Task:

The defibrillator capacitor discharges in 11 ms. How much current does it send through the heart?

As shown below

Solution:

Capacitance is determined by formula:

$$C = \frac{q}{U}$$

Current is determined by formula:

$$I = \frac{q}{t}$$

Now, we have:

$$q = C \cdot U$$

And we can find current through the heart:

$$I = \frac{q}{t} = \frac{C \cdot U}{t},$$

where C – capacitance of the capacitor, U – voltage on the capacitor.