Question: Before come to the lab, please answer these questions both the...

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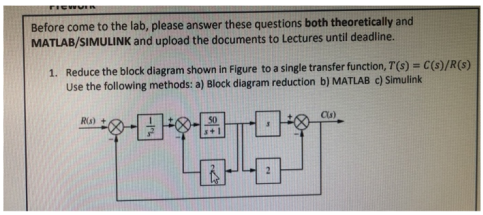

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Expert Answer

Anonymous answered this
56 answers

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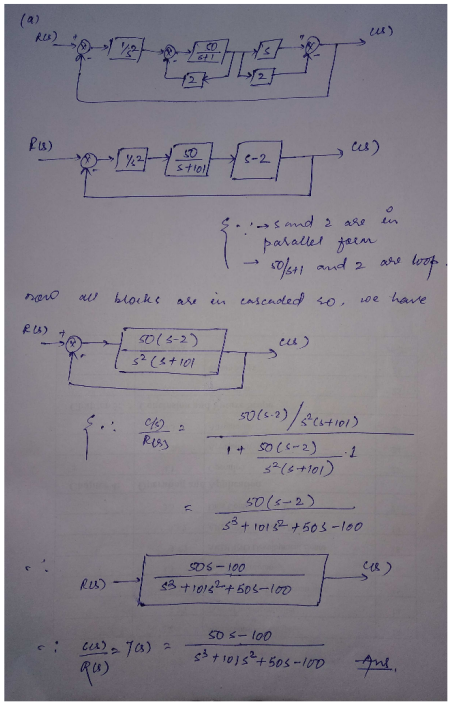

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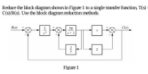
1. (P5.4) Reduce the system shown below to a single transfer function, T(s) = C(s)/R(s)

See answer

1. Reduce the block diagram shown in Figure 1 to a single transfer function, T(S) = C(s)/R(S). Use the block dia...



See answer

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Q: acebook Preworl Before come to the lab, please answer these questions both theoretically and MATLAB/SIMULINK and upload the documents to Lectures until deadline. 1. Reduce the block diagram shown in Figure to a single transfer function, TG) -C()/R(s) Use the following methods: a) Block diagram reduction b) MATLAB c) Simullnk R(a) + +l 2. Consider the mechanical system shown in...

A: See answer

Q: Could you show me how to solve this block diagram, thankyou for helping...

A: See answer 100% (2 ratings)

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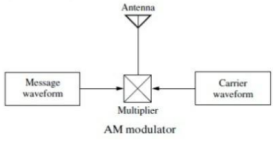
Question: 4. An AM radio modulator generates the product of a carrier wa...

4. An AM radio modulator generates the product of a carrier waveform and a message waveform, as shown in Figure (*Kurland, 1971*). Represent the system in state space if the carrier is a sinusoid of frequency $\omega = a$, and the message is a sinusoid of frequency $\omega = b$. Note that this system is nonlinear because of the multiplier.



AM modulator

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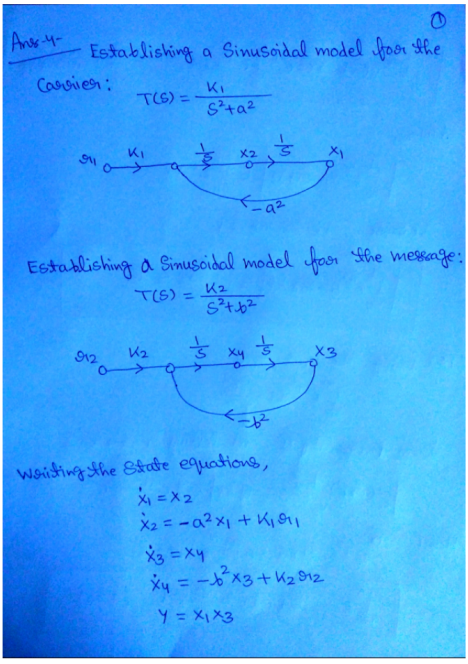
Expert Answer

Rajiv Kumar Anand answered this
2,228 answers

Was this answer helpful? 1 0



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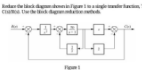
1. (P5.4) Reduce the system shown below to a single transfer function, T(s) = C(s)/R(s)

See answer

1. Reduce the block diagram shown in Figure 1 to a single transfer function, T(s) = C(s)/R(s). Use the block dia...



See answer

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Q: Question 8 (1 point) fc = 15 MHz Maximum = 7.5Vp Amplitude AM MODULATED WAVE Amplitude Minimum = 3Vp Amplitude Time 400us What is the modulation index of the AM waveform? What is the peak to peak Voltage of the Carrier Frequency? What is the Bandwidth of the AM waveform? If this waveform was Q S A & 3 4 5 6 7 8 9 0 Amplitude Minimum = 3Vp Amplitude Time 400us What is the...

A: See answer

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Question: Find the transfer function using the block diagram reduction m...

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8. Given the block diagram of a system shown in Figure P5.8, find the transfer function $G(s) = \theta_{22}(s)/\theta_{11}(s)$. [Section: 5.2]

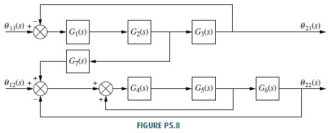

FIGURE P5.8

Find the transfer function using the block diagram reduction method

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Expert Answer

Chandan Kumar answered this
61 answers

Was this answer helpful? 1 0

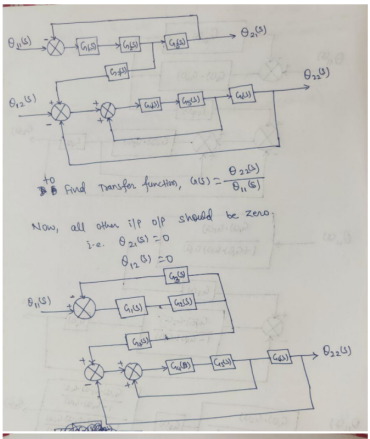
When two systems G1 and G2 are connected in cascade then the resultant will be (G1×G2).

