Total No. of Questions : 8] *[Total No. of Printed Pages : 2*

Roll No .....

CS-5001 (CBGS)

B.E. V Semester

Examination, November 2018

Choice Based Grading System (CBGS)

Data Communication

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions, each question carries equal marks.

ii) Assume suitable data if missing.

1. a) What are three criteria necessary for an effective and efficient network? Explain in brief. 7

   b) Justify the need of Unicode in data representation? What is the maximum number of characters or symbols that can be represented by Unicode? 7

2. a) Define line coding and block coding? How these are different from each other discuss with example? 7

   b) In a digital transmission, the sender clock is 0.2 percent faster than the receiver clock. How many extra bits per second does the sender send if the data rate is 1 Mbps? 7

3. a) List out the four major components of a packet switch and their functions? 7

   b) Compare and contrast a circuit-switched network and a packet-switched network? 7

4. a) Give the specifications and use of RJ 45, RJ 11 and BNC connectors with neat diagram. 7

   b) Compare and contrast Routers with Gateways connecting devices. 7

5. a) What are the different modes of data transmission? Give the pros and cons of each of them? 7

   b) What are the different between baseband coaxial and broadband coaxial? Give brief note on it. 7

6. a) What is refraction? How it is different from reflection? Explain in brief. 7

   b) A light signal is travelling through a fiber. What is the delay in the signal if the length of the fiber-optic cable is 10 m, 100 m and 1 km (assume a propagation speed of 2 $X10^8$ ill)? 7

7. a) Distinguish between forward error correction versus error correction by retransmission? 7

   b) How is the simple parity check related to the two-dimensional parity check? Explain with example. 7

8. Write short notes on any three: 14

   a) X.25

   b) Bridges and Switches

   c) Convolution Codes

   d) Hamming Codes

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