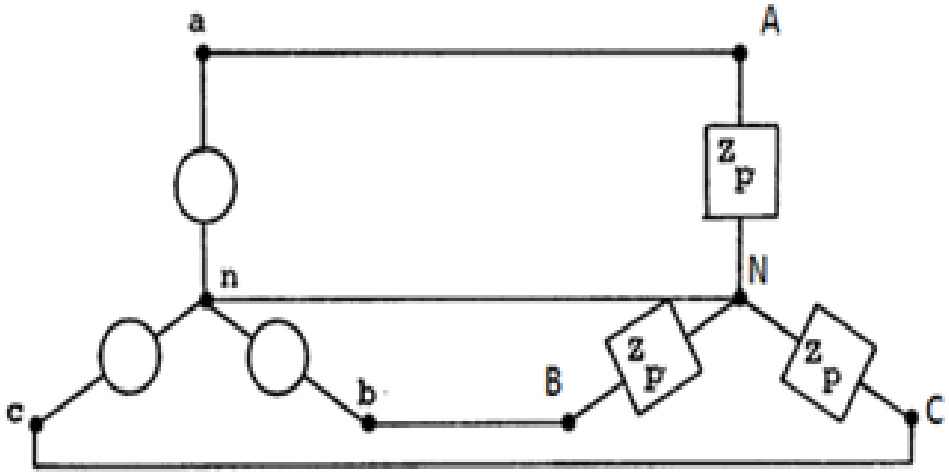
Per-Phase Analysis



A 440-V rms (line voltage) three-phase three-wire system feeds two balanced Y-connected loads. One load is an induction motor which may be represented by an impedance of $10 + j5\Omega$ per phase. The other is a lighting load equivalent to 15Ω per phase. Find the average power: (a) delivered to the lighting load; (b) delivered to the induction motor

Delta (Δ) load → Convert to Y-load