Code No: 56026

R09

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech III Year II Semester Examinations, May - 2016
DIGITAL COMMUNICATIONS
(Electronics and Communication Engineering)

Time: 3 hours

Max. Marks: 75

Answer any five questions
All questions carry equal marks
- - -

1.a) State and Prove the sampling theorem for band limited signals.
  b) What are the advantages of Digital communication system? Draw the digital communication system and explain.
  [8+7]

2.a) What is the difference between uniform and non-uniform quantization.
  b) Draw the Delta modulation system? And explain noise in DM.
  [6+9]

3.a) Explain the QPSK techniques in detail.
  b) Explain the Bandwidth and Frequency Spectrum of FSK, ASK, BPSK.
  [8+7]

4.a) Obtain the probability of error for a optimum filter.
  b) Discuss the pulse shaping for optimum transmission and what is a baseband signal receiver.
  [7+8]

5.a) Explain the Shannon Fano coding with an example.
  b) Define and discuss the properties of Mutual information and entropy.
  [7+8]

6.a) Explain the algebraic structure and encoding of the cyclic codes.
  b) Discuss the error detection and correction capabilities of linear block codes.
  [7+8]

7.a) Explain the decoding of convolution codes using Viterbi algorithm.
  b) Discuss the following: tree and state diagram.
  [7+8]

8.a) Explain the direct sequence spread spectrum technique in detail.
  b) What do you mean by PN sequence? Discuss the characteristics and generation of it.
  [8+7]

---ooOoo---