Module 5 Quiz
Graded Quiz • 30 min

Due Apr 20, 12:29 PM IST

✓ **Congratulations! You passed!**
TO PASS 70% or higher

Keep Learning

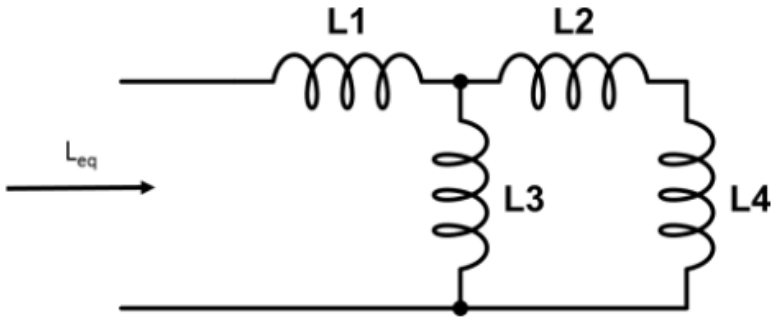
GRADE
100%

Module 5 Quiz

LATEST SUBMISSION GRADE
100%

1. What is the equivalent inductance for the following circuit if $L_1 = L_2 = L_3 = L_4 = 5mH$? Give your answer in **mH**, without entering the units.

1 / 1 point



8.33

✓ Correct

2. What is the equivalent capacitance for the following circuit if $C_1 = C_2 = C_3 = 10pF$? Give your answer in **pF**, without entering the units.

1 / 1 point

C1

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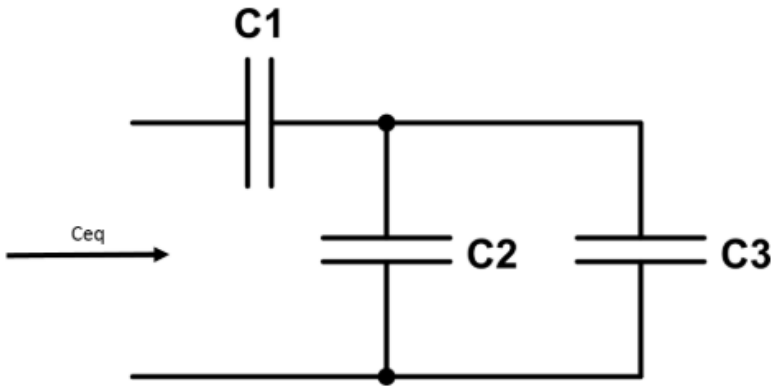
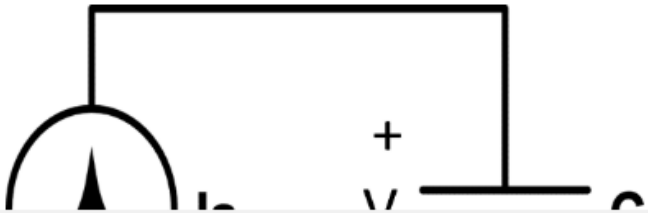
2. What is the equivalent capacitance for the following circuit if $C_1 = C_2 = C_3 = 10pF$? Give your answer in **pF**, without entering the units. 1 / 1 point



6.66

Correct

3. What is $V_c(t)$ at t = 5 seconds if $I_s = 4mA, C = 20mF$ and $V_c(0) = 0V$? Give your answer in **V**, without entering the units. 1 / 1 point



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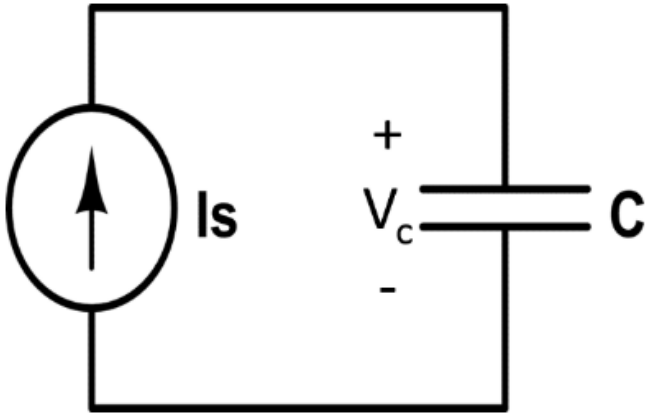
3. What is $V_c(t)$ at t = 5 seconds if $I_s = 4mA, C = 20mF$ and $V_c(0) = 0V$? Give your answer in **V**, without entering the units. **1 / 1 point**



