Assignment -I

4th Semester

Communication Systems

Q1. What is the difference between analog and digital Communication System.

Q2. What is modulation? Explain the need of modulation in Communication System?

Q3. What is difference between low level Amplitude modulation and High level modulation?

Q4. Draw the waveforms for AM signal for undermodulation, overmodulation and 100% modulation.

Q5. What are the advantages, disadvantages and applications of AM?

Assignment -2

4th Semester

Communication Systems

Q1. Draw the circuit diagram of DSB-SC & write the formulae of modulation index of AM wave?

Q2. Draw the circuit diagram of Modulation and Demodulation of FM.

Q3. Explain vestigial sideband modulation? What is its bandwidth?

Q4. Compare AM DSB-SC and SSB-SC?

Q5. A 400W carrier is modulated to a depth of 75%. Calculate the total power in the modulated wave?

Assignment -3

4th Semester

Communication Systems

Q1. Explain Centre Limit Theorem (CLT)?

Q2. Explain the demodulation of PAM, PWM & PPM with suitable diagram?

Q3. Explain the difference between Narrowband FM and Wideband FM?

Q4. Define the following terms for FM wave

i) Carrier Swing

ii) Frequency deviation

iii) Percentage Modulation

iv) Instantaneous Frequency.

Q5. What is Carson's Rule?

Assignment - 4

4th semester

Communication Systems

Q1. What is aliasing and how to overcome aliasing?

Q2. State and Explain Sampling theorem?

Q3. Give the relationship between CDF and Pdf.

Q4. Draw the NRZ and Bipolar RZ, AMI Signalling format for a given binary sequence 1101110.

Q5. Define Ergodicity?

Assignment - 5

4th Semester.

Communication Systems

Q1. The joint Pdf of two random variables X & Y is given as -

$$f_{XY}(x,y) = K(2x+y)$$

for $0 \le x \le 2$

$0 \le y \le 3$

$= 0$ otherwise

a) Determine the value of constant K.

b) Write properties of CDF.

Q2. What is Slope overload distortion and Granular noise in Delta modulation and how it is removed in adaptive delta modulation ?

Q3. Explain ISI ?

Assignment - 6

4th Semester

Communication Systems

Q1. Explain the Generation of MSK modulation?

Q2. What is the Probability of error in Ask, FSK and BPSK?

Q3. Draw the Waveform of ASK, FSK & BPSK?

Q4. Explain Matched Filter?

Q5. Derive the power Relations of AM system