B.TECH DEGREE EXAMINATIONS: NOV / DEC 2010

Fifth Semester

INFORMATION TECHNOLOGY

U07IT503: TCP/IP and Socket Programming

Time: Three Hours   **Maximum Marks: 100**

Answer All the Questions

PART A (10 x 1 = 10 Marks)

1. IPv4 is an example for

   a) Session layer   b) Data link layer   c) Transport layer   d) N/W layer

2. ICMP means

   a) Intranet Control Message Protocol   b) Intranet Congestion Message Protocol

   c) Internet Congestion Message Protocol   d) Internet Control Message Protocol

3. UDP is an associated with

   a) TCP   b) ARP   c) IP   d) RARP

4. Which is next generation of Internet protocol?

   a) IP   b) IPv4   c) IPng   d) IPv6

5. Big-endian byte ordering

   a) LSB to MSB (increase)   b) MSB to LSB (increase)

   c) LSB to MSB (decrease)   d) MSB to LSB (decrease)

6. Which is not TCP elementary functions?

   a) connect()   b) sendto()   c) bind ()   d)close()

7. Example for Echo Client / Server Model

   a) TCP/IP and UDP/IP   b) UDP/IP   c) TCP/IP or UDP/IP   d) TCP/IP

8. I/O multiplexing is done by using

   a) Select and Poll   b)Select   c)Select or Poll   d)Poll

9. Entries in the DNS are known as

   a) DR   b)PR   c)SR   d)RR

10. SCTP is an example for

   a) connection oriented protocol   b)ICMP   c)connection less protocol   d)IGMP

PART B (10 x 2 = 20 Marks)

11. List out different types of addresses in TCP/IP model

12. Define IP address

13. Point out any two ICMP messages

14. Specify some of the IGMP messages

15. Write down any four elementary TCP sockets functions

16. Give two different format of Byte ordering

17. Examine the role of Client / server in TCP / IP model

18. Define concurrent server

19. What is a socket?

20. Find out two different sub functions of gethostbyadr.

PART C (5 x 14 = 70 Marks)

21. a) Draw the ARP/RARP message format when used for IP to Ethernet address resolution.

(OR)

    b) Explain the IP Datagram format and Datagram delivery.

22. a) Draw the diagram for the following

    (i) The format of UDP datagram   (7)

    (ii) A UDP datagram encapsulated in an IP datagram which encapsulated by a frame (7)

(OR)

    b) (i) Explain the TCP segment format with a neat diagram.   (10)

      (ii) Write a short note on silly window syndrome.   (4)

23. a) Explain the socket address structure for the following

    (i) IPv4   (7)

    (ii) IPv6   (7)

(OR)

    b) Explain the various functions of elementary TCP sockets.

24. a) Develop a Simple echo client / server application for the following

    (i) UDP   (7)

    (ii) TCP   (7)

(OR)

    b) (i) Compare and contrast the different types of I/O models.   (10)

      (ii) Synchronous is different from Asynchronous I/O model. Justify   (4)

25. a) Explain any seven types of generic socket options in detail.

(OR)

    b) Explain the syntax for the following function

      gethostbyname(), gethostbyaddr(), getservbyname() and getservbyport()

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