Digital Communication

Subject Code	:

IA Marks	: 25

No. of Lecture Hrs/Week	: 04

Exam Hours	: 03

Total no. of Lecture Hrs.	: 52

Exam Marks	: 100

PART - A

Unit - 1

Basic signal processing operations in digital communication. Sampling Principles: Sampling Theorem, Quadrature sampling of Band pass signal, Practical aspects of sampling and signal recovery.

7 Hours

Unit - 2

PAM, TDM. Waveform Coding Techniques, PCM, Quantization noise and SNR, robust quantization.

7 Hours

Unit - 3

DPCM, DM, applications. Base-Band Shaping for Data Transmission, Discrete PAM signals, power spectra of discrete PAM signals.

Written by Administrator
Saturday, 07 November 2009 05:20 -

6 Hours

Unit - 4

ISI, Nyquist's criterion for distortion less base-band binary transmission, correlative coding, eye pattern, base-band M-ary PAM systems, adaptive equalization for data transmission.

　□□□
□□□

6 Hours

PART - B

Unit - 5

Digital Modulation Techniques: Digital Modulation formats, Coherent binary modulation techniques, Coherent quadrature modulation techniques.   No n-coherent binary modulation techniques.

□□□□□Digital Communication□□□
□□□

7 Hours

Unit - 6

Detection and estimation, Model of DCS, Gram-Schmidt Orthogonalization procedure,
geometric interpretation of signals, response of bank of correlators to noisy input.

6 Hours

Unit - 7

Detection of known signals in noise, correlation receiver, matched filter receiver, detection of
signals with unknown phase in noise.

6 Hours

Unit - 8

Spread Spectrum Modulation: Pseudo noise sequences, notion of spread spectrum, direct

sequence spread spectrum, coherent binary PSK, frequency hop spread spectrum, applications.

□□□**□□□**□□□□□□□□□□
□□   □□□□□□□□□□
□□□□□□□□□□□□□□□□□□□□□□□□□□□□
□□□□□□□□□

7 Hours

Text Book:

1.   **Digital communications**, Simon Haykin, John Wiley, 2003.

Reference Books:

   1. **Digital   and analog communication systems & An introduction to Analog and Digital Communication**   , K. Sam   Shanmugam, John Wiley, 1996. 2.Simon Haykin, John Wiley, 2003
   2. **Digital   communications** - Bernard Sklar: Pearson education 2007