Answer on Question #47123, Physics, Electric Circuits

One plate of the capacitor has positive charge "q" on it. The other plate of capacitor is earthed, what is the charge on it?

Solution:

Say we have a large plate and we give a positive charge q to it. There is a limit to the amount of charge that can be given to the plate because as charge is given its potential rises and beyond a certain limit the charges start leaking.

If we get another plate and place it next to this positively charged plate then negative charge "-q" will pulled towards the side of this plate which is closer to the positively charged plate and positive charge on the further side.

Now if we earth the outer side of the second plate. Then the positive charge on this side will go to Earth. The charge plate of the second of capacitor will remain "-q".

Answer: The other plate of capacitor has charge "-q".