RADIO ENGINEERING I
HOME ASSIGNMENT 1/2025 HW1

Return by 7.11.2025 @20.00

Return your answer into Moodle.

Write tag HW1, your name, and student ID on all sheets you are returning.

Name _____

Student ID _____

a) A transmitter is connected with a 50 Ω coaxial cable to an antenna (Z_{in} = 80 - j40 Ω). If the transmitter (Z_{out} = 50 Ω) can deliver 30 W when connected to a 50 Ω load, how much power is connected to the antenna?

b) Design a lumped element L-section matching network to match a series RL load (with R = 100 Ω and L = 2.5 nH) to a 50 Ω line at 3.5 GHz. Don't use Smith chart when defining the required inductance and capacitance values. Show all equations and calculations in your answer.