

**Aditya Institute of Technology and Management (Autonomous), Tekkali**  
**III ECE-A, 2014-15 SEM-II**

**Subject: Digital Signal Processing**

**Subject Code: 13EC3020**

**Name of the faculty: Sri. D.Yugandhar**

**Semester: 6**

**Branch: ECE**

Periods	Date (Tentative)	Topic	Unit No	Teaching Methodology	Remarks	Corrective Action Upon Review
1	19-01-15	Need of signal processing. DSP Introduction	Unit I	BB		
2	20-01-15	Signals & system types, Impulse response		BB		
3	20-01-15	Stability & Causality. Advantage of DSP.		BB		
4	21-01-15	Classification of discrete time systems		BB		
5	22-01-15	Classification of discrete time systems		BB		
6	23-01-15	Representation of differential and difference equations.		BB		
7	26-01-15	Frequency domain representation of discrete time signals and systems.		BB		
8	27-01-15	Introduction to discrete Fourier series (DFS), Problems on DFS.	Unit II	BB		
9	27-01-15	Properties of DFS		BB		
10	28-01-15	Properties of DFS, Problems on DFS.		BB		
11	29-01-15	Introduction to Discrete Time Fourier Transform (DTFT) and Discrete Fourier Transform (DFT)		BB		
12	02-02-15	Properties of DFT		BB		
13	02-02-15	Linear and Circular Convolution		BB		
14	03-02-15	Relation between DTFT and DFT		BB		
15	04-02-15	Fast Fourier Transform (FFT) Introduction	Unit III	BB		
16	05-02-15	FFT Computation using Decimation in time(DIT) – Radix 2 FFT		BB		

		algorithm, Problems	Unit IV			
17	09-02-15	FFT Computation using Decimation in frequency(DIF) – Radix 2 FFT algorithm		BB		
18	10-02-15	Problems		BB		
19	10-02-15	Problems		BB		
20	11-02-15	FFT for composite N		BB		
21	12-02-15	Problems		BB		
22	16-02-15	Introduction to Z-transform, Inverse Z-transform		BB		
23	17-02-15	Properties of Z-transform Problems on Z-transform, Relation between Z-transform and DFT.		BB		
24	17-02-15	Block diagram representation of linear coefficient difference equation, Transfer function, Zeros and Poles representation.		BB		
25	18-02-15	Basic structures of FIR systems		BB		
26	23-02-15	Basic structures of IIR systems		BB		
27	24-02-15	Transposed form of IIR filters.		BB		
28	25-02-15	Problems & Solutions		BB		
29	02-03-15	IIR Filter introduction, Digital versus analog filters.	Unit V	BB		
30	03-03-15	Design of analog Butterworth Filter		BB		
31	04-03-15	Design of analog Chebyshev Filter		BB		
32	05-03-15	Comparison between Butterworth and Chebyshev filters.		BB		
33	16-03-15	Frequency transformation in analog domain		BB		
34	17-03-15	Design of IIR digital filters using impulse invariance technique and bilinear transformation.		BB		
35	18-03-15	Prewarping, Problems on realization techniques		BB		
36	19-03-15	Problems - Solutions		BB		

37	23-03-15	Problems - Solutions		BB		
38	24-03-15	Design of FIR filter using windowing techniques	Unit VI	BB		
39	25-03-15	Design of FIR filter using windowing techniques		BB		
40	26-03-15	Design of FIR filter using windowing techniques		BB		
41	30-03-15	Problems & Solutions		BB		
42	31-03-15	Digital differentiator		BB		
43	01-04-15	Design of FIR filters using frequency sampling techniques Basic structures of FIR filters		BB		
44	02-04-15	Problems & Solutions		BB		
45	03-04-15	Basic structures of FIR filters		BB		
46	06-04-15	Comparison of FIR and IIR Filters		BB		
47	07-04-15	Introduction to Multirate signal processing, Decimation (Down sampling),	Unit VII	BB		
48	08-04-15	Spectrum of down sampled signal.		BB		
49	09-04-15	Interpolation (Up sampling). Spectrum of up sampled signal.		BB		
50	10-04-15	Multistage implementation of sampling rate conversion		BB		
51	13-04-15	Multistage implementation of sampling rate conversion		BB		
52	14-04-15	Filter bank concept		BB		
53	15-04-15	Problems		BB		
54	16-04-15	Introduction to P-DSP Processors, Bus architecture	Unit VIII	BB/PPT		
55	20-04-15	Applications of DSP Processor		BB		
56	21-04-15	Architecture of 320C5X DSP, Register Set.		PPT		

57	22-04-15	MAC representations		PPT		
58	23-04-15	Pipe line concepts.		PPT		
59	24-04-15	TMS 320C 50 Structure		PPT		
60	27-04-15	TMS 320C 50 Instructions		PPT		
61	28-04-15	Addressing modes of P-DSP , On chip peripherals		PPT		
62	29-04-15	CISC & RISC architectures		PPT		

Signature of the faculty

Signature of HOD/ECE