Assignment 1

You are required to determine the components of the output.

(a) Find the transfer function of the system.

(b) Write a MATLAB program to simulate the system's response to a step input.

(c) Plot the response of the system for different values of the gain.

(d) Discuss the stability and performance of the system.

(e) Analyze the effect of noise on the system's output.

(f) Implement a digital controller to improve the system's response.

(g) Evaluate the performance of the controller using MATLAB simulations.

(h) Compare the performance of the controller with the original system.

(i) Discuss the limitations of the controller and suggest possible improvements.

(j) Write a report summarizing your findings and recommendations.

Due on 2023-08-14, 11:59 PM