

**Chapter 11, Problem 50.**

Obtain the overall impedance for the following cases:

(a)  $P = 1000 \text{ W}$ ,  $\text{pf} = 0.8$  (leading),  $\mathbf{V}_{\text{rms}} = 220 \text{ V}$

(b)  $P = 1500 \text{ W}$ ,  $Q = 2000 \text{ VAR}$  (inductive),  $I_{\text{rms}} = 12 \text{ A}$

(c)  $\mathbf{S} = 4500 \angle 60^\circ \text{ VA}$ ,  $\mathbf{V} = 120 \angle 45^\circ \text{ V}$