Power supply and capacitor discharge simultaneously

Why is a power supply charging a capacitor?
If the power supply is charging the capacitor, the capacitor is not supplying power to the load simultaneously. Instead, the power supply is supplying power to both the load and the capacitor simultaneously. From a real world perspective this is incorrect, and your mistake may be in terminology. This is not charging vs discharging.

Is a capacitor charging or discharging?
No, the charge on a capacitor is increasing (charging), decreasing (discharging) or remaining the same. There are no other possible states (assuming an ideal capacitor with no leakage). When the capacitor is charging or discharging, there is a potential difference between the two terminals and apparent current flow.

What happens when a capacitor is fully discharged?
As charge flows from one plate to the other through the resistor the charge is neutralised and so the current falls and the rate of decrease of potential difference also falls. Eventually the charge on the plates is zeroand the current and potential difference are also zero - the capacitor is fully discharged.

Can a capacitor be charged at the same time?
Hash - for the purposes of your circuit, if you are supplying power and supplying power to a load, as long as your supply is greater than that load, then you can be charging the capacitor at the same time. This is why I say Alfred's answer is academically correct, but not necessarily useful in reality.

How do we charge and discharge a capacitor?
The only way we can charge and discharge is one by one. This technique is widely used in camera flashes where a large capacitor (in capacity,not in size) is charged and then shorted to make a burst/flash of charge. As soon as the capacitor charges it gets out of the circuit!

How does a capacitor charge a battery?
The capacitor will discharge into the battery,the rate depending on the internal resistance of the battery plus the 10K resistor. With secondary cells it will just charge the battery a bit. If your source is actually a bench power supply then the result depends upon the design of the supply. There are three possibilities I can think of.

power (< 1 W) power supplies e.g. needed for Smart devices like light switches or power meters and ambient sensors (temperature, light) for smart home applications. The critical design ...

There are several reasons why a modeller may choose to use a CDU (Capacitor Discharge Unit) to provide power to their point motors, but essentially, it is because they want more "oomph". ...

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The rate at which a capacitor can be charged or discharged depends on: (a) the capacitance of the capacitor) and (b) the resistance of the circuit through which it is being charged or is discharging. This fact makes the capacitor a very useful ...

I"ve done some research, and from what I can tell, the best way to get the most power out of them is to wire them all in parallel. But yet I can"t find a buck converter that can ...

If at time t_0, the voltage across an unconnected capacitor is V_0, then the capacitor will charge if an externally applied voltage $V_B > V_0$ in a circuit or will discharge if $V_B < ...

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Capacitor - Charging and discharging 136230-EN p. 2/4 Procedure 1 - Discharging We will first study the discharging of the capacitor, as this is the simplest to analyse. Turn the power ...

In summary, when two RC circuits are placed in parallel, the capacitors in each branch charge and discharge simultaneously. This is commonly seen in circuits, such as in ...

The capacitor will discharge into the battery, the rate depending on the internal resistance of the battery plus the 10K resistor. With secondary cells it will just charge the ...

If at time t_0, the voltage across an unconnected capacitor is V_0, then the capacitor will charge if an externally applied voltage $V_B > V_0$ in a circuit or will discharge if $V_B < V_0$. One can"t do both at the same time.

Hold the capacitor securely at its base with one hand while using the other hand to hold the screwdriver. Touch the metal part of the screwdriver to the capacitor"s ...

If the power supply is charging the capacitor, the capacitor is not supplying power to the load simultaneously. Instead, the power supply is supplying power to both the ...

If you get a meter with a "LoZ" function, that can discharge the cap and can also simultaneously show you directly on the display that you have successfully discharged the capacitor, and it"s ...

Connect the voltmeter directly to the power supply and check that the voltage is precisely as before (U0). If not: Adjust it. By now, the capacitor is almost completely discharged. To ...

When a capacitor discharges, it does not lose its charge at a constant rate and the voltage across the capacitor plates is equal to that of the power supply. The discharge rate ...

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When I switch on the battery but also simultaneously switch on the switch to the resistor across P, does P discharge (even though its connected to both the power supply and ...

Photovoltaic power generation systems generally include four modules: solar cells, batteries, inverters and controllers. Among them, the inverter converts the direct current generated by ...

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