ECE356S
Lab 2 Report Format

Cover Page:

- Title and course number
- Names and student numbers
- Lab date
- Submission date

Note:

- Only one report per group
- Both hand-written and typed reports are acceptable
- Do not use a lab book for the report
- The lab report is due 1 week after your lab session

1. Introduction

- Introduction and a **brief** explanation of the lab purpose

2. Lab Preparation

- This must be handed in at the beginning of your lab. One prep per student.

3. Experiment

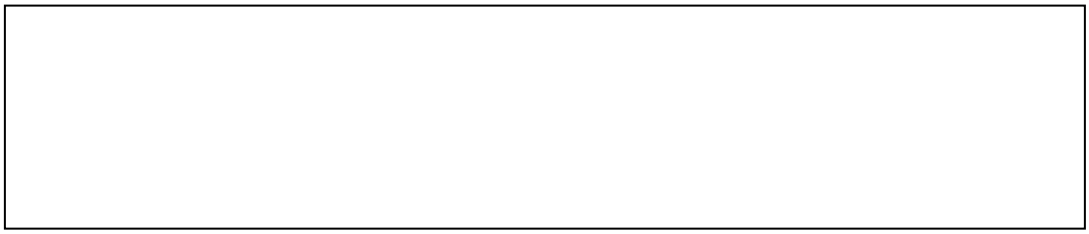
3.1 Building the SIMULINK Model

Write down the two Fcn functions in the space below:

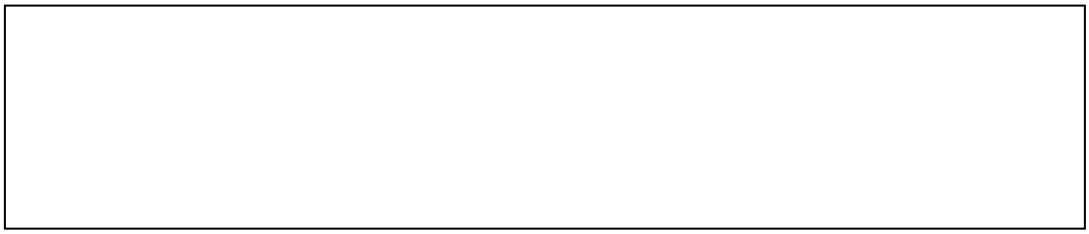
3.2 Linearizing the Model in MATLAB

Write down numerical values of the equilibrium point (x^*, u^*), corresponding to the constant position $y^* = 1$.

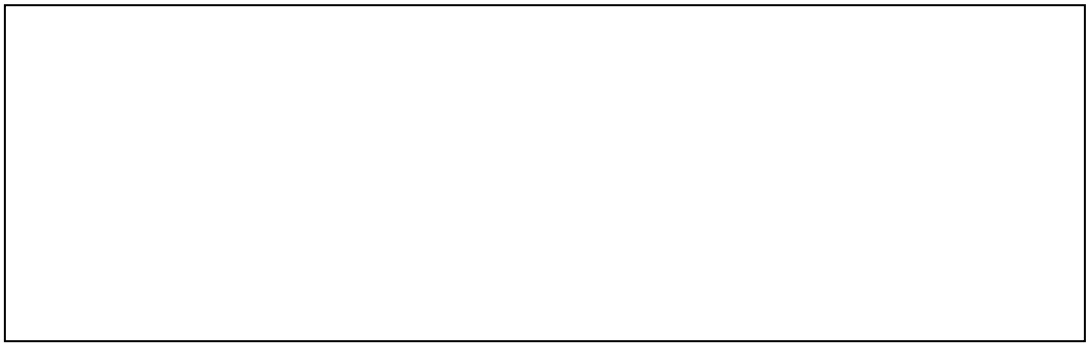
Write down A, B and the eigenvalues of A in the space below. Is the linearized system stable or unstable?



