

N.B.:- 1. Question no. 1 is compulsory.

2. Attempt any four questions from the remaining questions.

3. Assumptions made must be clearly stated.

- Q1. i) Explain method to find class of address. Given the network address 132.21.0.0, find the class, the block and the range of address. 5  
 ii) Explain method to find netid and hostid. Also find network addresses for following given addresses. 5  
 a) 23.56.7.91  
 b) 132.6.17.85  
 iii) An organization is granted the block 130.34.12.64/26. The organization needs 4 subnets. What is the subnet prefix length. What are the subnet addresses and the range of the addresses. 5  
 iv) Write short note on CIDR. 5
- Q2. A) Draw the IP datagram format and explain flag field and need of fragmentation. 10  
 B) State different types of error reporting messages in ICMP. Explain them with the help of message format. 10
- Q3. A) Show the format of user datagram format and explain checksum calculation at sender and at receiver with the help of suitable example. 10  
 B) Explain connection establishment and connection termination using three way handshaking in TCP. 10
- Q4. A) Explain error control and congestion control mechanism in TCP. 10  
 B) Explain two mode instability in Distance Vector Routing. Also explain Split Horizon and Poison Reverse. 10
- Q5. A) Explain Dijkstra Algorithm with the help of suitable example. 10  
 B) What is Exterior Gateway routing protocol? Explain BGP. 10
- Q6. A) Explain special features of IPV6 as compared to IPV4. Also state types of Extension Header. 10  
 b) Explain the ~~a~~ transition states of DHCP
- Q7. A) What is Firewall? Explain Packet-Filter Firewall and Proxy Firewall. 10  
 B) Write short notes (Any Two) <sup>with neat diagram.</sup> ~~with neat diagram.~~ 10  
 i) H.323 protocol stack  
 ii) NAT  
 iii) MBONE  
 iv) RTP