

Aditya Institute of Technology and Management (Autonomous), Tekkali
III ECE-A, 2015-16 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 | 04-01-2016 | Need of signal processing. DSP Introduction | Unit I | BB | | |
| 2 | 05-01-2016 | DSP Block diagram, advantage & drawbacks of DSP. | | BB | | |
| 3 | 05-01-2016 | Introduction to discrete time signals and sequences | | BB | | |
| 4 | 08-01-2016 | Types of standard discrete time signals | | BB | | |
| 5 | 11-01-2016 | Classification of discrete time systems | | BB | | |
| 6 | 12-01-2016 | Classification of discrete time systems | | BB | | |
| 7 | 12-01-2016 | Representation of differential and difference equations. | | BB | | |
| 8 | 18-01-2016 | Frequency domain representation of discrete time signals and systems. | | BB | | |
| 9 | 19-01-2016 | Introduction to discrete Fourier series (DFS), Problems on DFS. | | BB | | |
| 10 | 19-01-2016 | Properties of DFS | | BB | | |
| 11 | 22-01-2016 | Properties of DFS, Problems on DFS. | | BB | | |
| 12 | 25-01-2016 | Introduction to Discrete Time Fourier Transform (DTFT) and Discrete Fourier Transform (DFT) | Unit II | BB | | |
| 13 | 29-01-2016 | Relation between DTFT and DFT, | | BB | | |
| 14 | 01-02-2016 | Properties of DFT | | BB | | |
| 15 | 02-02-2016 | Linear and Circular Convolution | | BB | | |
| 16 | 02-02-2016 | Problems on convolution | | BB | | |

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|----|------------|--|----------|----|--|--|
| 17 | 05-02-2016 | Fast Fourier Transform (FFT)- FFT Computation using Decimation in time(DIT) – Radix 2 FFT algorithm, Problems | Unit III | BB | | |
| 18 | 08-02-2016 | FFT Computation using Decimation in frequency(DIF) – Radix 2 FFT algorithm | | BB | | |
| 19 | 09-02-2016 | FFT for composite N | | BB | | |
| 20 | 16-02-2016 | Introduction to Z-transform, Inverse Z-transform,. | | BB | | |
| 21 | 16-02-2016 | Properties of Z-transform | | BB | | |
| 22 | 19-02-2016 | Problems on Z-transform, Relation between Z-transform and DFT. | | BB | | |
| 23 | 22-02-2016 | IIR Digital filter introduction | | BB | | |
| 24 | 23-02-2016 | Block diagram representation of linear coefficient difference equation, Transfer function, Zeros and Poles representation. | Unit III | BB | | |
| 25 | 23-02-2016 | Basic structures of IIR systems | | BB | | |
| 26 | 26-02-2016 | Basic structures of IIR systems | | BB | | |
| 27 | 29-02-2016 | Transposed form of IIR filters. | | BB | | |
| 28 | 01-03-2016 | Design of analog Butterworth Filter | | BB | | |
| 29 | 01-03-2016 | Design of analog Chebyshev Filter | | BB | | |
| 30 | 04-03-2016 | Frequency transformation in analog domain | | BB | | |
| 31 | 07-03-2016 | Design of IIR digital filters using impulse invariance technique and bilinear transformation. | | BB | | |
| 32 | 08-03-2016 | Prewarping, Problems on realization techniques | | BB | | |
| 33 | 08-03-2016 | Problems - Solutions | | BB | | |
| 34 | 11-03-2016 | Problems - Solutions | | BB | | |
| 35 | 14-03-2016 | FIR filters- introduction | | BB | | |
| 36 | 15-03-2016 | Basic structures of FIR filters | | BB | | |

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| 37 | 15-03-2016 | Basic structures of FIR filters | Unit IV | BB | | |
| 38 | 21-03-2016 | Design of FIR filter using windowing techniques | | BB | | |
| 39 | 22-03-2016 | Design of FIR filters using Fourier Series method. | | BB | | |
| 40 | 22-03-2016 | Design of FIR filters using frequency sampling techniques | | BB | | |
| 41 | 28-03-2016 | Comparison of FIR and IIR Filters | | BB | | |
| 42 | 29-03-2016 | Problems. | | BB | | |
| 43 | 29-03-2016 | Problems. | | BB | | |
| 44 | 04-04-2016 | Introduction to Multirate signal processing, Decimation (Down sampling), Interpolation (Up sampling) | | BB | | |
| 45 | 05-04-2016 | Multistage implementation of sampling rate conversion | | BB | | |
| 46 | 08-04-2016 | Problems on Sampling rate conversion, Applications of Multirate signal processing | | BB | | |
| 47 | 11-04-2016 | Problems | | BB | | |
| 48 | 12-04-2016 | Introduction to P-DSP Processors, Bus architecture, Pipe line concepts. | Unit V | BB/PPT | | |
| 49 | 12-04-2016 | Addressing modes of P-DSP | | BB | | |
| 50 | 18-04-2016 | On chip peripherals,. | | PPT | | |
| 51 | 19-04-2016 | CISC & RISC architectures | | PPT | | |
| 52 | 22-04-2016 | Architecture of 320C5X DSP, Register Set. | | PPT | | |

Signature of the faculty

Signature of HOD/ECE