

14.2 Given the network in Fig. P14.2, determine the value of the output voltage as $t \rightarrow \infty$.

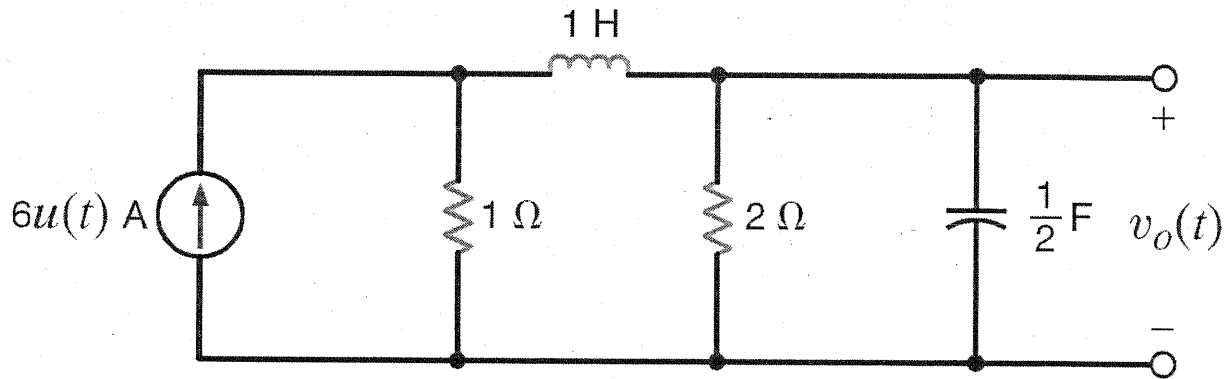


Figure P14.2

SOLUTION:

Since input is dc for $t > 0$, all voltages & currents will eventually become dc as well, thus $v_L \rightarrow 0$ & $i_C \rightarrow 0$ as $t \rightarrow \infty$.

$$v_o(\infty) = \frac{6 \left((1)(2) \right)}{1 + 2} = \frac{6(2)}{3} = 4$$

$$\boxed{v_o(\infty) = 4\text{ V}}$$