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Roll No

CS-5001-CBGS

B.E. V Semester

Examination, June 2020

Choice Based Grading System (CBGS)

Data Communication

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions

ii) All questions carry equal marks.

1. a) Draw and define various line codes used for data communication. Write properties of line codes.
b) Why data compression is needed? Differentiate lossy and lossless techniques of data compression.
2. a) "Pulse modulation systems are not digital, whereas, pulse code modulation is". Justify the statement with suitable diagrams.
b) With the help of suitable diagrams differentiate serial and parallel transmission of data. Give merits and demerits for both of them.
3. a) Draw and define circuit, message and packet switching techniques.
b) Why spread spectrum modulation techniques are used? Define direct sequence spread spectrum modulation.
4. a) Discuss the function of following Networking devices.
 - i) Gateway
 - ii) Active and passive hubs
 - iii) Repeaters

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5. a) Name any four network topologies and give a comparative study.
b) Give an overview of different transmission media. Classify and compare them.

6. Define the following terms:
 - i) Distortion
 - ii) Crosstalk
 - iii) Wave attenuation
 - iv) Skip distance

7. a) What do you mean by Hamming weight of a code and Hamming distance of two codes? Find Hamming weight and Hamming distance for following codes:
C1 = 1 1 1 1 0 0 0 0
C2 = 1 0 1 0 1 0 1 0
b) What do you mean by convolution codes? Explain with suitable examples.

8. Write short notes on any two of the followings:
 - i) Purity checking
 - ii) Digital subscriber line
 - iii) Satellite communication
 - iv) MODEM

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