22520

11920

3 Hours / 70 Marks Seat No. | | | | | | | | |

Instructions : (1) All Questions are *compulsory.*

(2) Illustrate your answers with neat sketches wherever necessary.

(3) Figures to the right indicate full marks.

(4) Assume suitable data, if necessary.

Marks

1. Attempt any FIVE of the following : **10**

(a) Differentiate between IPv4 and IPv6. (any two)

(b) State the four advantages of IPv6.

(c) State the need of domain name system.

(d) State the use of 6 flags in TCP header.

(e) List two advantages of using UDP over TCP.

(f) State the transmission modes of FTP.

(g) State the concept of fragmentation in IPv4.

2. Attempt any THREE of the following : **12**

(a) Compare TCP and UDP (any four points).

(b) Explain ICMP protocol. Describe the header format of ICMP.

(c) Explain working of WWW.

(d) Describe the sub-network address if the destination address is 200.45.34.56 and the subnet mask is 255.255.240.0.

3. Attempt any THREE of the following : **12**

(a) Explain difference between distance vector and link state routing. (Any four points)

(b) Explain different transition method of IPv4 to IPv6.

(c) Explain the working of TELNET.

(d) The dump of a UDP header in hexadecimal format is as follows :

BC 82000 D 002 B 001 D

Obtain the following from it :

(i) Source port number

(ii) Destination port number

(iii) Total length

(iv) Length of the data

4. Attempt any THREE of the following : **12**

(a) Construct a diagram to show the application of cookies in a scenario in which the server uses cookies for advertisement.

(b) Describe the RIP message format.

(c) Describe the HTTP response message format.

(d) Explain the TCP connection establishment using a three way handshake mechanism.

(e) Explain about standard and non standard protocols at the application layer.

5. Attempt any TWO of the following : **12**

(a) Explain how TCP connections are established using the 3 way handshake. What happens when 2 hosts simultaneously try to establish a connection ?

(b) Explain TCP connection management with the help of TCP connection management finite state machine.

(c) Explain the addressing scheme in IPv4 and IPv6. When IPv6 protocol is introduced, does the ARP protocol have to be changed ? Explain in details.

6. Attempt any TWO of the following : **12**

(a) Explain the 3 intra domain routing protocols.

(b) Describe modern computer use dynamic routing. Explain with example how distance vector routing is used to route the packet & why count-to-infinity problem arises and how does it get solved ?

(c) Describe E-mail security over non-secure channel.
