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BCS-052

BACHELOR OF COMPUTER APPLICATIONS (BCA)

Term-End Examination

December, 2020

BCS-052 : NETWORK PROGRAMMING AND ADMINISTRATION

Time : 3 Hours *Maximum Marks : 100*

Note : *Question number* ***1*** *is compulsory. Attempt any* ***three*** *questions from the rest.*

1. (a) What is the maximum capacity of datagram that can be carried by Internet protocol ? Also, explain, how IP datagrams are discarded from the network. 5

   (b) The following is the TCP header in hexadecimal format : 10

04321017 01231311 00000234 62324216 00134217

(i) What is the destination port number ?

(ii) What is the sequence number ?

(iii) What is the source port number ?

(iv) What is the length of TCP header ?

(v) What is the acknowledgement number ?

(c) What is ICMP ? Explain the functions of ICMP. 5

(d) Which field of IP header is used for selecting type of service ? Explain. 5

(e) Why and how is broadcasting used in ARP ? 5

(f) Write any ***five*** disk management functions in the context of Disk Security Management. 5

(g) How the "Disk usage" is checked in Linux ? Explain with an example. 5

2. (a) Compare and contrast TCP/IP and OSI model. Also, draw the layer diagram for each model. 10

(b) What is meant by byte-ordering ? For what purpose the following socket calls are used ? Explain using an example for each : 10

(i) htons( )

(ii) htonl( )

(iii) ntohs( )

(iv) ntohl( )

3. (a) Explain the purpose of the following fields of the TCP and IP : 10

(i) Urgent Pointer

(ii) Window size

(iii) Sequence number

(iv) Fragment offset

(b) Explain the distance vector routing algorithm with an example. 10

4. (a) What is a Socket ? Explain the structure of a socket with the help of a diagram. List and explain different types of sockets. 10

   (b) What are the different remote network administration tools ? Explain the features of each. 10

5. Differentiate between the following : 5×4=20

   (a) Supernet and Subnet

   (b) Broadcasting and Multicasting

   (c) read( ) and write( ) system calls

   (d) UDP and TCP

   (e) Switches and Hubs