GATE EC Q.25

EE23BTECH11214 - Harsha Vardhan Kumar*

Question In the context of signals and systems, determine the phase cross-over frequency of the open-loop transfer function

$$G(s) = \frac{k \cdot s \cdot (1 + sT_1) \cdot (1 + sT_2)}{s}$$

with positive constants k, T_1, T_2. The options are:

(A) $\frac{1}{\sqrt{T_1 T_2}}$

(B) $\frac{1}{T_1 T_2}$

(C) $\frac{1}{T_1 \sqrt{T_2}}$

(D) $\frac{1}{\sqrt{T_2} T_1}$