

ANALOG COMMUNICATION

Code : EC 511 (EI)

Credits : 4

Module I

Signal Transmission through Linear Systems : Condition for distortionless transmission of signals through networks. Different types of distortion and their effect on the quality of output signals. Transmission of transient signals, distortion analysis.

Module II

Amplitude Modulation : Modulation principle and definitions, spectrum and power considerations, DSB,SSB, VSB and AM principles. Different type of modulator circuits, Square law modulator, Balanced modulator. Different circuits for generation of SSB and VSB. Basic principle of coherent detections, Square law detectors, Average envelope and peak envelope detectors. Carrier recovery.

Module III

Frequency and Phase Modulation : Principles and definitions, Relationship between frequency and phase modulations. Circuit for realization of FM and PM. Different type of demodulator, discriminator, use of PLL etc.

Module IV

Basic block diagram of radio transmitter (AM and FM), Basic block diagram of a radio receiver, Super-heterodyne principle, its advantages. Mixer principle and circuit, AGC.

Module V

System Noise : Signal to noise ratio of SSB, DSB, AM for coherent and envelope and square law detection, Threshold effect. Signal to noise calculation for FM and threshold.