GATE IN-13 2022

EE23BTECH11011- Batchu Ishitha*

Q: A periodic function $f(x)$, with period 2, is defined as

$$f(x) = \begin{cases} -1 - x & -1 \leq x < 0 \\ 1 - x & 0 < x \leq 1 \end{cases} \tag{1}$$

The Fourier series of this function contains

A. Both $cos(n\pi x)$ and $sin(n\pi x)$ where n=1,2,3...
B. Only $sin(n\pi x)$ where n=1,2,3...
C. Only $cos(n\pi x)$ where n=1,2,3...
D. Only $cos(2n\pi x)$ where n=1,2,3...

$(GATE - 2022 - IN)$