-in functions.

2. Read Chapter 1 of the text book, especially on the knowledge of the linear machine (Page 36-47).

3. Write a MATLAB program to solve Question (d) in Example 1-10 (Page 43).

    a. Plot the velocity of the bar versus the applied force, assuming the force from 0 N to 50 N in 10-N steps.

    b. Plot the velocity of the bar versus the applied force, assuming the force from 0 N to 100 N in 5-N steps.

Evaluation

1. Each student should work individually and demonstrate results with the TA. The TA will check your code and examine the results.

2. Sign the attendance sheet with the TA after your demo.

3. No report is needed for this lab.

4. An absence will get a zero (except for exceptional circumstances and where the work will be redone at a new date, with permission from the instructor).

5. You may utilize the code provided by the textbook (There are some errors in the program).