Reg. No. :

Question Paper Code: 31451

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2017

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. State the advantages of digital communication over analog communication.

2. Define channel. What are the types of channel.

3. State sampling theorem.

4. Differentiate the principles of temporal waveform coding and model-based coding.

5. What is inter symbol interference?

6. Give four applications of eye pattern.

7. What is ASK?

8. What are coherent and non-coherent receivers?

9. Mention any two properties of maximum-length sequences.

10. What is anti jam?

PART - B (5 x 16 = 80 Marks)

11. (a) Draw the block diagram of digital communication systems and explain each block in detail. (16)

Or

(b) Explain in detail the Gram-Schmidt orthogonalization procedure. (16)

12. (a) With neat block diagram explain the concept of PCM and also derive the signal to noise ratio in PCM system that uses linear quantization. (16)

Or

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

13. (a) Derive and Explain the Nyquist first criterion to minimize ISI. (16)

Or

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

14. (a) Describe with diagrams the generation and detection of coherent binary FSK. Explain the probability of error for this scheme. (16)

Or

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

15. (a) What is spread spectrum technique? Explain in detail about direct sequence spread spectrum techniques with necessary diagrams. (16)

Or

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

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