UNIT I:

Introduction:

Introduction to Digital Signal Processing: Discrete time signals & sequences, linear shift invariant systems, stability, and causality, linear constant coefficient difference equations. Frequency domain representation of discrete time signals and systems

UNIT II:

Discrete Fourier Series:


UNIT III:

Fast Fourier Transforms:

Fast Fourier transforms (FFT) - Radix-2 decimation-in-time and decimation-in-frequency FFT Algorithms, Inverse FFT and FFT with general Radix-N

UNIT IV:

Realization of Digital Filters:


UNIT V:

IIR Digital Filters:


UNIT VI:

FIR Digital Filters:

UNIT VII:

Multirate Digital Signal Processing

Introduction. Down sampling, Decimation. Up sampling, Interpolation, Sampling Rate Conversion, conversion of band pass signals. Concept of re-sampling. Applications of multi rate signal processing

UNIT VIII:

Finite Word Length Effects:


TEXT BOOKS:


REFERENCE BOOKS:

6. Digital Signal Processing – Nagoor Kani