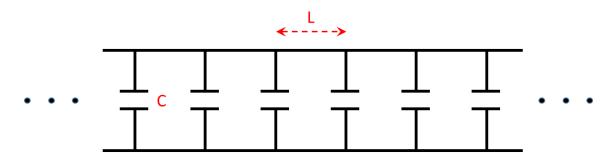
ECC 203: Assignment-1

Handwritten submission Date : 18th August 2025, in Class Marks = 12.5

(If you copy, you may not lose marks, but you will lose your "honesty" for sure)

A lossless transmission line with a characteristic impedance of Z_0 and propagation constant of γ_0 (= $j\beta_0$) running from $z = -\infty$ to $+\infty$, is periodically loaded with a capacitor 'C' as shown below. Determine the effective characteristic impedance (Z_{new}) and propagation constant (γ_{new}) of the periodically loaded transmission line.

- a. $L = \lambda_g / 100$
- b. $L = \lambda_{q} / 50$
- c. $L = \lambda_g / 10$
- d. $L = \lambda_g / 4$
- e. $L = \lambda_g / 2$



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