GSQ/D-22   **1176**

COMPUTER NETWORKS
Paper : BCA-354

Time : Three Hours]   [Maximum Marks : 80

Note : Attempt *Five* questions in all, selecting *one* question from each Unit. Q. No. **1** is compulsory. All questions carry equal marks.

(Compulsory Question)

1. (i)   How many types of networking models are there ? List them.

    (ii)   What is unit of measuring signal rate and data rate in data communication ?

    (iii) Token management protocols are used for...........topology.

    (iv)   Define Encryption and Protocol.

    (v)   Full form of CRC.

    (vi)   Explain the concept of Half Duplex Communication.

    (vii) What are the factors which are considered while using topology ?

    (viii) Explain MAC Address.   2×8=16

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Unit I

2. Explain OSI model in detail. 16

3. (a) Write short notes on the following : 8
      (i) NIC and PC cards
      (ii) Bridges
      (iii) Switch
      (iv) Router

   (b) What is a Topology ? Explain in detail different types of Topologies with their diagrams, advantages and disadvantages. 8

Unit II

4. (a) Explain guided transmisssion media in detail. 8

   (b) Explain multiplexing techniques using neat and clean diagram in detail. 8

5. (a) What is Modulation ? Explain various modulation techniques in detail. 8

   (b) Differentiate between packet switching and circuit switching. 8

Unit III

6. Explain sliding window protocols in detail. 16

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7. Write the frame format of Ethernet and explain the technology in detail. **16**

Unit IV

8. (a) Explain the following techniques of congestion control : **6**

   (i)   Traffic Shaping

   (ii) Load Shedding

   (iii) Choke Packet.

   (b) Explain shortest path routing in detail using suitable example. • **12**

9. What is Congestion ? How does congestion occur ? Explain in detail the congestion control policies. **16**

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