

[TIME-3 hrs.]

[Total Marks :80]

N.B: Question No.1 is Compulsory.

Attempt any three question out of remaining questions.

Make Suitable assumption whenever necessary.

- Q.1 Any -5 4x5**
- What are the design issues for the OSI layers?
 - Differentiate between connection oriented and connectionless Service?
 - List the advantages of fiber optics as a communication Medium.
 - Explain with examples the classification of IPv4 addresses.
 - Explain in short different framing methods.
 - Explain the need of subnet mask in subnetting.
- Q.2**
- What is topology? Explain the types of topologies with diagram, advantages and disadvantages. **10**
 - What is IPv4 protocol? Explain the IPv4 header format with diagram. **10**
- Q.3**
- Explain CSMA Protocols. Explain how collision are handled in *CSMA/CD*. **10**
 - What is Traffic shaping? Explain leaky bucket algorithm and compare it with token backed algorithm. **10**
- Q.4**
- What is ICMP Protocol? Explain the ICMP header format with diagram. **10**
 - Write a program for client server application using Socket Programming(UDP) **10**
- Q.5**
- Explain the use of TCP timers in detail. **10**
 - Compare Open Loop congestion control and Closed Loop congestion control. **10**
- Q.6 Write a short note on the following (Any Two) 20**
- Internetworking Devices
 - Distance Vector Routing
 - ARP/RARP
 - SMTP
