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VI SEMESTER B.TECH.(COMPUTER SCIENCE AND ENGINEERING) MAKE-UP EXAMINATIONS, JUNE/JULY 2016 SUBJECT: NETWORK PROTOCOLS (CSE 304) REVISED CREDIT SYSTEM DATE: 06-07-2016

TIME: 3 HOURS

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MAX.MARKS: 50

Instructions to Candidates Answer ANY FIVE FULL questions.

✤ Missing data, if any, may be suitably assumed.

1A.An organization is granted a block 200.18.56.0/22. The organization wants to d	ivide						
the available addresses into 3 subnets containing 120, 60 and 30 addresses respectively.							
For each of the subnets, find the subnet mask ,the first, and the last addresses.	4M						
1B. Explain why Classfull addressing is not effective in i) Address utilization	ii)						
Scalability. Give your suggestions to make it effective in each case.	4 M						
1C. Draw block diagram of ARP package and explain Cache-Control module.	2M						

2A.With an example explain fragmentation and reassembly of a datagram in IPV4. 5M2B. Explain how traceroute program uses the ICMP message and TTL field of IP packet to find the route. 3M

2C. A client uses UDP to send data to a server. The data length is 16 bytes. Calculate the efficiency of this transmission at the UDP level and at the IP level assuming no options for the IP header. 2M

3A. In a TCP connection, the initial sequence number at the client site is 2,171 and 12345 at the server. The client opens the connection, sends only one segment carrying 1,000 bytes of data, and closes the connection. Draw a diagram with segments that exchanged

with the sequence number , acknowledge number and the different server and client states in each of the following cases.

i) Connection establishment

ii) Data transfer

iii) Connection termination.	5M
3B.State the rules to generate acknowledgements in TCP.	3 M
3C. Show a congestion control diagram using the following scenario. Assum	ne a
maximum window size of 64 segments.	
i) A time-out occurs after the fourth RTT.	
ii) Three duplicate ACKs are received after the sixth RTT.	2M
4A.With a time line diagram explain the common scenario states for SCTP.	5M
4B. The state of a sender is as follows:	
i) The sending queue has chunks 18 to 23.	
ii) The value of curTSN is 20.	
iii) The value of the window size is 2000 bytes.	
iv) The value of inTransit is 200.	
If each data chunk contains 100 bytes of data, how many DATA chunks can be sent r	10w?
What is the next data chunk to be sent?	3 M
4C.Explain the role of cookie that is used in SCTP	2M
5A.With diagram explain following name resolution methods.	
i) Recursive resolution ii) Iterative resolution.	5M
5B. Explain following Telnet modes of operation.	
i) Default mode ii) Character mode iii) Line mode	5M

6A.With diagram explain the inefficiency in mobile IP and solutions to rectify the same.

										4	4M
6B.With a diagram explain IPV6 address space allocation.									4	4M	
6C.Explain	how	HTTP	uses	uniform	resource	locator	to	facilitate	the	access	of
documents.											2M