

Roll No.

Total Pages : 3

305401

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)

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- (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)
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