

FOLLOWING IS THE SYLLABUS TO BE COVERED IN THE COURSE NAME :

(1) COMMUNICATION SYSTEMS -I THEORY

(2) COMMUNICATION SYSTEMS-I LAB (ONLY SIMULATION)

BOOKS RECOMMENDED (AVAILABLE ONLINE)

(1) Network Analysis by Van Valkenburg for *Fourier Series and Analysis*

(2) Principles of Communication Systems by Taub and Schilling
for *entire syllabus *

(3) Electronic Communication Systems by George Kennedy for *entire syllabus *

(4) Electronic Communication Systems by Roddy Coollen for *entire syllabus *

Teacher Incharge

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Department of Computer Science & Engineering
National Institute of Technology, Srinagar.

Subject	:	Communication Systems				
Semester	:	4 th				
Department	:	Electronics & Communication Engineering				
Course No.	:	ECE 408				
Credits	:	4				
L	T	P	:	3	1	0

Course Details:

Special analysis of Signals:

Fourier series of repetitive signals, Fourier transform of non-repetitive signals, Amplitude spectrum of special signals viz., pulse train and pulse waveform.

Modulation:

AM, DSB/SC, SSB, VSB, Angle modulation, NBFM, WBFM, Diode detector, Frequency discriminator, AM & FM, Transmitter.

Demodulation:

AM and FM signals, Radio Receivers – AM & FM (Block diagram)

Noise Analysis:

Performance of AM & FM Systems, in presence of noise Threshold in AM & FM, Demodulation, pre emphasis and De emphasis, in FM Systems.

Digital Communication:

Sampling, Quantization, quantization noise, Coding, Pulse code Modulation; differential PCM, ADPCM, Relative advantages and dis-advantages. Delta modulation, PWM & PPM.

Digital Modulation Techniques:

ESK,FSK, DPSK Schemes.

Department of Computer Science & Engineering
National Institute of Technology Srinagar.

Subject	:	Communication Systems Lab				
Semester	:	4 th				
Department	:	Electronics & Communication Engineering				
Course No.	:	ECE 409 P				
Credits	:	1				
L	T	P	:	0	0	2

Lab Details:

- i) Generation and detection of amplitude modulated signals.
- ii) Generation and detection of frequency modulated signals.
- iii) To measure sensitivity, selectivity, and fidelity of a radio receiver.
- iv) To generate PAM and PDM signals using IC 555.
- v) To test a pulse code modulator.
- vi) To measure the noise figure of the following systems:-
 - A.M. System.
 - F.M. System.