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B.Tech III Year I Semester (R07) Supplementary Examinations, May 2012

PRINCIPLES OF COMMUNICATIONS

(Electronics and Control Engineering)

Time: 3 hours Max Marks: 80

Answer any FIVE questions

All questions carry equal marks

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1 (a) Explain the importance of Fourier series and explain in detail about sampling function.
(b) Briefly explain how do you correlate function R (τ) of a periodic wave form to a power density.

2 (a) What is meant by frequency translation? Explain the method of frequency translation for a sinusoidal signal.
(b) Explain the method of generating SSB signal.

3 (a) Distinguish between direct frequency modulation and direct phase modulation and explain briefly about noise and angle modulation.
(b) What is modulation index? Explain phase frequency deviation and spectral pattern of angle modulated waveform.

4 (a) Why do you need multiplexing? Explain frequency design multiplexing.
(b) What is the significance of sampling theorem in TDM systems?

5 (a) Explain a basic digital communication system and what are the most commonly used digital modulation techniques.
(b) Give the principle of pulse code modulation describe the methods of generation of PCM.

6 (a) Distinguish between amplitude shift keying modulation and Coherent amplitude shift keying detector.
(b) Explain the term frequency shift keying and detection of FSK signals.

7 (a) Explain the term coding efficiency and entropy and channel capacity.
(b) Explain Shannon-Fano algorithm.

8 (a) Explain briefly about Convolution coding generation.
(b) What is meant by Hamming distance? Explain.

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