Lab Report #4:

Simulation of PID Control

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**Course:** SY202 Cyber Systems Engineering

**Enclosures:** (a)Table 1

(b) Table 2

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Metric** | **Weight** | **Quality** | | | | | **Max**  **Score** | **Midn**  **Score** |
| **0** | **1** | **2** | **3** | **4** |
| Use of Lab Template | 1 | No |  | Partially |  | Yes | 4 |  |
| Introduction | 1 | Problem, purpose, and objectives are unclear |  | Problem stated but purpose/objectives unclear |  | Well discussed | 4 |  |
| Results Part B  (Correctness) | 2 | Results are not presented, incomplete, or incorrect |  | Results are partially presented or some are incorrect; missing some required items |  | Results are complete and correct | 8 |  |
| Results Part B (Discussion/Analysis) | 2 | Results are not discussed or poorly discussed |  | Result are discussed, but missed some relevant observations |  | Results are well discussed; short but cohesive | 8 |  |
| Results Part C  (Correctness) | 2 | Results are not presented, incomplete, or incorrect |  | Results are partially presented or some are incorrect; missing some required items |  | Results are complete and correct | 8 |  |
| Results Part C (Discussion/Analysis) | 2 | Results are not discussed or poorly discussed |  | Result are discussed, but missed some relevant observations |  | Results are well discussed; short but cohesive | 8 |  |
| Results Part D  (Correctness) | 2 | Results are not presented, incomplete, or incorrect |  | Results are partially presented or some are incorrect; missing some required items |  | Results are complete and correct | 8 |  |
| Results Part D (Discussion/Analysis) | 2 | Results are not discussed or poorly discussed |  | Result are discussed, but missed some relevant observations |  | Results are well discussed; short but cohesive | 8 |  |
| Conclusions | 1 | Not included or poorly summarize main results |  | Included but inaccurate or vague |  | Included and cohesively summarize results | 4 |  |
| Comments | 1 | Not included |  | Included but not accurate or vague |  | Included and cohesively addressed the results | 4 |  |
| Grammar, organization, & Professionalism | 1 | Poor grammar and use of slang |  |  |  | Professional writing | 4 |  |
| **Total Points** | | | | | | | **68** |  |
| **Normalized Report Score = (Total Point / 68) x 50** | | | | | | **Letter Grade:** | **50** |  |

Instructions: **ERASE instructions that are given in red**.

# Introduction

In brief, describe the purpose and objective of the lab. This section should not be more than 2 paragraphs.

# Results and Discussion

## Part B: Results and Discussion

Discuss your results from Part B. Discuss trends. Draw comparisons among types of controllers. Include Table 1 as enclosure, but make reference to it within the text. There is no need to include plots or figures.

## Part C: Results and Discussion

Discuss your results from Part C. Discuss trends. Draw comparisons among types of controllers and pay attention to how each controller reacts to the disturbance. Include Table 2 as enclosure, but make reference to it within the text. There is no need to include plots or figures.

## Part D: Results and Discussion

Discuss your results from Part D. Include time response specifications (example: %OS, Settling time, and steady-state error) of your controller. Include both plots/figures asked in the guidelines.

# Conclusions

Summarize your results and observations.

# Comments

Summarize any challenges that you overcame. Include what you learned and how the lab can be improved.