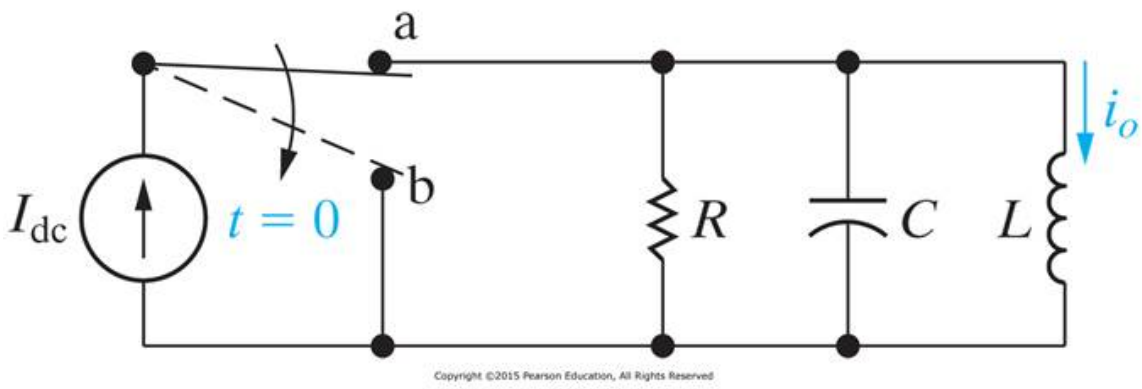
Started on	Monday, 25 February 2019, 9:30 AM
State	Finished
Completed on	Monday, 18 March 2019, 6:19 PM
Time taken	21 days 7 hours
Grade	**100.00** out of 100.00

Question 1

Correct

Mark 20.00 out of 20.00



P12.48_10ed

The switch moves from position a to position b at t = 0.

Given: I_{DC} = 5 Amps

The Laplace Transform of $i_0(t)$ is $I_0(s) = \dfrac{I_{DC}\left[s+\frac{1}{RC}\right]}{s^2+s\frac{1}{RC}+\frac{1}{LC}}$

a) Use the initial-value theorem to find the initial value of $i_0(t = 0^+)$.

$i_0(t = 0^+)$ = 5 ✓ A

b) Use the final-value theorem to find the final value of $i_0(t \to \infty)$. (∞ is infinity)

$i_0(t \to \infty)$ = 0 ✓ A

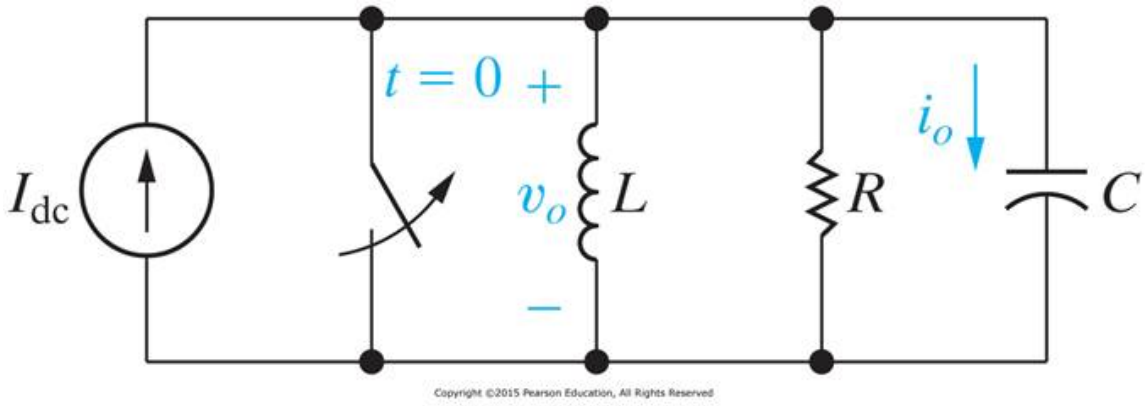
Correct

Marks for this submission: 20.00/20.00.

Question 2

Correct

Mark 20.00 out of 20.00



P12.47_10ed

Given: $I_{DC} = 3$ Amps

The Laplace Transform of $v_0(t)$ and $i_0(t)$ are

$$V_0(s) = \frac{\frac{I_{DC}}{C}}{s^2 + s\frac{1}{RC} + \frac{1}{LC}}$$

$$I_0(s) = \frac{sI_{DC}}{s^2 + s\frac{1}{RC} + \frac{1}{LC}}$$

a) Use the initial-value theorem to find the initial value of $v_0(t = 0^+)$.

