Total No. of Questions : 10] [Total No. of Printed Pages : 4

Roll No. .....

IT–603

B. E. (Sixth Semester) EXAMINATION, June, 2012

(Information Technology Engg. Branch)

INTERNET TECHNOLOGY AND NETWORK MANAGEMENT

(IT–603)

Time : Three Hours

Maximum Marks : 100

Minimum Pass Marks : 35

Note : The question paper is divided into five Units. Each Unit carries an internal choice. Attempt *one* question from each unit. Thus attempt *five* questions in all. All questions carry equal marks. Assume suitable data whenever necessary.

Unit–I

1. (i) What do you mean by Address Resolution? What algorithm does software use to translate a protocol address into a hardware address ? 10

   (ii) As IPv 6 contains multiple headers, how does it know where a particular header ends and next header begins ? 10

Or

2. (i) Briefly describe ARP message format. How can a computer use ARP to break security ? 7

P. T. O.

(ii) Can multiple computers use one IP address ? Explain. 6

(iii) Give the IP Address or range of IP Address which is reserved for : 7

(a) Broadcasting

(b) Multicasting

(c) Unicasting

(d) Future use

Unit–II

3. (i) How does ICMP software on a host know to which other host it should send an error message ? 10

(ii) What are the steps that IP perform when it searches its routing table ? What are the flags used by routing table ? 10

Or

4. (i) Briefly define the term OSPF (Open Shortest Path First). Give its features that make it superior to RIP. 10

(ii) Explain the following ICMP message types : 10

(a) ICMP address mask request and reply

(b) ICMP timestamp request and reply

(c) ICMP echo request and reply

Unit–III

5. (i) How does TCP handle time out and retransmission ? Explain the need for multiplexing at the transport layer. 7

(ii) Could you directly use TCP over Ethernet without using IP ? Justify. 7

(iii) What is the largest UDP message that can fit into single Ethernet frame ? 6

Or

6. (i) Explain the importance of the following TCP header fields in network communication : 10

(a) Sequence number

(b) Acknowledgement number

(c) Window

(d) Urgent pointer

(e) Option + Padding

(ii) Describe the various characteristics of UDP protocol. 10

Unit – IV

7. (i) What do you mean by DNS ? Discuss the following issues related to DNS : 10

(a) Name-Address resolution

(b) Distribution of name-space

(c) DNS messages

(ii) What do you mean by MIB in SNMP protocol ? Describe SNMP packet format. 10

Or

8. (i) Explain the following : 10

(a) Functional Model of SNMP management

(b) SNMP Access Policy

(c) SNMP Operations

(d) SNMP Message

(ii) List the features of DNS (Domain Name System). Is there any relationship between DNS (Server) and routing table ? 10

Unit – V

9. (i) List the five network management standards and two salient features for each. 10

(ii) What is firewall ? Explain the different types of firewalls. 10

Or

10. Describe the following terms related to Network Performance management : 20

(a) Performance Metrics

(b) Data Monitoring

(c) Problem Isolation

(d) Performance Statistics