Roll No .....

CS - 501 (NEW)

B.E. V Semester

Examination, December 2013

Data Communication

Time : Three Hours *Maximum Marks : 70*

Note : Attempt *One* question from each unit.

Unit - I

1. a) Explain the various encoding schemes briefly. 7
   b) Discuss about the various modes of transmission? 7
2. a) What is Data Compression? Explain the various techniques of data compression? 7
   b) Explain the basic components of data communication and their characteristics. 7

Unit - II

3. a) What is the purpose of multiplexing? Differentiate between time division multiplexing and frequency division multiplexing. 7
   b) Explain circuit switching, packet switching and message switching briefly. 7
4. a) What is circuit switching? Discuss how packet switching is better than circuit switching for communication. 7
   b) Explain ISDN briefly. 7

Unit - III

5. a) Explain two and three layer switches and gateway briefly. 7

   b) Differentiate between bridges and reporters. 7
6. a) Compare the various network topologies. 7
   b) Discuss the features and types of modem. 7

Unit - IV

7. a) Explain the different types of Guided media with example. 4
   b) Draw a schematic diagram for fiber optic communication system clearly showing transmitter, receiver and signal repeaters. Explain the function of each component in detail. What are the reasons by which fiber degrades the signal. 10
8. a) Explain the components used in Telephone Network. 5
   b) What do you mean by wave attenuation and absorption? 3
   c) Discuss the characteristics of Transmission line. 6

Unit - V

9. a) Sixteen bit messages are transmitted using Hamming code. How many cheek bits are needed to ensure that the receives can detect and correct single bit errors. Show the bit pattern transmitted for the message1010110011001011. 7
   b) Explain error detection and correction methods briefly. 7
10. Explain the following :- 14
    a) Hamming distance
    b) Convolution code
    c) Interleaved codes
    d) Block parity

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