6th sem, DSP

BHARAT INSTITUTE OF ENGINEERING & TECHNOLOGY

SIVARAM VIHAR, GHATAKESWAR HILLS
MOHADA, BERHAMPUR (GM.)

STUDENT'S ATTENDANCE REGISTER

Time / Day					
MON	L				
TUE					
WED	L				
SAT		L			

Year/ Session	
Semester & Branch	6th Semester & ETC Branch.
Subject with Code	Digital Signal Processing (TH-03)
Name of the Faculty Member	Er. Suchismita Gpta.

B.I.E.T.,COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic
			Introduction of Signals, Systems & Signal Processing :-
		13/2/23	1.1 Basics of signals, systems & signal processing :- Basic element of a digital signal processing system. Compare the advantages of digital signal processing over analog signal processing.
		14/2/23	1.2 Classify Signals :- → Multi channel & Multi dimensional signals. → Continuous time verses Discrete time signal. → Continuous valued verses Discrete valued signal.
		17/2/23	1.3 Concept of frequency in continuous time & discrete time signals. Continuous-time sinusoidal signal
		20/2/23	Discrete time sinusoidal signals

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B.I.E.T., COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic
			Harmonically related complex exponential.
		21/2/23	1.4 Analog to Digital & Digital to Analog conversion & explain the following.
		24/2/23	a. Sampling of Analog signal.
			b. The sampling Theorem.
		25/2/23	c. Quantization of continuous amplitude signals.
			d. Coding of quantized sample.
			e. Digital to Analog conversion.
		27/2/23	f. Analysis of digital system signal vs. Discrete time Signal systems.

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B.I.E.T., COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic
			:- DISCRETE TIME SIGNALS & SYSTEMS :-
		28/2/23	2.1. Concept of Discrete time signals.
			2.1.1. Elementary Discrete time Signal.
		3/3/23	2.1.2. Classification Discrete time Signals.
			2.1.3 Simple manipulation of discrete time signal.
			2.2. Discrete time System :-
		4/3/23	2.2.1. Input - Output of system.
			2.2.2 Block diagram of discrete time systems.
		6/3/22	2.2.3. Classify discrete time systems.
			2.2.4 Inter Connection of discrete time system.
			2.3 Discrete time - time-invarient System.
		7/3/23	2.3.1 Different techniques for the analysis of linear system.
		10/3/23	2.3.2. Resolution of a discrete time signal into impulse.

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B.I.E.T., COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic
		11/3/23	2.3.3 Response of LTI System to arbitrary input using convolution sum.
		13/3/23	2.3.4 Convolution & interconnection of LTI system - properties.
		14/3/23	2.3.5 Study systems with finite duration & infinite duration impulse response.
			2.4 Discrete time System described by difference equation.
		17/3/23	2.4.1 Recursive & Non-recursive discrete time system.
		18/3/23	2.4.2 Determine the impulse response of linear time invariant recursive system.
		20/3/23	2.4.3 Correlation of Discrete time signals.

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B.I.E.T., COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic
			- THE Z-TRANSFORM & ITS APPLICATION TO THE ANALYSIS OF LTI SYSTEM :-
		21/3/23	3.1 Z-transform & its Application to LTI system.
		24/3/23	3.1.1. Direct Z-transform.
		25/3/23	3.1.2. Inverse Z-transform.
		27/3/23	3.2. Various Properties of Z-transform.
		28/3/23	3.3. Rational Z-transform.
		31/3/23	3.3.1 Poles & Zeros.
		3/4/23	3.3.2. Pole location time domain behaviour for causal signals.
		4/4/23	3.3.3 System function of a linear time invariant system.
		8/4/23	3.4. Minimum inverse Z-transform
		10/4/23	3.4.1 Inverse Z-transform by partial fraction expansion.
		11/4/23	3.4.2. Inverse Z-transform by
		15/4/23	contour Integration.

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B.I.E.T.,COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic
			UNIT-IV: DISCRETE FOURIER TRANSFORM: ITS APPLICATIONS PROPERTIES:
		17/4/23	4.1 Concept of discrete fourier transform.
		18/4/23	4.2. frequency domain sampling and reconstruction of discrete time signals.
		21/4/23	4.3 Discrete Time Fourier Transformation (DTFT).
		24/4/23	
		25/4/23	4.4 Discrete fourier transformation (DFT);
		28/4/23	4.5 Compute DFT as a linear transformation.
		29/4/23	4.6 Relate DFT to other transform.
		1/5/23	4.7 Property of the DFT.
		2/5/23	4.8 Multiplication of two DFT ; circular convolution.

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B.I.E.T.,COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic
			FAST FOURIER TRANSFORM ALGORITHM & DIGITAL FILTER :-
		6/5/23	5.1 Compute DFT & FFT algorithm.
		8/5/23	5.2. Direct computation of DFT.
		9/5/23	5.3 Divide and conquer Approach to computation of DFT.
		12/5/23	5.4 Radix-2 algorithm (small problem)
		15/5/23	5.5. Application of FFT algorithms.
		16/5/23	5.6 Introduction to digital filters. (FIR filters) & General consideration
		22/5/23	5.7. Introduction to DSP architecture familiarization of different types of processor.

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