Chapter # 23 Recitation # 6

Name:

23-2. Two identical capacitors are connected in parallel to an ac generator that has a frequency of 610 Hz and produces a voltage of 24 V. The current in the circuit is 0.16 A. What is the capacitance of each capacitor?

23-4. A $63.0-\mu$ F capacitor is connected to a generator operating at a low frequency. The rms voltage of the generator is 4.00 V and is constant. A fuse in series with the capacitor has negligible resistance and will burn out when the rms current reaches 15.0 A. As the generator frequency is increased, at what frequency will the fuse burn out?

23-19. A series RCL circuit includes a resistance of 275 Ω , an inductive reactance of 648 Ω , and a capacitive reactance of 415 Ω . The current in the circuit is 0.233 A. What is the voltage of the generator?

23-33. A 10.0-V resistor, a 12.0- μ F capacitor, and a 17.0-mH inductor are connected in series with a 155-V generator. (a) At what frequency is the current a maximum? (b) What is the maximum value of the rms current?