PES UNIVERSITY, BANGALORE

(Established under Karnataka Act 16 of 2013)

Department of Science and Humanities

B Tech: Second Semester
Session: Feb-May 2025
Subject Name: Engineering Mathematics II (4-0-0-4-4)
Subject Code: UE24MA141B

MATLAB - PRACTICE PROBLEMS

Unit 4

Fourier Series and Transforms

1. **$f(t)=te^{-t}$, $t\geq 0$, compute Fourier transform using MATLAB**

output: F(w) = fourier(t*exp((-t)), t, w)

2. Compute Fourier transform F(t)= sin(t) and plot using MATLAB

output: f(t) = - sym(pi)*(dirac((t - 1)) - dirac((t + 1)))*sym(1i)

3. Compute the Fourier transform F(t)= cos(t) and plot using MATLAB

output: f_t = sym(pi)*(dirac((t - 1)) + dirac((t + 1)))