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: 4th
Department: Electronics & Communication Engineering
Course No.: ECE 408
Credits: 4
LTP: 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:

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.

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<th>Subject</th>
<th>Communication Systems Lab</th>
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**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.