ANNA UNIVERSITY COIMBATORE

B.E. / B.TECH. DEGREE EXAMINATIONS : DECEMBER 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.   What is amplitude modulation?
2.   Define modulation index for AM & FM.
3.   Compare FM and PM.
4.   What is Carson's rule? Give its use.
5.   Differentiate Binary PSK and QPSK.
6.   Which digital modulation technique gives better error probability?
7.   What is QAM?
8.   State the Shannon's Hartley Law.
9.   Define Pulse Code Modulation.
10.   State Sampling theorem for band pass signals.
11.   Define adaptive delta modulation.
12.   What is eye pattern?
13.   Define code efficiency.
14.   Define Echoplex
15.   What are the advantages of parallel transmission?
16.   Give the difference between synchronous & asynchronous modem.
17.   Define processing gain for DS SS technique.
18.   What are the advantages of FH SS techniques?
19.   What is the advantage of a spread spectrum technique?
20.   What are the features of code Division multiple Access?

PART – B

(5 x 12 = 60 MARKS)

ANSWER ANY FIVE QUESTIONS

21. a   Derive the expression for AM wave& plot waveform. And also derive the total   8
        power of AM
    b   Write short notes on bandwidth of FM   4

22. a   Explain in detail about Quadrature Phase Shift Keying with neat block   8
        diagram
    b   What is meant by DPSK?   4

23. a   What is carrier recovery? Explain the any one method of carrier recovery?   8
    b   Explain with neat block diagram FSK transmitter.   4

24. a   Write short notes on Intersymbol Interference.   8
    b   Write short notes on differential PCM.   4

25. a   Explain in detail about delta modulation.   8
    b   Describe the companding   4

26.   Explain in detail about error control in addition with error detection and error
        correction.

27. a   Describe the serial and parallel interface.   8

    b   Describe the TDMA.   4

28.   What is spread spectrum technique? Explain in detail about direct sequence
         spread spectrum techniques with necessary diagram.

<center>*****THE END*****</center>