Register Number: ……

B.TECH DEGREE EXAMINATIONS: APRIL/MAY 2012

Sixth Semester

INFORMATION TECHNOLOGY

ITY111: TCP\IP and Socket Programming

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

Answer ALL Questions:-

PART A (10 x 1 = 10 Marks)

1. 127.0.0.1 is ---------- address

   a. Class A b. Class B c. Class D d. Loop back

2. _____ protocol converts IP to MAC address

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

3._____ is a protocol used for address resolution through dynamic binding

   a. IGMP b. ICMP c.DHCP d.CIDR

4. How many bits does an IPV6 protocol has?

   a. 32 b. 64 c. 128 d. 256

5. The backlog parameter is used by _____ function

   a. Connect b. Listen c. Accept d.Write

6. The _____ function is used to convert port address from the host to network byte order format

   a. ntohs b. htons c. htonl d. ntohl

7. I/O multiplexing is done by using

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

8. In _____ I/O model the process is blocked for the least time

   a. Blocking b. Non blocking c. signal-driven d. Asynchronous

9. _____ option is used to disable Nagle's algorithm

   a. TCP_MAXSEG b. TCP_KEEPALIVE c. TCP_NODELAY d. IP_TTL

10. _____ function is used to get the IP address from name.

    a. gethostby name b. gethostbyaddr c. getservbyname d. getservbyport

PART B (10 x 2 = 20 Marks)

11. What is the use of ICMP source quench message?

12. What is the use of Type of service field in an IP datagram?

13. What is connection Establishment and termination in TCP?

14. What is DHCP?

15. Give syntax of any two byte manipulation functions.

16. State the advantages of concurrent server.

17. List the steps involved in creating a TCP server?

18. Define I/O multiplexing.

19. What is the use of ICMP6_FILTER?

20. Give the syntax of getservbyname function?

PART C (5 x 14 = 70 Marks)

21. a) Discuss in detail about the packet structure and operation of ARP and RARP.

(OR)

b) (i) Explain ICMP echo request, reply, Destination unreachable messages (7)

(ii) Explain CIDR and its use (7)

22. a) What is silly window syndrome? State the syndrome types and explain the strategy for avoiding silly window syndrome.

(OR)

b) Write short notes on

(i) TCP state machine . (7)

(ii) DHCP protocol. (7)

23. a) Explain in detail the various I/O models.

(OR)

b) Explain how a TCP server handles multiple clients using select (). Illustrate the data structures maintained during connection establishment and termination of multiple clients.

24. a) Describe the various servers reaction to various boundary condition

(i) Server process crashes

(ii) Server host crashes

(iii) Server crashes and reboots

(OR)

b) Discuss the concept of TCP client server communication procedure and write a program to implement it.

25. a) (i) Explain the need and method to set and get the socket options. (7)

(ii) Explain the concept of TCP socket options. (7)

(OR)

b) Explain the various Generic socket options in detail.

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