

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

02710

**Term-End Examination**

**December, 2017**

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

*Time : 3 hours*

*Maximum Marks : 100*

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

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1. (a) Why is CIDR needed ? Explain with the help of an example. 5
- (b) Explain the working of ARP and RARP. 5
- (c) Explain the purpose of read( ) and write( ) system calls of data transfer. 5
- (d) What is count-to-infinity problem in Distance Vector routing ? 5
- (e) What are the basic messages used in SNMP protocol ? Explain. 5
- (f) Explain the symbolic notations of Traditional File permissions. 5
- (g) What is a Socket ? Differentiate between active and passive sockets. Explain with diagram. 5

- (h) What is the purpose of Dynamic Host Configuration Protocol (DHCP) ? List activities between DHCP server and DHCP client. 5
2. (a) Explain TCP connection set-up using three-way handshake, with the help of a diagram. 10
- (b) What are Primary and Secondary DNS servers ? How does the DNS server work ? Explain with the help of a diagram(s). 10
3. (a) Explain the sequence of system calls to implement TCP client and server, using an appropriate diagram. 10
- (b) Define Unicasting, Broadcasting and Multicasting. 5
- (c) What are the qualities of service features in Internet Protocol ? 5
4. (a) Discuss the tasks/services for which remote administration needs to be done. 10
- (b) Explain the following in the context of network security : 10
- (i) System Accounts
- (ii) Managing Users
- (iii) Managing Groups
- (iv) Password Policy

**5. Explain the following with the help of suitable examples/diagrams :**

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- (a) ICMP Messages**
  - (b) Use of Type of Service (TOS) and Fragment Offset in IP Header**
  - (c) Concept of Byte Order Conversion**
  - (d) Stateless Operation and NFS Daemons in the context of Network File System**
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