

**PHYSICS 501**  
**4<sup>th</sup> HOMEWORK**  
**Dr. V. Lempesis**

1. Find the Fourier series for the function:

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

(10 marks)

2. Find the Fourier series for the function:

$$f(t) = \begin{cases} 0 & -\pi < t < 0 \\ t / \pi & 0 < t < \pi \end{cases}$$

(10 marks)

**For the girls: Please send your answers in pdf form (typed or in clearly handwritten form) in my email address (vlmpesis@ksu.edu.sa). Please use ONE file for your entire homework NOT one file per page. Please do not forget to put your name and your ID number on it AND on your file name. Your deadline is on Wednesday 14<sup>th</sup> November 2018 at 23:59.**

**For the boys: You will hand in your homework in hard copy in my office on Thursday 15<sup>th</sup> November up to 11:59.**