Special Problem 2.6-3

Consider this circuit, where the transmission line is lossless:

\[ Z_g = 25 \Omega \]

1) If \( Z_L = 49 \Omega \), determine the value of the characteristic impedance \( Z_0 \) that will maximize the power absorbed by load \( Z_L \).

Determine also the value of this absorbed power.

2) If \( Z_0 = 50 \Omega \), determine the value of load impedance \( Z_L \) that will maximize the power absorbed by load \( Z_L \).

Determine also the value of the power incident on this load.

**Hint**: This is not a boundary value problem. You do not need to determine constants \( V_0^+ \) or \( V_0^- \)!