CS-69

BACHELOR OF COMPUTER APPLICATIONS (PRE - REVISED)

01268

Term-End Examination

June, 2013

CS-69 : TCP/IP PROGRAMMING

Time : 2 hours   Maximum Marks : 60

Note :   Question No. 1 is **compulsory.** Answer **any three** questions from the rest.

1.   (a)   Suppose class B network uses 20 out of 32   2
          bits to define a network address. How many
          class B networks are possible in this ?

     (b)   What are the advantages of supernetting ?   7
          Illustrate through an example.

     (c)   How does TCP manage out of order segment   5
          problem ? Explain through illustration.

     (d)   A DNS client is looking for IP addresses   6
          corresponding to abb.xxx.com. Show the
          complete address mapping procedure.

     (e)   Write a client and a server program in   **10**
          C-language to establish a TCP connection
          between a client and a server. Once a
          connection is established the client program
          sends a string to the server. The server
          reverses the string and sends reply to the
          client.

2. Differentiate the followings :   10
   (a) DNS server and root server
   (b) ARP and RARP
   (c) Active and Passive sockets
   (d) POP and IMAP protocols

3. (a) Explain all the steps required in SMTP for   6
       sending an email from *xxx@yyy.com* to
       yyy@xxx.com starting from the connection
       establishment to the delivery of the email.
   (b) Explain the syntax of the following system   4
       calls. Also, explain the meaning of
       parameters used by them.
       (i) read ( )
       (ii) accept ( )

4. (a) Connection establishment in TCP requires   5
       three-way handshaking. Explain the
       process through an illustration.
   (b) Discuss any two types of sockets, in detail.   5

5. (a) Explain the significance of the following   6
       header fields of IP datagram :
       (i)   HLEN   (ii) Identification
       (iii) Time to live   (iv) Flags
   (b) What is byte ordering ? Explain the   4
       function used by byte ordering conversion.