22520

24225

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) Write IPv6 abbreviation with suitable example.

(b) Define address space. Give address space for IPv6.

(c) List any two application layer protocols.

(d) List the names of two timers associated with TCP.

(e) Draw UDP header format.

(f) State URL with one example.

(g) List debugging tools used in ICMP.

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

(a) Compare TCP with UDP (Any four points).

(b) Draw and explain IPv4 Datagram format.

(c) Explain working of WWW.

(d) If an address in block is given in CIDR classless notation as 128·64·32·16/27 then find the following :

(i) No. of addresses in given block (N)

(ii) The first address

(iii) The last address

(iv) Find prefix bit (n)

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

(a) Describe distance vector routing technique with suitable diagram.

(b) Explain any two of the following transition method from IPv4 to IPv6 :

(i) Dual Stack

(ii) Tunneling

(iii) Header translation

(c) Distinguish between SMTP and POP3.

(d) Describe the State Transition of TCP with suitable diagram.

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

(a) Explain working principle of TELNET.

(b) Describe border gateway protocol with suitable diagram.

(c) Describe HTTP response-message format.

(d) Describe packet format of SCTP with neat sketch.

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

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

(a) Differentiate between TCP, UDP and SCTP on the basis of reliability, connection management, transmission of message, flow control, security & data delivery.

(b) Illustrate the importance of :

- Sequence control
- Flow control
- Error control in TCP under transport layer.

(c) Describe the following IPv6 addressing method :

(i) Unicast address

(ii) Multicast address

(iii) Anycast address

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

(a) Explain any three intra-domain routing protocols.

(b) For the IP address given below :

(i) Identify the classes to which the following IP Addresses belongs to

(ii) Identify network address section

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

(1) 12·12·12·12

(2) 192·10·233·26

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