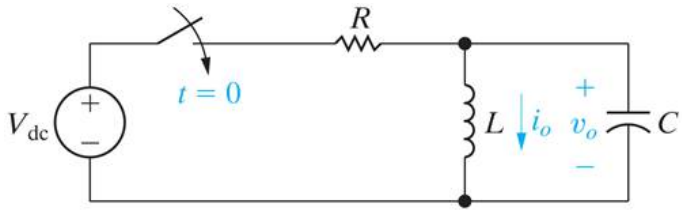
Started on	Monday, 18 February 2019, 7:27 AM
State	Finished
Completed on	Wednesday, 6 March 2019, 11:50 PM
Time taken	16 days 16 hours
Grade	**100.00** out of 100.00

Question 1

Correct

Mark 10.00 out of 10.00



P12.27a_8ed

Find the Laplace transform of the voltage output $V_0(s)$.

There is no energy stored in this circuit for t < 0.

Select one:

a. $V_0(s) = \dfrac{\frac{V_{DC}}{RC}}{s^2 + s\frac{1}{RC} + \frac{1}{LC}}$ ✓

b. $V_0(s) = \dfrac{\frac{V_{DC}}{LC}}{s^2 + s\frac{1}{RC} + \frac{1}{LC}}$

c. $V_0(s) = \dfrac{\frac{V_{DC}}{LC}}{s^2\left[s^2 + s\frac{1}{RC} + \frac{1}{LC}\right]}$

d. $V_0(s) = \dfrac{V_{DC}}{s\left[s^2 + s\frac{1}{RC} + \frac{1}{LC}\right]}$

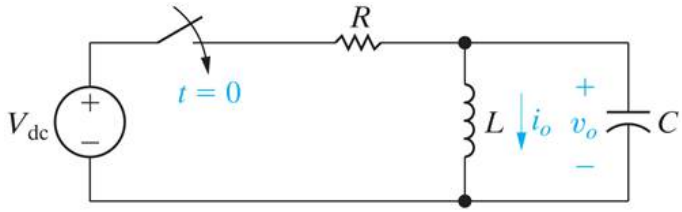
Correct

Marks for this submission: 10.00/10.00.

Question 2

Correct

Mark 10.00 out of 10.00



P12.27b_8ed

Find the Laplace transform of the voltage output $I_0(s)$.

There is no energy stored in this circuit for t < 0.

Select one:

a. $I_0(s)=\dfrac{\frac{V_{DC}}{RLC}}{s\left(s^2+s\frac{1}{RC}+\frac{1}{LC}\right)}$ ✓

b. $I_0(s)=\dfrac{\frac{V_{DC}}{LC}}{s^2+s\frac{1}{RC}+\frac{1}{LC}}$

c. $I_0(s)=\dfrac{\frac{V_{DC}}{LC}}{s^2\left[s^2+s\frac{1}{RC}+\frac{1}{LC}\right]}$

d. $I_0(s)=\dfrac{V_{DC}}{s\left[s^2+s\frac{1}{RC}+\frac{1}{LC}\right]}$

Correct

Marks for this submission: 10.00/10.00.

Question 3

Correct

Mark 10.00 out of 10.00

P12.26d_6ed

Find f(t) for the following F(s) transform.

Given $F(s)=\dfrac{56s^2+112s+5{,}000}{s(s^2+14s+625)}$

Select one:

a. $f(t)=\left[8+50e^{-7t}\cos(24t+16.26^\circ)\right]u(t)$ ✓

b. $f(t)=\left[8+50e^{-7t}\cos(24t+0.284^\circ)\right]u(t)$

c. $f(t)=8\left[1+5e^{-7t}\cos(48t+16.26^\circ)\right]u(t)$

d. $f(t)=\left[18+50e^{-7t}\cos(24t+76.26^\circ)\right]u(t)$

Correct

Marks for this submission: 10.00/10.00.

Question 4

Correct

Mark 10.00 out of 10.00

P12.26a_6ed

Find f(t) for the following F(s) transform.

Given $F(s)=\frac{18s^2+66s+54}{(s+1)(s+2)(s+3)}$

Select one:

a. $f(t)=\left[3e^{-t}+6e^{-2t}+9e^{-3t}\right]u(t)$ ✓

b. $f(t)=\left[3e^{-t}+6e^{-2t}\right]u(t)$

c. $f(t)=\left[6e^{-2t}+9e^{-3t}\right]u(t)$

d. $f(t)=4\left[e^{-t}+2e^{-2t}+3e^{-3t}\right]u(t)$

Correct

Marks for this submission: 10.00/10.00.

Question 5

Correct

Mark 10.00 out of 10.00

P12.29b_6ed

Find f(t) for the following F(s) transform.

