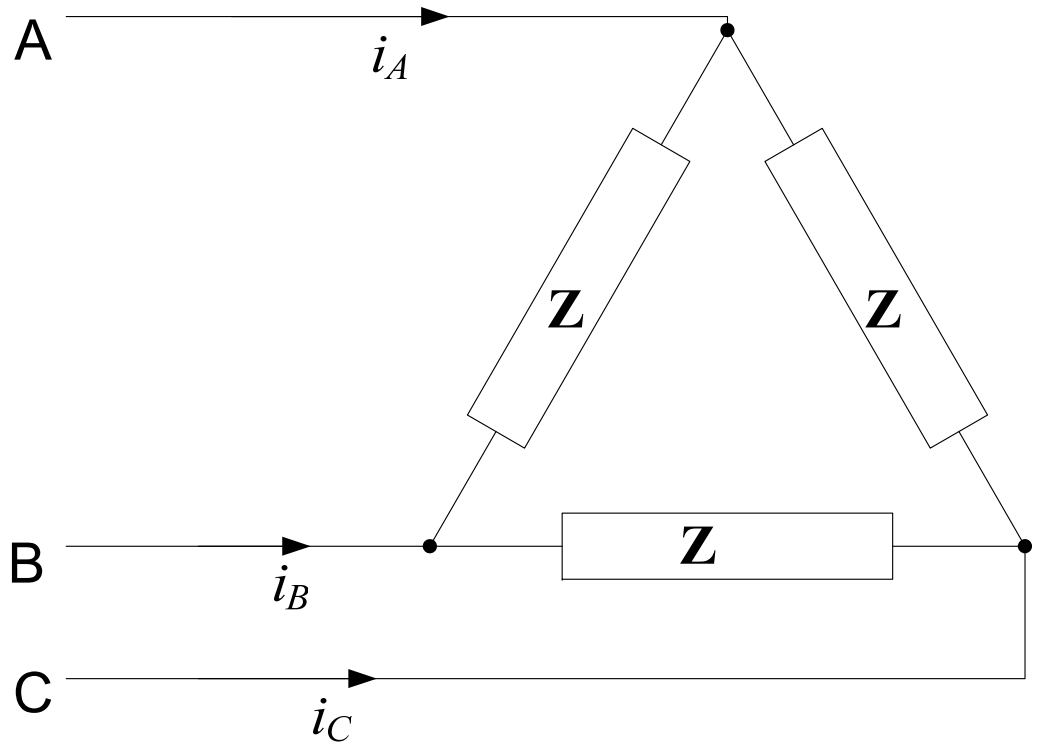
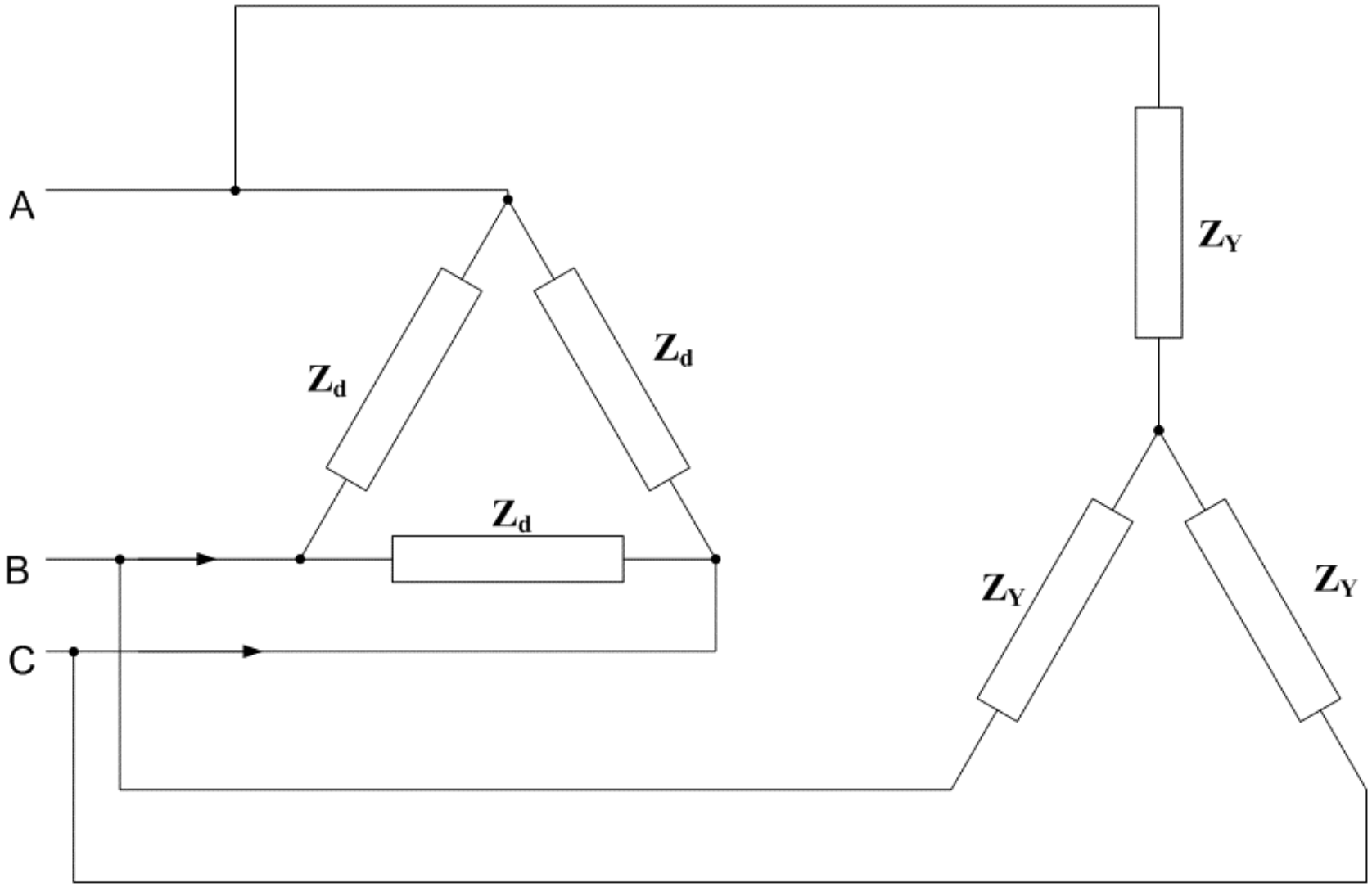
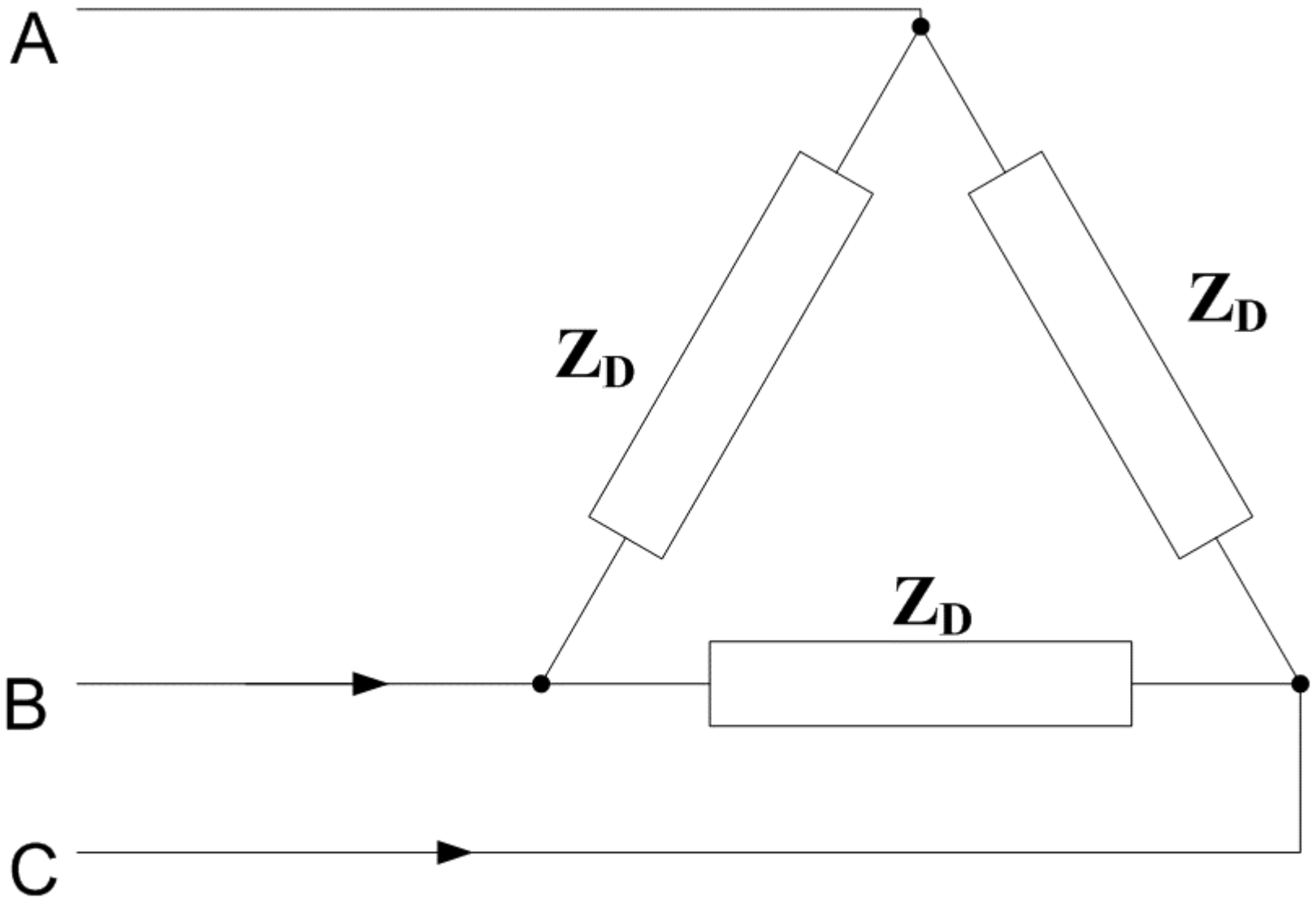
1. A three-phase, three-wire, ABC system, with an effective line voltage of $100\sqrt{3}$ V, has three impedances of $\boldsymbol{Z}$ in a Δ-connection. Determine the line currents (i_A, i_B, i_C) magnitude and phase angle for
   $\boldsymbol{Z}$= 5 ∠45° Ω, $\boldsymbol{V}_{AB} = 100\sqrt{3}$ ∠120° V, $\boldsymbol{V}_{BC} = 100\sqrt{3}$ ∠0° V, $\boldsymbol{V}_{CA} = 100\sqrt{3}$ ∠240° V



2. Find a single equivalent Δ-connected load $\mathbf{Z_D}$ for the following circuit with $\mathbf{Z_d} = 40 + 40j\ \Omega$ $\mathbf{Z_Y} = 10 - 10j\ \Omega$.




A
B
C
Z_D
Z_D
Z_D