$v_0(t = 0^+) =$ 0 ✓ V

b) Use the final-value theorem to find the final value of $v_0(t = \infty)$. (∞ is infinity)

$v_0(t = \infty) =$ 0 ✓ V

c) Use the initial-value theorem to find the initial value of $i_0(t = 0^+)$.

$i_0(t = 0^+) =$ 3 ✓ A

d) Use the final-value theorem to find the final value of $i_0(t = \infty)$. (∞ is infinity)

$i_0(t = \infty) =$ 0 ✓ A

Correct

Marks for this submission: 20.00/20.00.

Question 3

Correct

Mark 20.00 out of 20.00

P12.47b_8ed

Given $F(s) = \frac{8s^3+89s^2+311s+300}{s(s+2)(s+3)(s+5)}$

a) Find the initial value of f(t) for this F(s).

f(t=0$^-$) = 8 ✓

b) Find the final value of f(t) for this F(s).

f(t -> ∞) = 10 ✓

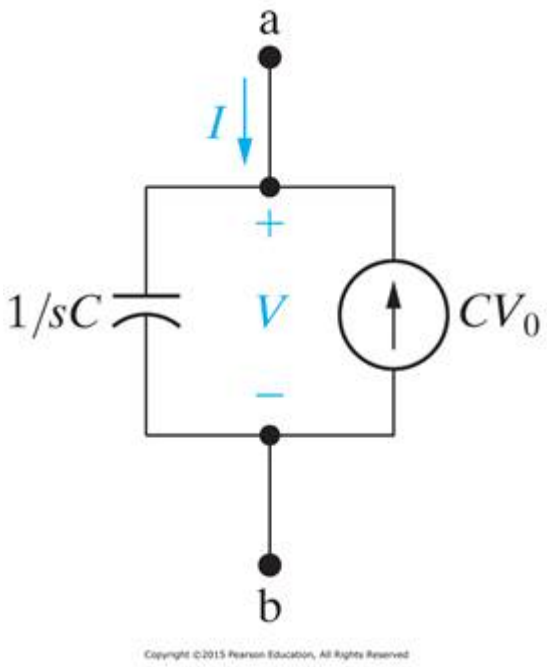
Correct

Marks for this submission: 20.00/20.00.

Question 4

Correct

Mark 20.00 out of 20.00



P13.02_10ed

Find the Thévenin Equivalent of this circuit.

Select one:

- a. $V_{Th} = V_{ab} = V_0/s$ $Z_{Th} = 1/(sC)$ ✓
- b. $V_{Th} = V_{ab} = V_0/s$ $Z_{Th} = sC$
- c. $V_{Th} = V_{ab} = V_0$ $Z_{Th} = sC$
- d. $V_{Th} = V_{ab} = 1/s$ $Z_{Th} = V_0/(sC)$

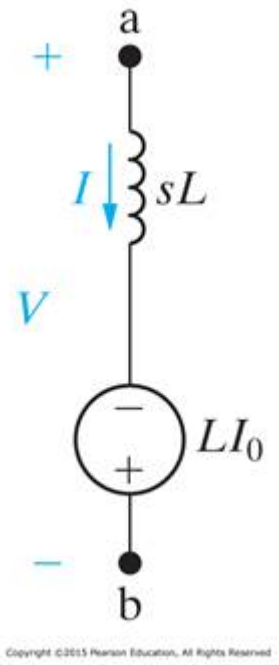
Correct

Marks for this submission: 20.00/20.00.

Question 5

Correct

Mark 20.00 out of 20.00



P13.03_10ed

Find the Norton Equivalent of this circuit.

Select one:

- a. $I_N = I_{ab} = -I_0/s$ $Z_{Th} = sL$ ✓
- b. $I_N = I_{ab} = I_0/s$ $Z_{Th} = sL$
- c. $I_N = I_{ab} = -I_0$ $Z_{Th} = sL$
- d. $I_N = I_{ab} = -I_0/s$ $Z_{Th} = 1/(sL)$

Correct

Marks for this submission: 20.00/20.00.

◄ Homework 7 - Chapter 12

Jump to... ▼

Homework 9 - Chapter 13 ►