22520

23124

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

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

(2) Answer each next main Question on a new page.

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

(4) Figures to the right indicate full marks.

(5) Assume suitable data, if necessary.

Marks

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

(a) Differentiate between IPv4 and IPv6 on the basis of length and security.

(b) State the need of IPv6.

(c) Elaborate need of domain name system.

(d) List any 2 features of TCP.

(e) List all 4 routing algorithms.

(f) Enlist any two services offered by UDP.

(g) State any three phases of mobile IP.

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

(a) Describe packet format of IPv6.

(b) Explain Bellman Ford algorithm with suitable example.

(c) Explain working of world wide web.

(d) If an address in a block given in CIDR classless notation as 64.32.16.8/27 then find the following :

(i) Number of addresses given in block (N)

(ii) The first address

(iii) The last address

(iv) Find Prefix bit (n)

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

(a) Differentiate between distance vector routing and link state routing.

(b) From below list, explain any two different transition method from IPv4 to IPv6.

(i) Dual stack

(ii) Tunneling

(iii) Header translation

(c) Explain the working of TELNET.

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

BC82D00D002B001D

obtain the following :

(i) Source port number

(ii) Destination port number

(iii) Total length

(iv) Packet direction

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

(a) Construct a suitable diagram for each below commands of FTP to show its use

(i) get

(ii) mget

(iii) put

(iv) mput

(b) Describe RIP message format in detail.

(c) Describe the header fields in message format of e-mail system.

(d) Compare TCP with UDD on any four points.

(e) Compare POP3 with IMAD on below points

(i) TCP port used

(ii) E-mail stored at

(iii) Time required to connect

(iv) Multiple mail boxes

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

(a) Explain how TCP connections are established using 3 way handshake.

(b) Demonstrate with suitable example of call collision in TCP connection.

(c) Explain following address types of IPv6 :

(i) Unicast address

(ii) Multicast address

(iii) Anycast address

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

(a) Explain distance vector routing and open shortest path first routing protocol in detail.

(b) For the IP addresses given below :

(1) Identify the classes to which the IP address belongs to

(2) Identify network address section

(3) Identify host address section

(4) Calculate number of hosts that can be assigned with each network

(i) 122.34.45.133

(ii) 12.12.12.12

(iii) 192.10.233.26

(c) Describe DHCP operations, when DHCP client and server on same network.
