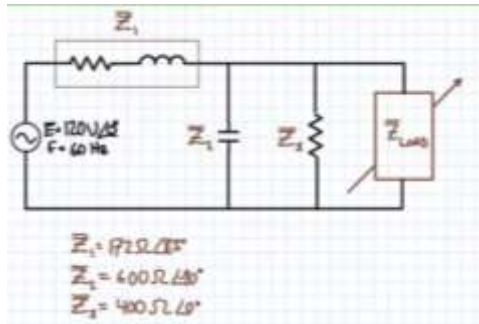
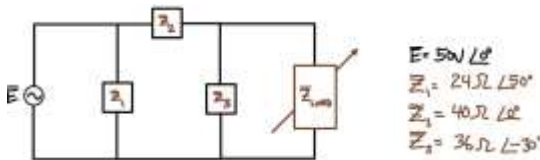


AC Thevenin's Theorem and Maximum Power Transfer Theorem Examples (29:06)

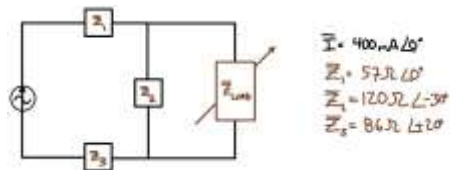
Determine the Thevenin's equivalent circuit seen by the variable load impedance. Determine the load impedance which receives maximum real power. Additionally, determine voltage, current, apparent, real, and reactive power for the load at conditions of maximum power. Determine the components necessary to build the Thevenin's equivalent circuit and the load impedance that experiences maximum power.



Determine the Thevenin's equivalent circuit seen by the variable load impedance. Determine the load impedance which receives maximum real power. Additionally, determine voltage, current, apparent, real, and reactive power for the load at conditions of maximum power. Determine the Norton's equivalent circuit seen by the variable load impedance.



Determine the Thevenin's equivalent circuit seen by the variable load impedance. Determine the load impedance which receives maximum real power. Additionally, determine voltage, current, apparent, real, and reactive power for the load at conditions of maximum power.



Examine occasions in which the magnitude of the load impedance is $\frac{1}{4}$ and 4 times the magnitude of the load impedance that receives maximum real power.

Discuss how an impedance matching transformer can maximize the power delivery to an electrical load.

Examine how an impedance matching transformer can be utilized in the above circuit to maximize power transfer for loads with magnitudes of $\frac{1}{4}$ and 4 times the magnitude of the load impedance that receives maximum real power.