Given: A network containing a battery $\mathcal{E}$, and capacitor $C$, and resistor $R$ and an inductor $L$.

Denote the angular frequency of the "LC" circuit by $\omega = \frac{1}{\sqrt{LC}}$.

The switch $S$ is left at position $a$ for a long period of time. The switch $S$ is then moved from position $a$ to $b$ at $t = 0$.

Find the sign of $Q_{\text{right}}$, the charge on the right-hand plate of the capacitor $C$ and the current direction in the "LC"-loop at the time $t = \frac{3}{8} T$.

A) Sign of $Q_{\text{right}}$ is $-$ and current is clockwise.
B) Sign of $Q_{\text{right}}$ is $-$ and current is counter-clockwise.
C) Sign of $Q_{\text{right}}$ is $+$ and current is clockwise.
D) Sign of $Q_{\text{right}}$ is $+$ and current is counter-clockwise.
At $t = \frac{1}{4} T$, $i = 0$ and $Q_{right} = +$. Immediately after that \( i.e., t = \frac{3}{8} T \)

the sign of $I$ is reversed and $Q_{right}$ remains positive.

Answer C.