

LESSON PLAN

Semester: 4th		Year: 2024-25		Course: B.Tech	
		Sub: Signal and System		Total Credit:03	
Branch : EE		Sub Code : REE4D002			
Name of the Faculty:		Pankaj kumar			
Designation :		Assistant Professor			
Department :		ECE			
Session		2024-25			
Recommended Books		Text book:			
		1. Digital Signal Processing – Principles, Algorithms and Applications, John. G. Proakis and Dimitris. G. Manolakis, 4th Edition, Pearson.			
		2. Fundamentals of Signals and Systems - M. J. Roberts, TMH			
		Reference Books:			
		1. Principles of Linear Systems and Signals, B.P Lathi, Oxford			
		2. Signals and Systems, Chi-Tsong Chen, Oxford			
Sl. No.	Lecture No.	Topics to be covered			No. of Classes
MODULE-1					
1	Lecture-01	Some Elementary Discrete-Time signals			8
2	Lecture-02	Classification of Discrete-Time Signals			
3	Lecture-03	Input-Output Description			
4	Lecture-04	Block Diagram Representation			
5	Lecture-05	Simple Manipulation			
6	Lecture-06	Input-Output Description			
7	Lecture-07	Block Diagram Representation			
8	Lecture-08	Classification, Interconnection			
MODULE-2					
9	Lecture-09	Time LTI Systems: Techniques			10
10	Lecture-10	Response of LTI Systems			
11	Lecture-11	Properties of Convolution			
12	Lecture-12	Causal LTI Systems, Stability of LTI Systems			
13	Lecture-13	Discrete-Time Systems Described by Difference Equations			
14	Lecture-14	Implementation of Discrete-Time Systems			
15	Lecture-15	Correlation of Discrete-Time Signals			
16	Lecture-16	Cross correlation			
17	Lecture-17	Autocorrelation Sequences			
18	Lecture-18	Properties			

MODULE-3			
19	Lecture-19	Basic Concepts and Development of the Fourier series;	10
20	Lecture-20	Calculation of the Fourier Series,	
21	Lecture-21	Properties of the Fourier Series.	
22	Lecture-22	Properties of the Fourier Series.	
23	Lecture-23	Properties of the Fourier Series.	
24	Lecture-24	Basic Concepts and Development of the Fourier Transform;	
25	Lecture-25	Properties of the Continuous-Time Fourier Transform.	
26	Lecture-26	Properties of the Continuous-Time Fourier Transform.	
27	Lecture-27	Properties of the Continuous-Time Fourier Transform.	
28	Lecture-28	Properties of the Continuous-Time Fourier Transform.	
MODULE-4			
29	Lecture-29	The Direct Z-Transform,	11
30	Lecture-30	Properties of the Z-Transform;	
31	Lecture-31	Rational Z-Transforms: Poles and Zeros,	
32	Lecture-32	Pole Location and Time-Domain Behavior for Causal Signals,	
33	Lecture-33	The System Function of a Linear Time-Invariant System;	
34	Lecture-34	Inversion of the Z-Transforms: The Inversion of the Z-Transform by Power Series Expansion,	
35	Lecture-35	The Inversion of the Z-Transform by Partial-Fraction Expansion;	
36	Lecture-36	The One-sided Z-Transform: Definition and Properties	
37	Lecture-37	The One-sided Z-Transform: Definition and Properties	
38	Lecture-38	Solution of Difference Equations.	
39	Lecture-39	Solution of Difference Equations.	
MODULE-4			
40	Lecture-40	Discrete Fourier Transform	8
41	Lecture-41	Periodicity,	
42	Lecture-42	Linearity, and Symmetry Properties,	
43	Lecture-43	Multiplication of Two DFTs and Circular Convolution,	
44	Lecture-44	Multiplication of Two DFTs and Circular Convolution,	
45	Lecture-45	Additional DFT Properties.	
46	Lecture-46	Additional DFT Properties.	
47	Lecture-47	Additional DFT Properties.	

Signature of Faculty Member

Signature of HOD

PRINCIPAL