| BCS-052 |

BACHELOR OF COMPUTER APPLICATIONS
(Revised)
Term-End Examination
December, 2014

07264

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.*

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1. (a) What is the maximum capacity of datagram that can be carried by Internet Protocol ? Also, explain how IP datagrams are deleted from the network.   5

    (b) What is meant by socket ? Write the differences between active and passive sockets.   5

    (c) Differentiate between ARP and RARP.   2

    (d) How does TCP handle "out-of-order" segments ? Explain.   5

    (e) What is the significance of the *"Time to Live"* value in an IP header ? Explain.   5

    (f) Explain the various components of a URL using an example.   5

(g) Why does lost acknowledgement not necessarily force the retransmission of TCP segment ? *5*

(h) Explain the Remote login process of TELNET. *5*

(i) What is the reserve bit pattern of the first byte for a Class D address ? *3*

2. (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 the TCP and IP : *10*

   (i) Urgent Pointer

   (ii) Window Size

   (iii) Sequence Number

   (iv) Fragment Offset

3. (a) What is meant by Byte ordering ? For what purpose are the following functions used ? Explain using an example of each. *10*

   (i) htons

   (ii) htonl

   (iii) ntohs

   (iv) ntohl

(b) An IP address has arrived with the following first 16 bits of information in the header (binary format) as given below :

$$0100010101101101 \times \times \times$$

Answer the following : **10**

(i) What is the size of the header ?

(ii) Are there any *options* ?

(iii) What is the precedence of Datagram ?

(iv) What type of service does this datagram contain ?

4. (a) Write the syntax and uses of "useradd" command in Linux. **6**

(b) Write an algorithm each for TCP client and TCP server, where the connection request from the client prompts the server to send the system date and time to the client for which the client will send an acknowledgement. **14**

5. Write short notes on the following : **20**

(a) DHCP

(b) VPN

(c) HTTP

(d) Voice over IP