

Reg. # _____ Section _____ Name _____

Department: **Electrical Engineering**

Program: **B.Sc (ELT)**

Assignment 2
ET-343T Control Technology

Announced date: 05/06/2024

Due Date: 12/06/2024

Total Marks = **5**

Marks Obtained =

Teacher Name: **Fawad Shaukat**

Sr. No	Course Learning Outcomes	PLOs	New Blooms Taxonomy
CLO_3	Analysis the stability of Linear Time Invariant systems using stability tools. E.g., Routh Hurwitz Criteria, Bode etc.	PLO_4 Problem Analysis	C4 (Analyzing)

Consider the mechanical system shown in Figure 1. We assume that the system is linear. The external force $u(t)$ is the input to the system, and the displacement $y(t)$ of the mass is the output. The displacement $y(t)$ is measured from the equilibrium position in the absence of the external force. This system is a single-input, single-output system. **Analyze** the system via state variables.

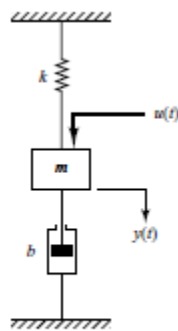


Figure .1 : Mechanical system.