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MANIPAL INSTITUTE OF TECHNOLOGY
(Constituent Institute of MANIPAL University)
Department of CS&E Manipal-576104

VI SEMESTER B.E. DEGREE END SEMESTER EXAMINATION
MAY-2012
Network Protocol (CSE 306)

TIME : 3 HOUR MAX.MARKS :50

Instructions to Candidates
- Answer any 5 full questions.
- Assume the required data.

1A What is the purpose of subnet mask in networking? Write the Default mask for each class of addresses in class full addressing? How subnet masks are calculated in sub-netting? 3M

1B In a class B subnet, we know the IP address of one of the hosts and the mask as 2M
IP Address: 182.44.82.16
Mask: 255.255.224.0
What is the address of the subnetwork? And write the special addresses for the particular subnet?

1C An organization is granted a block of addresses with beginning address 14.24.0.0/16 5M
a. How many addresses are there in this block?
b. The organization needs 6 subnets with
i. 2 subnets with 1300 address
ii. 2 subnets with 2500 address
iii. 2 subnets with 64 addresses
Write network address, subnet mask and the broadcast address for each subnet?

2A Why do we need two levels of addressing for delivering a packet? Why ARP and RARP are required? 2M

2B Draw the ARP package and explain CACHE- CONTROL module, CACHE Table and Output module in it. 3M

2C The value of the total length field in an IP datagram is 36 and the value of the header length field is 5. How many bytes of data is the packet carrying? 2M

2D Write down pseudo code for Fragmentation module in IP protocol. 3M

3A Explain different kinds of "RESERVED" addresses used in IPv6. Write format of each address. 4M

3B Explain the two inefficiencies in Mobile IP with suitable diagram. 2M

3C Analyze the flag 0x0503 in DNS. Is it valid? Why? 2M

3D What is the size of the question record in DNS which containing the domain name fhda.edu? 2M

4A Explain the following. 3M

a. Queuing
b. Encapsulation and decapsulation
c. Multiplexing and demultiplexing

4B In TCP connection, the initial sequence number at the client site is 2,171. The client opens the connection, sends three segments, the second of which carries, 1000 bytes of data, and closes the connection. What is the value of the sequence number in each of the following segments send by the client? 3M

4C The following is part of a TCP header dump (contents) in hexadecimal format: 4M

E293 0017 00000001 00000000 5002 07FF ……

a. What is the source port number?
b. What is the destination port number?
c. What is the sequence number?
d. What is the Acknowledgement number?
e. What is the length of header?
f. What is the type of the Segment?
g. What is the window size?

5A Explain steps followed by ***traceroute program*** with the help of an example. 4M

5B Explain the problem that may arise during simultaneous open in SCTP with the help of scenario [With states]. How does SCTP handles it. 3M

5C The state of the sender is as follows: 3M

a. The sending queue has chunks 18 to 23.
b. The value of curTSN is 20.
c. The value of the window size is 2000 Bytes.
d. The value of inTransit is 200.

If each data chunk contains 100 Bytes of data, how many DATA chunks can be sent now? What is the next data chunk to be sent?

6A What are different file type, data structures and transmission modes in FTP? Explain. 3M

6B Host A uses TFTP to read 2150 bytes of data from host B. Show all the TFTP commands including commands needed for connection establishment and termination. Assume no error. 2M

6C Show the sequence of characters exchanged between the TELNET client and the server to switch from the default mode to the character mode. 3M

6D Explain request line and status line in HTTP messages with format. 2M