

SARDAR PATEL UNIVERSITY
Programme: B.Sc (Electronics & Communication)
Semester: V
Syllabus with effect from: June -2013

Paper Code: US05CELC04	Total Credit: 3
Title Of Paper: Digital Communication Systems	

Unit	Description in detail	Weighting (%)
I	Sampling Introduction, The sampling Theorem, proof of sampling theorem, Nyquist rate and Nyquist Interval, Reconstruction filter, Signal reconstruction: the Interpolation Formula, Effect of under sampling, sampling techniques, comparison of various sampling techniques	
II	Pulse Modulation Pulse Modulation, Analog Pulse Modulation, Pulse Amplitude Modulation, generation and Detection of PAM, Pulse Time Modulation, Pulse Width Modulation, generation and Detection of PWM Signal, Pulse Position Modulation, Generation and Detection of PPM Signal, Pulse code Modulation, transmission Bandwidth in PCM, Non Uniform Quantization, Companding, Compander Characteristics.	
III	Digital Modulation Techniques Introduction, Digital modulation Format, types of digital modulation techniques, Coherent Binary ASK, Binary phase shift keying, coherent Binary Frequency shift keying, Non coherent Binary modulation techniques.	
IV	Multiplexing Introduction, Time Division Multiplexing, T1 Carrier system, Line Encoding, Frame synchronization, Statistical TDM, Frequency Division Multiplexing, FDM Hierarchy, Composite Base band Signal, Formation of Group, Super Group and , Master Group.	

Basic Text & Reference Books:-

- Electronic Communication System – Blake (Thomson and Delmar)
- Electronic Communication System – Fundamentel through Advance – Wayne Tomasi (Pearson Education Asia)
- Digital Communication Systems with Satellite and fiber Optic Application- Harold Kolimiris (Pearson Education Asia)

