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Total Pages : 3

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May, 2019

B.Tech. (ECE) - IV SEMESTER

ANALOG AND DIGITAL COMMUNICATION

(EC-401)

Time : 3 Hours]

[Max. Marks : 75

Instructions :

1. *It is compulsory to answer all the questions (1.5 marks each) of Part-A in short.*
2. *Answer any four questions from Part-B in detail.*
3. *Different sub-parts of a question are to be attempted adjacent to each other.*

PART–A

1. (a) Define angle modulation. (1.5)

(b) What are Gaussian and White noise characteristics? (1.5)

(c) Define digital multiplexers. (1.5)

(d) Make comparison between PAM and PCM. (1.5)

(e) Define QAM and MSK. (1.5)

(f) What is coherent communication? (1.5)

(g) Define Nyquist criterion. (1.5)

(h) Briefly explain Baseband Pulse Transmission. (1.5)

(i) What is Inter symbol Interference? (1.5)

(j) What do you understand by Digital Modulation tradeoffs? (1.5)

PART–B

2. (a) Differentiate between SSB, DSB and VSB modulations. (8)

(b) Explain the concept of frequency domain representation of signals. (7)

3. (a) Define random process. Also, explain threshold effect in angle modulation. (8)

(b) Distinguish between Pre-emphasis and De-emphasis. (7)

4. Define TDM, DM and DPCM. Also, discuss the concept of noise considerations in PCM. (15)

5. (a) Make comparisons between ASK, FSK and PSK. (7)

(b) What do you understand by probability of error evaluations? Discuss the concept of optimum detection of signals in noise. (8)

6. (a) Discuss optimum demodulation of digital signals over band-limited channels. (9)

(b) Explain the role and significance of equalization techniques in digital communication. (6)

7. What is Viterbi receiver? Explain the concept of synchronization and carrier recovery for digital modulation. (15)
