Chapter 10, Solution 74.

$$\mathbf{Z}_i = R_1 + \frac{1}{j\omega C_1}, \qquad \mathbf{Z}_f = R_2 + \frac{1}{j\omega C_2}$$

$$\mathbf{A}_v = \frac{\mathbf{V}_o}{\mathbf{V}_s} = \frac{-\mathbf{Z}_f}{\mathbf{Z}_i} = -\frac{R_2 + \dfrac{1}{j\omega C_2}}{R_1 + \dfrac{1}{j\omega C_1}} = -\left(\frac{C_1}{C_2}\right)\left(\frac{1 + j\omega R_2 C_2}{1 + j\omega R_1 C_1}\right)$$

At $\omega = 0$, $\qquad \mathbf{A}_v = -\dfrac{\mathbf{C}_1}{\mathbf{C}_2}$

As $\omega \to \infty$, $\qquad \mathbf{A}_v = -\dfrac{\mathbf{R}_2}{\mathbf{R}_1}$

At $\omega = \dfrac{1}{R_1 C_1}$, $\qquad \mathbf{A}_v = -\left(\dfrac{\mathbf{C}_1}{\mathbf{C}_2}\right)\left(\dfrac{\mathbf{1 + j R_2 C_2 / R_1 C_1}}{\mathbf{1 + j}}\right)$

At $\omega = \dfrac{1}{R_2 C_2}$, $\qquad \mathbf{A}_v = -\left(\dfrac{\mathbf{C}_1}{\mathbf{C}_2}\right)\left(\dfrac{\mathbf{1 + j}}{\mathbf{1 + j R_1 C_1 / R_2 C_2}}\right)$