

No. of Printed Pages : 4

**BCS-052**

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

**Term-End Examination**

**June, 2020**

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

*Time : 3 Hours*

*Maximum Marks : 100*

*Weightage : 75%*

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

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

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1. (a) How is flow control managed in TCP ?  
Explain the sliding window protocol using  
an example. 10
- (b) Explain the purpose of the following fields  
of TCP and IP : 10
- (i) Urgent Pointer

**P. T. O.**

- (ii) Window Size
  - (iii) Sequence Number
  - (iv) Fragment Offset
- (c) Define a socket. Write its structure. List and explain *five* different types of socket options available. 10
- (d) List and discuss at least *five* commands being used in LINUX for problem diagnosis and troubleshooting. 10
2. (a) What is remote administration ? Why is it required ? Identify and narrate some of the tasks/services for which remote administration is needed. 10
- (b) With the help of a neat diagram, explain the UDP architecture. 10

3. (a) In a client/server architecture, explain the characteristics of a server program and also differentiate between sequential and concurrent server programs. 10
- (b) Define an Internet Control Message Protocol (ICMP). Mention whether it is connected or connectionless environment. List and explain any *four* commonly employed ICMP message types. 10
4. (a) What is a DNS server ? List and explain any *two* types of DNS servers. Write the step-by-step procedure to illustrate the recursive solution for a DNS server. 10
- (b) Explain Network File System (NFS) briefly. Further, with reference to NFS, write short notes on the following : 10
- (i) Caching
  - (ii) NFS Background mounting
  - (iii) NFS Daemons

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

5 each

- (a) Roles and responsibilities of a Network Administrator
- (b) LINUX kernel management
- (c) Disk security management
- (d) Socket descriptor
- (e) Simple Network Management Protocol (SNMP)