Exam.Code:0928
Sub. Code: 6904

1059
B.E. (Electronics and Communication Engineering)
Fourth Semester
EC-401: Communication Engineering

Time allowed: 3 Hours   Max. Marks: 50

NOTE: Attempt _five_ questions in all, including Question No. I which is compulsory
and selecting two questions from each Unit.

x-x-x

I.   Attempt the following:-

   a) What are two limitations of Amplitude modulation?

   b) Define narrowband FM

   c) Define nyquist sampling theorem

   d) Define capture effect

   e) Define inter symbol interference   (5x2)

UNIT – I

II.   a) What is Vestigial Sideband Modulation? Explain how Vestigial Sideband
      Modulation is different from Single Sideband Modulation with diagram.

      b) Describe the characteristics of superheterodyne receiver.   (5,5)

III. a) Explain nonlinear effects in FM systems with derivation.
      b) What is angle modulation? Illustrate the relation between frequency modulation &
      angle modulation.   (6,4)

IV.   Describe Pulse Amplitude Modulation with derivation and diagram.   (10)

UNIT – II

V.   a) What is companding? Differentiate A law and µ law companding.

      b) Explain Adaptive delta modulation and how it is different from delta modulation.
                                                                        (5,5)

VI.   a) Explain the receiver model and figure of merit of a communication receiver in
      detail.

      b) Discuss noise in Amplitude Modulation system.   (5,5)

VII. What is the criterion for zero ISI? Discuss controlled inter symbol interference in
      detail.   (10)

x-x-x