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B.EDEGREE END SEMESTER EXAMINATIONS, OCT/NOV 2011
ELECTRONICS AND COMMUNICATION ENGINEERING BRANCH
V SEMESTER

EC 371 Communication Thoery and systems

Time: 3 hr.

Max.Mark:100

Answer ALL Questions

PART – A

(10 X 2 =20 MARKS)

1. What is the advantage of single side band suppressed carrier modulation?
2. Draw the pre envelope of the signal $x(t)=\cos 200\pi t+\sin 100\pi t$.
3. How is wide band FM signal distinguished from narrowband FM signal?
4. Frequency modulation is more immune to noise . Discuss How?
5. Define noise equivalent temperature.
6. What is meant by FM threshold effect?
7. State lowpass sampling theorem?
8. What is meant by non uniform quantization? What is the need for it?
9. Draw the frame format of T1 carrier system.
10. State the advantage of Adaptive DPCM over DPCM.

PART – B

(5 X 16 =80 MARKS)

11. i.Explain the function of slope detector as a frequency discriminator. (12)
- ii. Draw the block diagram and explain the method of generating phase modulated signal from frequency modulated signal . (4)
- 12.a. ii. Draw the block diagram of super heterodyne receiver and explain the function of each block indetail. (16)

OR

- b.i) Explain a phase discrimination method of generating SSB SC signal. (8)
- ii) With an practical application-explain the process of Frequency Division Multiplexing

applied in communication systems. (8)

13.a. Derive the figure of merit of FM system. (16)

OR

b. i. Derive the figure of merit of AM system. Compare the noise performance of DSBSC and SSBSC with AM. (12)

ii. Describe the term noise figure of a receiver. (4)

14.a.i. Explain the generation of pulse amplitude modulated signal. (6)

ii. Briefly discuss A law and μ law companding techniques applied to voice signal. (6)

iii. Briefly explain the quadrature sampling process. (4)

OR

b.i. Describe the concept of vector quantization. Explain the LBG algorithm used in the process of code book generation for a vector quantizer considering an example.

15a. Draw the block diagram of pulse code modulation system and each block in detail.

OR

b.i. Describe the subband coding technique applied for speech signals. Also explain the adaptive subband technique used to overcome the draw backs of subband coding. (10)

ii. Explain the concept of Linear Predictive Coding technique applied in the coding of speech signals. (6)
