

Register Number.....

**B.TECH. DEGREE EXAMINATIONS: NOVEMBER 2009**

Fifth Semester

**INFORMATION TECHNOLOGY**

U07IT503 TCP/IP and Socket Programming

**Three Hours**

**Maximum Marks: 100**

**Answer ALL the Questions:-**

**PART A (10 x 1 = 10 Marks)**

Which of the following statement is NOT TRUE about loop back address?

- A] Use in Testing TCP/IP                      B] Inter Process Communication  
C] Class A Range                                D] Used in Multicasting

\_\_\_\_\_ provides a way for the sender to dictate a path through the internet.

- A] Record route options                      B] Source route options  
C] Timestamp option                            D] Fragmentation

\_\_\_\_\_ is not a property of reliable delivery service.

- A] Stream orientation                         B] Buffered Transfer  
C] Time to Live                                 D] Virtual Circuit connection

In \_\_\_\_\_ the destination is a set of computers, possibly at multiple locations.

- A] Unicast                      B] Anycast                      C] Multicast                      D] Broadcast

\_\_\_\_\_ functions used to pass a socket address structure from the process to the kernel.

- A] Request, Response, Confirm              B] Bind, connect, sendto  
C] Active, Idle, Listen                        D] Ack, Response, Confirm

\_\_\_\_\_ is called by a TCP server to return the next completed connection.

- A] Accept                      B] Connect                      C] Continue                      D] Reject

Application sits in a loop calling recvfrom on a non blocking descriptor is called \_\_\_\_\_.

- A] System Call                      B] Multiplexing                      C] Polling                      D] Sockets

Which of the following is NOT a classes of data in polling?

- A] Normal                      B] Priority band                      C] High Priority                      D] Revent

\_\_\_\_\_ is a socket option inherited by a connected TCP socket.

- A] MCAST\_JOIN\_GROUP                      B] SO\_KEEPALIVE  
C] ICMP6\_FILTER                              D] SO\_TYPE

10. In ICMP the "Port Unreachable" error is called \_\_\_\_\_.

- A] Synchronous error    B] Asynchronous error    C] Port error    D] Socket error

**PART B (10 x 2 = 20 Marks)**

11. What is the major difference between ARP and RARP?  
12. Draw a ICMP destination unreachable message format.  
13. What are the IGMP message types used in Verison.2?  
14. Mention the features of IPv6.  
15. What is meant by little-endian and big-endian? Give its formats.  
16. Write a 'readn' function to read a stream socket.  
17. What are the five I/O models? Brief about blocking I/O model.  
18. Differentiate close and shutdown functions in network termination.  
19. What is meant by SO\_ERROR socket option?  
20. How the gethostbyname differs from the other Socket functions?

**PART C (5 x 14 = 70 Marks)**

21. a) (i) Exactly how many class A, B, and C networks can exist? Exactly how many hos  
can a network in each class have?  
(ii) Differentiate Record Route Option with Source Route Option.

**(OR)**

- b) (i) What is Next-Hop Routing? Explain in detail.  
(ii) Write a note on Router discovery and Router Solicitation in ICMP.

22. a) (i) Draw a TCP segment format and explain the fields.  
(ii) Draw an IPv6 Base header format and explain. .

**(OR)**

- b) (i) Write short notes on IPv6 colon Hexadecimal notation.  
(ii) Draw a DHCP message format and explain its fields.

23. a) (i)  
(ii)

23. b) (i) C  
(ii) V

24. a) (i) D  
(ii) W

b) (i) Ex  
(ii) Giv

25. a) (i) Wh  
(ii) Brie

b) (i) Hov  
Exp.  
(ii) Exar

ocket error

23. a) (i) Discuss about fork and exec functions in TCP sockets. (7)  
(ii) What are the two actions carried out by listen function in TCP server? (7)

(OR)

23. b) (i) Give an outline for a typical concurrent server and brief it. (7)  
(ii) Write short notes on Byte manipulation function. (7)

24. a) (i) Describe about crashing and Rebooting of server host. (7)  
(ii) What is poll function? Why it return the specified revent? (7)

(OR)

- b) (i) Explain the scenario of calling shutdown function to close half of TCP connection. (7)  
(ii) Give a diagrammatic representation of I/O multiplexing model and explain. (7)

25. a) (i) What are the types of Resource Records in DNS? Explain. (7)  
(ii) Brief about TCP socket options. (7)

w many host

(OR)

- b) (i) How to verify the returned socket address or Received Response in UDP sockets?  
Explain. (7)  
(ii) Examine the scenario of starting the client without starting the server. (7)

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