**Model question (Set-1)**

**DATA COMMUNICATION AND COMPUTER NETWORK**

**Semester-4TH SEM Branch-E&TC/IT**

**F.M- 80**

**1. Answer All.**

1. Define Data Communication.
2. Why data security is needed in data communication?
3. State the function of choke packet.
4. What are the key elements of LAN?
5. Define MAC and LLC.
6. Define quantization and quantization error.
7. What is backpressure method?
8. Name the factors required for choice of transmission medium.
9. Write down the limitations of layer 2 switches
10. Define Ethernet.

2. Answer any six question

1. A bit stream 1101011011 is transmitted using the standard CRC method. The generator polynomial is $X^{4}$ + X+1. What is the actual bit string transmitted.
2. Explain the conversion of analog data to analog signals.
3. State the function of each layer of X.25.
4. Write a short note on bridges.
5. Discuss different types of network topology.
6. Explain the operation of CSMA/CD.
7. Write a short note on Synchronous Time Division multiplexing.
8. Data received is 10010100101. Find the error using hamming code.

3. Describe the function of different layers of OSI reference model.

4. Define transmission media and explain the types of guided media.

5. Describe the sliding window flow control and error control techniques.

6. Explain different types of routing strategies.

**Model question (Set-2)**

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**1. Answer All.**

1. Name the components of the data communication system.
2. Define jitter.
3. Give examples of simplex, half duplex and full duplex data flow.
4. List out the advantages and disadvantages of WAN.
5. State the Function of presentation layer.
6. Define channel capacity.
7. List out the difference between circuit and packet switching.
8. Name different types of noise.
9. Name the key elements of fiber channel.
10. What is adaptive routing?

2. Answer any six question

1. (1) A bit stream 1101011011 is transmitted using the standard CRC method. The generator polynomial is $X^{4}$ + X+1. What is the actual bit string transmitted.

(2) Suppose the third bit from the left is inverted during transmission. How will receiver detect this error?

1. Explain the wireless LAN technology
2. Define MAC and explain function of MAC layer and its frame format.
3. Write a short note on switches.
4. Explain the internet protocol operation.
5. Discuss the basic protocol functions of TCP/IP.
6. Write a short note on Statistical Time Division multiplexing.
7. Encode the data 1001101 using hamming code.

3. Describe the function of different layers of TCP/IP model.

4. Define transmission media and explain the types of unguided media.

5. Describe the different types of packet switching networks.

6. Explain different types of congestion control techniques.