

No. of Printed Pages : 4

**BCS-052**

**BACHELOR OF COMPUTER  
APPLICATIONS (BCA) (REVISED)**

**Term-End Examination**

**December, 2023**

**BCS-052 : NETWORK PROGRAMMING AND  
ADMINISTRATION**

*Time : 3 Hours*

*Maximum Marks : 100*

*(Weightage : 75%)*

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

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1. (a) Define File Transfer Protocol (FTP). Explain the roles of FTP client and FTP server. Also, discuss the basic steps performed by a client during an FTP session. 10

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- (b) Write and explain the Distance-Vector Routing algorithm used by the Routing protocol of IP routing. 10
- (c) List and explain any *two* e-mail transfer protocols. 10
- (d) Explain the use of the following network troubleshooting tools/utilities :  $2\frac{1}{2} \times 4 = 10$
- (i) PING
  - (ii) TRACERT/TRACE ROUTE
  - (iii) IPCONFIG
  - (iv) NSLOOKUP
2. (a) What is the primary function of SAMBA server ? Which O/S does this support ? Also, explain how to configure the SAMBA server. 10
- (b) Explain the roles and responsibilities of a Network Administrator. 5
- (c) With respect to user security management, list the policies to be implemented as part of user management in a security perspective. 5

3. (a) Define a RAW-SOCKET. Where are these RAW-SOCKETS used ? How to create a datagram socket using stand command ? Explain briefly the RAW-SOCKET. 10
- (b) Given below are the list of advanced system calls for data transfer. Explain their use and the parameter list that these calls hold :  $2\frac{1}{2} \times 4 = 10$
- (i) readv()
  - (ii) writev()
  - (iii) recvmsg()
  - (iv) sendmsg()
4. (a) Briefly explain the following types of sockets :  $5 \times 2 = 10$
- (i) Stream socket
  - (ii) Datagram socket
- (b) Write the full form for DHCP. What is its use ? How does it work ? What is the role of DHCP package and how is it installed ? 10

5. Write short notes on any *four* of the following :

4×5=20

- (a) Domain Name System (DNS)
- (b) Contents of Account Policies (Users')
- (c) rsh, rlogin, PuTTY, virtual network computing (with reference to remote administration)
- (d) Package manager and package metadata
- (e) TCP architecture