**Upload until : 13:59**

The signal $x(t)$ is fed to the filter whose frequency response is shown in the figure below. Power spectral density of $x(t)$ is also given.

$$G\_{x}(f)$$

 *f*

8k

$$|H(f)|$$

 *f*

$$y(t)$$

10k

$$f\_{1}$$

1

2

10k

12k

In the figure, $f\_{1}$ is given by a formulation that includes part of your student id;

$f\_{1}$=14+$d$ where d is 11th digit (2nd from the last digit) of your student id.

Calculate the power of the output signal $y(t)$.

Do your calculations (and drawings, if necessary) legibly on a paper. Put your name and number on the top of the paper. Capture the image of the paper with your camera. Convert the resulting file to pdf. Name it as *studentid*\_2.pdf and upload the pdf file as your answer. For example, if your *studentid* is 151220181999 then the file should be named as 151220181999\_2.pdf. File must be less than 2 MB in size.

Alternatively, you may do your calculations (and drawings, if necessary) in Word, save the document as pdf. Upload the pdf file as your answer.