Lesson Plan

	Discipline: ETC	Semester-4th Summer-2023	Name of the Teachng Faculty: Smt.PRIYANKA DHAL(PTGF ETC Engg)
Sl. No.	Subject-Th.3.(DIGITAL SIGNAL PROCESSING)	No. Of Days/Week class alloted:04	Semester From date: 13.02.2023 To date: 23.05.2023 (No of weeks: 15)
	Weeks/Months	**Class Day**	**Topic**
1	2nd week 14 feb To 18 feb	1st	2 DISCRETE TIME SIGNALS & SYSTEMS
		2nd	2.1 Concept of Discrete time signals.
		3rd	2.1.1 Elementary Discrete time signals
		4th	2.1.3 Simple manipulation of discrete time signal.
2	3th week 20 feb. To 25 feb	1st	2.2 Discrete time system.
		2nd	2.2.1 Input-output of system
		3rd	2.2.2 Block diagram of discrete- time systems
		4th	2.2.3 Classify discrete time system.
3	4th week 27feb. To 04 th March	1st	2.2.4 Inter connection of discrete -time system.
		2nd	2.3 Discrete time time-invariant system.
		3rd	2.3.1 Different techniques for the Analysis of linear system
			2.3.2 Resolution of a discrete time signal in to impulse.
		4th	2.3.3 Response of LTI system to arbitrary inputs using convolution sum.
4	1st week 06th March To11th March	1st	2.3.4 Convolution & interconnection of LTI system - properties
		2nd	2.3.5 Study systems with finite duration and infinite duration impulse response
		3rd	2.4 Discrete time system described by difference equation
		4th	2.4.1 Recursive & non-recursive discrete time system.
5	2nd week 13th March To18th March	1st	2.4.2 Determine the impulse response of linear time invariant recursive system.
		2nd	3 THE Z-TRANSFORM & ITS APPLICATION TO THE ANALYSIS OF LTI SYSTEM
		3rd	3.1 Z-transform & its application to LTI system.g of bits
		4th	3.1.1 Direct Z-transform. 3.1.2 Inverse Z-transform
		4th	3.1.1 Direct Z-transform. 3.1.2 Inverse Z-transform
6	3th week 20th March To25 th March	1st	3.1.1 Direct Z-transform. 3.1.2 Inverse Z-transform
		2nd	3.1.1 Direct Z-transform. 3.1.2 Inverse Z-transform
		3rd	3.3.3 System function of a linear time invariant system
		4th	3.3 Rational Z-transform.
		4th	3 Rational Z-transform. 3.3.1 Poles & zeros.

7	4th week 27th March To31th March	1st	3 Rational Z-transform. 3.3.1 Poles & zeros. 3.3.2 Pole location time domain behaviour for causal signals
		2nd	3.3.3 System function of a linear time invariant system
		3rd	3.3.3 System function of a linear time invariant system
		4th	3.3.3 System function of a linear time invariant system
8	1st week 1st April to 08 April	1st	3.3.3 System function of a linear time invariant system
		2nd	3.4 Discuss inverse Z-transform. 3.4.1 Inverse Z-transform by partial fraction expansion
		3rd	3.4 Discuss inverse Z-transform. 3.4.1 Inverse Z-transform by partial fraction expansion
		4th	3.4 Discuss inverse Z-transform. 3.4.1 Inverse Z-transform by partial fraction expansion
9	2nd week 10th April to 15 April	1st	4 : DISCUSS FOURIER TRANSFORM: ITS APPLICATIONS PROPERTIES.
		2nd	4 : DISCUSS FOURIER TRANSFORM: ITS APPLICATIONS PROPERTIES.
		3rd	4 : DISCUSS FOURIER TRANSFORM: ITS APPLICATIONS PROPERTIES.
		4th	4.2 Frequency domain sampling and reconstruction of discrete time signals.
		5th	4.2 Frequency domain sampling and reconstruction of discrete time signals.
10	3rd week 17th April to 22 April	1st	4.3 Discrete Time Fourier transformation(DTFT)
		2nd	4.3 Discrete Time Fourier transformation(DTFT)
		3rd	4.4 Discrete Fourier transformation (DFT)
		4th	4.4 Discrete Fourier transformation (DFT)
		5th	4.5 Compute DFT as a linear transformation
11	4th week 24th April to 29 April	1st	4.5 Compute DFT as a linear transformation
		2nd	4.6 Relate DFT to other transform
		3rd	4.6 Relate DFT to other transform
		4th	4.7 Property of the DFT.
		5th	4.8 Multiplication of two DFT & circular convolution
12	1st week 01 May To 06 May	1st	4.8 Multiplication of two DFT & circular convolution
		2nd	5.1 Compute DFT & FFT algorithm.
		3rd	5.1 Compute DFT & FFT algorithm.

		4th	5.2 Direct computation of DFT.
13	2nd week 08May. To 13 May	1st	5.3 Divide and Conquer Approach to computation of DFT
		2nd	5.3 Divide and Conquer Approach to computation of DFT
		3rd	5.9 Simple Assembly language programmingusing 8086 instructions
		4th	6.1 Distinguish between Microprocessor & Microcontroller
14	3rd week 15 May. To 20 May	1st	5.4 Radix-2 algorithm. (Small Problem)
		2nd	5.4 Radix-2 algorithm. (Small Problem)
		3th	5.5 Application of FFT algorithms
		4th	5.5 Application of FFT algorithms
15	4th week 22 May. To 23 May	1st	5.6 Introduction to digital filters.(FIR Filters)& General considerations
		2nd	5.6 Introduction to digital filters.(FIR Filters)& General considerations
		3rd	5.6 Introduction to digital filters.(FIR Filters)& General considerations
		4th	5.7 Introduction to DSP architecture, familiarisation of different types of processor
		5th	5.7 Introduction to DSP architecture, familiarisation of different types of processor

Signature of the Teacher