

Roll No.

Total Pages : 02

BT-4/M-20

34094

DIGITAL DATA COMMUNICATION

CSE-206-N

Time : Three Hours]

[Maximum Marks : 75

Note Attempt Five questions in all, selecting at least question from each Unit. All questions carry equal marks.

Unit I

1. What is the need of modulation ? Write a detailed note on amplitude, DSDSC and SSB modulation **15**
2. Describe frequency and phase modulation Draw a comparison between NBFM and WBFM. **15**

Unit II

3. (a) Explain QPSK encoding scheme. Mention the advantages of PSK technique over ASK and FSK schemes.
(b) How DPCM does differ from PCM ? What is the sampling rate for PCM if the frequency ranges from 1000 to 4000 Hz ? **7+8=15**

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4. (a) What are the principal types of modulation used in communication systems? On what factors does the bandwidth requirement of a communication system depend?
- (b) What are encoding schemes? Write a detailed note on Manchester encoding and differential Manchester encoding. **7+8=15**

Unit III

5. What are the different types of error detection technique? Explain checksum and parity check technique with example. Generate the code word for ASCII character "K" = 1001011. Assume even parity for hamming code. **15**
6. (a) Draw a comparison among communication topologies using appropriate diagram.
- (b) Why standardization is required for serial interfaces? Discuss RS-449/422 interface in detail.

Unit IV

7. Briefly explain multiplexing and inverse multiplexing. Explain FDM with proper diagram. Mention its advantages and disadvantages over TDM. **15**
8. Distinguish between the following :
- (a) FAMA and DAMA techniques
- (b) FH-SS and DS-SS techniques. **7+8=15**

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