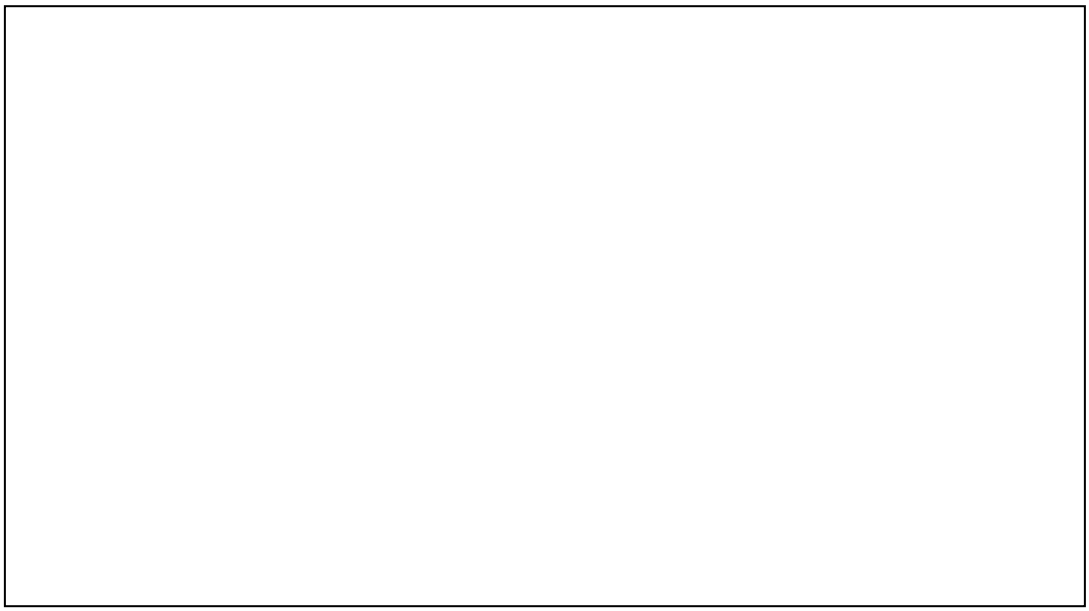
Give the physical intuition behind your fiding that the magnetic levitation system is stable or unstable.



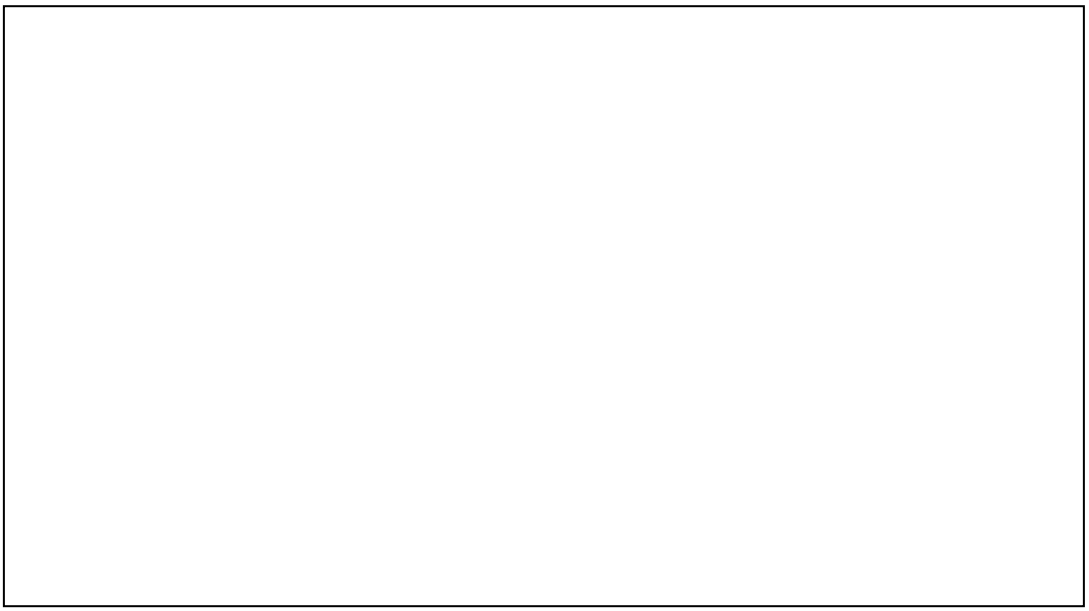
Write down the transfer function G(s) and the pole(s) and zero(s).



Plot the **impulse response** and discuss whether it is the same one you are expected in your prep.



Plot the **step response** by using the second way (Part (b)). Discuss if the result is the same as the one obtained earlier in Part (a).



4. Summary or Conclusion

Any other observations you wish to describe or comment on.