Max. Marks: 40+10*
Time: 3hrs.

Unit-I
Analog Modulation:- Communication Model, Modulation: AM, FM, PM (Quantitatively & Qualitatively), Demodulation, Relationship between FM & PM, Fourier Theorem, Fourier analysis.

Unit-II
Digital Modulation:- Analog to digital conversion: Pulse Modulation system, the sampling theorem for low pass and Band pass signals, PAM, channel Bandwidth for PAM, sampling rate, natural Sampling, quantization of signals, quantization errors

Unit-III
Modulation Systems:- The PCM System, Bandwidth requirements of PCM, Noise in PCM System, Companding, DPCM, Delta Modulation System ,Noise in Delta Modulation System, Comparison of PCM & DM System.

UNIT-IV
Digital Communication:- Elements of digital communication, Analysis & design of communication system, bit rate, baud rate, transmission rate, Bandwidth requirement, ec transmission errors, echo suppressor, Echo canceller, Characteristics of digital Communication.

Reference Books:
1. Principles of communications system by Taub and Schilling
2. Electronic communication System by George Kennedy.
3. Data communication By Forouzan.
4. Analog & digital communication By K. Sam shamunagam
5. Computer Network By Tannenbaum

Note:

1. Syllabus in each Theory Paper is divided in 4 units.
   I. A Student is required to attempt 5 questions in all.
   II. Question No 1 is compulsory, consisting of short answer type questions based on all the 4 units.
   III. Two questions will be set from each unit. A student is required to attempt one question from each unit.
   IV. All questions carry equal marks.
2. Use of simple calculator is permissible.
3. Instructions should be imparted using SI system of units. Familiarity with CGS   system of units should also be ensured.
4. Distribution of Marks: 40+10*= 50.
   * Each question paper will be of 40 marks and 10 marks in each theory paper are awarded through internal assessment in each semester.
5. Work load – 3 periods per week per theory paper.