M 7913

M.C.A. DEGREE EXAMINATION, MAY/JUNE 2009.

Elective

MC 1628 — TCP/IP PROTOCOL SUITE

(Regulation 2005)

Time : Three hours   Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1.   Name two application layer protocols.

2.   What is MTU? What is the MTU of Ethernet?

3.   If the IP address is 180.25.21.172 and subnet mask is 255.255.192.0, what is the subnet address?

4.   What is proxy ARP?

5.   Name two well-known UDP ports.

6.   What is an ephemeral port?

7.   What is a concurrent server?

8.   Give the format of DNS query message.

9.   Differentiate between ftp and tftp.

10.   Define Firewall.

PART B — (5 × 16 = 80 marks)

11. (a) (i) Explain the protocol stack of TCP/IP network model. (10)

    (ii) Compare X.25 and ATM networks. (6)

Or

    (b) (i) Discuss about the various transmission media used in the physical layer of a network. (10)

    (ii) A host with IP address 180.6.8.17 sends a limited broadcast packet to all hosts in the same network. What are the source and destination IP addresses used in the packet? (6)

12. (a) (i) Explain record route and timestamp options in IP. (8)

    (ii) How is fragmentation and reassembly done in IP? (8)

Or

    (b) (i) Explain source quench and echo request and reply ICMP messages. (10)

    (ii) Differentiate between a router and multicast router. (6)

13. (a) (i) Explain the format of an UDP datagram and how the checksum is computed. (10)

    (ii) Compare TCP & UDP. (6)

Or

    (b) (i) What is silly window syndrome? How is it solved? (8)

    (ii) How is congestion control done in TCP? (8)

14. (a) (i) Explain the DHCP state transition diagram. (10)

    (ii) Compare BOOTP & DHCP. (6)

Or

    (b) (i) Explain NVT and Out-of-Band signaling. (10)

    (ii) Compare telnet and rlogin. (6)

15. (a) (i) Discuss the various steps involved in transferring a mail message. (8)

   (ii) Explain any two mail access protocols. (8)

   Or

   (b) (i) Explain the format of HTTP response message. (8)

   (ii) Give the format of SNMP message. (8)