

AllAbtEngg.com
For Questions, Notes, Syllabus & Results

EC 8395 Communication Engineering
Important 13mark Questions

Unit I

1. Explain the working of FM super heterodyne receiver with neat block diagram.
2. Discuss the generation of SSB using filter and phasing method.
3. Compare AM and Narrow band FM with phasor diagram and expressions.
4. Derive the expression for AM. Draw the spectrum and phasor diagram. Draw the waveform representing modulating signal, carrier signal and modulated signal for AM.

Unit II

1. Describe delta modulation in detail with neat block diagram. Also describe the quantization error in delta modulation.
2. Draw and explain the TDM with its applications.
3. Explain the steps involved in PCM encoder and decoder. Derive the expression for signal to noise ratio for PCM.

Unit III

1. Derive the expression of probability of error in BPSK.
2. Explain coherent detection of BFSK signal and derive the expression for probability of error.
3. Discuss the operation of QPSK modulator with neat diagram. Draw its phasor and constellation diagram.
4. Explain QAM modulation system with its constellation and schematic diagrams.

Unit IV

1. Find the entropy of a binary memory less source and find where it is maximum.
2. Consider a binary memoryless source X with two symbols x_1 and x_2 . Show that $H(X)$ is maximum when both x_1 and x_2 are equiprobable.
3. A discrete memoryless source X has four symbols x_1, x_2, x_3 and x_4 with $P(x_1) = 0.5, P(x_2) = 0.25$ and $P(x_3) = P(x_4) = 0.125$. Construct a Shannon-Fano code for X: Show that this code has the optimum property that $n_i = I(x_i)$ and that the code efficiency is 100 percent.

Unit V

1. Explain the operation of FH-SS. Compare slow and fast FH-SS.
2. Discuss the FDMA and TDMA techniques used in wireless communication with their merits and demerits.
3. Explain the various multiple access techniques with neat diagram. List the advantages and disadvantages of each technique.
4. What are PN sequences? What are the properties of PN sequences?