Roll No.									

B.E. / B.Tech (Full Time) DEGREE END SEMESTER EXAMINATIONS, APRIL / MAY 2013

Electronics and Communication Engineering Branch

30

EC 382 – DIGITAL COMMUNICATION

(REGULATIONS 2004)

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

Answer All Questions

Part-A **(10 x 2 = 20 Marks)**

1) How to avoid aliasing effect.
2) Differentiate coherent and non-coherent digital modulation methods.
3) Draw the wave form of the MPSK.
4) What is FSK?
5) Define the term entropy.
6) Write a short note on Fano codes.
7) Define code efficiency.
8) How syndrome is calculated in Hamming codes and cyclic codes?
9) What does the term catastrophic cyclic code represent?
10) State the balance property of random binary sequence.

Part-B **(5 x 16 = 80 Marks)**

11) (a) What is eye pattern? What are the interpretations obtained from it? Write a note on Inter symbol Interference. (16)

12) (a) Explain the Quadrature Phase Shift Keying and obtain an expression for its probability of error. (16)

(or)

(b) Explain the Continuous Phase Frequency Shift Keying and obtain an expression for its probability of error. (16)

13) (a) Explain in detail about the following items.

(i) Discrete memory-less channels (8)

(ii) Source coding theorem (8)

(or)

(b) Explain in detail about the Huffman, Shannon and Hartley theorems about information theory. (16)

14) (a) Draw the code tree of a convolutional code of code rate r=1/2 and constraint length of K=3 starting from the state table and state diagram for an encoder which is commonly used. (16)

(or)

(b) Explain the construction of Block Code and how the error syndrome is calculated. (16)

15) (a) List-out and prove the properties of the PN sequence. (16)

(or)

(b) What is spread spectrum techniques? Explain in detail about Direct Sequence Spread Spectrum (DSSS) techniques with necessary diagrams? (16)