

Lecture 29

Pre-Lecture Preparation (due within the first 5 minutes of class):

- Read pages 1001 (rms), 1003 (inductive reactance), 1006 (capacitive reactance), 1015 – 1016 (transformers) in the textbook (Serway 9th edition) and do the following:
 - 1) Quick Quizzes: none
 - 2) Book Objective Questions (p. 1021): 12 and 13
 - 3) Book Conceptual Questions (p. 1022): 8 and 9
 - 4) Book Problem (p. 1026): 48

Goals for the Lecture:

- 1) Understand that rms values are a type of “average” value used in AC circuit calculations and that, for sin and cos functions, the rms value is the maximum value divided by $\sqrt{2}$
- 2) Understand that capacitors and inductors can hinder the flow of electrons in a circuit and that we call this property reactance. Understand how the reactance changes with frequency for capacitors and inductors. Be able to solve circuit problems in the limit as the frequency goes to zero and as the frequency goes to infinity.
- 3) Understand transformers, the turns ratio, step up and step down transformers and be able to solve problems involving transformers.

Post-Lecture Study Guide (I do not collect this):

Review the worksheets or other lecture material within 24 hours (preferably the same day as the lecture) to reinforce the ideas. Review the pre-lecture questions to make sure you understand them.

Do problems:

Ch 33: Conceptual Questions: 10

Ch 33: Objective Questions: none

Ch 33: Problems: 49

Continue with the additional recommended study problems from chapter 33