

RADIO ENGINEERING I
HOME ASSIGNMENT 2/2025 HW2**Return your answer to Moodle.****Write tag HW2, your name, and student ID on all sheets you are returning.**

Return by 14.11.2025 @20.00

Name _____**Student ID** _____

Match the load $Z_L = (140 - j75) \Omega$ to a transmission line that has a characteristic impedance of 50Ω at the frequency of 2.45 GHz.

- a) by using lossless lumped components.
- b) by using microstrip lines. Examine the usage of both open and short ended microstrip lines connected in parallel. The microstrip lines used have a characteristic impedance of 50Ω .
- c) by using both the lumped component and microstrip lines.

Solve using the Smith Chart (No analytical solution). In your solution, please show all Smith Charts with **clear pictures**. Clearly explain the changes in the impedances and admittances (if there are any).