

Roll No. ....

Total Pages : 03

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

## 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 transmission 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

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

