Anna University Exams Nov/Dec 2015 – Regulation 2013
Rejinpaul.com Unique Important Questions – 3rd Semester BE/BTECH
CS6304 ANALOG AND DIGITAL COMMUNICATION

UNIT 1

PART A

1. What is the bandwidth of the FM signal if the frequency sensitivity of the modulator is 25khz per volt.
2. Daw the spectrum of an AM signal .
3. What is the need for modulation.
4. An amplifier operating over the frequency range from 18 to 20 mhz has a 10 kohm input resistor . What is rms noise voltage at the input to this amplifier if the ambient temperator is 27C.
5. As related to AM, what is over modulation, under modulation and 100% modulation?

PART –B

1. Derive the expression for a AM wave and draw its spectrum.its generation and detection
2. Draw the phasor diagram of a wideband FM and explain the BW od FM signal
3. (a)Explain the difference between PM &FM.(b) Describe the internal noise
4. In modulation by several sine waves simultaneously in am the BW requiredis twicethe highest modulating frequency .Prove THIS CONCEPT USING appropriate expressions
5. calculate the percentage powersaving when the carrier andoneofthe sidebands are suppressed in an AM wave modulated to a depth of (1)100 %(2)50%
6. Describe FM and PM and their inter relationship

Unit -2

PART-A

1. sketch the QPSK signal for th binary sequence 11001100
2. Compare QPSK AND 16 PSK in terms of BANDWIDTH
3. For an 8 psk ,operating with an information bitrate of kbps determine bandwidth efficiency
4. What is difference between std FSK&MSK?WHAT IS THE ADVANTAGE OF MSK?

PART-B

1. Write a note on QPSK transmitter,receiver,BW .
2. Compare and contract the various digital communication systems.
3. Write a note onconstellation diagram of QPSK modulator &demodulator
4. Explain the QAM generation and demodulation of QAM

UNIT -3

PART-A

1. Determine the odd and even parity bits for the ASCII CHARACTER WHOSE HEX CODE IS 52.
2. What are the two primary methods used for error correction?
3. State the need for companding in a PCM SYSTEM .
4. Mention how PPM is DERIVED FROM PWM.

PART-B

1. Discuss about Serial and parallel interface.
2. Discuss about the generation of PAM AND ITS MODULATION &DEMODULATION.
3. Discuss the STDs of organisation for data communications
4. Explain the concept of data communication circuits using a basic block diagram

5. **Discuss the detail the concepts of PCM**

UNIT-4

PART-A

1. **An event has 6 possible outcomes with probalities1/2,1/4,1/8,1/16,1/132,1/32.Find the entropy.**
2. **What is mutual information.**
3. **Define entropy**
4. **What are linear block codes.**

PART-B

1. **Explain the viterbi's decoding procedure is used for decoding convolutional codes.**
2. **Derive the expression for channel capacity of a continuous channel .comment on the trade off between SNR and capacity.**
3. **Find the Huffman code for a discrete memoryless source with probabilities {0.1,0.1,0.2,0.2,0.4},Describe the concept of channel capacity.**
4. **Writeshort notes on linear block codes , viterbi's decoding.**

UNIT -5

PART-A

1. **What is near far effect in a CDMA SYSTEM**
2. **Define the term frequency reuse factor in a cellular communication system.**
3. **What is Handoff .**
4. **Why employed to model coverage areas of mobile communication.**

PART-B

1. **Discuss in detail about cellular concept and frequency reuse.**
2. **Describe the concepts of satellite communication.**
3. **Draw the architecture of GSM SYSTEM and explain the function of each block.**
4. **Explain the different multiple access in wireless systems.**

All the Best for Exams