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| **Title** | 10th homework in the Electric Circuit Theory class by 201923250 |

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| **Author** | 201923250 | **Date** | 11.9.2020 |

**Summarization for sections from 11.4 to 11.5**

The load tolerant RL = RI is the highest power source in the load, reflecting the circuit by its Thevenin counterpart. We showed that the full power is supplied to the load.

This result is now generalized to ac circuits. The load impedance ZL must be the complex conjugate of the Thevenin impedance ZTh for the optimal average transmission of electricity. When ZL = Z\*Th, we say the load corresponds to the source.

This result is known as the average maximum power transmission theorem for the steady sinusoidal state. This means the load impedance (or resistance) is proportional to the magnitude of the Thevenin impedance for the maximal average power transfer to solely resistive load.

The concept of effective utility stems from the need to calculate the efficacy of a power supply voltage or current source. The real value of a normal current is the dc current that has the same average resistor strength as the periodic current. A periodic signal 's effective value is its root mean square value (rms). The highest value or peak value of sinusoidal voltage or current is typically implied regardless of its mean value.

It's nil.

Analog voltmeters and meters are also designed to read the voltage and current rms directly, respectively. The measurable power (in VA) is the product of the voltage and current rm values. Cosine of the phase difference between the voltage and current is the power factor. It is also the load impedance angle cosine.