Reg. No. : | | | | | | | | | | |

Question Paper Code: 35401

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2018

Fifth Semester

Electronics and Communication Engineering

01UEC501 – DIGITAL COMMUNICATION

(Regulation 2013)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. Define flat-top sampling.
2. Write the function of source encoder.
3. State sampling theorem.
4. Differentiate the principles of temporal waveform coding and model-based coding.
5. What is inter symbol interference?
6. Compute the matched filter output over *(0, T)* to the pulse waveform
   $S(t) = e^{-t}$ for $0 \leq t \leq T$
7. What is ASK?
8. What is meant by coherent detection?
9. Define process gain.
10. What is anti jam?

PART - B (5 x 16 = 80 Marks)

11. (a) Explain the geometric representation of signals. (16)

Or

(b) Explain in detail about various definitions of bandwidth and derive the bandwidth of digital signal. (16)

12. (a) Discuss in detail about different types of sampling and quantization. (16)

Or

(b) Explain in detail about non-uniform quantization technique. (16)

13. (a) (i) How matched filter receiver is different from correlation receiver? Explain in detail. (10)

(ii) Interpret eye pattern with respect to ISI. (6)

Or

(b) Describe the principle of signal reception using a correlator type receiver. (16)

14. (a) Explain the working of a QPSK schemes with its transmitter and receiver block diagrams. (16)

Or

(b) Discuss the representation and spectral characteristics of ASK, FSK and QAM. (16)

15. (a) What is meant by PN-sequence? Explain the generation and properties of the PN-sequences in detail. (16)

Or

(b) Explain in detail about frequency hopping spread spectrum. (16)

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