1

Correct

4. What is $V_L(t)$ at t = 5 seconds if $I_s = -t^2 A$ and $L = 2mH$? Give your answer in **mV**, without entering the units. **1 / 1 point**

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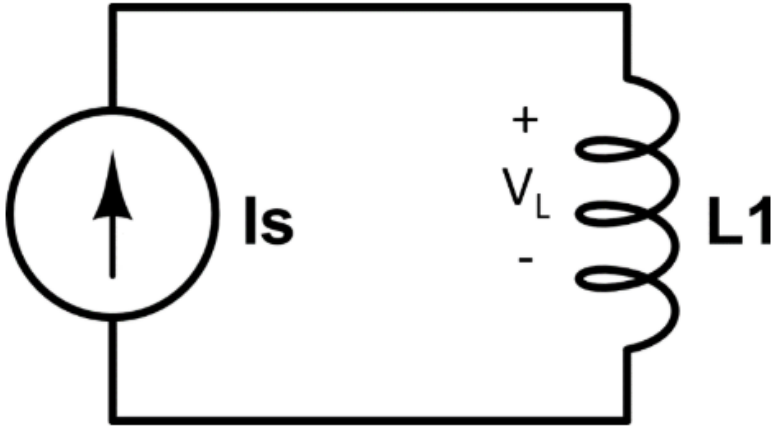
4. What is $V_L(t)$ at t = 5 seconds if $I_s = -t^2 A$ and $L = 2mH$? Give your answer in **mV**, without entering the units. **1 / 1 point**



-20

Correct

5. Suppose the following voltage is applied across the terminals of a $5\mu F$ capacitor. What is the current through the capacitor at time t = 5 sec? Give your answer in μA, without entering the units. **1 / 1 point**

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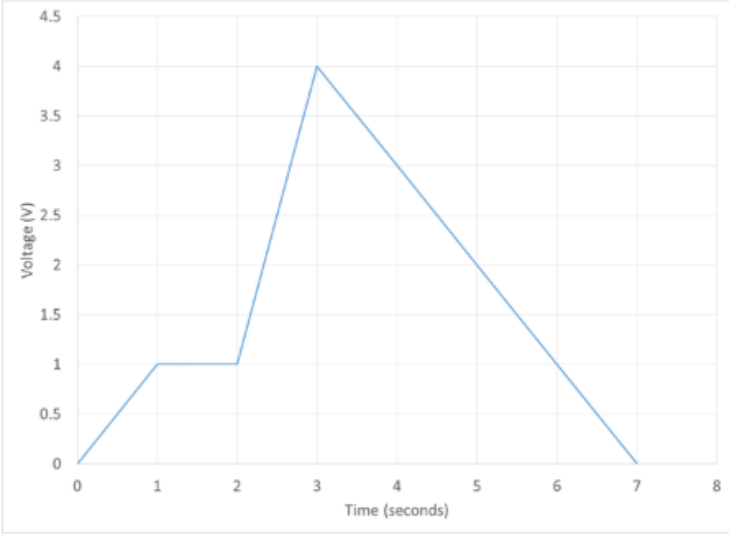
5. Suppose the following voltage is applied across the terminals of a $5\mu F$ capacitor. What is the current through the capacitor at time t = 5 sec? Give your answer in μA, without entering the units.

1 / 1 point



-5

Correct

6. Suppose that a 10mF capacitor has a constant current of I(t) = 2mA flowing through it.

1 / 1 point

Assuming the capacitor starts with no initial voltage across it, $V_c(0) = 0$, what is the the voltage across the capacitor at t=6 seconds?

- 0.012V

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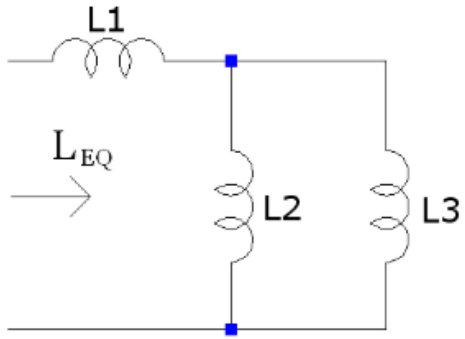
6. Suppose that a 10mF capacitor has a constant current of I(t) = 2mA flowing through it. 1 / 1 point

Assuming the capacitor starts with no initial voltage across it, $V_c(0) = 0$, what is the the voltage across the capacitor at t=6 seconds?

