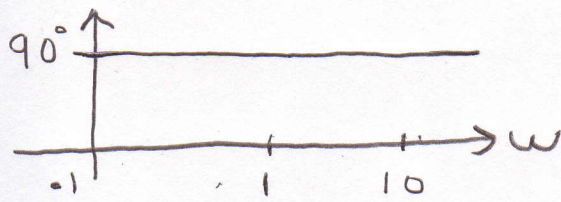
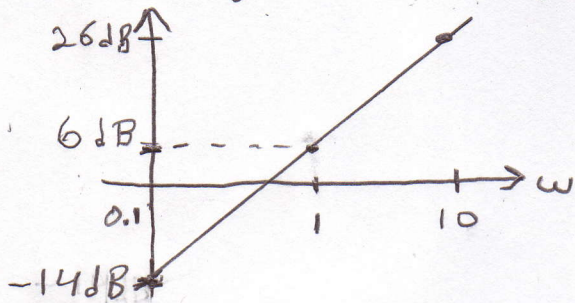


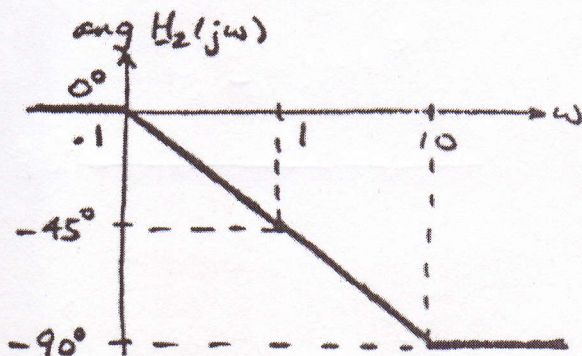
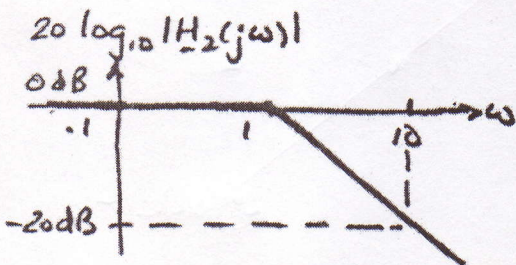
5.19 $H_1(j\omega) = j\omega 2 \Rightarrow |H_1(j\omega)| = 2\omega \quad \text{ang } H_1(j\omega) = 90^\circ$

$20 \log_{10} |H_1| = 20 \log_{10} (2\omega)$

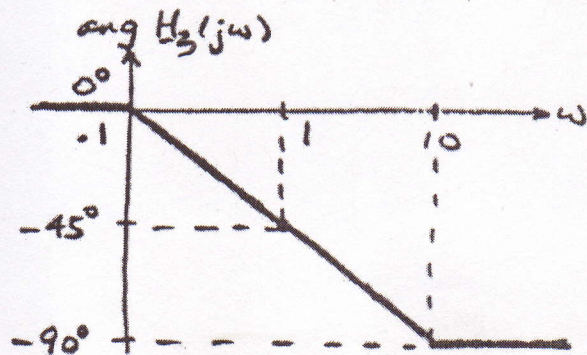
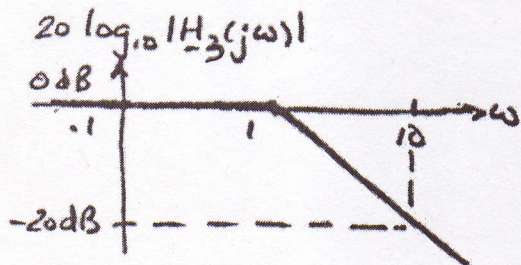
$\text{ang } H_1(j\omega)$



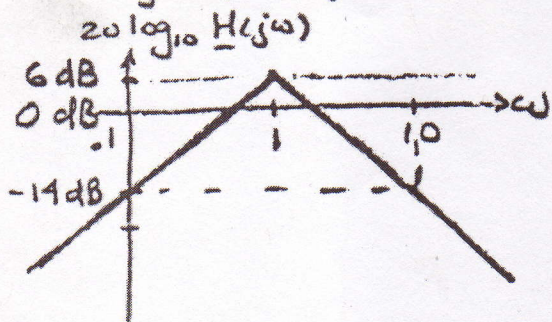
$H_2(j\omega) = \frac{1}{1+j\omega} \Rightarrow |H_2(j\omega)| = \frac{1}{\sqrt{1+\omega^2}} \quad \text{ang } H_2(j\omega) = -\tan^{-1}\omega$



$H_3(j\omega) = \frac{1}{1+j\omega} \Rightarrow |H_3(j\omega)| = \frac{1}{\sqrt{1+\omega^2}} \quad \text{ang } H_3(j\omega) = -\tan^{-1}\omega$



Adding the plots yields



This is a bandpass filter.

