BACHELOR OF COMPUTER APPLICATIONS (BCA)

(REVISED)

Term-End Examination

December, 2024

BCS–052 : NETWORK PROGRAMMING AND ADMINISTRATION

Time : 3 Hours *Maximum Marks : 100*

Weightage : 75%

Note : (i) *Question No. 1 is compulsory.*

(ii) *Answer any* **three** *questions from the rest.*

1. (a) Compare the mechanism of UDP data transfer with TCP data transfer. 5

   (b) Explain how broadcasting is used in Address Resolution Protocol. 5

(c) What is HTTP ? Explain the methods used by HTTP for data transfer.   5

(d) Discuss FTP connection mechanism between FTP client and FTP server with the help of a suitable diagram.   5

(e) What is Sliding Window Protocol ? Discuss its role at the transport layer.   5

(f) Compare SMTP and IMAP.   5

(g) Explain any *two* methods of TCP congestion control used for avoiding network congestion.   5

(h) Explain the IP address classes. Also, indicate how many bits are used to represent the network ID and host ID part of these IP classes.   5

2. Write an algorithm for a UDP client and UDP server, for each of the following specifications :

(a) UDP client will initiate the communication and send the "Name of Machine" to the server.   10

(b) The UDP server has a list of machine names and their corresponding passwords. After receiving the name of machine, from the UDP client, the UDP server will return back the corresponding password.   10

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

   (i)   Type of service

   (ii) Protocol

   (iii) Header checksum

   (iv) Sequence number

(b) Briefly discuss the various remote administration tools. Give *two* features of each.   10

4. (a) What is meant by Byte Ordering ? Discuss the purpose of the following functions, with the help of an example for each :   10

   (i)   htons

   (ii) htonl

   (iii) ntohs

   (iv) ntohl

(b) Explain any *five* disk management functions used by the network administrator. 10

5. Write short notes on the following : 4×5=20

(a) Link State Routing

(b) FAT 16 and FAT 32

(c) DNS

(d) Network File System (NFS)

(e) Cloud Computing

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