✱ Reflection Coefficient :-

$$K = \frac{\text{Reflected Vtg @ load}}{\text{incident Vtg @ load.}}$$

$$\therefore K = \frac{\frac{E_R (Z_R - Z_0)}{2R}}{\frac{E_R (Z_R + Z_0)}{2R}} = \boxed{\frac{Z_R - Z_0}{Z_R + Z_0}}$$

1) $K = 0$ when $Z_R = Z_0$
2) $K = 1 \angle 180°$ when $Z_R = 0$; $K = -1$
3) $K = 1 \angle 0°$ when $Z_R = \infty$; $K = +1$.
4) K ranges from $0 \to 1$.
5) K depends upon Z_0 & Z_R.

$$Z_{in} = Z_0 \left\{ \frac{1 + K e^{-2\pi e}}{1 - K e^{-2\pi e}} \right\}.$$