

08187

BACHELOR IN COMPUTER APPLICATIONS

Term-End Examination

June, 2012

BCS-061 : TCP / IP PROGRAMMING

Time : 2 hours

Maximum Marks : 60

Note : Question no. 1 is compulsory.

Answer any three question from the rest.

1. (a) Assume you have a class B address and you need to divide into 200 subnetworks with maximum possible number of hosts in each subnet. Calculate and assign the mask for it. 5

- (b) Differentiate between close () and shutdown () system calls used in network programming in Unix. Also, give an example of each. 5

- (c) Write an algorithm each for UDP client and UDP server with the following specifications. 10

- (i) Client program will send a number to the server on its address.
- (ii) Server should be able to handle multiple clients (maximum 4) and send the square of the number to its clients.

Note : Make assumptions, if necessary.

- (d) "IP is unreliable , best effort and connection - less protocol ". Justify the statement. 5
 - (e) What is the role of ICMP ? List the network information it carries. 5
2. (a) What does fragment offset field in the header of IP datagram represent ? Also, explain the maximum number of fragments that can result from a single IP datagram. 5
- (b) Explain the conditions which forces the retransmission of the TCP segment. 5
3. (a) Explain the working of Sliding Window protocol with an example. 5
- (b) What is a use of MIME ? Give any four Reader Components of MIME. 5

4. (a) Compare and write advantages and limitations of Distance Vector Routing and Link - State Routing. 5
- (b) Write the significance of ARP and RARP . 5
Also, write the similarities and differences between both.
5. Explain the Syntax of following system calls along with the meaning of parameters used by them. 10
- (a) Sendmsg ()
 - (b) Listen ()
 - (c) htons()
 - (d) read ()
 - (e) bind ()
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