

INFORMATION TECHNOLOGY UNIVERSITY
Department of Electrical Engineering

Signal and Systems
Fall 2021
Compensation Quiz

Date: 28-01-2022

Total Points: 20

Name:

Roll Number:

Question 1 (10 points) CLO3

Use the Fourier series analysis equation to calculate the coefficients a_k for the continuous time periodic signal with fundamental frequency $\omega_0 = \pi$

$$x(t) = \begin{cases} 1.5, & 0 \leq t < 1 \\ -1.5, & 1 \leq t < 2 \end{cases}$$

Question 2 (10 points) CLO4

Compute the Fourier transform of the following signal.

$$e^{-3t} \sin 2t$$