When a closed loop system of G(s) with unity negetive feedback path then the resultant transfer function will be

G(s)/(1+|G(s)|)

And for positive feedback path the transfer function will be

G(s)/(1-|G(s)|)

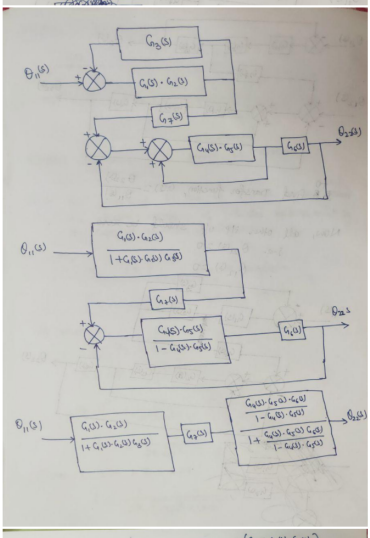


to find transfer function, $G(s) = \frac{\theta_{22}(s)}{\theta_{11}(s)}$

Now, all other i/p o/p should be zero.

i.e. $\theta_{21}(s) = 0$

$\theta_{12}(s) = 0$



$$G(s) = \frac{\theta_{22}(s)}{\theta_{11}(s)} = \frac{G_1(s)\cdot G_2(s)}{1+G_1(s)\cdot G_2(s)\cdot G_6(s)} \cdot G_7(s) \cdot \frac{\left(G_4(s)\cdot G_5(s)\cdot G_7(s)\right)}{1-G_4(s)\cdot G_6(s)\cdot G_7(s)+G_4(s)\cdot G_5(s)\cdot G_7(s)\cdot G_6(s)}$$

$$\Rightarrow G_1(s) = \frac{G_1(s)\cdot G_2(s)\cdot G_4(s)\cdot G_5(s)\cdot G_7(s)\cdot G_7(s)}{\left(1+G_1(s)\cdot G_2(s)\cdot G_6(s)\right)\left(1-G_4(s)\cdot G_6(s)+G_4(s)\cdot G_5(s)\cdot G_7(s)\cdot G_6(s)\right)}$$

thanks

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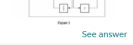
1. Reduce the block diagram shown in Figure 1 to a single transfer function, T(S) = C(S)/R(S). Use the block dia...



See answer

1. (P5.4) Reduce the system shown below to a single transfer function, T(s) = C(s)/R(s)

See answer

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Q: Given the block diagram of a system shown in Figure P5.8, find the transfer function G(s) = theta_22(s)/theta_11(s).

A: See answer 100% (3 ratings)

Q: 8. Given the block diagram of a system shown in Figure P5.8, find the transfer function G(s) = 622(s)/ Ou(s). [Section: 5.2] 5.5 00 (S) = 021(s) -G(s) xx, 0.2 (S) FIGURE P5.8

A: See answer

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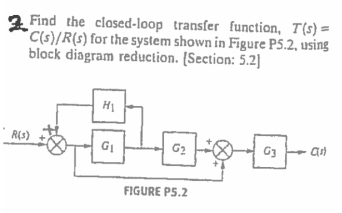
Question: Use block diagram reduction to find the transfer function C(s)/R(s)

Use block diagram reduction to find the transfer function C(s)/R(s)



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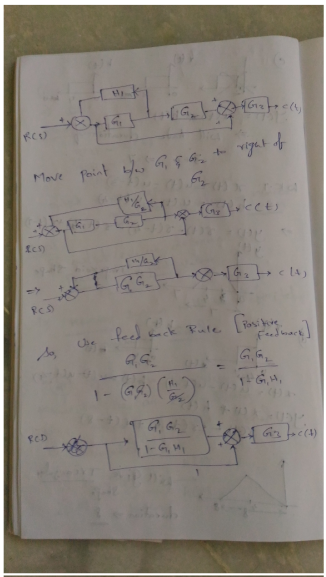
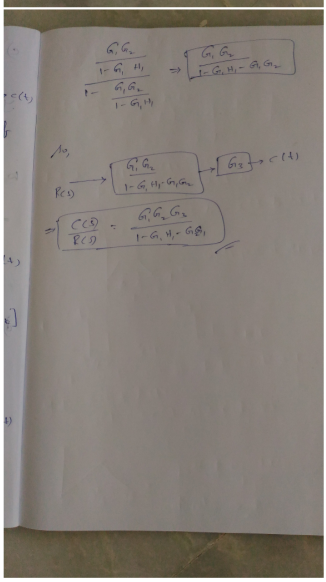
Expert Answer

Anonymous answered this
311 answers

Was this answer helpful? 0 1





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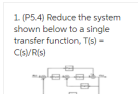
1. (P5.4) Reduce the system shown below to a single transfer function, T(s) = C(s)/R(s)



See answer

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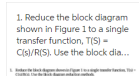

See answer

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Q: Find the closed-loop transfer function, T(s) = C(s)/R(s) for the system shown in Figure P5.2, using block diagram reduction. [Section: 5.2]

A: See answer 100% (8 ratings)

Q: B-5-9. Consider the system shown in Figure 5-76. Deter- mine the value of k such that the damping ratio ζ is 0.5. Then obtain the rise time t, peak time tp, maximum overshoot Mp, and settling time t, in the unit-step response. R(s) C(s) 16 s +0.8 Figure 5-76 Block diagram of a system.

A: See answer

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