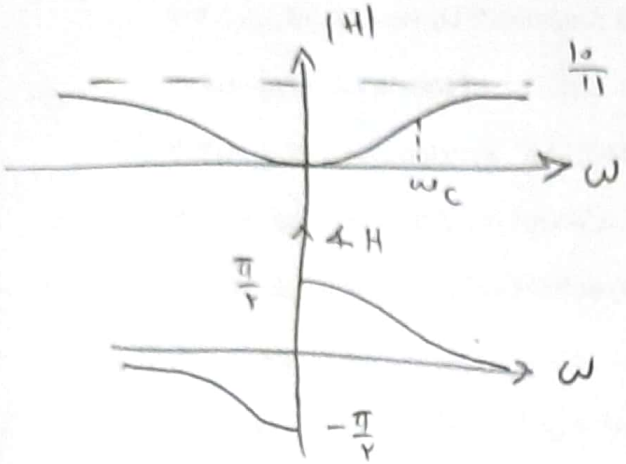
$$H(j\omega) = \frac{V_A}{I_S} = j\omega \; \frac{\frac{1}{1+j\omega}}{\frac{1}{1+j\omega} + \frac{1}{1+\frac{1}{j\omega}} + \frac{1}{10}} = \frac{j\omega}{1+j\omega+\frac{1}{10}(1+j\omega)} = \frac{10}{11}\,\frac{j\omega}{1+j\omega}$$

$$|H(j\omega)| = \frac{10}{11}\,\frac{|\omega|}{\sqrt{1+\omega^2}}$$

$$\angle H(j\omega) = \frac{\pi}{2} - \tan^{-1}\omega \qquad \omega > 0$$



نیازی به رسم نداریم

$$|H(j\omega_c)| = \frac{1}{\sqrt{2}}\,|H(j\infty)|$$

$$\frac{10}{11}\,\frac{|\omega|}{\sqrt{1+\omega^2}} = \frac{1}{\sqrt{2}}\,\frac{10}{11} \longrightarrow 2\omega^2 = 1+\omega^2 \longrightarrow \omega^2 = 1$$

$$\longrightarrow \boxed{\omega_c = 1 \text{ rad/s}}$$