Given $F(s)=\frac{5(s+2)^2}{s^4(s+1)}$

Select one:

a. $f(t)=\left[\frac{10}{3}t^3+5t-5+5e^{-t}\right]u(t)$ ✓

b. $f(t)=\frac{10}{3}\left[t^3+5t-5+5e^{-t}\right]u(t)$

c. $f(t)=5\left[\frac{1}{3}t^3+t-1+e^{-t}\right]e^{-t}u(t)$

d. $f(t)=\left[\frac{10}{3}t^3+5t-5\right]e^{-t}u(t)$

Correct

Marks for this submission: 10.00/10.00.

Question 6

Correct

Mark 10.00 out of 10.00

P12.42a_8ed

Find f(t) for the following F(s) transform.

Given $F(s)=\frac{10s^2+85s+95}{s^2+6s+5}$

Select one:

a. $f(t)=10\delta(t)+\left[5e^{-t}+20e^{-5t}\right]u(t)$ ✓

b. $f(t)=2\delta(t)+\left[e^{-t}+2e^{-5t}\right]u(t)$

c. $f(t)=\left[10+5e^{-t}+20e^{-5t}\right]u(t)$

d. $f(t)=5\delta(t)+\left[5e^{-t}+10e^{-5t}\right]u(t)$

Correct

Marks for this submission: 10.00/10.00.

Question 7

Correct

Mark 10.00 out of 10.00

P12.27c_6ed

Find f(t) for the following F(s) transform.

Given $F(s)=\frac{s^3-6s^2+15s+50}{s^2(s^2+4s+5)}$

Select one:

a. $f(t)=\left[-5+10t+10e^{-2t}\cos(t+53.13^\circ)\right]u(t)$ ✓

b. $f(t)=\left[-5+10e^{-2t}\cos(t+53.13^\circ)\right]u(t)$

c. $f(t)=\left[10t+10e^{-2t}\cos(t+53.13^\circ)\right]u(t)$

d. $f(t)=5\left[-1+2t+2e^{-2t}\cos(t+0.927^\circ)\right]u(t)$

Correct

Marks for this submission: 10.00/10.00.

Question 8

Correct

Mark 10.00 out of 10.00

P12.27b_6ed

Find f(t) for the following F(s) transform.

Given $F(s)=\frac{10(3s^2+4s+4)}{s(s+2)^2}$

Select one:

a. $f(t)=\left[10+20e^{-2t}-40te^{-2t}\right]u(t)$ ✓

b. $f(t)=10\left[1+2e^{-4t}-4te^{-4t}\right]u(t)$

c. $f(t)=\left[10+20e^{-20t}-40te^{-20t}\right]u(t)$

d. $f(t)=\left[1+2e^{-2t}-6e^{-2t}\right]u(t)$

Correct

Marks for this submission: 10.00/10.00.

Question 9

Correct

Mark 10.00 out of 10.00

P12.40b_8ed

Find f(t) for the following F(s) transform.

Given $F(s)=\frac{8s^3+89s^2+311s+300}{s(s+2)(s^2+8s+15)}$

Select one:

a. $f(t)=\left[10+5e^{-2t}-8e^{-3t}+e^{-5t}\right]u(t)$ ✓

b. $f(t)=\left[10t+10e^{-2t}-16e^{-3t}+2e^{-5t}\right]u(t)$

c. $f(t)=10\left[t+2e^{-2t}-1.6e^{-3t}+0.2e^{-5t}\right]u(t)$

d. $f(t)=\left[1+5e^{-2t}-12e^{-3t}+e^{-5t}\right]u(t)$

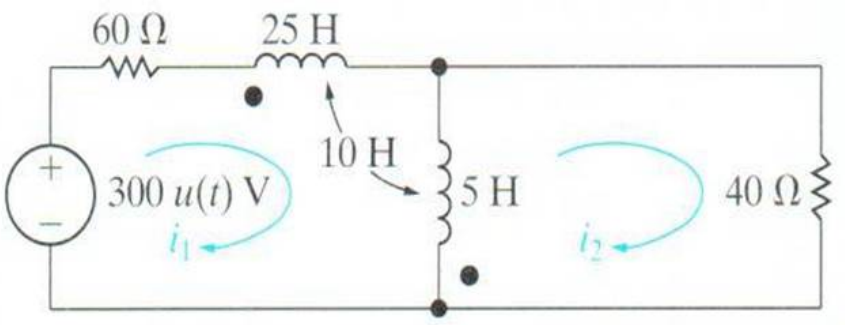
Correct

Marks for this submission: 10.00/10.00.

Question 10

Correct

Mark 10.00 out of 10.00



P12.35_7ed

Find $i_1(t)$ for this circuit.

$i_1(t)$ = 5 ✓ + -3 ✓ exp(-4 ✓ t) + -2 ✓ exp(-24 ✓ t) u(t) A

"exp" = e

For example $i_1(t) = \left[A + Be^{ct} + De^{ft}\right]u(t)A$

Correct

Marks for this submission: 10.00/10.00.

◄ Homework 6 - Chapter 12

Jump to... ▼

Homework 8 - Chapter 12 ►