EE- 607 DIGITAL COMMUNICATION

Credit	L	T	P
3	2	1	-

UNIT-I
Elements of information theory, Source coding theorem, Huffman coding, channel coding theorem, channel capacity theorem.

UNIT-II
Sampling process, Baseband and bandpass sampling theorems, reconstruction from samples, practical aspects of sampling and signal recovery, TDM.

UNIT-III
Waveform coding techniques, PCM, Channel noise and error probability, DPCM and DM, coding speech at low bit-rates, Prediction and adaptive filters, baseband shaping for data transmission, PAM signals and their power spectra, Nyquist criterion, ISI and eye pattern, equalization,

UNIT-IV
Digital modulation techniques: Binary and M-ary modulation techniques, coherent and non-coherent detection, bit v/s symbol error probability and bandwidth efficiency.
Error control coding: Rationale for coding, linear block codes, cyclic codes and convolutional codes, Viterbi codes decoding algorithm and trellis codes.
Spread spectrum codes: Pseudonoise sequences, Direct-sequence and frequency-Hop spread spectrum, signal-space dimensionality and processing gain.

UNIT-V
Data Networks: Communication networks, circuit switching, store-and-forward switching, layered architecture, packet switching, multiple access communication.

TEXT/REFFERENCE BOOKS

1. Data communication and networking: B.A. Forouzan: Tata Mc Graw Hill
2. Digital communication and design for the real world : Andy batenas (addi son)
3. Digital communication and design for the real world: S.K.LAR.
4. Digital communication systems: Kolinbiris.
5. Analog &digital communication: Roden
6. Digital communication: Proakis
7. Telecommunication by : Crane
8. Telecommunication systems &technology :Michael khalid
9. Digital &analog communication systems :William E. barre
10. Electronic communication modulation & Tech: Robert J.schoenbeck.