

BHARAT INSTITUTE OF ENGINEERING & TECHNOLOGY

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



STUDENT'S ATTENDANCE REGISTER

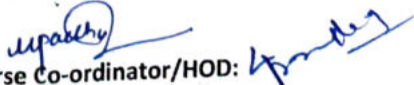
Time	4:00-5:00	5:15-6:15				
Day	ATT	ATT				
MON	✓					
TUE						
WED	✓					
THU		✓				
FRI						
SAT						

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

B.I.E.T., COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic
			<p style="text-align: center;"><u>Introduction of Signals, Systems & Signal Processing :-</u></p> <p>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.</p> <p>1.2 Classify signals :- → Multi channel & Multi dimensional signals. → Continuous time versus discrete time signal. → Continuous valued versus discrete valued signal.</p> <p>1.3 Concept of frequency in continuous time & discrete time signals. Continuous-time sinusoidal signal Discrete time sinusoidal signals</p>
		13/2/23	
		14/2/23	
		17/2/23	
		20/2/23	

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B.I.E.T., COURSE PLAN


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

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B.I.E.T., COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic
			<p><u>DISCRETE TIME SIGNALS & SYSTEMS :-</u></p>
		28/2/23	2.1. Concept of Discrete time signals.
			2.1.1. Elementary Discrete time signal.
			2.1.2. Classification Discrete time signals.
		3/3/23	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 system.
			2.2.3. Classify discrete time system.
		6/3/23	2.2.4. Inter connection of discrete time system.
			2.3. Discrete time-time-invariant 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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Month	Week	Class Day	Theory/Practical Topic
			<p><u>THE Z-TRANSFORM & ITS APPLICATION TO THE ANALYSIS OF LTI SYSTEM :-</u></p>
		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. 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 contour integration.
		15/4/23	


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B.I.E.T., COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic	Month
			<p><u>MISCELLANEOUS FOURIER TRANSFORMS:</u> <u>ITS APPLICATIONS PROPERTIES:</u></p>	
		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
			<u>FAST FOURIER TRANSFORM ALGORITHM</u> & <u>DIGITAL FILTER</u>
		6/5/23	5.1 Compute NFT & FFT algorithm.
		8/5/23	5.2. Direct computation of NFT.
		9/5/23	5.3 Divide and conquer Approach to computation of NFT.
		12/5/23	5.4 Radix-2 algorithm (small problem)
		15/5/23	5.5. Application of FFT algorithm.
		16/5/23	5.6 Introduction to digital filters. (FIR filters) & General consideration
		22/5/23	5.7. Introduction to MSP architecture familiarisation of different types of processor.

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