September - 2011

Bachelor of Computer Application (BCA) Examination

IV Semester

Data and Network Communication

Time : 3 Hours] [Max. Marks : 40

Note : ***Attempt any two parts from each question. All questions are compulsory.***

1. (a) Explain the following terms :
   (i) Bandwidth (ii) Data Rate
   (iii) Baud Rate (iv) Noise.
   (b) Explain encoding techniques, which transforms digital data into analog signals.
   (c) Find the hamming code for the data 11110101. How this method corrects the error ?
2. (a) Describe the various characteristics of the following transmission media :
   (i) Twisted pair (ii) Optical fibre.
   (b) Compare the various network topologies.
   (c) Explain SNA (System Network Architecture) and features of SNA operating systems
3. (a) What do you understand by the term Multiplexing ? Explain the various methods of multiplexing.
   (b) What do you understand by Sampling of a Signal? What is Quantization Noise ?
   (c) Describe the following :
   (i) EIA RS-449 (ii) Digital T-carrier.
4. (a) Explain the concept of bit stuffing. If bit string 01111011111100000011111 is bit stuffed, what will be the output string for HDLC protocol ?
   (b) Explain the working of Ethernet protocol.
   (c) Explain the Token Ring Network. How ring is maintained in this network ?
5. (a) What is ATM ? Why does ATM use small, fixed-length cells ?
   (b) Discuss TCP/IP model and its layer in detail.
   (c) What are the various B-ISDN services ? Also present transmission characteristics and technology of B-ISDN local network.

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