

**Problem 1 - (5 points)**

An air transmission line has  $Z_0$  or  $R_C = 300$  and is 10 meters long.

- What are the inductance per unit length and the capacitance per unit length?
- At what frequency will  $Z_{in}(z=0)$  look like a short circuit when  $Z_L$  is open circuited?

**Problem 2 - (15 points)**

- Calculate  $Z_{in}(z=0)$ ,  $V_{in}$ , the power delivered to the load, and  $|V_L|$  for the circuit below. Treat the line as lossless.
- Sketch the voltage standing wave pattern. (Be sure to include numbers for the max and min voltages and their locations).

