

Subject Code & Name: Digital Signal Processing Class / Semester: III B.Tech II Semester

Branch: ECE-A
Academic Year: 2017-2018

LESSON PLAN

Per iod	Date (Tentative)	Topic	Unit No.	Teaching Methodology	Rem arks
Unit-1 : Introduction					
1.	21.11.2017	Introduction to Digital Signal Processing.	1	Chalk &Talk	
2.	22.11.2017	Blockdiagram,Advantages,Disadvantages and applications of DSP	1	Chalk &Talk	
3.	24.11.2017	Classification of signals	1	Chalk &Talk	
4.	25.11.2017	Mathematical operations on Discrete time signals	1	Chalk &Talk	
5.	28.11.2017	LTI systems	1	Chalk &Talk	
6.	29.11.2017	stability and causality	1	Chalk &Talk	
7.	01.12.2017	Linear constant coefficient difference equations.	1	Chalk &Talk	
8.	05.12.2017	Linear constant coefficient difference equations.	1	Chalk &Talk	
9.	06.12.2017	Frequency domain representation of discrete time signals and systems	1	Chalk &Talk	
10.	08.12.2017	Frequency domain representation of discrete time signals and systems	1	Chalk &Talk	
11.	12.12.2017	Frequency domain representation of discrete time signals and systems	1	Chalk &Talk	
12.	13.12.2017	Properties of discrete Fourier series	1	Chalk &Talk	
13.	15.12.2017	Properties of discrete Fourier series	1	Chalk &Talk	
14.	16.12.2017	DFS representation of periodic sequences	1	Chalk &Talk	
15.	19.12.2017	DFS representation of periodic sequences	1	Chalk &Talk	
Unit-2:Discrete Fourier transform					
16.	20.12.2017	Introduction to DFT	2	Chalk &Talk	
17.	26.12.2017	Properties of DFT	2	Chalk &Talk	
18.	27.12.2017	Properties of DFT	2	Chalk &Talk	
19.	29.12.2017	Properties of DFT	2	Chalk &Talk	
20.	30.12.2017	linear convolution of sequences using DFT.	2	Chalk &Talk	
21.	02.01.2018	linear convolution of sequences using DFT.	2	Chalk &Talk	
22.	03.01.2018	Computation of DFT.	2	Chalk &Talk	
23.	05.01.2018	Radix-2 decimation in time FFT	2	Chalk &Talk	
24.	06.01.2018	Radix-2 decimation in time FFT	2	Chalk &Talk	
25.	09.01.2018	Radix-2 decimation in frequency algorithms.	2	Chalk &Talk	
26.	10.01.2018	Radix-2 decimation in frequency algorithms	2	Chalk &Talk	
27.	19.01.2018	Z - Transform: Definition, properties, ROC		Chalk &Talk	
28.	20.01.2018	Inverse Z-Transform		Chalk &Talk	
29.	23.01.2018	Relation between Fourier transform and Z-transform and applications.		Chalk &Talk	
Unit-3 :IIR Digital Filters:					
30.	24.01.2018	Solution of difference equations of digital filters.	3	Chalk &Talk	
31.	26.01.2018	block diagram representation of linear constant-coefficient difference equations	3	Chalk &Talk	
32.	27.01.2018	basic structures of IIR systems, (Direct form)	3	Chalk &Talk	
33.	30.01.2018	basic structures of IIR systems, (Cascade form)	3	Chalk &Talk	
34.	31.01.2018	basic structures of IIR systems(Parallel)	3	Chalk &Talk	
35.	06.02.2018	basic structures of IIR systems Lattice - Ladder & transposed forms.	3	Chalk &Talk	

36.	07.02.2018	Analog filter approximations - Butterworth	3	Chalk &Talk	
37.	10.02.2018	Analog filter approximations - Butterworth	3	Chalk &Talk	
38.	13.02.2018	Analog filter approximations Chebyshev	3	Chalk &Talk	
39.	14.02.2018	Analog filter approximations Chebyshev	3	Chalk &Talk	
40.	16.02.2018	impulse invariant method, matched z - transforms, frequency transformation (analog and digital domains), problems	3	Chalk &Talk	
Unit-4 : FIR Digital Filters:					
41.	17.02.2018	Basic structures of FIR systems (Direct form)	4	CR/LCD	
42.	20.02.2018	Basic structures of FIR systems (Cascade form, Frequency Sample, Lattice)	4	CR/LCD	
43.	21.02.2018	Characteristics of FIR digital filters	4	CR/LCD	
44.	23.02.2018	frequency response of FIR digital filters	4	Chalk &Talk	
45.	24.02.2018	frequency response of FIR digital filters	4	Chalk &Talk	
46.	25.02.2018	Design of FIR digital filters using window techniques.	4	Chalk &Talk	
47.	28.02.2018	Design of FIR digital filters using window techniques.	4	Chalk &Talk	
48.	02.03.2018	Design of FIR digital filters using window techniques.	4	Chalk &Talk	
49.	03.03.2018	frequency sampling technique. Comparison of IIR and FIR filters	4	Chalk &Talk	
50.	06.03.2018	Decimation, Interpolation.	4	Chalk &Talk	
51.	07.03.2018	Implementation of sampling rate conversion	4	Chalk &Talk	
Unit-5: Introduction to DSP Processors					
52.	09.03.2018	Introduction to programmable DSPs, Multiplier and Accumulator (MAC)	5	Chalk &Talk	
53.	10.03.2018	Modified Bus Structures and Memory Access schemes in DSPs	5	LCD	
54.	13.03.2018	Multiple access memory	5	LCD	
55.	14.03.2018	multiport memory, VLSI Architecture, Pipelining.	5	LCD	
56.	16.03.2018	Special addressing modes, On-Chip Peripherals.	5	LCD	
57.	17.03.2018	Architecture of TMS 320C5X- Introduction, Bus Structure, Central Arithmetic Logic Unit	5	LCD	
58.	19.03.2018	Auxiliary Registrar, Index Registrar, Auxiliary Registrar	5	Chalk &Talk	
59.	20.03.2018	Compare Register	5	Chalk &Talk	
60.	21.03.2018	Block Move Address Register, Parallel Logic Unit	5	Chalk &Talk	
61.	21.03.2018	Memory mapped registers, program controller	5	Chalk &Talk	
62.	21.03.2018	Some flags in the status registers, On- chip registers, On-chip peripherals.	5	Chalk &Talk	

Faculty Name: K.Chitambar Rao

CR: CLASS ROOM OHP: OVERHEAD PROJECTOR LCD

Text Books:

- Digital Signal Processing, Principles, Algorithms, and Applications - John G. Proakis, Dimitris G.Manolakis, Pearson Education/PHI, 2007.
- Discrete Time Signal Processing - A.V.Oppenheim and R.W. Schaffer, PHI.
- Digital Signal Processors - Avatar Singh, S. Srinivasan, Cengage Learning Ind. Pvt. Ltd., 2004.

Reference Books:

- Digital Signal Processing - Andreas Antoniou, Tata McGraw Hill, 2006.
- Digital Signal Processing - MH Hayes, Schaum's Outlines, Tata McGraw Hill, 2007.

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