

Started on Wednesday, 16 February 2022, 9:00 AM

State Finished

Completed on Wednesday, 16 February 2022, 9:20 AM

Time taken 19 mins 57 secs

Grade 0.00 out of 8.00 (0%)

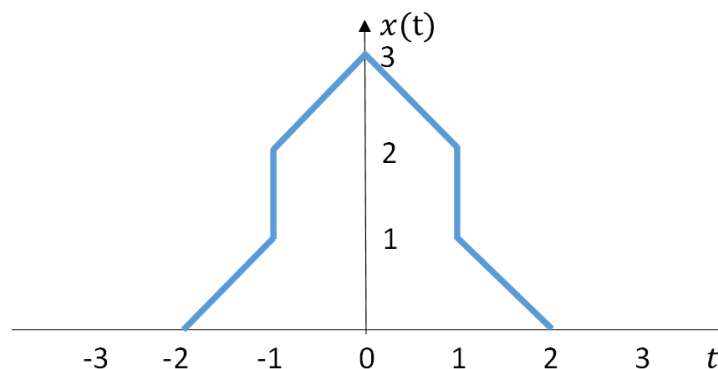
## Question 1

Not answered

Marked out of 8.00

For the below question, please upload your answer here or you can sent by email to [abhishek.dixit@iitd.ac.in](mailto:abhishek.dixit@iitd.ac.in). Write clearly.

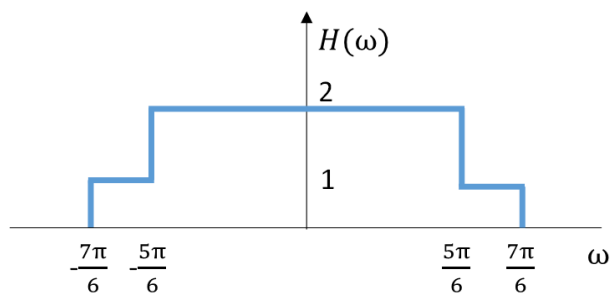
Consider the periodic signal,  $x(t)$ , given in the figure below



One period of  $x(t)$  is :

$$x(t) = \begin{cases} 0 & -3 \leq t \leq -2 \\ \text{as given in the fig.} & -2 \leq t \leq 2 \\ 0 & 2 \leq t \leq 3 \end{cases}$$

- a) Find Fourier series representation for  $x(t)$ . (4 marks)
- b) Find  $y(t) = x(t) * h(t)$ , given that  $h(t)$  has a Fourier transform  $H(\omega)$ , where  $H(\omega)$  is as given in the figure below. (4 marks).]



◀ Part B

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