**DAILY ASSESSMENT FORMAT**

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| **Date:** | **26\_05\_2020** | **Name:** | **Akshay** |
| **Course:** | **DSP** | **USN:** | **4al17ec008** |
| **Topic:** | **Fourier Series & Gibbs Phenomena using Python**  **Fourier Transform**  **Fourier Transform Derivatives**  **Fourier Transform and Convolution**  **Intuition of Fourier**  **Transform and Laplace Transform**  **Laplace Transform of First order**  **Implementation of Laplace Transform using Matlab**  **Applications of Z-Transform**  **Find the Z-Transform of sequence using Matlab** | **Semester & Section:** | **6th , A sec** |
| **Github Repository:** | **Akshay-Online-Course** |  |  |

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| **FORENOON SESSION DETAILS** |
| **Image of session** |

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| **Report – Report can be typed or hand written for up to two pages.**  **Fourier Series and Fourier Transform Fourier Series**  **Fourier Transform**  **∞ *f*(*x*)=1*a*0 +∑(*akcos*2*kt*+*bksin*2*kt*)**  **−∞**  **∞**  ***X*(*F*) = ∫ *x*(*t*)*e*−*j*2*Ftdt* −∞**  **2**  **Fourier Series and Gibbs Phenomana Using Python import numpy as np import matplotlib.pyplot as plt plt.rcParams['figure.figsize']=[8,8] plt.rcParams.update({'font.size':18})**  **dx=0.01 L=2\*np.pi x=np.arange(0,L+dx,dx) n=len(x) nquart=int(np.floor(n/4)) f=np.zeros\_like(x) f[nquart:3\*nquart]=1 A0=np.sum(f\*np.ones\_like(x))\*dx\*2/L fFs=A0/2\*np.ones\_like(f) for k in range(1,101):**  **Ak=np.sum(f\*np.cos(2\*np.pi\*k\*x/L))\*dx\*2/L Bk=np.sum(f\*np.sin(2\*np.pi\*k\*x/L))\*dx\*2/L fFs=fFs+Ak\*np.cos(2\*k\*np.pi\*x/L)+Bk\*np.sin(2\*k\*np.pi\*x/L)**  **plt.plot(x,f,color='k',LineWidth=2) plt.plot(x,fFs,'-',color='r',Linewidth=1.5) plt.show()**  **Laplace Transform [Matlab] clear all; close all; syms L f t; f=(exp(-3\*t)\*sin(2\*t))/t**  **L=laplace(f​)**  **Inverse Laplace Transform clear all; close all;**  **syms F,s,x; F=(s+29)/(s^3+4\*s^2+9\*s+36) ilaplace(F,x)**  **Z Transform Using Matlab clear all; close all; syms n,w;**  **a=sin(w\*n) b=ztrans(a) disp(b) (z\*sin(w))/(z^2 -2\*cos(w)\*z+1) pretty(b)** |