ANNA UNIVERSITY COIMBATORE

B.E./ **B.TECH. DEGREE EXAMINATIONS: MAY / JUNE 2010 REGULATIONS: 2008**

THIRD SEMESTER: COMPUTER SCIENCE AND ENGINEERING

080230008 - ANALOG AND DIGITAL COMMUNICATION

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

PART-A **(20 x 2 = 40 MARKS)**

ANSWER ALL QUESTIONS

1. What is meant by repetition rate of the AM Envelope?
2. Describe the upper and lower sidebands
3. Define modulation coefficient and percent modulation
4. List and describe the three types of distortion that reduce fidelity of a receiver
5. Give the relationship between instantaneous carrier phase and modulating signal for PM
6. State Carson's general rule for determining the bandwidth for an angle modulated wave
7. Define Carrier Swing
8. Define high modulation index
9. Compare delta modulation PCM and standard PCM
10. Define coding efficiency
11. Differentiate natural sampling and flat top sampling
12. Compare QPSK and DPSK
13. What does AM-DSBFC stand for?
14. What is meant by a front end of a receiver
15. Define QAM and Quad bit
16. Why purely random sequence cannot be used as a code in COMA system.
17. Define TDMA and FDMA
18. Compare Fast and Slow frequency hopping
19. What do you mean by signaling rate?
20. Define processing gain

PART- B

(5 x 12 = 60 MARKS)

ANSWER ANY FIVE QUESTIONS

21. Describe the Super heterodyne receiver operation (frequency conversion, local oscillator tracking and image frequency rejection)

22. Draw the block diagram of an Armstrong indirect FM transmitter and describe its operation

23. Explain Delta modulation PCM Receiver . Describe slope overload distortion and granular noise

24. In a binary PCM system, the output signal to quantization noise ratio is to be a minimum of 40dB. Determine the number of required levels, and find the corresponding out signal to quantization noise ratio.

25. Draw the block diagram of a QPSK transmitter and explain. Derive the bandwidth requirement of a QPSK system.

26. Explain in detail about the Parallel interface with its control signals and timing information

27. Draw the block diagram of a DS spread spectrum system and explain its working

28. Discuss on the following: Asynchronous modem, low-speed modem, medium and high speed modem.

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