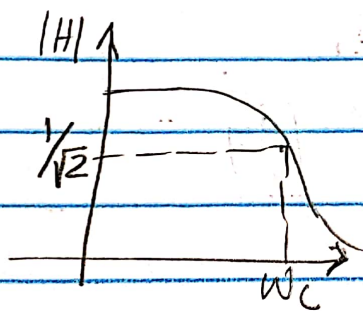
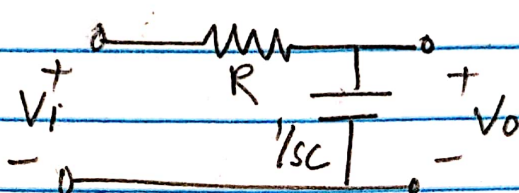


# FILTERS

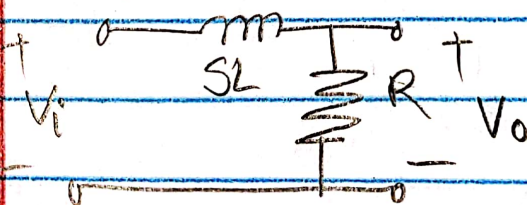
Low Pass

Passive Filter



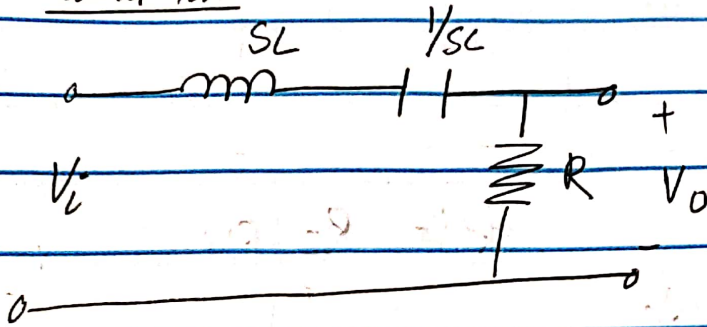
$$H(s) = \frac{V_o}{V_i} = \frac{\omega_c}{s + \omega_c}$$

$$\omega_c = \frac{1}{RC}$$



$$\omega_c = \frac{R}{L}$$

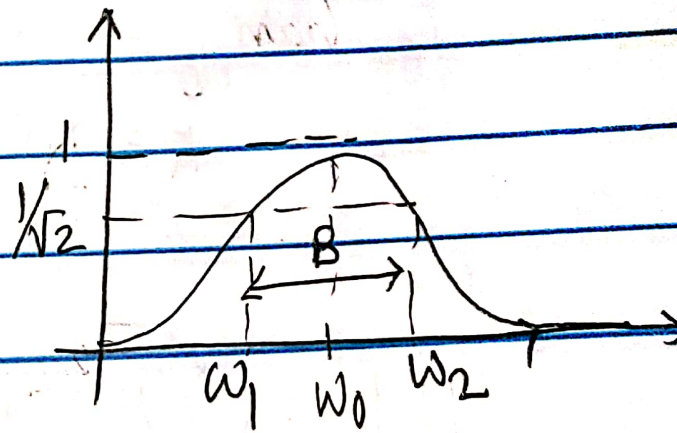
### Band-Pass



$$H(s) = \frac{B \cdot s}{s^2 + Bs + \omega_0^2}$$

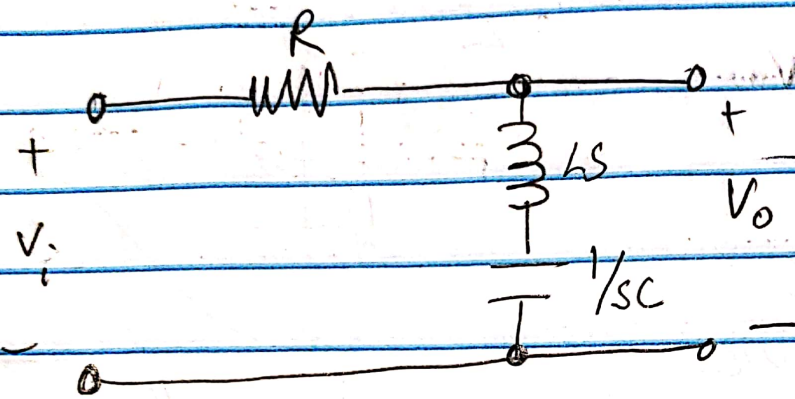
$$B = \frac{R}{L}, \quad \omega_0 = \frac{1}{\sqrt{LC}}$$

$$\omega_0^2 = \omega_1 \omega_2$$



Band - Reject

$(\omega_0 - \omega) \cdot j$



$$H(s) = \frac{s^2 + \omega_0^2}{s^2 + Bs + \omega_0^2}$$

$$B = \frac{R}{L}, \omega_0 = \frac{1}{\sqrt{LC}}$$

$$\omega_0^2 = \omega_1 \omega_2$$

