

Roll No.

24042

B. Tech. 3rd Semester (IT)
Examination – December, 2018

DIGITAL ANALOG COMMUNICATION

Paper : EE-217-F

Time : Three Hours]

[Maximum Marks : 100

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt *five* questions in all, selecting *one* question from each Section. Question No. 1 is *compulsory*. All questions carry equal marks.

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|---|---|
| 1. (a) What is Nyquist Criteria ? | 4 |
| (b) Define Delay distortion. | 4 |
| (c) Design Hamming Code for 1010. | 4 |
| (d) Define Asynchronous Transmission. | 4 |
| (e) What do you mean by Burst Error ? Also define Burst length with suitable example. | 4 |

SECTION – A

2. (a) Explain the block diagram of communication system. 10

- (b) Discuss various signal properties in detail. 10
3. (a) What are sign waves ? Expand sign waves with the help of Fourier series. 10
- (b) Define Bandwidth. How Bandwidth effects the digital signal. 10

SECTION – B

4. (a) Define modulation. Explain Frequency Modulation (FM) in detail. 10
- (b) Explain various Data Encoding techniques with the help of waveforms. 10
5. (a) Write briefly about physical layer interface. Explain any *one* in detail. 10
- (b) What do you mean by Transmission media ? Discuss Co-axial cable and fibre opticable as wireline communication medium. 10

SECTION – C

6. (a) Discuss various circuit switching techniques. 10
- (b) Write briefly about simplex protocol and stop-and-wait protocol. 10
7. (a) Discuss PSTN in detail. 10

- (b) What do you mean by multiplexing ?
Explain Frequency Division Multiplexing (FDM)
in detail. 10

SECTION – D

8. (a) A series of 8 bit data 11010101 is transmitted. Do
CRC generation process with the help of
generator polynomial given as 1101. 10
- (b) Discuss Huffman encoding with the help of
example. 10
9. Write short notes on the following :
- (a) Public Key Cryptography 10
- (b) Data Compression 10
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