

Short Note of Application of Laplace transform.

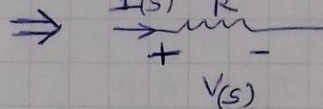
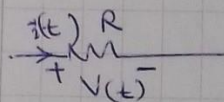
~~Resistor~~

$$V(t) = R i(t)$$

In this equation all are in t domain.

As Laplace is in s domain so we convert $t \rightarrow s$ domain.

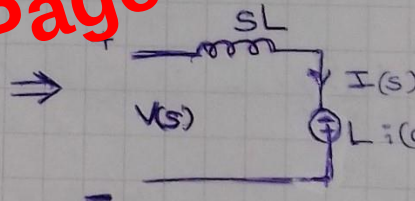
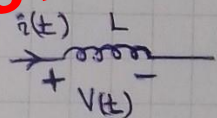
Resistor



$$\frac{dV(t)}{dt} = V(s)$$

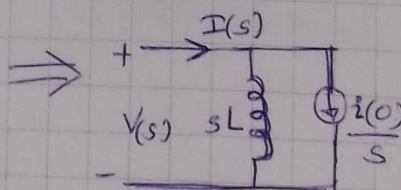
$$\frac{dI(t)}{dt} = I(s)$$

Inductor



$$V(s) = LsI(s) - Li(0)$$

or



$$I(s) = \frac{V(s)}{Ls} + \frac{i(0)}{s}$$