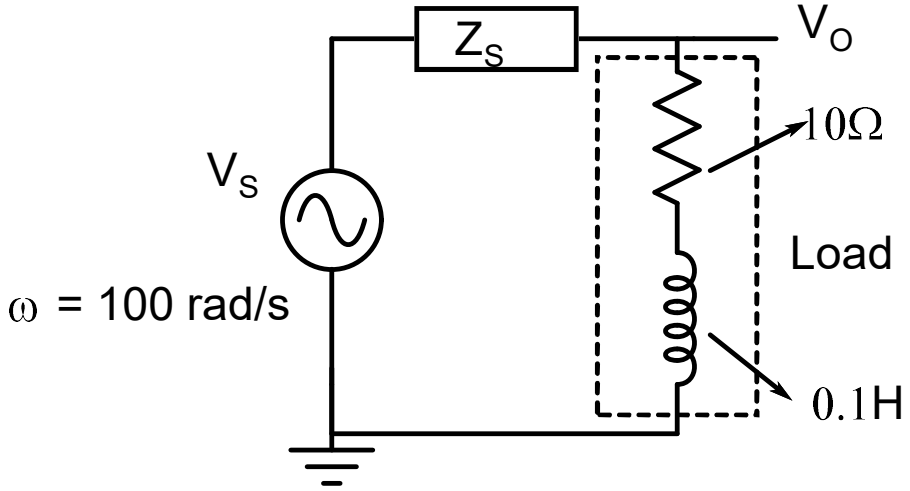
ESC201T : Introduction to Electronics

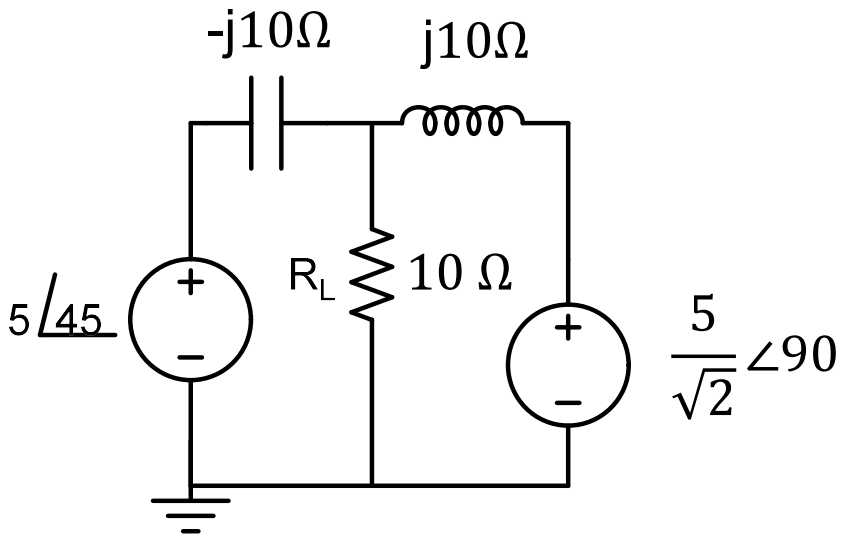
Mid-Sem Exam -partB (18/10/2020) (Note there are 3-pages)

Time : 6.40-7.20PM. Stop at 7.10pm and submit within time

Q.3 Determine optimum value of impedance Z_S such that maximum power is dissipated in Load (shown within dotted line). Implement Z_S as a suitable combination of circuit elements (resistor, capacitor or inductor). Explain your answer----3Marks



Q. 4 Determine the phasor current ($I_L \angle \theta_L$) in load resistor R_L. Show steps of your analysis--- 4Marks



Q.5 Figure shows voltage across the capacitor VC as a function of time after the switch was closed in the circuit shown below. Sketch the qualitative variation of inductor current and explain whether the first peak in current will occur before or after the first peak in capacitor voltage--- 3Marks