

SYLLABUS :-

Pre-requisites: None  
Biomedical signals : origins and dynamic characteristics, mathematical preliminaries for statistical signal processing, Biomedical signal acquisition and processing for artifact removal, event detection, wave-shape and complexity analysis, frequency domain characterization, parametric modeling (viz. AR, MA and ARMA models) of biomedical systems with examples, analysis of non-stationary signals, pattern recognition, Compression of biomedical signals. Analysis of biomedical signal using advanced techniques (e.g. neural networks, orthogonal transformations including singular value decomposition) and wavelet transformation,). Nonlinear dynamical analysis of biomedical signals. Physiological modeling, identification and simulation. Control of physiological processes and computer controlled drug infusion medical signaling., Artificial intelligence methods for medical decision making.