ANNA UNIVERSITY COIMBATORE

B.E. / B.TECH. DEGREE EXAMINATIONS : SEPTEMBER 2009

REGULATIONS – 2007

THIRD SEMESTER

070250003 – PRINCIPLES OF DIGITAL COMMUNICATION

(COMMON TO CSE / IT)

TIME : 3 Hours **Max.Marks : 100**

PART – A

(20 x 2 = 40 MARKS)

ANSWER ALL QUESTIONS

1. Define modulation?
2. Define depth of modulation
3. What are the types of AM modulators
4. The antenna current of an AM transmitter is 8A when only carrier is sent. It increases to 8.93A. When the carrier is modulated by a sine wave. Find the percentage of modulation.
5. Compare AM with DSB-SC and SSB-SC?
6. Define frequency modulation?
7. Define modulation index of frequency modulation?
8. Define phase modulation?
9. Define phase deviation?
10. Define frequency deviation?
11. Define Noise?
12. Define signal to Noise ratio?
13. Define noise figure?
14. Explain White Noise
15. Define random process.
16. What is Pre-emphasis?
17. What is De-emphasis?

18. Define Sampling theorem?
19. Explain Shannon-Fano coding?
20. State the properties of mutual information?

PART – B

(5 x 12 = 60 MARKS)

ANSWER ANY FIVE QUESTIONS

21. Derive the expression for AM its Power and Efficiency calculation
22. Explain the Narrow Band Frequency Modulation?
23. Explain the method of generation of FM signal
24. Define noise figure and obtain an expression for noise figure of an amplifier.
25. Explain the procedure of Shannon Fano coding Algorithm and Huffman coding Algorithm?
26. Find the channel capacity of binary erasure channel P(x1) =.
27. Compare phase shift method and modified phase shift method.
28. What do you mean Noise? Give different type of noise - explain

*****THE END*****