

$$45c) S = \omega_0 \cdot \left( \frac{dY(\omega)}{d\omega} \right)_{\omega=\omega_0} = \omega_0 \cdot \left[ \frac{1}{X(\omega)} \cdot \frac{dY(\omega)}{d\omega} \right]_{\omega=\omega_0} = \omega_0 \cdot \frac{1}{\left[ 1 + \frac{R_2}{R_1} + \frac{R_2 C_2}{R_1 C_1} \right]} \cdot \left[ R_2 C_2 + \frac{1}{R_1 C_1} \right]$$

$$\text{soit } S = \omega_0 \cdot \frac{1}{\left[ 1 + \frac{R_2}{R_1} + \frac{R_2 C_2}{R_1 C_1} \right]} \cdot R_2 C_2 \left[ 1 + \frac{1}{\omega_0^2 / \omega_0^2} \right]$$

$$\Rightarrow S = \omega_0 \cdot \frac{2}{\left[ \frac{1}{R_2 C_2} + \frac{1}{R_1 C_2} + \frac{1}{R_1 C_1} \right]} = \frac{2 \cdot \sqrt{R_1 R_2 C_1 C_2}}{R_1 C_1 + R_2 C_2 + R_2 C_1}$$

$$\left( \frac{1}{\sqrt{R_1 R_2 C_1 C_2}} \right)$$

$$\rightarrow \textcircled{b)} R_1 = R_2 = R \text{ et } C_1 = C_2 = C$$

$$\Rightarrow \boxed{S = \frac{2}{3}}$$