

UNIT – IV

8. (a) Why errors takes place during transmission ?
Discuss in details forward error correction mechanism. 10
(b) Discuss in details the block sum check method when used for error detection ? 10
9. Write short notes on : 10 × 2 = 20
(a) Secret key cryptography
(b) Run length encoding

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Roll No.

24042

B. Tech. 3rd Semester (IT)
Examination – December, 2022
DIGITAL ANALOG COMMUNICATION

Paper : EE-217-F

Time : Three Hours]

[Maximum Marks : 100

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

Note : Attempt *five* questions in total. All question carry equal marks. Question No. 1 is **compulsory**. Attempt *one* question from each Unit.

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|---|---|
| 1. (a) Enumerate properties of Cosine wave. | 3 |
| (b) Define PSD. | 2 |
| (c) State Shannon's limit theorem. | 5 |
| (d) Differentiate between simplex and duplex mode transmission. | 2 |

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- (e) Define Data gram. 3
(f) How CRC works ? 5

UNIT - I

2. (a) Define Communication system. Discuss them with respect to means and mode of propagation. 10
(b) Carry out the Fourier analysis of full wave rectifier having Amplitude as 2V and time period of π . 10

3. (a) Define various types of signals used in communication system and also draw their waveform with mathematical expression. 10
(b) Explain how the bandwidth effects the digital communication system ? 10

UNIT - II

4. (a) Discuss Amplitude modulation and derive the equation for generating DSB FC amplitude modulated signal. 10

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- (b) What do you understand by data encoding ? How it is useful in communication system ? Discuss Manchester encoding in details. 10

5. (a) Enumerate advantages of Optical fiber cable when used for data communication. 10

- (b) Discuss physical layer interface. Discuss in details RS 232 interface. 10

UNIT - III

6. Tabulate the difference between the following : 10, 10

- (a) Connection oriented and connection less services.
(b) Simplex and Full duplex mode.
(c) Serial and Parallel transmission.

7. (a) Bring out salient points of circuit switching and packet switching. 10

- (b) Explain briefly working of PSTN system. 10

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