

# **AMET 17 : DIGITAL SIGNAL PROCESSING**

**1 : Introduction** : Signal, Systems, and Signal Processing, Classification of Signals, The concept of frequency in continuous–time and discrete–time signals.

**2 : Discrete-Time Signals and Systems** : Discrete-time signals , Analysis of discrete – Time linear time – Invariant systems, Discrete – Time systems described by Difference equations.

**3 : The Z-Transform and its application to the analysis of LTI Systems** : The z-Transform , Properties of the z-Transform, Inversion of the z-Transform, The one-sided z-Transform.

**4 : Frequency Analysis of signals and systems** : Frequency analysis of continuous –time signals , Frequency analysis of discrete-time signals, Properties of the fourier Transform for Discrete-Time signals.

**5 : The discrete fourier transform** : Its properties and applications, Frequency domain sampling The discrete fourier transform, Properties of the DFT,

**6 : Sampling And Reconstruction Of Signals** : Introduction, Representation Of A Continuous-Time Signal By Its Samples: The Sampling Theorem, Sampling With A Zero-Order Hold, Sampling Of Bandpass Signals, Discrete-Time Processing Of Continuous-Time Signals.

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