

Year & Sem: E2S2	Course Code: EC2201	Course Name: Digital Communications	No. of Credits: 4	L 2	T&PS 2	P 0
UNIT-I: Sampling: Impulse Sampling, Natural Sampling, Flat top sampling, Aliasing, Signal to Distortion Ratio UNIT-II: Pulse code modulation (PCM), Quantization, Design of uniform Quantizers, Non uniform Quantizers, Differential PCM, Delta Modulation UNIT-III: Information theory: Entropy, Source coding theorem, Mutual information, Channel coding theorem, Differential entropy, channel capacity UNIT-IV: Line codes, Inter symbol Interference, Minimum bandwidth calculations, Nyquist pulse, and Raised cosine pulse UNIT-V: Signal space analysis, Vector transmitter, Vector receiver, Maximum likely hood detection, Correlation and Matched filter receiver, Probability of error calculation, Union bound on probability of error UNIT-VI: Digital band pass modulation, BPSK, BFSK, BASK, M-array modulation, Coherence detection, Non coherence detection, DPSK, Probability of error and bandwidth calculation, Matlab simulations References/Text Books: 1. Simon Haykin, Digital Communications, Wiley India Edition, 2008 2. Proakis, Digital Communications, Fourth Edition, McGrawHill, 2000 Lecture Plan: Unit-I & -II syllabus for MID-I, Unit-III & -IV syllabus for MID-II and Unit-V & -VI syllabus for MID-III examinations. Video Lectures (Web Links): 1. http://www.nptel.ac.in/courses/108102096/ 2. http://www.nptel.ac.in/courses/117105077/ Study Materials (Web Links): 1. 2. Problems & Solutions (Web Links): 1. 2. Assignments (Web Links): 1. 2.						