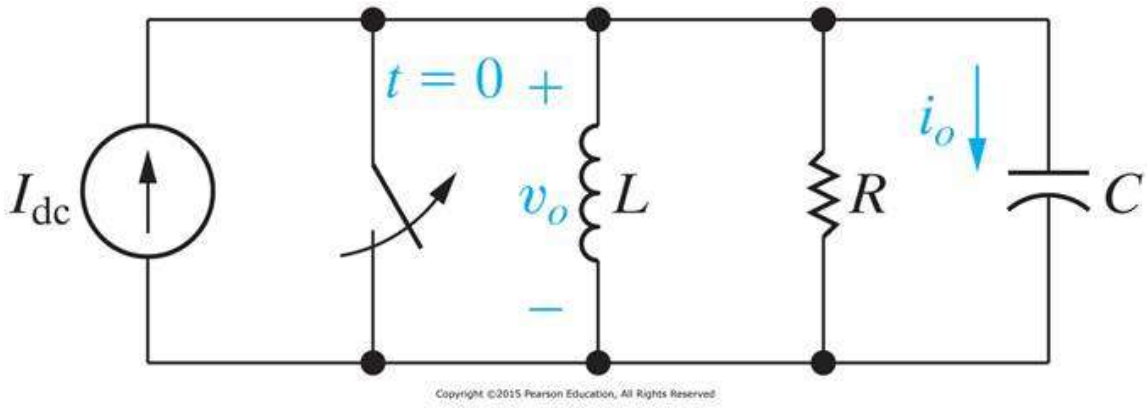
Started on	Tuesday, 21 March 2017, 1:32 PM
State	Finished
Completed on	Tuesday, 21 March 2017, 1:32 PM
Time taken	8 secs
Grade	**100.00** out of 100.00

Question 1

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

a) $v_0(t = 0^+) = 0$ V

b) $v_0(t = \infty) = 0$ V

c) $i_0(t = 0^+) = 3$ A

d) $i_0(t = \infty) = 0$ A

Correct

Marks for this submission: 20.00/20.00.

Question 2

Correct

Mark 20.00 out of 20.00

P12.47a_8ed

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

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

f(t=0$^-$) = 18

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

f(t -> ∞) = 0

a) f(t=0$^-$) = 18

b) f(t -> ∞) = 0

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

a) f(t=0$^-$) = 8

b) f(t -> ∞) = 10

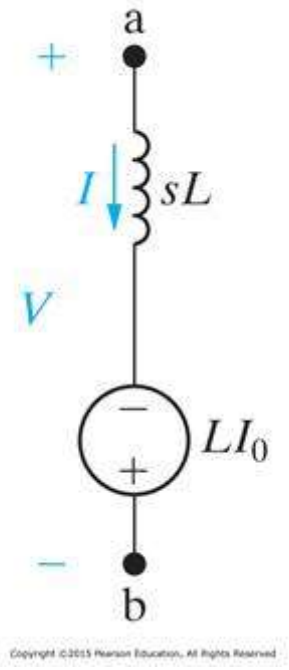
Correct

Marks for this submission: 20.00/20.00.

Question 4

Correct

Mark 20.00 out of 20.00



P13.03_10ed

Find the Norton Equivalent of this circuit.

Select one:

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

Your answer is correct.

Correct Answer

$I_N = I_{ab} = -I_0/s \quad Z_{Th} = sL$

The correct answer is: $I_N = I_{ab} = -I_0/s \quad Z_{Th} = sL$

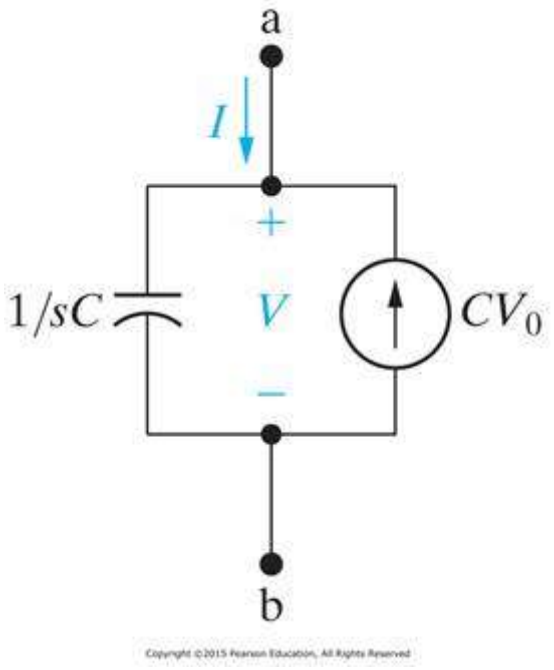
Correct

Marks for this submission: 20.00/20.00.

Question 5

Correct

Mark 20.00 out of 20.00



P13.02_10ed

Find the Thévenin Equivalent of this circuit.

Select one:

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

Your answer is correct.

Correct Answer

$V_{Th} = V_{ab} = V_0/s$ $Z_{Th} = 1/(sC)$

The correct answer is: $V_{Th} = V_{ab} = V_0/s$ $Z_{Th} = 1/(sC)$

Correct

Marks for this submission: 20.00/20.00.