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BSCS 1

Grading Question 1: A 0.63 MF Capacitor Is Connected To A 3.0 V Battery. How Much Energy Is Stored In The Capacitor?

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Attempt number 2 for Aleksander Posielski

Question 1
Complete
Marked out of 10.00

A 0.63 μF capacitor is connected to a 3.0 V battery. How much energy is stored in the capacitor?

~~To solve this problem we need to use the formula U_e=qV. This says that the potential electrical energy can be calculated my multiplying the capacitance and the electric potential. The unit for electric potential is volts and the problem gives it to us as 3.0 V. The unit for capacitance is farads but the problem gave us μF. In order to converty to farads we must multiple by 10^-6. After this conversion the capacitance is $6.3x10^{-7}$ farads. Since we now have these values in standard units, we can multiply them to find the stored energy. $6.3x10^{-7}$ x 3 = $1.89 x10^{-6}$. Since we calculated for energy the unit is Joules. The energy stored in the capacitor is $1.89 x10^{-6}$ J. I believe we did a similar problem in class as an exmaple during lecture. From that experience I know that it is possible to find how much energy is stored in a capacitor if I have the capacitance and the voltage. This can be applied to something like a capacitor hooked up to a car battery or in portable electronics such as a camera flash bulb.~~

In this problem we are given the capacitance and the voltage and asked to find the stored energy. Looking throught my forumla sheet the U=1/2*CV^2 will allow me to find the stored energy from the capacitance and the voltage. The capacitance is given to us as 0.63 μF, converted to farads this is 6.3x10^-7 F. The voltage is 3.0 V. The next step is to plug it into the formula for stored energy. After multiplying everything out we get 2.835x10^-6 J as the energy stored in the capacitor. If we use significant figures the capacitor has a stored energy of $2.8x10^{-6}$ J. This is similar to a problem that was conducted during a lecture where we had the capacitance and voltage and had to find the stored energy. This can be applied to a situation like a capacitor hooked up to a car battery or in portable electronics such as a camera flash bulb. A camera flash bulb is connected to a battery and a capacitor stores energy until it needs to be released when taking a picture. This problem can be applied to a situation involving a car battery or camera flash bulb.

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Attempt number 1 for Aleksander Posielski

Question 1
Complete
Mark 3.75 out of 10.00

A 0.63 μF capacitor is connected to a 3.0 V battery. How much energy is stored in the capacitor?

To solve this problem we need to use the formula U_e=qV. This says that the potential electrical energy can be calculated my multiplying the capacitance and the electric potential. The unit for electric potential is volts and the problem gives it to us as 3.0 V. The unit for capacitance is farads but the problem gave us μF. In order to converty to farads we must multiple by 10^-6. After this conversion the capacitance is $6.3x10^{-7}$ farads. Since we now have these values in standard units, we can multiply them to find the stored energy. $6.3x10^{-7}$ x 3 = $1.89 x10^{-6}$. Since we calculated for energy the unit is Joules. The energy stored in the capacitor is $1.89 x10^{-6}$ J. I believe we did a similar problem in class as an exmaple during lecture. From that experience I know that it is possible to find how much energy is stored in a capacitor if I have the capacitance and the voltage. This can be applied to something like a capacitor hooked up to a car battery or in portable electronics such as a camera flash bulb.

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made that need correction on your part. Your one-note book is the best reference for this. As I pointed out in class, it is important that you in reality compare and write a complete and thorough set of notes with your study team. If you wait until the evening before
Path:
Mark: 3.75 out of 10.00

Attempt number 1 for Anny Joyce La Torre

Question 1
Complete
Mark 3.75 out of 10.00

A 0.63 μF capacitor is connected to a 3.0 V battery. How much energy is stored in the capacitor?

Given:
Q = 0.63μF
V = 3