BACHELOR IN COMPUTER APPLICATIONS

07752

Term-End Examination

June, 2010

BCS-061 : TCP / IP PROGRAMMING

Time : 2 hours   *Maximum Marks : 60*

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

1. (a) Name the address class of the following IP addresses :   **4**

        (i)   191.106.031.10

        (ii)   12.6.3.2

        (iii)   160.3.2.1

        (iv)   219.162.131.3

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

   (c) Describe the mechanisms used by TCP for flow control.   **5**

(d) What is SMTP ? Explain the services offered by the various components of SMTP. **6**

(e) Explain the working of DNS. Also, differentiate it with dynamic DNS. **6**

(f) What is meant by a Socket ? Write the differences between active and passive sockets. **4**

2. (a) How does broadcasting differ with multicasting ? What socket options need to be set to enable broadcasting and multicasting ? **5**

(b) Which transport layer protocol ensures the reliability ? Also, write the main mechanism that it uses to create a reliable connection. **5**

3. (a) What is HTTP ? Explain any four methods used by HTTP for data transfer. **5**

(b) Explain the count-to-infinity problem related to distance vector routing with the help of an example. **5**

4. Write an algorithm each for UDP client and server   10
with the following specification :

(a) UDP client will initiate the communication, and send any alphanumeric character randomly to the server.

(b) UDP server accepts the character and as a reply it sends the ASCII value of that character to the client.

Note : Make suitable assumptions, if any.

5. (a) What is the purpose of byte ordering in   5
network communication ? Also, write any three functions used for byte ordering.

(b) Write the syntax along with parameters   5
used by the following system calls :

(i) send ( )

(ii) accept ( )

(iii) shut down ( )

(iv) inet_addr ( )

(v) listen ( )

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