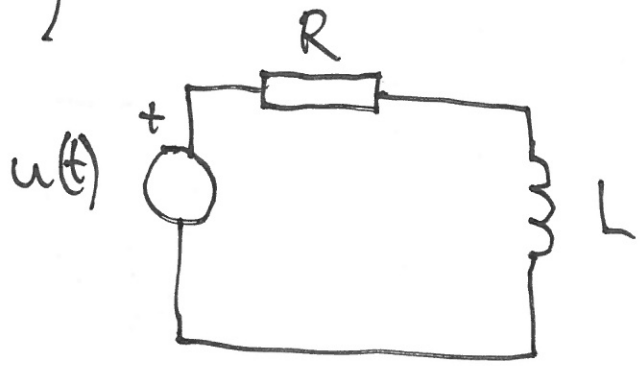
(-2)

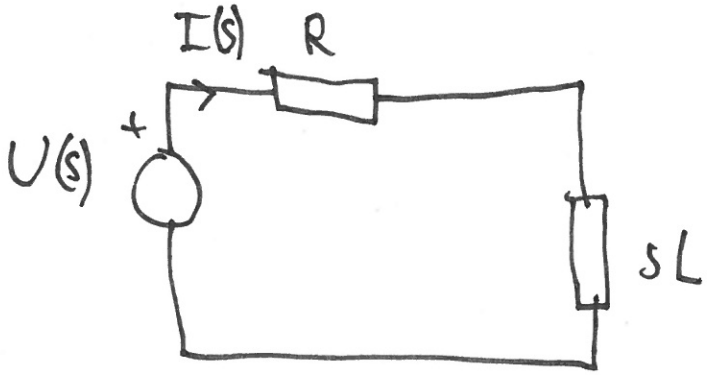


$R = 10\ \Omega$

$L = 0.20\ H$

$u(t) = 50 \cdot e^{-100t}\ V$

⇓ operatorschema



$$I(s) = \frac{U(s)}{R+sL}$$

Parlorean ⇒ $U(s) = 50 \cdot \frac{1}{s+100}$

$$\Rightarrow I(s) = \frac{\frac{50}{s+100}}{10+0.2s} = \frac{1}{s+100} \cdot 50 \cdot \frac{1}{10+0.2s} = 250 \cdot \frac{1}{s+100} \cdot \frac{1}{s+50}$$

$$\Rightarrow i(t) = \frac{A}{s+100} + \frac{B}{s+50}$$

(*) $A = -5$ och $B = 5$

$$\Rightarrow i(t) = -5 \cdot e^{-100t} + 5 \cdot e^{-50t}$$