- 0.012V
- 1.2V
- 0V
- -5V

Correct

7. What is the equivalent inductance for the following circuit if $L_1 = 10mH, L_2 = 20mH, L_3 = 20mH$? 1 / 1 point



Give your answer in **mH**, without entering the units.

20

Correct

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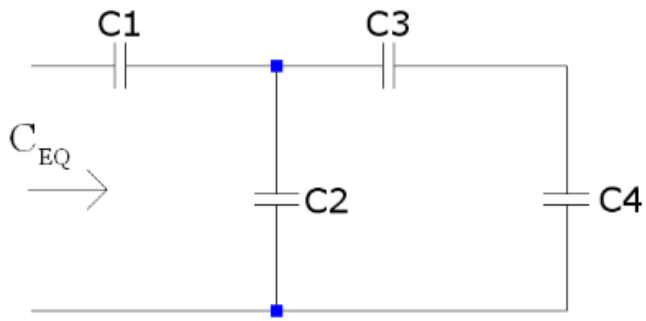
8. What is the equivalent capacitance for the following circuit if $C_1 = 5pF, C_2 = 10pF, C_3 = 20pF, C_4 = 20pF$?

1 / 1 point



Give your answer in **pF**, without entering the units.

4

Correct

9. Suppose the following voltage is applied across the terminals of a $1\mu F$ capacitor.

1 / 1 point

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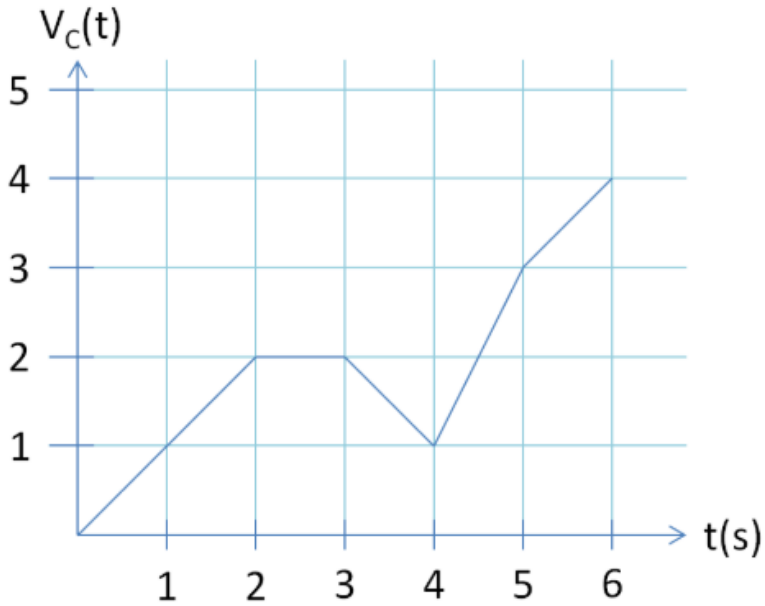
9. Suppose the following voltage is applied across the terminals of a $1\mu F$ capacitor. 1 / 1 point



What is the current through the capacitor at time t = 4.5 sec? Give your answer in μA, without entering the units.

2

Correct

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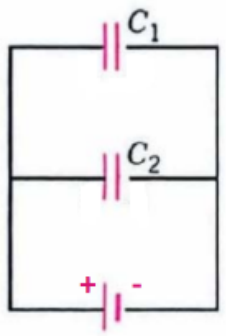
10. Consider the following circuit composed of two capacitors, $C_1 = 5\mu F$ and $C_2 = 3\mu F$, in parallel with a constant $12V$ DC source. 1 / 1 point



Find the voltages V_1 and V_2 across each of the capacitors C_1 and C_2 respectively.

Enter the value of V_1 below in Volts.

12

Correct

11. Enter the value of V_2 below in Volts. 1 / 1 point

12

Correct

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12. Find the charges q_1 and q_2 of C_1 and C_2 respectively. 1 / 1 point

Enter the value of q_1 below in μC.

60

Correct

13. Enter the value of q_2 below in μC. 1 / 1 point

36

Correct

14. Find the energies W_1 and W_2 stored in the capacitors C_1 and C_2 respectively. 1 / 1 point

Enter the value of W_1 below in μJ.

360

Correct

15. Enter the value of W_2 below in μJ. 1 / 1 point

216

Correct