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 = - ∞ to + ∞, 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 = λ_g / 100
b. L = λ_g / 50
c. L = λ_g / 10
d. L = λ_g / 4
e. L = λ_g / 2