1. a) Determine the transfer function $V_o/V_i$. **Hint:** Reverse the order of $R_1$ and $C$, and suppose the output were tapped from the point between $C$ and $R_1$. Then use a voltage divider.

b) Plot $|V_o/V_i|$ versus $\omega$.

c) Find the cutoff frequency, $\omega_c$.

2. a) Determine the transfer function $V_o/V_i$. **Hint:** Use a Thevenin equivalent to reduce the two $R$'s to a single $R$.

b) Plot $|V_o/V_i|$ versus $\omega$.

c) Find the cutoff frequency, $\omega_c$. 
For the band-pass filter shown above, calculate the following quantities:

a) \( \omega_0 \)

b) \( f_0 \)

c) \( \omega_{C1} \) and \( \omega_{C2} \)

d) \( \beta \) and \( Q \)

For the band-pass filter shown above, calculate the following quantities:

**Hint:** Use a Thevenin equivalent for the R's.

a) \( \omega_0 \)

b) \( \omega_{C1} \) and \( \omega_{C2} \)

c) \( \beta \)

d) \( Q \)