

Time: 3 hours

Max. Marks: 80

N.B. (1) Question one is Compulsory.**(2) Attempt any 3 questions out of the remaining.****(3) Assume suitable data if required.**

- Q. 1 a) List and describe the different network connection topologies. 05
 b) Describe the different guided transmission medias used in the network 05
 c) What is subnetting? What are the default subnet mask? 05
 d) Explain Three Way Handshaking for connection establishment in TCP. 05
- Q 2 a) Describe in detail OSI reference model with a neat diagram 10
 b) A bit stream 10011101 is transmitted using standard CRC method. The generator polynomial is $X^3 + 1$. 10
 i) What is the actual bit stream transmitted?
 ii) Verify that receiver had received the correct bit stream.
- Q 3 a) Compare and contrast between 10
 i) IPv4 vs IPv6
 ii) Connection oriented protocol vs Connectionless protocol
 b) Explain in brief Cisco PPDIIO Network design Methodology 10
- Q 4 a) Write notes on DNS and Explain components on DNS. 10
 b) What is Routing? What are desirable characteristics of routing algorithms? 10
 Explain distance vector routing with suitable example
- Q 5 a) What is SDN? Explain the concept of control plane and data plane with respect to SDN 10
 b) Elaborate Cisco SONA Architecture in detail 10
- Q 6 Write a short note on
 a) Sliding Window Protocol 05
 b) OpenFlow messages 05
 c) NAT 05
 d) DHCP 05
