

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

Term-End Examination

December, 2018

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

Time : 3 hours

Maximum Marks : 100

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

1. (a) Assume Class B network uses 18 out of 32 bits to define a network address. How many Class B networks are possible in that case ? Give justification for your answer. 6
- (b) How does TCP manage "out-of-order" segment problem ? Explain through illustration. 6
- (c) Why does FTP use two TCP connections ? Also briefly explain the working of FTP. 5

- (d) Explain the significance of the following header fields of IP datagram : 8
- (i) HLEN
 - (ii) Time to Live
 - (iii) Identification
 - (iv) Flags
- (e) Differentiate between POP and IMAP protocols. 5
- (f) What is DNS ? Compare between primary DNS and secondary DNS. 5
- (g) Describe the different security levels, implemented in SNMP. 5
2. (a) How is the "Disc User" checked in Linux ? Explain with the help of an example. 5
- (b) What are the data types defined by socket interface ? Also explain the purpose of any four. 7
- (c) Write any four differences between TCP/IP and OSI model. Also draw the layer diagram of each, showing the mapping of OSI and TCP/IP layers. 8

3. Write an algorithm for UDP Client and UDP Server with the following specifications : 20

- UDP Client sends any alphanumeric character randomly to the UDP Server.
- UDP Server accepts the character and returns back the ASCII value of the character to the respective client.

4. (a) What is DHCP ? Explain the working of DHCP with the activities performed between DHCP Server and DHCP Client. 10

(b) Differentiate between ARP and RARP. With the help of suitable diagram, explain the working of each ARP and RARP. 10

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

- (a) ICMP
 - (b) Sliding Window Protocol
 - (c) Distance Vector Routing
 - (d) Virtual Private Network
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