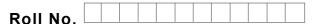


www.FirstRanker.com

www.FirstRanker.com



Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(ECE) (2012 to 2017) (Sem.-5) B.Tech. (Electronics & Telecom Engg.) DIGITAL COMMUNICATION SYSTEM

Subject Code : BTEC-501

M.Code: 70545

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION TO CANDIDATES :

- 1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
- 2. SECTION-B contains FIVE questions carrying FIVE marks each and students has to attempt ANY FOUR questions.
- 3. SECTION-C contains THREE questions carrying TEN marks each and students has to attempt ANY TWO questions.

SECTION-A

1. Write briefly :

- a. Define Non-Linear Quantization.
- b. What are the advantages of Delta modulation?
- c. Describe the difference between uniform and non-uniform companding.
- d. Explain the Nyquist criterion for distortion less base band binary transmission.
- e. Differentiate between unipolar and bipolar signaling.
- f. Calculate the bit rate in T_1 digital system when number of channels are 32.
- g. What are the sampling rates of the following signals : voice at 15 KHz, at high fidelity music at 20 KHz ?
- h. Why clock recovery is required in the BPSK demodulation circuit?
- i. What is the band limited signal?
- j. State the disadvantages of DPSK and PSK.



www.FirstRanker.com

SECTION-B

- 2. Compare and analog communication system.
- 3. What is the purpose of Clock recovery circuit? When it is used?
- 4. Explain the coherent and non-coherent FSK detectors.
- 5. Determine the signal to quantization noise ratio of a delta modulate with a bit rate of 64 kb/s and an input signal bandwidth of 4KHz.
- 6. How the use of eye patterns are useful for studying the ISI in digital communication system?

SECTION-C

- 7. Explain the Quadrature phase Shift Keying way of digital modulation in detail. Derive all the mathematic equations to support your answer.
- 8. A Gaussian channel is having a band width of 1MHz.Calculate the channel capacity if the signal power to noise spectral density is 105 Hz. Also find the maximum information rate.
- 9. Explain the working of adaptive delta modulation with suitable diagrams. Also compare this with other modulation schemes.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.