EE202 Homework 3

(1) A load consisting of a 1350 Ω resistor in parallel with a 405 mH inductor is connected across the terminals of a voltage source $v = 90\cos(2500t)$ (V). Find

(a) the peak value of the instantaneous power delivered by the source.
(b) the average power delivered to the load.
(c) the reactive power delivered to the load.
(d) the power factor of the load.
(e) the reactive factor of the load.

(2) Find the average power, the reactive power, and the apparent power absorbed by the load in the circuit shown below if $i = 30\cos(100t)$ (mA).

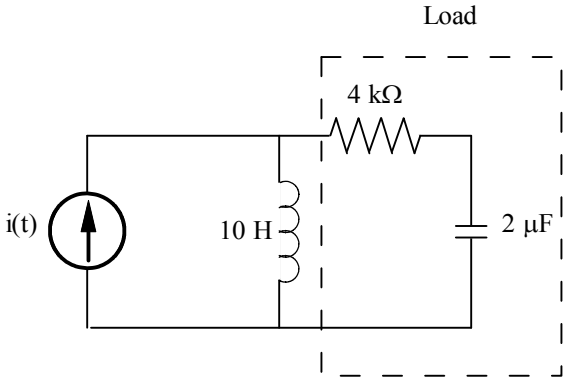

Fig.2