22520

21222

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

15 minutes extra for each hour

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.

(5) Use of Non-programmable Electronic Pocket Calculator is permissible.

(6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

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

(a) Define Home Agent and foreign agent with respect to Mobile IP.

(b) State the need of IPv6.

(c) Distinguish between FTP and TFTP protocols.

(d) State any four features of TCP.

(e) Define inter-domain routing protocol. List them.

(f) State different applications of UDP.

(g) List two protocols of each for Connection-oriented service and Connection-less service.

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

(a) Describe SMTP with suitable diagram.

(b) Write stepwise procedure to configure IP routing with RIP.

(c) Draw and explain IPv6 protocol format.

(d) List and explain, services provided by TCP (Transmission Control Protocol).

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

(a) Distinguish between dynamic routing and static routing on the basis of configuration, security, routing protocols and cost.

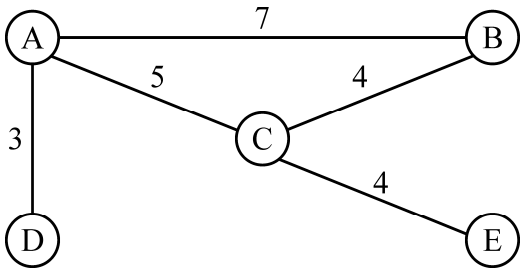
(b) For the IPV4 addresses given below, calculate subnet mask, broadcast address and number of hosts possible.

(i) 10.0.199.237/22

(ii) 192.168.14.87/26

(c) Differentiate between IPv4 and IPv6 (any 4 points).

(d) Use Bellman – Fort algorithm to find the shortest distance for all nodes in the graph. (Refer fig. no. 01)



(Fig. No.-1)

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

(a) Define WWW. Explain static and dynamic web documents in details.

(b) Describe the frame format of SSH.

(c) Draw state transition diagram of TCP.

(d) Explain functioning of Multicast link. State routing protocol.

(e) Construct a diagram to show the application of cookies in a 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 and data delivery.

(b) Describe DHCP with its operation & static and dynamic allocation.

(c) Describe Email security over non-secure channel.

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

(a) Explain the process of transition from IPv_4 to IPv_6 for a network.

(b) Draw and explain TCP. State transition diagram.

(c) For the IP address given below :

(i) 132.34.45.133

(ii) 14.142.20.20

(iii) 191.0.200.45

(iv) 129.16.123.85

(A) Identify the classes to which the following IP numbers belong to ?

(B) Identify network address section.

(C) Identify host address section.