SARDAR PATEL UNIVERSITY
Programme: B.Sc
Semester: III
Syllabus with effect from: June-2012

Paper Code: US03CELE02	Total Credit: 3
Title of Paper: Analog Communication	

Unit	Description in detail	Weightage (%)
I	**Principles of Communication system:** General communication system, Basic constituents of the communication system, Information source, transmitter, channel, receiver, Need for using high carrier frequency, classification of RF spectrum, Band width requirement, Classification of Noise, Types of Noise, Signal to Noise Ratio, Noise figure. Expression and Wave forms of Amplitude modulated Voltage, Definition, Expression and Wave forms of Frequency modulated Voltage, Definition, Expression and Wave forms of Phase modulated Voltage, Side bands of AM and FM wave.	**25%**
II	**Method of Amplitude modulation and Demodulation:** Classification of Amplitude modulation methods, Collector modulation, Square law diode modulation, Classification of Amplitude demodulation methods, Square law diode detector, Linear diode Detector, Choice of time constant RC in the Detector circuit.	**25%**
III	**Method of Frequency modulation and Demodulation:** Classification of Frequency modulation methods, Reactance Tube frequency modulator, Reactance FET, Reactance FET Frequency modulator, Frequency modulation using Varactor diode, Classification of FM detectors, Slope detector, balanced slope detector, Ratio detector.	**25%**
IV	**Antennas and wave propagation** Introduction, Antenna Action, Short electric doublet, Radiation Resistance and Power of Short electric doublet, Thin linear Antenna, Antenna measurements (Total Aerial Resistance, Radiation Resistance, Effective height). Types of Radio wave Propagation, Ground wave Propagation, Surface wave Propagation, Ionospheric Propagation, Space wave Propagation, Range of space wave propagation.	**25%**

Basic Text & Reference Books:

- Radio Engineering, (Applied Electronics Vol-2) by G.K.Mithal.
- Electronics Communication by Danis Roddy and Jhon Coolen.
- Electronics Communication Systems by Kennedy.