

Roll No.

24147

B. Tech 4th Semester (E. E. E.)

Examination – May, 2013

PRINCIPLES OF COMMUNICATION SYSTEM

Paper : EE-220-F

Time : Three hours]

[Maximum Marks : 100

Before answering the question, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt a total of *five* questions. Question No. 1 is **compulsory**. Attempt *one* question each from each Unit. All questions carry equal marks.

1. (a) Define signal & its types.
- (b) Define PPM and its applications.
- (c) What are the limitations of communication system ?
- (d) Error in QPSK modulation technique.
- (e) DPCM and its advantages. 4 x 5

UNIT - I

2. (a) Explain communication system with suitable block diagram. 10
- (b) Explain FDM technique, with diagram. 10
3. Find the Fourier transform of the following :
- (i) $2 \sin 2 \pi f t. \mu (t)$
- (ii) $4 \cos 10 \pi f t. \mu (t)$ 10 × 2

UNIT - II

4. (a) Explain generation of an wave with suitable diagram. 10
- (b) What in the concept of SSB ? How a SSB signal is demodulated ? 10
5. (a) Explain the difference between FM and PM. How they can be generated from each other ? 10
- (b) Explain the drawbacks of direct method of FM generation. 10

UNIT - III

6. (a) Explain various sampling techniques. Also give out advantages of each. 10

- (b) Explain generation of PWM wave. 10
7. (a) Explain in detail DPCM with diagram. Also give out its advantages. 10
- (b) Explain various coding and decoding techniques. 10

UNIT – IV

8. (a) What do you mean by Noise ? Explain external Noises in detail. 10
- (b) Explain concept of PC to PC communication. 10
9. (a) Derive the equation for Marry PSK modulation technique. 10
- (b) Writ short notes on : 10
- (i) Thermal Noise,
- (ii) Shot Noise.