VEER SURENDRA SAI UNIVERSITY OF TECHNOLOGY, BURLA

Semester : 6th Sem, B-Tech   **LESSON PLAN**   **Subject:** SS-II
Session : MAY 2017   **Theory/Sessional:** Theory
Branch/Course : Electrical & Electronics Engineering (EEE)
Name of the Faculty Member: Mrs. Sarmila Garnaik

Period	Module/ No.	Topic to be covered	Remarks
1		Introduction to DSP	
2		Classification of discrete time signals. Elementary examples periodic and aperiodic.	
3		Energy signal and power signal, even and odd signal	
4		Block diagram representation of discrete time systems	
5		Classification of discrete time system	
6		Different types of DTS: static and dynamic time variant and invariant linear and nonlinear system, causal and anti-cuasal, stable and unstable, recussive and non-recurssive system	
7	I	Analysis and response (convolution sum) of discrete time linear LTI system	
8		Constant coefficient difference equations and their solutions.	
9		Impusle response and step response of LTI sytem.	
10		Structure of LTI system, recursive and non-recurssive realization of FIR system.	
11		Introduction to Z transform.	
12		The Ztransform and one sided Z- transform.	
13		Properties of Z- transforms	
14	II	Inverse of Z-transforms.	
15		Introduction to DFT	
16		DFT and IDFT	
17		Relationship of DFT with Z-transform and FT	
18		Properties of DFT: periodicity, linearity etc.	
19		Circular convolution and circular correlation	
20		Methods of linear convolution by circular convolution by overlap add and save	
21		Introduction to First Foriour transform	
22		Radix to FFT algorithm	
23		Decimation in time FFT algorithm	
24		Decimation in frequency DIF algorithm	
25	III	Efficient computation of DFT of two real sequences	
26		Efficient computation of DFT of 2 N-pt real sequences	
27		Design of digital filters	
28		Linear phase FIR filters	
29		Design of linear phase FIR filter using different windows	
30		Design of IIR filter	
31		Impulse invariance method	
32		Bi-linear transformation methods	
33		Digital filter structures	
34	IV	Direct form I and Direct form II structure	
35		Parallel structure and cascade structure	
36		Structure of IIR system	
37		Implementation of discrete time system and structure for FIR system	
38		Estimation of spectral from final duration signals	
39		Non-parametric methods of power spectrum estimation	
40		The Bartieff method and Blackman and Turkey method	

Signature of the Faculty Member
Date:

                                        Counter Signature of HOD