

S.No. 88

12PELZ04

(For the candidates admitted from 2012–2013 onwards)

M.Sc. DEGREE EXAMINATION,
APRIL/MAY 2018.

Fourth Semester

Electronics and Communication

MODERN COMMUNICATION SYSTEM

Time : Three hours

Maximum : 75 marks

PART A — (5 × 5 = 25 marks)

Answer ALL questions.

1. (a) Briefly explain the binary convolutional encoder.
Or
(b) Explain the probability of error for hard-decision decoding.
2. (a) Draw the general structure of TCM and explain.
Or
(b) Explain the rate $2/3$ convolutional encoder with diagrams.

3. (a) Derive the performance of M-ary orthogonal signals transmitted over a Rayleigh fading channel.

Or

(b) Write a note on the tapped delay-line channel model.

4. (a) Draw and explain the block diagram of frequency hopping spread spectrum system.

Or

(b) Explain the direct sequence spread spectrum signals.

5. (a) Briefly explain AWGN channel.

Or

(b) Write a note on SDMA.

PART B — (5 × 10 = 50 marks)

Answer ALL questions.

6. (a) Explain in detail the convolutional encoder with a neat diagram.

Or

(b) Explain the main components of a digital communication system.

7. (a) Write a note on Upper bound to error probability.

Or

(b) Explain the working of 1/2 convolutional encoder with neat diagrams.

8. (a) Explain in detail the frequency diversity techniques for fading multipath channels.

Or

(b) Explain the probability of error for hard decision decoding of linear binary block codes.

9. (a) Explain the other types of spread spectrum signals in detail.

Or

(b) Explain the frequency hopped spread spectrum signals.

10. (a) Describe the Fast Fourier Transform based multi carrier communication system.

Or

(b) Write a note on CDMA and TDMA.