No energy stored after the switch is closed

What happens when a battery switch is closed?
My physics teacher said that the answer is B, and explained that after the switch is closed the electrons on the right side of the capacitor will move to the other side of the capacitor, and this current will cancel some of the current coming out of the battery, thus reducing the total energy stored in the capacitor.

Why is the current zero after a switch is closed?
The reason is that there is inductancein the circuit as it is a loop of wire but of a very small value but significant value just after the switch is closed. The component that ensures the current is zero just after the switch is closed is the inductor.

Why does the current not rise immediately after a switch is closed?
The current will not instantly rises to a maximum value. This is due to the presence of inductance and capacitancein the circuit. This is why we say,unlike in the resistive circuit,in an LCR circuit,the current will be zero,just immediate after the switch is closed.

Which component ensures the current is zero after a switch is closed?
The component that ensures the current is zero just after the switch is closed is the inductor. Inductors do not like changes in current,since a change in current means the magnetic field linking the inductor is changing and this generates a back emf that opposes the change.

What happens after switch S1 is closed?
Immediately after the switch S1 is closed: After current through the right resistor immediately after switch 2 is closed? IR = 0 B. IR = V/3R A circuit is wired up as shown below. The capacitor is initially uncharged and switches S1 Now very long time? VC = 0 The capacitor will become fully charged after a long time.

What happens when a switch is closed?
There are a number of simplistic ways of considering what might happen: Before the switch is closed the average velocity/momentum of the mobile electrons in the circuit is zero. The switch is closed and almost instantaneously there is a net electric field set up in the circuit. That electric field exerts a finite force on the mobile electrons.

The capacitors are all initially uncharged, and the switch is in the open position. The switch is then closed. Calculate the total energy stored in the circuit a long time after the switch is closed.

Immediately after the switch S 1 is closed: Q is same as immediately before After the switch S 1 has been closed for a long time I C 0 Electricity & Magnetism Lecture 11, Slide 9 A circuit is wired up as shown below. The capacitor is initially uncharged and switches S1 and S2 are initially open. V C 2R R S1 S2 Close S

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In the circuit, the capacitors are all initially uncharged and the battery has no appreciable internal resistance. After the switch S is closed, find (a) the maximum charge on each capacitor, (b) the maximum potential difference across each capacitor, (c) the maximum reading of the ammeter A, and (d) the time constant for the circuit.

What is the energy stored in the inductor after 4 s ?a. 3.48 Jb. 2.20 Jc. 8.17 Problem 1 4 : Problem Two resistors, and { : R 2 = 2 O) and an inductor (L = 9 . 3 H) are connected to a battery (V = 3 V) through a switch as shown in the figure

(1) In the circuit shown, before the switch is closed at time t = 0, no energy was stored either in the capacitor nor in the inductor. Immediately after closing the switch, the current in the 3-ohm resistor is given by: 3 10 mH 12 V 1 uF 20 (a) 2.4 A (b) 4.0 A (COA (d) 10.0 A (2) For the circuit shown, the expression for the current in the 50 mF capacitor for time t greater than zero is ...

Problem 7.71 There is no energy stored in the circuit at the time the switch is closed. Figure 1) Figure 1 1of1 20O + / 5H sov 35H 80 V 10 H Not the question you"re looking for?

13.32 There is no energy stored in the capacitors in thecircuit in Fig. P13.32 at the time the switch is closed.as-domain circuit for t>0.bI1,V1, and V2.ci1,v1, and v2.di1,v1, and v2 make sense interms of known circuit behavior? Explain gure P13.32

19.7 Energy Stored in Capacitors; Glossary; Section Summary; Conceptual Questions; ... In the first period of time t = L / R t = L / R after the switch is closed, ... Find the current 5.00 ms after the switch is moved to position 2 to disconnect the battery, if it is initially 10.0 A.

With the switch in the circuit of Figure 28.4a closed, there is no current in R2 because the current has an alternate zero-resistance path through the switch. There is current in R1, and this current is measured with the ammeter (a device for measuring current) at the bottom of the circuit. If the switch is opened (Fig. 28.4b), there is current in R2. . What happens to the reading on the ...

There is no energy stored in the capacitors in the circuit at the time the switch is closed. a) Construct the s-domain circuit for t>0. b) Find I 1, V 1 I_1, V_1 I 1, V 1, and V 2 V_2 V 2 .

MULTISIM 13.31 There is no energy stored in the capacitors in the PSPICE circuit in Fig. P13.31 at the time the switch is closed. a) Construct the s-domain circuit for t > 0. b) Find 11, V1, and V2. c) Find i1, v1, and v2. d) Do your answers for i1, V1, and Oy make sense in terms of known circuit behavior? Explain.

Question: Find the energy stored in the capacitor after the switch has been closed for 8t. Assume that the

No energy stored after the switch is closed

initial capacitor voltage is zero. t=0 L= 1 H Ans: W= 125W lxC R2= 5O 0VC v. Show transcribed image text

Question: 13.32 There is no energy stored in the capacitors in the circuit in Fig. P13.32 at the time the switch is closed. a. Construct the s-domain circuit for t>0. b. Find I1,V1, and V2. c. Find i1,v1, and v2. d. Do your answers for i1,v1, and v2 make sense in terms of known circuit behavior? Explain. Figure P13.32

After the switch in the figure has been closed for a long time, the energy stored in the inductor is 0.150 J. what is the value of the resistance R . the image is the same as the one provided in this link:

Problem 3: DC Analysis (10 points) For the circuit in Figure 2, determine the stored energy after the switch is closed and steady-state conditions are reached, assuming there is no stored ...

The switch in the circuit shown below has been open for a long time. We assume no energy stored in the inductor before t=0. At t = 0 the switch is closed. Find: a) What is the voltage across the capacitor at t=0-, just before closing the switch? And at t=0+, just after closing the switch?

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