

# Assignment Web Similarity Analysis

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## Executive Summary

Overall Web Similarity Score: 30%

**Assessment:** The assignment shows moderate similarity to some online resources, primarily related to the general concept of step response and transfer function analysis. However, the specific application to the DC motor model and the derived equations appear unique to the assignment. There are some common phrases related to control systems which are expected and not indicative of plagiarism.

**Conclusion:** While the assignment uses common terminology found in online resources related to control systems and step response analysis, the core calculations, derivations, and application to the DC motor model appear original. The matches identified are primarily related to standard phrases within the field and do not indicate substantial plagiarism. The assignment demonstrates independent work with appropriate use of common control system concepts.

## Assignment Content (Preview)

EE5351:CONTROL SYSTEM DESIGN ASSIGNMENT 03 NAME : BANDARA LRTD REG.NO : EG/2021/4433  
SEMESTER: 05 DATE 04/11/2024 : Tables of Figures Figure 1: Sample DCMotor Figure 2:Pole zero plot of Splane Figure 3:Step Response of the system Figure 4:Figure of the Simulink system Figure 5:Final Output 3 5 6 9 10 Q1)  
Figure 1: Sample DCMotor Sample Data Set Voltage constant of the motor (kb) - 0.85V/rads-1 Torque constant of the motor (km)...

## Web Sources Analyzed

Source URL	Similarity Score
https://www.chegg.com/homework-help/questions-and-answers/following-figures-show-block-diagram-step-response	52.48%
https://www.youtube.com/watch?v=virn3Nnwb3A	<font color='green'>5.38%</font>
https://www.chegg.com/homework-help/questions-and-answers/32-three-unit-step-responses-shown-figure-q4101010	48.76%
https://www.youtube.com/watch?v=_g-lzZ5e0h0	<font color='green'>6.52%</font>

## Detailed Content Matches

### Match 1 - Similar Content (70%)

**Assignment:** Step Response of the System  
**Source:** https://www.chegg.com/homework-help/questions-and-answers/following-figures-show-block-diagram-step-response-system-r-s-y-s-10k-figure-3-step-respon-q51329205  
**Source Text:** ...show the block diagram and the step response of a system

### Match 2 - Exact Match (90%)

**Assignment:** Step Response of the System  
**Source:** https://www.youtube.com/watch?v=virn3Nnwb3A  
**Source Text:** Step Response of a System

### **Match 3 - Similar Content (60%)**

**Assignment:** Step Response of the system

**Source:** <https://www.chegg.com/homework-help/questions-and-answers/32-three-unit-step-responses-shown-figure-p410-find-transfer-function-system-sections-43-4-q61136295>

**Source Text:** ...unit step responses shown...

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### **Match 4 - Exact Match (100%)**

**Assignment:** Step Response of a transfer function

**Source:** [https://www.youtube.com/watch?v=\\_g-lzZ5e0h0](https://www.youtube.com/watch?v=_g-lzZ5e0h0)

**Source Text:** Step Response of a transfer function

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### **Match 5 - Similar Content (90%)**

**Assignment:** transfer function

**Source:** <https://www.chegg.com/homework-help/questions-and-answers/32-three-unit-step-responses-shown-figure-p410-find-transfer-function-system-sections-43-4-q61136295>

**Source Text:** find the transfer function of the system

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### **Match 6 - Common Knowledge (0%)**

**Assignment:** Pole-Zero Plot

**Source:** <https://www.chegg.com/homework-help/questions-and-answers/following-figures-show-block-diagram-step-response-system-r-s-y-s-10k-figure-3-step-response-q51329205>

**Source Text:** (No mention of Pole-Zero plot)

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# Analysis Methodology

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**Web Similarity Analysis Method:** This report analyzes the similarity between a student assignment and web content using multiple approaches:

1. **Basic similarity analysis** using TF-IDF vectorization and cosine similarity metrics to calculate statistical similarity between texts.
2. **Advanced semantic analysis** using Google's Gemini AI to identify conceptual similarities, common phrases, and potential plagiarism patterns.
3. **Source verification** by analyzing multiple sources to distinguish between common knowledge and unique content.

## Interpretation Guide:

- 0-15%: Very low similarity - Likely original content
- 16-30%: Low similarity - Contains common phrases but largely original
- 31-50%: Moderate similarity - May contain some paraphrased content
- 51-70%: High similarity - Contains substantial similar content
- 71-100%: Very high similarity - Significant portions may be unoriginal

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*Disclaimer: This automated similarity analysis provides an approximation of content similarity against web sources. Results should be interpreted by a human reviewer for context-appropriate assessment. Common knowledge, standard phrases, and coincidental matches may be flagged and require human judgment.*