

GANPAT UNIVERSITY
M. TECH SEM- I EC (Branch) REGULAR EXAMINATION NOV-DEC 2015
3EC103: Modern Digital Communication Systems

MAX. TIME: 3 HRS

MAX. MARKS: 60

- Instructions:** (1) This Question paper has two sections. Attempt each section in separate answer book.
 (2) Figures on right indicate marks.
 (3) Be precise and to the point in answering the descriptive questions.

SECTION: I

- Q.1** [A] Compare energy signals with power signals. (5)
 [B] Explain Baseband system in details (5)
- OR**
- Q. 1** [A] What do you mean by classification of signals? Compare deterministic signals with random signals. (5)
 [B] Define sampling theorem. Compare uniform quantization with non uniform quantization. (5)
- Q.2** [A] What is importance of source coding in digital communication system? Name any two types of source coding. (5)
 [B] Explain the importance of equalizer in digital communication systems. What is schwarz's inequality? (5)
- OR**
- Q.2** [A] Compare PSK, ASK and FSK in details. (5)
 [B] What is ISI? Explain raised cosine filter. (5)
- Q.3** [A] Compare coherent detection with non-coherent detection (5)
 [B] How adaptive equalization is done in GSM? Explain it. (5)

SECTION: II

- Q.4** [A] Write short notes on receiver synchronization. (5)
 [B] What is bandwidth efficiency plane? Give its importance's in communication system. (5)
- OR**
- Q.4** [A] Discuss various multiple access techniques. (5)
 [B] Write short notes on modulation and coding trade off. What is Shannon limit? (5)
- Q.5** [A] Why PN sequences are named so? How PN sequences are generated using shift register? (5)
 [B] Write short note on RSA algorithm. (5)
- OR**
- Q.5** [A] Explain multiple access techniques for local area networks. (5)
 [B] Write short note on DES algorithm (5)
- Q.6** [A] Compare fast frequency hopping system with slow hopping frequency system. (5)
 [B] What are the advantages of CDMA over FDMA and TDMA? (5)

-----END OF PAPER-----